WELLINGTON

EPIFLORA

Volume 15 No. 2

May 2006

EPIFLORA

Volume 15 No. 2 **May 2006**

The Programme for 2006

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 and bringing a plant or other item for the raffle. If for any reason you are unable to do your allocated duty please arrange for someone else to do it.

June 10th	Show and tell (bring in a favourite plant to talk about) **On Duty:** Robyn Gibson, Penny Luckens, Marion Austin
July 8th	Midwinter celebration (and visiting speaker - Claude Poulson) **On Duty:** Alice and Rex Hannam, Anne Goble
August 12th	*details to be confirmed* **On Duty:** Brian Read, Nola Roser, Aynsley Taylor
September 9th	Visiting Speaker (Richard Nansen)
October 14th	Visiting Speaker
November 11th	Visits to gardens and collections
December 9th	AGM and Christmas function

Merv's unusual plants...

Some might say the first two words of the title are enough, but as Editor I couldn't possibly comment. For our April meeting ***Merv Keighley*** *brought several boxes of his more unusual plants and talked about them. Here are his notes on some of them.*

Adenia glauca

Adenia belong to the *Passifloraceae* family.

This family contains 92 species – 57 occurring in Africa. The majority are climbers similar to the related *Passiflora,* but the flowers are small, whitish to yellow, small and unisexual.

A male and female plant are required to obtain seed and the flowers will need to be hand pollinated. *A.glauca* comes from Botswana and the Transvaal.

The caudex grows up to about two feet in diameter. The growth clambers and needs pruning to retain some control over the it. Cuttings will root but won't produce a globose caudex but can end up with pachycaul proportions.

Agapetes serpens *(also known as Pentapterygium serpens)*

The *Agapetes* belong to the *Ericaceae* and are a genus of about 95 species of spreading to erect shrubs, sometimes epiphytic in the wild. They are found in scrub and forest from warm-temperate regions of East Asia to the Western Pacific including Australia.

The species –*A.serpens* – grows initially erect, then arching, as a shrub – but may be trained as a climber and comes from Nepal, Bhutan, India (Assam)

No mention is made in my reference books of the hard woody caudex, but that is a very real attraction. It grows from a cutting.

Bursera fagaroides

This plant can grow up to 25 feet tall or can be a natural bonsai.

The leaves are generally small and pinnate. *B.fagaroides* requires good drainage and likes heat and full sun during the growing season. Best grown hard and in relatively small pots. Early pruning to induce branching will lead to thickening of the trunk.

Propagation is by seed or from stem and root cuttings. These should be allowed to callus before planting in a rooting medium.

Calibanus hookeri

The plant was first discovered about 1859. Charles Glass & Robert Foster in 1970 give an account of their chance re-discovery of *Calibanus* in 1968.

> "We camped by the road above the balneario at San Luis Potosi. We noticed several children walking along the road with handfuls of what appeared to be a coarse grass - At the top of the mountain we noticed the same grass-like leaves which the children had been carrying. We tried to dig up a clump to examine it, but it kept breaking off at the base. At this point Bob suddenly let out a whoop and cried out '*Calibanus*'! Indeed, the leaves we had been examining were from the long lost *Calibanus hookeri*, one of the most sought-after succulents of Mexico. We looked around us and saw innumerable giant specimens of this remarkable plant. It possesses a short, stout, knobbly, un-branched, succulent caudex bearing tufts of grass-like leaves".

The leaves are harvested to thatch houses, and for use scouring dishes, as they contain a soap-like substance.

Gerardanthus macrorhizus

There are five species of *Gerardanthus* - all from Africa. Of these five, four are caudiciforms. *G. macrorhizus* forms an above the ground caudex that can reach two or more feet in diameter.

It needs plenty of water when in leaf. Mine seem to retain their leaves all year. The long vines will take over the greenhouse if allowed to. Pruning will contain the plant. The prunings will root. I don't know if they will produce a caudex.

