



Fern Society of Victoria Inc. **NEWSLETTER**



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March/April 2001

FERN SOCIETY OF VICTORIA Inc.

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SUBSCRIPTIONS:

Single -	\$14.00	Pensioner/student	\$11.00
Family -	\$16.00	Pensioner Family	\$13.00
Organisation	\$16.00		
Overseas -	\$21.00 - Payment by international bank cheque in \$A please.		

Overseas sent by Airmail.


Subscriptions fall due on 1st July each year.

Meetings are held on the third Thursday of each month except December and January at the Kevin Heinze Garden Centre, 39 Weatherby Road, Doncaster (Melway 47; H1).

OUR SOCIETY'S OBJECTIVES.

The objectives of the Society are;

- *to bring together persons interested in ferns and allied plants*
- *to promote the gathering and dissemination of information about ferns*
- *to stimulate public interest in ferns and*
- *to promote the conservation of ferns and their habitats.*

 Opinions expressed in this newsletter are the personal views of the authors and are not necessarily endorsed by the Society, nor does mention of a product constitute its endorsement.

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CALENDAR OF EVENTS IN 2001

FERNERY CRAWL

On Sunday 18th March we meet at **Jean Boucher's, 47 Elgin St, Berwick** (Melways 111 G9) at **11.00 am** where you will see her garden and, naturally, ferns, and have the **picnic lunch** you brought with you (NO barbeque facilities available. Tea and coffee will be provided) before going on to **Dorothy & Ian Forte's**.

The Fernery Crawls are occasions of good company, good fun, a nice drive and beautiful gardens and ferneries. We don't ask our hosts to manicure their places for our visit but every gardener and fernist knows how interesting and lovely anyone else's garden is - and that the only weeds we ever see are in our own!! All members, old or new, are very welcome.



March monthly meeting will be held on 22nd March

Barry Sheppard from the Begonia Society will talk about

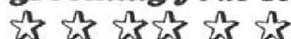
Begonias

Competition category: Lastreopsis

5 Minute Fern Talk: Gay Stagoll



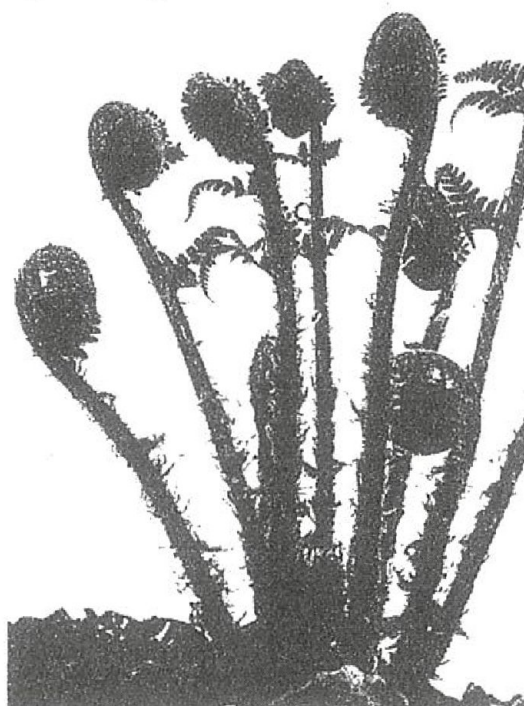
Our FERN SHOW is on again! 21st - 22nd April
at the Mount Waverley Community Centre
See page 4 for more information
and start grooming your ferns NOW!



***April monthly meeting will be held on 26th April, NOT as advertised in last newsletter.** This will avoid having a night out immediately before the Show - especially appreciated by those who travel for quite a long time to get to these events.

Meeting programme

- 7.00 Sale of merchandise and
Special Effort tickets.
Also making library loans
and lots of conversation.
- 8.00 General Meeting.
- 8.15 Workshops and demonstrations.
- 9.15 5 Minute Fern talk,
Fern identification and pathology,
Special Effort draw,
Competition judging and results,
Winner's tips.
- 9.45 Supper and another good yarn.
- 10.00 Close.



FERN SHOW 2000

Combined Fern and Vireya Rhododendron Show

Saturday 21st April - Sunday 22nd April

By the time you receive this newsletter the Show will be approximately six weeks away, still time to select and groom ferns for the Show. I ask all members to make a special effort to contribute to both the competition and display.

The eight categories of the fern competition are as follows:

1. *Adiantum*
2. *Asplenium*
3. *Davallia*
4. *Nephrolepis*
5. *Pyrrosia*
6. *Shield Fern* (i.e., *Cyrtomium*, *Dryopteris*, *Lastreopsis*, *Polystichum*)
7. *Fern in Hanging Container*
8. *Any Fern in a Container 150 mm (6") wide or less.*

This last category is especially provided for those members who do not, or cannot, have larger ferns. All members are urged to aim to enter this category.

Don't forget that our feature display is *Adiantum*. We need as large a range of species and cultivars, in reasonable condition, as is possible. Please bring them along even if they are not competition condition. Whilst we want as many of the rarer types as possible, do not forget to bring along good plants of the common species or cultivars.

If you want to contribute to the Show but have a problem getting your plants there, please talk to any member of the Show Committee who may be able to assist.

Please ensure that your ferns are labelled with their botanical names. In addition it is essential to have some means of owner identification as this will assist with the return of your ferns.

Setting up for the Show will commence at 11.00 am on Friday 20th April and we should be able to accept ferns for the competition, display and sales by 1.30 pm. If you are only able to bring in ferns after 6.00 pm (or early Saturday morning) please contact Don Fuller (9306 5570).

We need many people to make the Show function effectively. The tasks included manning the door, providing light refreshments, stewards in the display area and assisting in the sales area. We especially need members for setting up on Friday and the cleanup after the Show on Sunday. ♡ Many hands make light work so please let me know when you can help.

Those wishing to sell ferns are reminded that you must contribute to the competition/display and that you must obtain a 'booking in' form from Bernadette Thomson (9399 1587).

