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NEWSLETTER



Todea barbara

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**SEPTEMBER/
OCTOBER 2005**

FERN SOCIETY OF VICTORIA Inc.

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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.*

OFFICE BEARERS:

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SUBSCRIPTIONS:

*Single	\$15.00	*Pensioner/student	\$12.00	*Family	\$17.00
*Pensioner Family	\$14.00	*Organisation	\$17.00		
*Overseas	\$22.00 (Payment by international bank cheque in \$A please. Sent by Airmail.)				

***Subscriptions fall due on 1st July each year.**

MEETING VENUES: The Kevin Heinze Garden Centre at 39 Wetherby Road, Doncaster (Melway 47; H1).
Other meetings at members' gardens or as advertised on the following page.

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.

Timetable for evening general meetings:

7.30	Pre-meeting activities - sale of ferns. Spore, books, merchandise and special effort tickets. Also library loans and lots of conversation.
8.00	General meeting
8.15	Workshops and demonstrations.
9.15	Fern identification and pathology, special effort draw.
9.45	Supper and another good yarn.
10.00	Close.

CALENDAR OF EVENTS FOR 2005

SEPTEMBER MEETING:

**Thursday the 15th, at the Kevin Heinze Centre,
at 8.00pm**

ANNUAL GENERAL MEETING

**And election of office bearers
Followed by the monthly meeting**

Topic: “Problem fern”

A discussion on problem ferns will be conducted with a panel consisting of Keith Hutchison, Don Fuller, also included will be identification of ferns, so if you have a fern that you want to know more about then bring it along and have the panel and members give the information that may solve your dilemma. If your problem is of a insect or pest type nature then please ensure that it is in an appropriate container, we don't want it spreading making your problem someone else's problem.

Competition category: “problem fern”

OCTOBER MEETING

**Sunday the 9th is a visit to Barry and Gay Stagoll's
Garden at 2.00pm.**

Details can be found on page 68

NOVEMBER MEETING

**Thursday the 17TH, November at the Kevin Heinze Centre, at
8.00pm**

**Topic: Structures for housing ferns, designs & materials - Barry Stagoll
With some slides showing how Barry & Gay used to do it right.**

PRESIDENTIAL PERORATION

Our last few activities for the remainder of 2005 have now been firmly decided and details are in this Newsletter. We hope that members find them enjoyable.

Planning is well advanced for our 2006 programme, but there is still time for members to offer their suggestions for activities which they would find of interest. We're more than happy to listen. We'll continue to include a number of excursions in the year's programme, particularly in the autumn and spring months when conditions tend to be more suitable for the outdoors.

The practical workshop on propagating from spore at the last meeting went very well, and once again Barry White earned our gratitude for his very careful preparation and thoughtful explanations. Everyone present got to sow some spore for themselves under Barry's guidance, using his tested technique for propagating small quantities of sporelings in pots. Even those who've had limited success in the past, or perhaps have considered raising from spore was not for them, should get some results pretty soon.

We understand that it's off-putting for some members to try to get along to evening meetings during the winter months, but if you're in that category we look forward to seeing you at our activities coming up in the spring. What with some early warmth and the arrival of the truly windy conditions that we used to associate firmly with the mid-September equinox, it feels like the real spring weather isn't far away. The blooming and the weed growth in our garden certainly says so, along with all the invitations to the Spring flower shows!

Barry Stagoll

Garden Visit **Sunday October 9** **2.00pm**

(Note that if the weather should turn nasty on October 9, the visit will be postponed to the following Sunday. Ring Gay & Barry Stagoll on 9844 1558 to check if you are unsure whether it is going ahead).

**“Mirrabooka”, Gay & Barry Stagoll's garden at 170 Knees Road,
Park Orchards
Melways Map 35 - right in the centre.**

170 is at the intersection with Husseys Lane - note that Knees Rd becomes Beauty Gully Road beyond the intersection.

Please enter using the lower driveway (Husseys Lane end) and move around to park as close to the exit driveway as possible - not on the lawn please. If you may need to leave early, better to park outside in Knees Road. Entry to the main garden is through the wrought iron gates.