This plant also is dioecious. (separate male & female flowers).

Matelea cyclophylla

This *asclepiad* (hoya, swanplant family) comes from Mexico. It forms a broad cone-shaped caudex up to at least 12 inches in diameter, covered with a tan, corky, fissured bark. The long vines attach to anything.

I have two plants, one has flowered but the other hasn't.

The flowers are typical five pointed *asclepiad* form. The colour is velvety dark green or purple. If a flower is pollinated, generally only a single seed is produced (usually there are two seed horns in other *asclepiads*). In the autumn the vine dies back to the caudex but any fruit remains on the dead vine, ripening and opening late in the following spring.

The perfume of the flower should be bottled – and thrown away!!

Epiphyllum laui

This article was written by ***Phil Peck*** *and originally appeared in the SDES Epi Newsletter earlier this year. Phil also took the accompanying photograph. Thanks to Phil for permission to reprint his article.*

Actually, the article is "About these photos". This is actually the same flower taken almost exactly twenty-four hours apart. The bloom on the left was taken at about 8:30 in the morning on June 14, 2005. The bloom on the right was taken the next morning about the same time. The 'kissing bud' on the left was open this way at dawn, and stayed that way until late at night on the 14th. We had a whole day to look at this interesting bloom. Then, what a surprise to find the wonderful, wide open bloom on the morning of the 15th. This same scene repeated itself in all seven *E. laui* blooms that opened for us in 2005. I believe that this is unique in all Epidom and perhaps all cacti. In the photo, note the bud tube just above the bloom on the right.

E. laui is so unique in so many ways, I'd like to talk a bit about it. It was first discovered and collected by Dr. Alfred Lau in 1991 in Southern Mexico. As I understand, the initial cuttings were brought to Huntington Gardens and a few others. I believe that the original publishing and naming was done by our friend Myron Kymnach. Unfortunately, the plant was very difficult to grow. Most of the original plants have since perished. We obtained our cuttings

a number of years ago from our friend, the late Raymond Eden. Our plant, too, languished for some time. I think we finally figured out why. Simply put...this epiphyllum loves cold! After a number of potting mix changes, location changes, and about anything else we could think of, the 'secret' was found. Our mother plant now resides in the coldest microclimate in our yard. It flourishes there! It should be no surprise that the plant likes the cold. The original collection was done at quite high altitude. The second (and only other) collection was reported to have been done at 7,000+ ft. altitude and an ambient temperature of 0 degrees C. That's freezing, folks! It's my firm belief that *E. laui* earned its reputation as a most difficult grower/bloomer because it has been placed in warm greenhouses. This is a plant that likes cold. I believe that it may even thrive at some below-freezing temperatures. I would love to be able see some reasonably scientific study from some of you who live in colder areas. Our plants seldom see temperatures much below 35 degrees F.

2005 was the first year that we could coax our plant to bloom for us. Bloom it did! Seven times. As you can see, the blooms are spectacular. They lasted 6-7 days in relatively warm weather. They are about 8" across. I make it no secret that I don't like epi fragrance. All epis have a rather 'musky' fragrance to me. I'd much rather stick my nose in a rose bloom or a wonderful, fragrant orchid. I have to take back all my generalities about epi fragrance. *E. laui* smells like heaven! No muskiness at all. Just pure sweetness!! This AND the most beautiful epiphyllum species bloom of all that just happens to be day-blooming. If I could teach *E. laui* how to water itself, it would be the perfect container plant.

Now for the "hook" as they used to say. Our plant has done well enough in the last several years that we will be able to offer strong, healthy, rooted and unrooted cuttings BOTH days of Epicon X. This plant is very, very rare in captivity. It has only bloomed in a garden a very few times. The chance to get a piece of this incredible plant, in and of itself would justify going to Epicon X. Of course, this is only the 'tip' of the EpiCon experience. See you there[1]!