We also need a number of cardboard boxes suitable for fern sales. If you can help please bring them along.

The fern show is a very important function of our Society so please give it your full support. Please publicise it wherever possible. Two Show flyers are included with this newsletter. Hopefully you can display them in such places as garden centres, libraries, community noticeboards etc. If you belong to a garden club please promote it there.

See you at the Show!

Don Fuller

*Two Show Committee members' names were omitted from last magazine, Don Fuller (chairperson) and Bernadette Thomson. The others are; Barry White, Norma and John Hodges, Ray and Fran Harrison, Ian Broughton and Jack Barrett.

THE PRESIDENTIAL PREFIX

Greetings from the hot and dusty Upper Yarra Valley. I am always very reluctant to water the garden (except for the ferns and Vireya Rhododendrons of course!) But we have had so many plants showing symptoms of water stress so frequently that I have had nothing but pity for them and, when we haven't had decent rain for 12 or 14 days, out come the sprinklers again. It hurts as we already spend around \$2500 on water each year mainly for the nursery. In Victoria, it has certainly been a difficult year for keeping ferns looking good; a year when the benefits of frequent and deep applications of organic mulches, will be manifest.

Our February meeting, although numbers were down, was a very enjoyable evening. Terry Turney's talk on the Pteris genus was exceptional. The use of high-tech wizardry in the shape of lap-top computer and video projector enabled us all to enjoy the wonders of the genus. The photographs of the spores of a number of different species were amazing; every one has a uniquely shaped spore (under high enough magnification, of course), something you would never consider as you are collecting or sowing it, or sneezing after inhaling it. Thanks very much Terry.

Something we missed from the last newsletter was the fernery crawl we have planned for Sunday 18th March. We will be meeting at Jean Boucher's, 47 Elgin Street, Berwick (Melway 111 G9) at 11.00 am. Bring a picnic lunch - there are NO barbeque facilities. Tea and coffee will be provided. From Jean's we will make our way to Ian and Dorothy Forte's at Garfield North. We have been asked to



remember the severity of the season as we view their ferns, and to not be too critical. Actually, I expect that there will only be admiration for them, considering the weather.

One other item of major importance is that our April meeting date has been changed to Thursday 26th, the fourth Thursday evening of the month. This is because the 19th is the evening before we are due to set up for our annual show which we felt would be too much for us to cope with. On the subject of the fern show, don't forget to be involved. The success of our show depends on the input of our members which, I believe, includes you!

At our March meeting we will have Barry Sheppard of the Australian Begonia Society speaking on Begonias. The competition category is Lastreopsis and the 5 Minute Fern Talk will be given by Gay Stagoll. Should be a great night.

Our April talk will be a great surprise; but I can guarantee (at least, I think I can guarantee) that it will be riveting and informative, so be there! The competition category will be Nephrolepis and the 5 Minute Fern Talk will be given by Mary Kenealy.

See you soon

Ian Broughton.

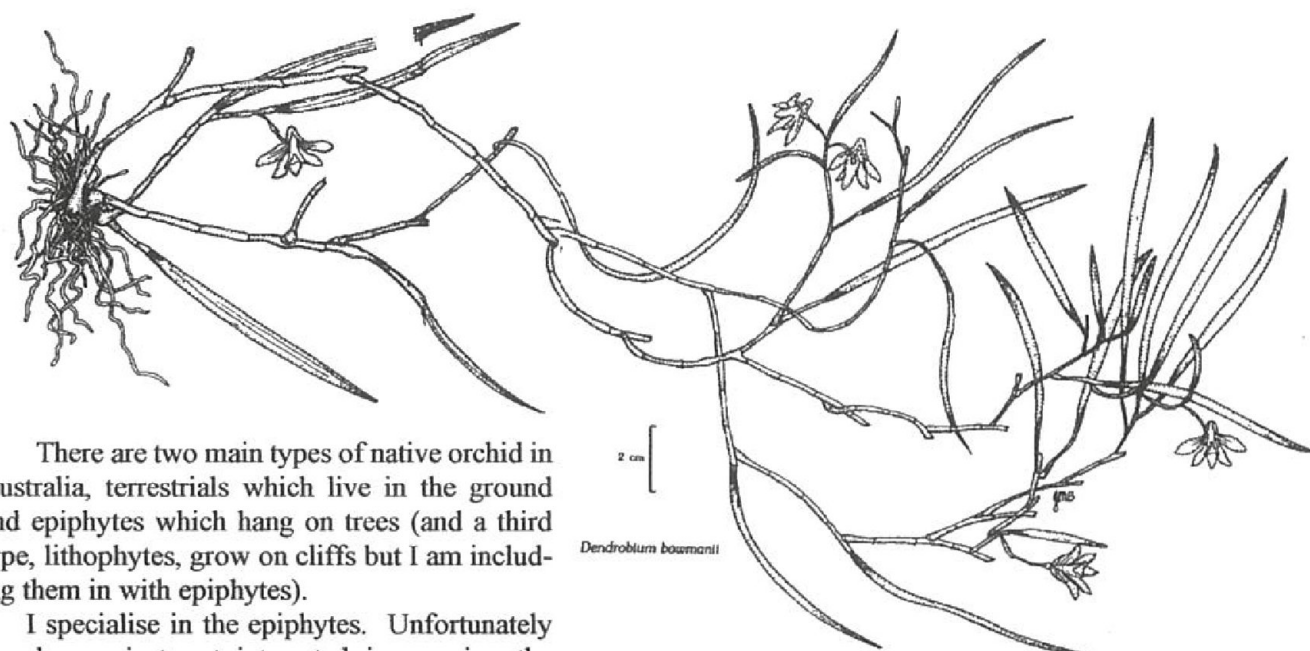


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AUSTRALIAN NATIVE EPIPHYTIC ORCHIDS

WAYNE CURVILLE



There are two main types of native orchid in Australia, terrestrials which live in the ground and epiphytes which hang on trees (and a third type, lithophytes, grow on cliffs but I am including them in with epiphytes).