MEALYBUGS

HOUSE PLANT ENEMY

Mealybugs belong to the scale insect group, in the Family Pseudococcidae. They have a world wide distribution, occurring in all except the polar regions, attacking many cultivated food and ornamental crops. Mealybugs are usually covered with a white waxy powder, and have filamentous projections around the perimeter can be quite long. Australia has a number of native mealy bugs and other scale insects which are now worldwide pests, the worst being the Long-tailed Mealy bug (*Pseudococcus longispinus*). They generally prefer warm, humid, sheltered sites away from adverse environmental conditions and natural enemies. They are especially problems on foliage plants in greenhouses and interior plant scapes.

Mealybugs can build up in huge numbers in a very short time causing considerable damage. Feeding weakens and stunts plants, causes leaf distortion, yellowing, and even leaf loss. In some cases, plants can be killed.

Honeydew - the waste product of the mealy bug feeding is a perfect growth medium for sooty mold fungi. These molds damage plants by covering leaves and reducing light available for photosynthesis. The presence of honeydew and sooty fungus is one way to detect infestations of these insects.

Various species of ants 'farm' mealy bugs in much the way that humans farm cows. In return for honeydew, the mealy bugs are given shelter in the form of 'barns' constructed by ant 'farmers' from pieces of dead plant material, soil, etc. Barns can be found on protected flat surfaces, or in the axis of plant leaves. Most species of ants that 'farm' mealy bugs also aggressively defend their 'herds' from predators and parasites.

Life Cycle

Most mealybugs (especially pest species) have numerous overlapping, generations per year. Like all insects, their development is dependant on temperature: there is a threshold temperature for each particular species of mealybug, below which development either ceases totally (dormancy) or is slowed to a greater or lesser degree (quiescence). Just as there is minimum threshold temperature, there is also a maximum threshold tem-

perature, beyond which development is slowed or ceases all together. Temperatures of about 25°C and a high relative humidity are optimum for mealybugs in Australia, and their population peaks in spring and autumn.

Long tailed mealybugs produce about 200 eggs, and females need to mate in order to produce eggs (i.e. males are necessary). Females either produce live young, or the eggs hatch into crawlers very quickly. Quality time doesn't really exist in the mealybug world. Once hatched, these pests crawl away from their mother. Leaving her to die soon afterwards.

In their early stages they appear as flat, light yellow colored eggs that are laid on the underside of leaves and along stems. As they begin to feed and quickly mature, their telltale white, cottony coats begin to form and tiny filaments around their bodies which they use to propel themselves.

At this time it is difficult to identify males and females, with the males cease feeding crawling into a nook or cranny on the plant, he completes his development by secreting another body covering. This time a waxy cocoon, he emerges about a month later with his sole purpose is reproduction, changing into a gnat like insect with wings allowing him to fly to a female. After mating he to will die in a couple of days.

Even though females are not able to leap from plant to plant, males can. Females and eggs are believed to transfer via people brushing against female and eggs which then attach to clothing, watering and re-potting.

Management

Because mealybugs have high reproductive capacities multiple generations in a year, they have the potential to be resistant to pesticides very quickly. The use of stronger and stronger pesticides breeds more and more resistant mealybugs until the stage is reached where efficient and practical control of the pest is no longer possible. Fortunately mealybugs can be controlled using 'soft' methods including biological and low-toxicity pesticides, most of

continued page 71

Visit to Rippon Lea & the Fernery

Sunday 17 June

by Barry Stagoll

On a fine Sunday (which defied the pessimistic weather forecast) there were 24 members and three youngsters in our group visit to Rippon Lea Estate.

Rippon Lea Head Gardener (and FSV member) Justin Buckley arranged the visit for us, and in addition to engaging us in detailed conversation about the Fernery and the ferns it contains, provided historical background on the Estate, and especially on the gardens. He explained both the objectives being followed in the management of the garden, and the practical measures being taken. These currently include the commencement upon installation of modern irrigation to allow better use of the staff than having them move sprinklers about all day long in dry weather. The original facilities built to bring water into the garden from the Caulfield racecourse vicinity are also being refurbished. Justin also gave us a tour of the gardens, with detailed explanation of their features. We are greatly indebted to him for taking such trouble to ensure a successful and interesting visit.