Epiphyllum laui - photograph by **Phil Peck**

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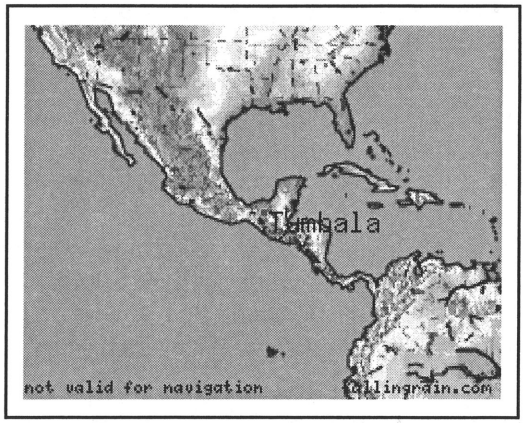
[1] Actually EpiCon took place on 27th and 28th May -so it is too late to book now, I hope there will soon be many plants of *E laui* growing successfully ... Ed.

Epiphyllum laui
M.Kymnach



This species was discovered by Dr. Alfred Lau, north of Tumbala in the state of Chiapas, Mexico growing at an altitude of 2200 metres (7200 feet). Because of the height above sea-level, this area becomes cold, especially at night. The average temperature range is 15° to 17° Celsius (59° to 63° Fahrenheit). Also it has a rainy season from May to October.

These vigorous, vine-like epiphytes have wide, soft stems, and the new growth has a reddish hue. The plant is unusual as it is day flowering with orange-yellow outer petals, and white inner ones. This is a shade loving species that is easy to flower. It likes a humid, frost-free but cool growing area, that is moist all year.

A Rose by any other name..

At our May meeting ***Merv Keighley*** *talked about more unusual plants*

A Rose? - a Sand Rose

That is what the *anacampseros* was likened to at the start of the eighteenth century when the first plants started arriving in Europe. Its main claim to attention probably was the mystery of its flowering which happens so briefly that it is a matter of luck when it occurs. The only species available then was *An. telephiastrum* - tough and long lived.

Anacampseros was first used as a name by Pling & Plutarch for a European plant

alleged to be an aphrodisiac. The name comes from Greek and means "restoring love". The first known published painting of an *Anacampseros* was in 1701 in the Moninkx Atlas in Holland, along with a short description. It twice figures in the florilegium at Badminton amassed by the Duchess of Beaufort around 1702.

Modern botanical nomenclature began with Carl Linnaeus who in 1753 called the plant *Portulaca anacampseros*, but by 1758 validated *Anacampseros* as a genus in its own right. Unfortunately for nomenclature the generic name had already been validated by Miller in 1754 (for the orpines) and had also been used by Patrick Browne in 1756 for Talinum. The name conflict continued and was resolved only in 1959 when Linnaeus's name was upheld.

At this time, the only *Anacampseros* that was around was a single species *An. telephiastrum*. It was not until 1803 that Adrian Haworth recognised a further one and described 4 new species. He described a further one in 1819. There are 5 that Haworth described as *Portulaca* - but now transferred to *Anacampseros* :-

An. arachnoides
An. filamantosa
An. lanceolata
An. rufescens
An. telephiastrum

*Avonia*s had not been discovered at this time. It was not till the German botanist, Johann Drege, toured the Cape between 1826 & 1833 that *Avonias* were found. They were not described until 1840 and were named as a Sub genus of the *Molluginaceae* to which family they do not belong.

In 1897 Kurt Dinter, at 29, left his homeland and began a lifelong study of the flora of what was then German Southwest Africa. This was the centre of maximum diversity for both *Anacampseros* and *Avonia.* Material he collected was distributed and in Germany Karl von Poellnitz described and named many new species in conjunction with Dinter.

The living plant material that was collected during this time and used for studying and describing was sadly lost during World War II.