I specialise in the epiphytes. Unfortunately people are just not interested in growing the myriad of beautiful and interesting terrestrials with their special needs, but the epiphytes are a different story.

They are extremely tolerant of growing conditions, growing naturally from Tasmania to the top of Arnhem Land and Cape York, often in extremely harsh situations. There are very few on the western side of the country, just a few up around Darwin (tall cane ones called antelope style Dendrobiums).

Perfect conditions are between 8° and 34° but they will take -4° to 44°. They will be damaged by burning or scalding by direct frost (where the frost crystals actually grow on the plant), though they will not be killed, and by extreme heat (in the 40s) combined with a high light level.

Cultural Notes

Feeding

There are all sorts of 'tricks of the trade' associated with growing these orchids. There is also a lot written on the subject which I have found to be bunk, such as fertilising at ¼ strength. After much experimenting with various dilutions I now fertilise at full strength, at every watering, and like the results. I have a fertiliser injector system, which is wonderful for accuracy and ease of use. It mixes additives into my watering system at a consistent rate

(which I test using an E.C. metre and adjust if necessary). I also use Osmocote Plus slow-release fertiliser. In your garden under shade cloth, it is best not to feed your orchids in the colder months from about May to September because in the cold the plant can't use the nutrients and they can build up to toxic levels in the mix.

Potting

A typical, well grown epiphytic or lithophytic orchid is grown in a small pot relative to the plant size, in gritty, open medium. It can be suspended, attached to a vertical trellis or on a well draining mesh-style bench. The pot must be a special orchid pot, which has VERY free drainage due to the many holes or slits in it (probably 40 or 50% of the surface area of the lower pot

is not pot but holes) I recommend two brands; the Orchid Pot Co. and Reko.

Growing Media

Do not grow these orchids in any kind of soil; you'll drown them. Most are actually lithophytes, growing on rocks and cliffs, mostly granite. The roots are covered with a layer of something similar to an absorbent polystyrene foam which absorbs rainwater very rapidly, holds it and releases it into the plant's system as needed, the



The Orchid Pot Co's pots - recommended

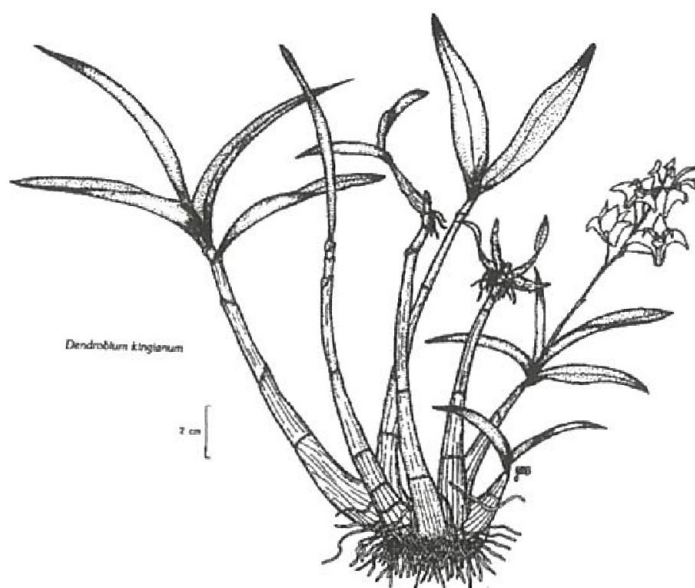
roots alternately drying out and rewetting. If they do not have a chance to dry out they die off very quickly so must have a very open, free-draining medium.

I add other ingredients to my pine bark because pine bark has a pot life of about 2½ years, charcoal lasts 5-7 years and scoria lasts virtually forever. So I can leave an orchid in a pot for up to 12 years without repotting it. As the bark breaks down it is replaced by the growing root system so the orchid is in effect getting more room to grow as it needs it.

We have found that the best growing medium is a combination of fine grade Debco orchid bark (5-10 mm which is about the size of a peanut), red scoria, available from any sand and soil supplier (you can beg a bucketful from the bulk heap and might even get it free -Lyn) and hardwood (Redgum) charcoal.

The ratio is 5:2:1 pine bark: charcoal: scoria.

You can process your own by collecting Ponderosa (Radiata) pine, which is the pine you see particularly down on the Peninsula. To do this, select a mature pine tree with nice, corky bark and with a machete, hammer or similar tool knock the bark off (you can go right to the cambian layer without injuring the tree). This then has to be crushed into suitable-sized pieces with a chipper or shredder. After that, you need to either compost it in a large heap of several cubic metres (probably impractical for backyarders) or to put it into a 44 gallon drum (whatever they are now!) or several rubbish bins, fill with water, add 4-5 handfuls of lime and let steep for a few days. Change the water and



steep as before, continuing until most of the ginger colour has been leached out. It's a lot of work! The last and easiest way is to leave it in a heap out in the weather for six months.

You can't overwater plants growing in this mix if they are hanging or sitting on mesh.

Finding them in the bush.

A good place to look out for lithophytic orchids is on south-facing granite cliffs anywhere north of Genoa on the east coast, within 10 or 12 miles of the sea. They tend to fall off the cliffs in great sheets, a whole colony coming away entirely under its own weight so it's worth while looking at the base of such sites, often behind Pittosporum undulatum for some reason. They often grow with Pyrrosia ferns. Other things you might find growing on these cliff faces are aloes and true cacti such as Prickly Pear. Truly tough customers!

Dockrillia (or *Dendrobium*) *bowmannii*, Terete or Rattail *Dendrobium* is the most likely *Dendrobium* to be found here but on the north-facing cliffs opposite *D. bowmannii* can sometimes be found *Dendrobium striolatum*, an even tougher character.

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Qld, 4559.