Life Forms & Functions

The 5 basic principles for survival are:-

1. Water economy
2. Protection from sunburn
3. Protection from animals
4. Pollination
5. Replication and Dispersal

Water Economy

A combination of features is necessary - succulence is but one and is useless without the others – the others are surface reduction of all exposed parts tends towards the sphere – which has the most volume with the smallest surface area. This ideal is closely approximated in the leaves of the *Avonia* and many species of *Anacampseros*. The surface can be waterproofed by a thick cuticle, secretion of wax, undulations, papillae hairs, felt or other outgrowths. Along with these go a lessening in the number of breathing pores (stomata).

A very special type of leaf screening is found in all the *avonias,* where a semi-opaque papery scale covers each tiny leaf like a sunshade. In the hot dry weather the scales are tightly overlapped like tiles, but in the damp weather they can open out slightly and expose more of the leaf to light and air.

Water storage tissue is developed in the leaves and branches of *Anacampseros*, in leaves and candices of *Avonia* and in leaves and tap roots of *Grahamia.*

Protection from Sunburn

Many of the attributes already mentioned as favouring water retention also serve to protect against sunburn. White or glossy surfaces reflect the light, as do the white scales of the *Avonia*, which further diffuse the light reaching the green leaf underneath.

The rosette habit of *Anacampseros* results in mutual shading of one leaf by others so that in extreme cases only the tips are exposed.

Protection from Animals

Animals ultimately rely on plants for food, and without some sort of weaponry the plants would become extinct. Spines, stinging hairs, a tough skin or a mantle of dead leaves, thick bark or fibres afford mechanical protection. Other defence is chemical

or the main storage body being buried below the soil level.

The *Anacampseros* all appear to be eaten by animals, and concealment and small size appear to be the secrets of their success.

Pollination

All plants benefit from cross-pollination within the species: continued selfing leads to inbreeding depression and evolutionary dead end.

These plants show all the trappings of pollination by animals (zoophily). They have showy, often coloured flowers, some with scent. Some *Grahamia* have droplets of nectar at the base of the ovary. It has generally been believed that the plants are self pollinated, as the flowers don't appear to open. They do open, generally between 2pm and 6 pm in the afternoon. Only in sunshine and are only open for a maximum of 2 to 3 hours. (This is shorter than for any other succulent.) When the flower opens pollen is already shedding and the 3 stigmas are receptive. As the flower wilts, the stamens become enclosed by the floral remains and pollen reaches the stigma. This ensures pollination by selfing if cross pollination has not occurred. In dull weather the flowers self-pollinate without the bud opening – hence the myth on universal cleistogomy. (flowers producing seed without opening). *Anacampseros* and *Avonia* show a balance between self and cross pollination with enough cross-pollination to add diversity to the gene pool.

Replication and Dispersal

Seeds of these species have a combination of features for dispersal. For a small group of no more that 30 species there is a wide range of seed shape, size and surface appendages. The dry seed capsule becomes wet or even damp with mist, it closes tightly, trapping the seed. Springy outgrowths on some seed causes them to hop around when touched.

Geography

Anacampseros are found in South Africa.

Avonia in South Africa and

Grahamia are found in the Americas, North and South, and in Australia.

Cultivation

Many of the species come from winter rainfall areas and most from the Southern Hemisphere. They are invariably found on gritty, granitic and quartzite scree, with a ph range from 5 to 7.5 but without any appreciable content of chalk (lime).

Avonias and white-felted *Anacampseros* grow exposed to full sun; the green-leaved *Anacampseros* grow in rock crevices or beneath shelter shrubs – indicating cultural needs. As with pretty well all plants, plenty of air circulation is vital. Many *Avonias* experience frost in the wild and also so do some *Anacampseros.* Shading and overfeeding produces longer stems and shiny green bloated foliage.

A starvation diet in full sun encourages reddening of the green surfaces, whiter-than-white scales and compact growth. So of the two extremes the 2nd is the better choice.