The Orchid House

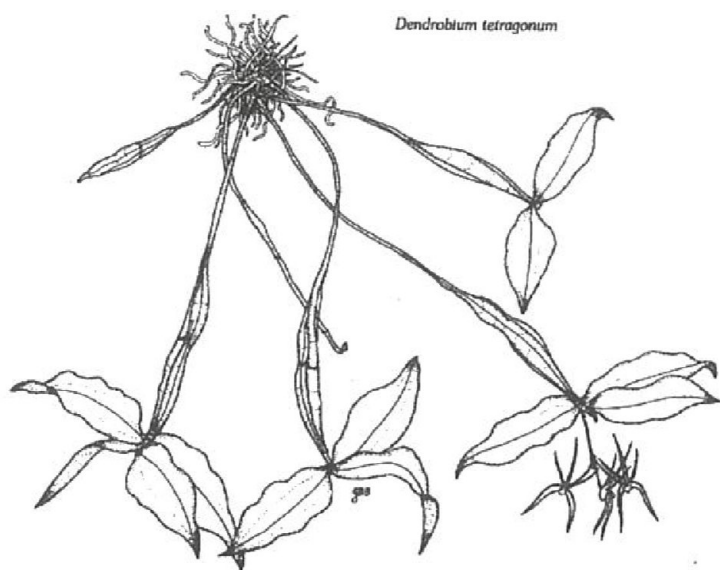
We saw slides of Wayne's custom designed and built Australian native orchid house. He began with 12 inches of crushed $\frac{1}{2}$ " granite screenings, cobbles, ankle-high benches of grid mesh, a misting system every 3 ft which sprays onto the floor for humidity, walls of glass with plastic lining to form a double wall, lined with shade cloth and whitewashed for a bit more shade. The air movement is controlled with two evaporative coolers which push the hot air out vents at the opposite end of the structure so it can be 42° outside and about 32° inside. It is so lush and healthy that it smells just like a tropical rainforest. In winter they have the exact opposite; all watering is shut off, the whitewash but not the shade cloth is removed, the evaporative coolers are shut off and stored elsewhere and the internal fans are turned on. With this setup, it can be a really icy winter day outside and 28 beautiful degrees in the orchid houses. Once the bench space has been taken up we hang plants from the roof, particularly in spring when the flower buds are coming up.

The Propagation of Native Orchids

"Orchids can be propagated by a range of techniques, both sexual and vegetative. Most techniques of vegetative propagation (with the exception of tissue culture) result in a limited increase in plant numbers. Seed propagation on the other hand can result in



Dendrobium linguliforme



Dendrobium tetragonum

Dendrobium tetragonum has wonderful, square canes with blood-red veins and spidery flowers.

the production of large quantities of plants in a relatively short time. Vegetative techniques produce progeny identical to the parent whereas seedlings are often variable."¹

Wayne has until recently relied on traditional methods of vegetative propagation for his stock increases although tissue culturing is now possible. Growing plants from seed is a specialist exercise which must be done in a laboratory.

Because he can't predict the colours of progeny from a cross and can't hang onto the plants until they flower (he has 50,000 plants under cultivation as it is), he is now marketing seedlings by attaching coloured photos of the parents and giving customers the thrill of discovering their own cultivar.

Under nursery conditions it takes a new plant about two to three years to flower. A hobbyist can add an extra year. □□

¹.Source: Native Orchids of Australia David L. Jones

Ferns in the Mason's Falls & Ferny Nook areas of the Kinglake National Park

Gay & Barry Stagoll

This is one of the many locations quite close to Melbourne where quantities of ferns can be seen growing in the wild in their natural state. The Kinglake National Park is the largest in the vicinity of the city (actually it comprises three separate segments granted national park status over a long period, the latest having been proclaimed in the early 1980s).

The trails are good, and those in the Mason's Falls & Ferny Nook area have modest gradients so they're reasonably easy to walk. This area is in the Western Section of the Park, and the trails are easily accessed from the northern picnic area. This is reached by car by turning right and proceeding on past the Visitor Centre as soon as you enter the Park from National Park Road (which joins the main road about 12 km west of the Kinglake town centre).

The track to Mason's Falls, and then on to the Lookout to appreciate them fully (they're well worth seeing) is about 500m. long (about 15 minutes' walk). From there you take the Running Creek Track, and cover somewhat more than another 500m. before arriving in Ferny Nook.

In the Falls' vicinity, some nice stands of *Blechnum nudum*, *Blechnum cartilagineum* and *Polystichum proliferum* can be seen, along with *Calochlena dubia*, *Doodia media*, *Pteris tremula* and, growing in the centre of the creek, an impressive clump of *Sticherus flabellatus*. There are also abundant treeferns. Then, after enjoying the view from the Lookout, there's a diverse population of native trees shrubs wildflowers (including orchids flowering in season, and grasses (including *Xanthorrea* - or grass-trees) to be enjoyed along the track before you begin to notice the *Asplenium*

bulbiferum, *Adiantum aethiopicum*, and *Polystichum* which herald your entry, flanked all around by *Dicksonias*, into Ferny Nook.

On the late January day we visited, it began to rain heavily just as we arrived in Ferny Nook (what luck, since January was one of the driest on record), and as we weren't suitably dressed to stay too long given the weather conditions and the leeches which started to appear, we didn't attempt any sort of a comprehensive inspection. But what we saw was enough to recommend the area as a good day out for those interested in ferns and easy bushwalking, at a location where the visitor facilities, including the picnic grounds are first rate.

On a more sombre note, parts of the Kinglake National Park are affected by phytophthora root rot (otherwise known as cinnamon fungus). As a very necessary precaution against picking up the spore and transferring it further afield (perhaps even to your own garden), it would be wise to wash your boots and other clothing or walking gear which may have collected mud, before leaving the Park. Best to pack a change of footwear and a spare pair of slacks, and a small brush to make the cleaning easier, before making the trip. And responsible visitors will not leave the walking tracks, as any movement of infected tracks onto uninfected areas will spread the disease. Obviously, collection of any plant material also carries the risk of infection (but collection is illegal in National Parks in any case).