Similar growing routines as with *crassulas, echevarias, mesemb*, etc should be followed. Watering begins in spring – which is also the best time for repotting and tidying up. Water should taper off towards autumn and occasionally spraying on bright mild days to prevent the soil from drying out too much.

The potting mix should be similar to what we now use for our other plants – nutritious, porous and open texture – facilitating quick drainage. They should be repotted annually. If this doesn't happen some fertiliser should be given – low in nitrogen such as tomato fertiliser.

These plants can be propagated in various ways. Spring is the best time to do this.

1. Division of clumps – the easiest for many.
2. Stem cutting - dry off for a few days to allow callusing before planting. Pumice is a good medium for cuttings.
3. Some species can be multiplied from leaf cuttings.
4. Seed. This is the easiest way to increase plants. Collect the seed as soon as the capsule splits open and sow fresh. Seed is reported to have a short viability. Sow as you would for any succulent seed – coarser material at the bottom, finer at top. Cover the top with finely sifted grit or pumice*. Water from the bottom and don't allow to dry out completely.

* The function of the grit or pumice is to retain a little water but also air spaces and to give the sprouting seedling leverage so that the root can push downward. The seed is then sprinkled thinly and if very fine, not covered at all.

Avonia seedlings grow very slowly and are prone to damp off. Non caudiciform *avonias*, are short lived and if the plants are still required, growers should have seedlings coming on.

Pests

Mealy bug and sciara fly larvae are the main pests. Aphids are attracted to the flowering stalks of some *Anacampseros*. A good soaking in spring in a systemic insecticide will generally cure this problem.

The caudiciform species can collapse from rot, which is usually discovered too late. Caudicies can be cut back to sound tissue and treated as cuttings.

Prevention is better than cure, so make sure that the cordex never stands in waterlogged soil. If in doubt, lift the plant slightly and dribble coarse grit down beneath the caudex.

I have not, to my knowledge, ever seen a *Grahamia*.

Reference:

"Anacampseros, Avonia, Grahamia. A Growers Handbook", by Gordon Rowley.

Hoya meredithii.

H meredithii was collected at Bau, Sarawak on the island of Borneo. It was found in the open forest at an altitude of 35 metres - so is definitely a lowland plant. Many soils in these low-lying tropical habitats are the result of raised sea-beds. *H meredithii* is a synonym of *H vitellinoides*.

Bau is a mining town in the province of Arawak. The limestone cliffs there support a wide range of endemic flora including the rare pitcher plant *Nepenthes northiana*. Sarawak is a tropical state with an equatorial climate. It is hot and humid throughout the year with average daily temperatures ranging between 23°C during the early hours of the morning to 32°C during the day. It experiences two monsoonal changes. The North East Monsoon, which usually occurs between November and February, brings with it heavy rainfall. The South West Monsoon from June to October is usually milder. Despite the two monsoon seasons the climate remains fairly stable throughout the year. Annual rainfall varies between 330cm and 460cm.

The species has a strikingly different leaf. The large leaves twist and turn in various ways. They are light green with darker green veins. Occasionally one leaf of a pair will drop from a node - it is suggested that this is a means of conserving moisture from transpiration during dry periods; which is especially advantageous for a large-leafed species. New stems are often bronze in colour. This is not a compact plant.

The semi-globose flower umbel has up to 35 flowers. They are of heavy substance, waxy and long lasting. As the picture shows the flowers are pale yellow with a white central crown. The plant may be reluctant to flower if it is kept too cold.

Reference: "The World of Hoyas" by Dale Kloppenburg

Hoya meredithii - photo by Jane Griffith

Further Reading

Our Society receives journals from a number of other societies with similar interests. These journals are all available from our library. In the last couple of months a number of interesting items have been published. Here are some snippets that you might find interesting. (Of course you really should go and read the articles for yourself!)

Some of you may remember the session Marion Austin ran for us several years ago on floral arrangements using epis. For those who did not hear her talk, or who need a reminder the April issue of **SDES Epi News** (San Diego Epiphyllum Society) has an article on the subject which covers the basic principles and adds some practical suggestions that apply particularly when using epis in an arrangement.

They also reprint an article written by Dick Kohlschreiber on the care of Schlumbergeras. Of course his seasons are six months out of kilter with ours - but read the article before next spring!

In the March issue of the Epi-Gram (South Bay Epiphyllum Society) Dick Kohlschreiber writes about *Disocactus nelsonii*. He notes that it actually has two subspecies which are quite distinct in both habit and growth and which originate from different locations.

The March issue of the **Epiphyllon** (The Epiphyllum and Hoya Society of Australia) has an interesting article on "Queen of the Night" which they identify as one or more varieties of *Selenicereus*. (*This illustrates the danger of using "common names" - we have a friend from Hong Kong who applies the name to one of the species*

Epiflora

epiphyllums - Ed)

The whole of the January-March issue of **Fraterna** (International Hoya Association) is a "must read". Ted Green is the guest editor - and he has contributed some most interesting pieces. There is also an article on "How I got started in Hoyas" by Dale Kloppenburg. He notes that in his career he has named 48 species of hoya so far. However he feels that we have collected and identified less than 1% of the wild hoya species - so there is still work to be done. The colour photos are stunning.

Finally the latest issue of EPIG is also well furnshed with colour photos. The text is in German - but there are English abstracts for all the articles.

Now is the time .....

We had some cold nights - and then we have had a long series of warm nights just to confuse us about whether winter is coming or not. One of our cymbidium orchids is thoroughly bamboozled - it has produced a flower spike which must be very close to opening. Play it safe must be the motto - water in the mornings - before the sun gets too hot; and be careful about leaving water drops all over your plants. And as always - what you should be doing right now depends not a little on exactly where you live. Here are some suggestions for the Wellington growers. If you live in Whangarei or Wanaka you may need to adjust things a little.

Epicacti - *it is still work-time so you can prune and repot as necessary. Water with the greatest care and do it early in the day.*

Hoyas - *it is best not to water at all unless the plants look really dry (unless your plants are somewhere where it is warm at night) and then only give a small amount of water on a fine day. Some days are still warm so keep checking for mealy bugs and other pests and deal with them promptly.*

Epiflora

Schlumbergeras - *enjoy the flowers and water sparingly Make sure varieties such as "Bridgeport" are kept somewhere where the temperature at night does not drop too low .*

Rhipsalis - *water very sparingly. Otherwise leave well alone.*

Aporophyllums - *Water infrequently. If you have not already done so - you may prune lightly and repot with great care.*

Ceropegias - *lay off the water unless the plant looks really dehydrated. Then give only a small amount of water on a fine morning. The stems of some varieties die back entirely at this time of year. Keep checking for pests - and deal with any you find.*

Odd Cuttings and Seeds

Greenhouses ...

This year we went again to the garden show at Manfield Park. The other year we reported we had seen a range of prefabricated shade houses. (They are still available - and again were on display). This year we also saw a new range of greenhouses. These are kitset with twinwall polycarbonate glazing. The design is modular, so you can buy the size you need. They have a website www.oldfields.com.au or see their advertisement in the latest "Weekend Gardener". A copy of their leaflet is in our library.

Epiphytes and vines in a New Zealand forest

I recently came across a paper on this topic by KC Burns and John Dawson, published by the School of Biological Sciences, VUW. The underlying research was done in Otari-Wilton's Bush which is on the outskirts of Wellington. A copy of this paper has been placed in our library.

Supplies of grit

This can be hard to find. Merv has discovered that supplies of grit can be obtained from Placemakers. Just make sure you don't get the kind packaged for patio blocks - it contains some cement!

Back numbers of "Epiflora"

The first edition of **Epiflora** appeared in March 1992. We have limited stocks of backnumbers for most issues from Volume 2 (March 1993) onwards. Ask the editor for details.

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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