□□

Thank you Gay and Barry for this interesting article. It was a lovely surprise which arrived just when I'd reached the Magazine Madness stage! Of course, that trip would have to include a visit to nearby Fern Acres Nursery ↖ -Lyn

COMPETITION WINNERS

February meeting - *Pteris* judged by Terry Turney

Competition

1st

Barry White *Pteris pacifica*

2nd

Dianne Mayne

3rd

Don Fuller

Exhibitors' Draw

Don Fuller

Special Effort

Don Fuller, Jack Barrett, Dorothy Forte, Pat Nicholls, Terry Turney.

Setting Up A Terrarium

A demonstrated talk by Jack Barrett

Jack recommends a large glass container for a terrarium so it can be left to settle down and the plants grow for as long as possible before they are too big for their setting and therefore have to be removed. It needs to have a close-fitting lid so the microclimate can function continually without interference. Disused aquariums are definitely high on the list but demijohns and very large jars are also useful. Special terrariums, often six- or eight-sided and with ornate decorations and roof-like lids are available and are probably the best.

All plants and other materials that go into the terrarium must be as clean and pest-free as possible as any contamination will enjoy going rampant in the system and could spoil the whole garden. For my growing media I start with a layer about an inch (2.5 cm) thick of reasonably fine scoria to which charcoal has been added, at the ratio of about 10 parts scoria to 1 part charcoal. This creates a nice open layer so water doesn't 'mud' on the bottom, and the charcoal sweetens it.

The next layer is two to three inches (5 - 8 cm) of new, commercial african violet mix, preferably from a just-opened bag for cleanliness. The african violet mix should be moist but certainly not wet. If the terrarium will be against a wall and therefore will have a 'front', the medium can be sloped upwards at the back but if it is to be viewed from all sides either leave it flat or for a bit more interest, mound it in the middle.

Now you need to choose your plants and plan the planting pattern. Aim for some smaller than others, some ground creeping and some more upright, maybe one with variegated or coloured foliage, and get a variety of leaf textures and shapes. Of course, plants that don't grow big quickly and that have small leaves will look better for longer. For his demonstration Jack used small plants of:

Adiantum,
Humata tyermanii,
Asplenium

aethiopicum,
Selaginella sp.,
A Pteris

A Croton for colour and bush moss to mulch and dress up the surface.

Start with the small-

est plants (except moss). Remove as much loose dirt as you can without denuding the roots and plant each one as normal - and don't worry about the lack of media depth, they'll be so spoilt they won't mind.

When you are happy with the arrangement you have created, add more mix and fiddle with it until you are satisfied. A dead flat media surface would be boring so try and create an interesting slope or a bump or two. The thickness of this layer varies, depending on how big the container is and what 'looks right' in it.

Spread bush moss (the low one that looks like velvet and that most of us have somewhere in a garden bed or pot would be good) and add any ornaments you wish to - small rocks, ceramic bridges, figures, frogs . . . whatever you like.

Wipe the glass walls clean and spray your terrarium with a hand held spray bottle adjusted to a fine spray to clean medium off the leaves and ornaments and to moisten the whole ecosystem enough to provide the water the plants need **without drowning them!** You would be surprised how little they need.

Set the lid in on a slight angle; prop one end up by inserting something (a match?) until the system is up and running - i.e., with misty sides in the morning, dry in the evening. This should get rid of any excess moisture and also means the water isn't dripping down onto newly planted leaves.

Position your beautiful little indoor garden in a spot which receives good light, preferably a little filtered sun in the morning. If it is in insufficient light your plants will grow leggy very quickly and die or at least need replacing often.

JB



Elkhorns and Staghorns

Platycerium



Variations of *Platycerium willinckii*, *P. bifurcatum*, *P. hillii* and *P. veitchii* showing their apparent relationship with one another. Relative proximity of variants indicates relative closeness of relationship.

Key to the variations illustrated above

Fertile fronds recumbent, pale gray-green, narrow divisions, many segments, nest fronds deeply lobed.

1. *P. willinckii*.

Broad divisions

2. *P. willinckii* cv. 'Mayi'

3. *P. willinckii* cv. 'Scofield'

4. *P. willinckii* cv. 'Kingii'.

Medium divisions, fewer segments.

5. *P. willinckii* cv. 'Payton'

Young fronds erect, white

6. *P. willinckii* cv. 'Lemoinei'

Dwarf forms

7. *P. willinckii* 'Pygmaeum'

Semi-erect to erect, gray-green,

8. *P. bifurcatum* var. *bifurcatum*

Semi-erect, gray-green,

9. *P. bifurcatum* cv. 'Netherlands'.

More segments, drooping, nest frond deeply lobed

10. *P. bifurcatum*, unnamed variant.

Narrow divisions,

11. *P. bifurcatum* var. *lanciferum*.

Dwarf form,

12. *P. bifurcatum* cv. 'Ziesenhenne'

Broader segments, drooping, green,

13. *P. bifurcatum* cv. 'San Diego'

Suberect, green,

14. *P. bifurcatum* cv. 'Majus'

Suberect to erect, dark green, very broad,

15, 16, 17. forms of *P. hillii* cv. 'Drummond'.

Erect, dark green, broad,

18. *P. hillii*.

Suberect, gray-green,

19. *P. bifurcatum* cv. 'Roberts'.

Erect, white,

20. *P. veitchii*.

Platyceriums are epiphytic ferns (meaning the plant is growing on or attached to another plant but is not a parasite) which are remarkably specialised in as much that they are self contained. The nest leaves are spreading and act as a very effective litter collecting device. As the new ones grow the old nest leaves curl inwards and die, trapping all the debris to compost it. The roots grow into this rich humus and are protected from hot and drying winds. The old nest leaves make up the bulk of the plant.

The true leaves are thinner, often pendulous and spectacular with the spore carried in a brown patch on the underside of the frond. These fall off when they are old.

The genus consists of twelve species mainly found in the tropics of South America, Africa, Malaysia and Australia. The four species most frequently available in Australian nurseries are *Platycerium superbum*, *P. bifurcatum*, *P. hillii* and *P. veitchii*. All these are native to Australia.

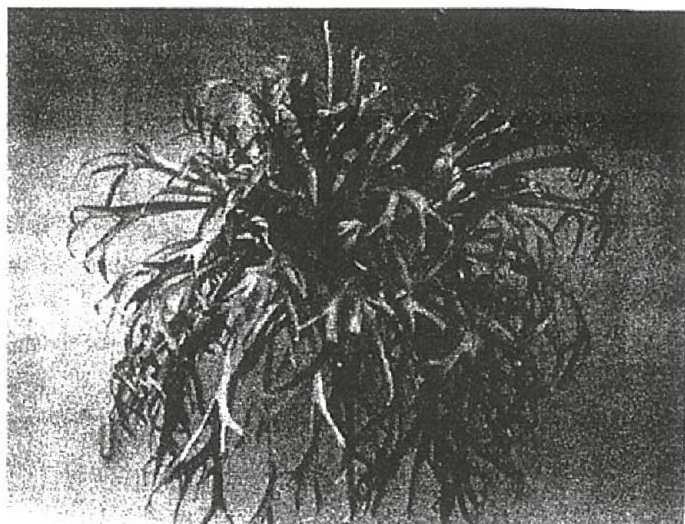
Platycerium superbum

(Pronounced superb-um)

Staghorn Fern.

An easily grown fern and common in cultivation, it is one of the most spectacular members of the genus in the world. Superb indeed! It grows on trees, logs and rocks in the rainforests from northern N.S.W. to northern Queensland. The species entirely lacks the ability to produce plantlets and so the single plant just gets larger and larger in the bush until it gets so large it falls from the host plant and crashes to its death. Spore is borne on the underside of the true fronds in a large, brown patch.

Small plants produce only nest leaves that press tightly against the host, protecting its roots. Eventually they will produce an 'antler', the true frond, which can grow to up to two metres long and dangle from the centre of the nest leaves. This plant makes a spectacular show when mounted on a tree in the garden where it gets



Platycerium bifurcatum

filtered light, or on a slab of wood or treefern in the shadehouse. It responds well to applications of fertilizers such as aged animal manures, slow release granules or pure blood and bone.

Platycerium superbum is often incorrectly sold as *P. grande* but this latter species has two spore patches on each of the true fronds.

Platycerium bifurcatum

Elkhorn.

The most common of the Elkhorns, it grows over a wide area of eastern Australia from southern N.S.W. northwards. In southern N.S.W. it is found in large clumps on boulders and rock faces. Further north in Queensland it is found on a wide variety of trees, from giant rainforest specimens to Casuarinas in the swamps, often in open bushland and even on old cycad trunks.

P. bifurcatum is very hardy and will withstand frost. The nest leaves are deeply lobed; true leaves are semi-erect or nodding, forked two or three times and the spore patches are carried on the underside. Plantlets grow from buds on the outer lower margins of the nest leaves and once the 'mother' plant is established it can produce large numbers of pups each year, thus the plant will grow into a large clump. They enjoy life on tree trunks (any type) in a filtered light area of the garden, or shaded from the afternoon sun. They respond well to fertilizers.

Platycerium hillii

Elkhorn.

A tropical Elk from tropical Northern Queensland, *P. hillii* has shallowly lobed nest leaves and erect, lime green coloured true fronds. Given a sheltered position, it is hardy in temperate Australia.

Platycerium veitchii

Silver Elkhorn.

The Silver Elk is a fairly rare and quite beautiful species that grows in central arid northern Queensland, mainly in rock crevices in low rainfall areas. The thick, fleshy fronds are densely covered with silver hairs which act as a water conserving device, making it drought tolerant and frost resistant. Easily grown on trees, wooden slabs or hanging baskets, it needs more light than other species. A very pretty Elk.

In General...

Diseases: Few pests attack Platyceriums. Slaters can be a problem in the plant if bananas are used as a source of food.

Fertilizer: Use sparingly during the summer (growing months). Small amounts about every two months are suitable.

Water: Subject to growing conditions, in the hot

(Continued on page 29)

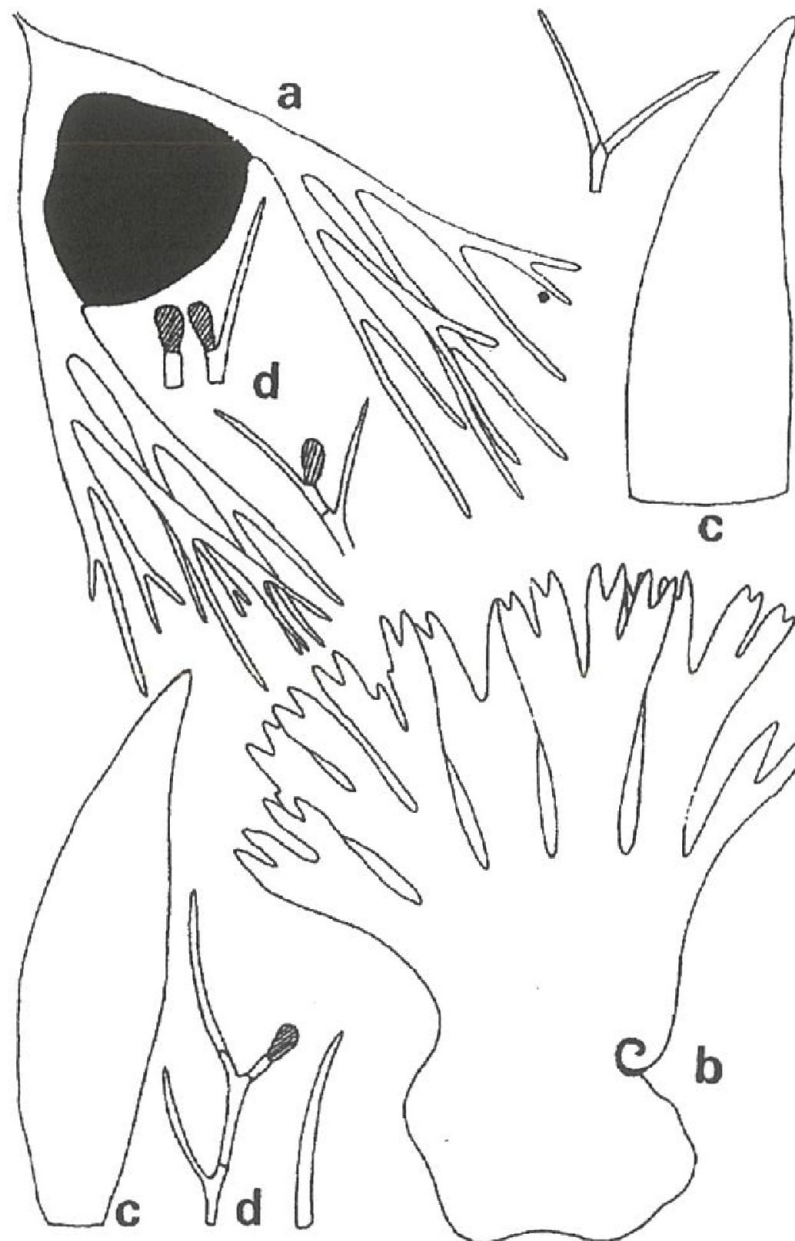
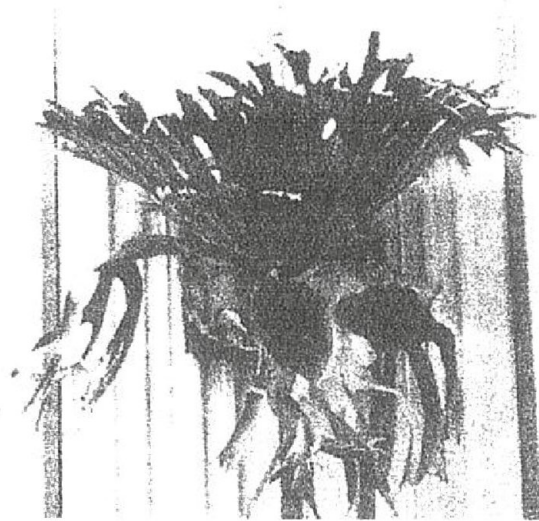
Water: Subject to growing conditions, in the hot summer months water every second day, twice a week during the warm months and less in winter.

Growth: Both *P. superbum* and *P. bifurcatum* are good growers once they are established and will tolerate most growing conditions in W.A.

P. hillii and *P. veitchii* are slow growers which require a little more attention in colder areas. You will find that if you keep them dryer in winter the plant will grow better in the warmer months.

References: D.L.Jones and S.C.Clemesha: -Australian Ferns and Fern Allies. □ □

Right and below: *Platycerium superbum*. a. foliage frond, $\times 1/8$, b. base frond, $\times 1/8$, c. rhizome scales $\times 1/6$, d. unknown.



Platycerium superbum. a. foliage frond, $\times 1/8$; b. base frond, $\times 1/8$; c. rhizome scales, $\times 6$; d. ment of scales, $\times c.200$.

Ferns of New Zealand

A very potted version of Part 2 of Barry White's presentation

I have endeavoured to restrict this report to information which may help members grow these ferns better in their home situations or update their books and their plant labels.

Barry's talk was accompanied by descriptive and beautiful slides.

- Lyn G.

GROW IN HIGH LIGHT

Blechnum novae-zelandii is "Blechnum species 1" in Patrick Brownsey's book. Very common along the roadside.

Blechnum montanum tends to grow in moist spots in mountains and is Patrick Brownsey's "Species 2".

B. triangulafolium is Brownsey's "Species 3".

Blechnum discolor grows in the open.

Blechnum blechnoides generally grows on the edge of the sea in seepages.

Blechnum chambersii mostly grows on creek banks.

Pyrrosia eleagnifolia (still called, incorrectly, *P. serpens* here) grows on trees or rocks from exposed coastal situations to sheltered forest.

Gleichenia dicarpa grows in full sun near the geysers.

GROW IN LOW LIGHT

B. colensoi, a fairly dark green colour, tends to grow in fairly dark places.

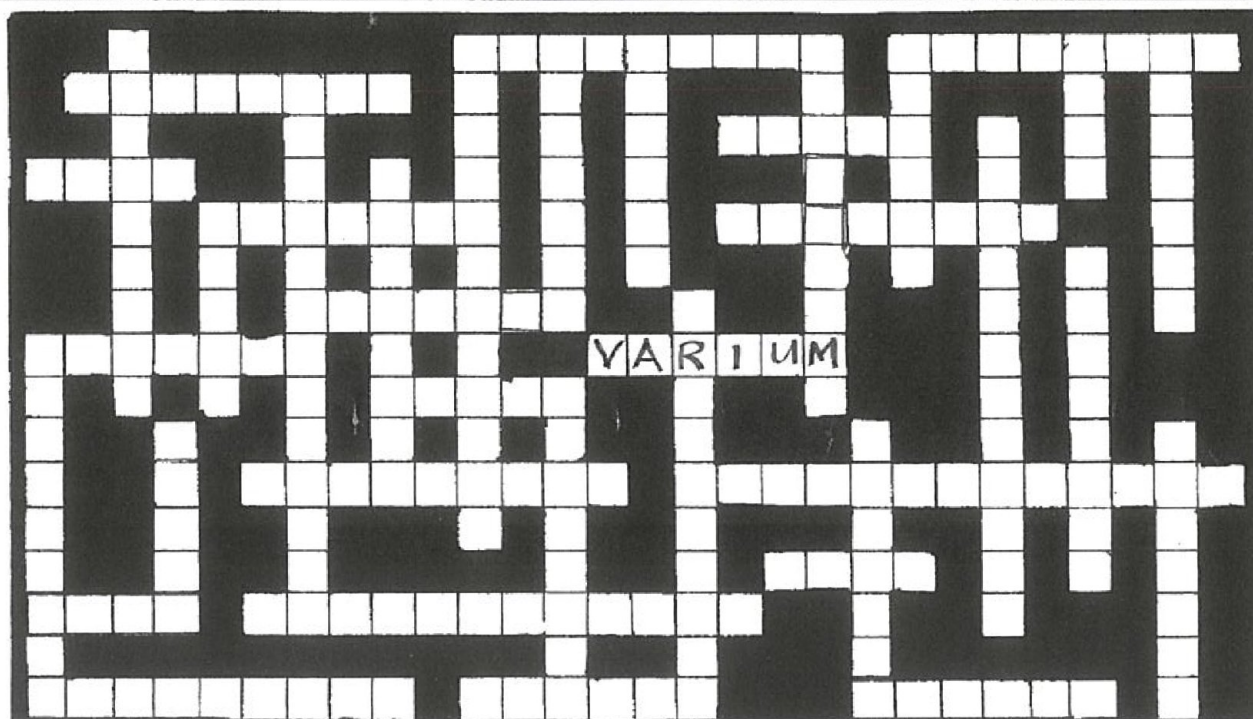
B. nigrum is elusive; a small fern that grows in dark areas.

B. filiforme, the Climbing Fern, has fronds not unlike *B. penna-marina* on the forest floor. When it begins to climb the fronds start to get bigger. Climbing ferns start life in quite dark situations and climb upwards, seeking the sun.

Lastreopsis hispida grows in the darker parts of the forest.

We saw lots of lovely filmy ferns which are not much good to most of us as they are too hard to grow at home without a very specialised setup. □□

Clueless Crossword - ferny and fun.



Fit these 38 words into the grid. Then look up the ones that are unfamiliar!

Adiantum	australasicum	Dennstaedtia	Marattia	Psilotum	sword
Alsophila	Belvisia	Dicksonia	Marsilea	rasp	tape
Ampelopteris	bracken	Grammitis	midrib	Reediella	Todea
Anogramma	Colysis	Humata	nardoo	scolopendrium	tripartita
Athyrium	coral	Isoetes	Pellaea	shield	varium
	Culcita	lace	peltate	Stenochlaena	
	Cyathea	lady	Pilularia	swamp	□□

Of Moments of Magic Among The Ferns

The air was cooling. A whiff of breeze up from the river, ruffled the fawn-feathered plumes of the speargrass that had somehow gained footing in the shallow sandstone soils of these cliffs.

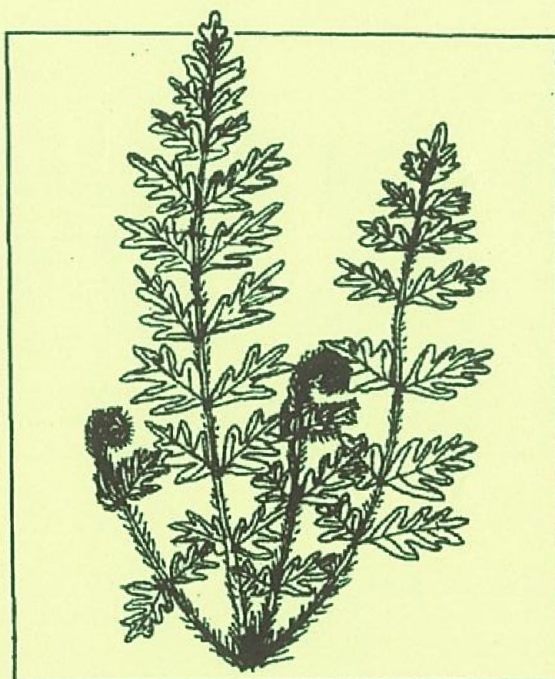
The escarpment of Warrandyte's gorge is rugged, remote and definitely not for the faint-hearted. There are no walking tracks here. By sheer luck I had found a small rock ledge; somewhere to sit in relative safety. Leaning back against the cliff face I could feel the heat of the day captured in the rock. It penetrated my t-shirt and seeped into my skin. The sensation was comforting - like the touch of an old friend.

On the ledge I noticed a scattering of blue-bells growing in a meagre pocket of soil, their spiky petals like fallen chips of sky caught in the rock crevice.

Also surviving in these impoverished conditions was a plant whose ancestors, and indeed most of its present-day representatives, are more at home in the shade of a damp gully. It was a fern. Predictably it is called Rock Fern but also, slightly more imaginatively, known as the Resurrection Fern due to the plant's ability to miraculously revive following rain and after becoming shrivelled and brittle brown over summer.

There are fifteen rock fern representatives Australia-wide, four species in Victoria, three of which occur on this Warrandyte cliff. The cluster of partly desiccated fronds at my feet superficially looked like the most common and widespread variety of rock fern. However, the underside of its fronds were densely covered in ginger-brown, hair-like scales, a characteristic of the rarest of Warrandyte's three - the Bristly

Cloak Fern. Insulating scales are just one adaptation which enables these ferns to survive drought conditions. Consequently those that grow in the most arid places have the thickest covering of scales.



The rock ledge was a perfect vantage point to view the river. It had been a torrid year for the Yarra with an unexpected early flood in April followed by an even greater flood in August. However, the brown river had regained its temper and now flowed complacently, sparkling in the late afternoon sun. Although evidence of its former fury remains in the form of a smooth-trunked Manna Gum uprooted and lying forlornly on its side; a forest giant felled by the force of water.

I thought back over the year. Apart from the floods, which probably did more good than harm, the weather had been temperate and kind to the environment. Summer was warm but not hot, there were no bushfires, no drought. Autumn rain came more or less when it should and a good fungi display resulted. A wet, relatively mild winter gave us again a superb wildflower display in spring. Now entering December, the freshness of spring is receding. It is a time of the longest daylight hours of the year and a time to be outside, not inside.....

.....The living bush is an ever changing environment. The old and sick are continually being replaced by the young and healthy. With the freedom of the air at their wingtips, birds and insects come and go. No season is ever repeated; every year is different. That is the nature of nature and I love it.

-Pat Coupar, "Warrandyte Diary", date unknown
Drawing by Melanie Coupar

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