The Fernery itself is undergoing some maintenance work at present, with the focus being the reattaching of laths which have sprung away from the ironwork. Some laths have split where they have detached and begun to rot, so in places new ones will be required. Otherwise the structure and the collection is looking good. Many of the treeferns have made spectacular growth over the 18 years since FSV assisted in replenishing the fern collection (basically the only ferns left in the Fernery when restoration commenced in 1984 were a few treeferns and a couple of very old marattias, growing amongst huge Bangalow palms which had outgrown the roof and almost overwhelmed with creepers of various sorts). Indeed, so far as some of the treeferns planted after the restoration are concerned, it proves to be fortunate that the extension which abutted the south end of the Fernery before the restoration was not replaced, as by now they may have collided with the roof. Of course, they have grown all the faster by access to clear sky above and the resulting full light, but the exciting thing is that they all seem more than happy to continue to perform well.

The fern collection is mapped to various growing areas defined in the Fernery. The list includes 120 separate species/hybrids, 25 of which are treeferns (3 being *Sadlerias* from Hawaii). From inspection it appears that examples of almost the whole list survive (if not all). Obviously, this is extremely pleasing. The original siting and design of the Fernery, the skill and attention of today's Rippon Lea garden's staff, and the FSV contribution to the replanting, can all take a share of the credit for the successful continuation today of a most diverse, pleasing and healthy fern collection. The diversity is particular worthy of comment. There are places in various parts of the world where enclosed ferneries and/or glasshouses of similar vintage survive, but it has to be said that today these do not all contain a diversity of ferns.

If you've not seen the Rippon Lea Fernery, you really should do so. And it's also an excellent place to recommend for a visit by friends interested in gardens and plants.



which are readily available to the horticultural industry and the home gardener.

There are excellent non-chemical and biological control options for mealybug control. The key aspect of management is to detect the infestation before it becomes too difficult and costly to deal with.

Non-chemical Control

Rubbing Alcohol Spray:

The idea of using rubbing alcohol as a spray for plant pests has been around for years. Some people swear by it while others blame it for causing leaf damage.

Protection offered:

People that have used alcohol sprays say they work on mealybugs. Alcohol sprays have been used successfully on houseplants and tropical foliage plants. Most of these have heavy, waxy cuticles that are not easily burned.

How to Make:

Mix 1 to 2 cups alcohol [Use only 70% isopropyl (rubbing) alcohol] per quart of water. Using undiluted alcohol as a spray is very risky for plants. You can also mix up an insecticidal soap spray according to the dilution on the label but substitute alcohol for half of the water required.

How to Use:

Since alcohol can damage plants always test your spray mix on a few leaves of plants first. If the spray kills the pests and no leaf damage shows within the next 2 or 3 days, go ahead and spray further, using exactly the same ingredients and proportions you tested. If an infestation is well-established, it will be necessary to make a series of applications, at 10 to 14 day intervals, for mealybug control.

Horticultural Oil and Insecticidal Soap Sprays:

Are effective non-chemical controls for mealy bugs and other soft-bodied pests. Oil sprays suffocate the insects and can aid in controlling scale crawlers and eggs, while soap sprays cause the insects cell membranes to rupture effectively causing it to desiccate. Many types of oil sprays and soap sprays are commercially available or can be homemade. For more information see: Horticultural oil, Pesticides made

with botanical oils, and Insecticidal soap.

Biological Control

There are excellent biological controls for mealybugs. One of the biological controls used most often is the mealybug destroyer, *Cryptolaemus montrouzieri*. The larvae of this ladybird beetle are very effective predators, especially when mealybug numbers are high. Adults also will feed on mealybugs. A parasitic wasp, *Leptomastix dactylopii*, can be used in combination with the predators.

Predatory ladybird beetle,

Cryptolaemus montrouzieri.

"The mealybug destroyer".

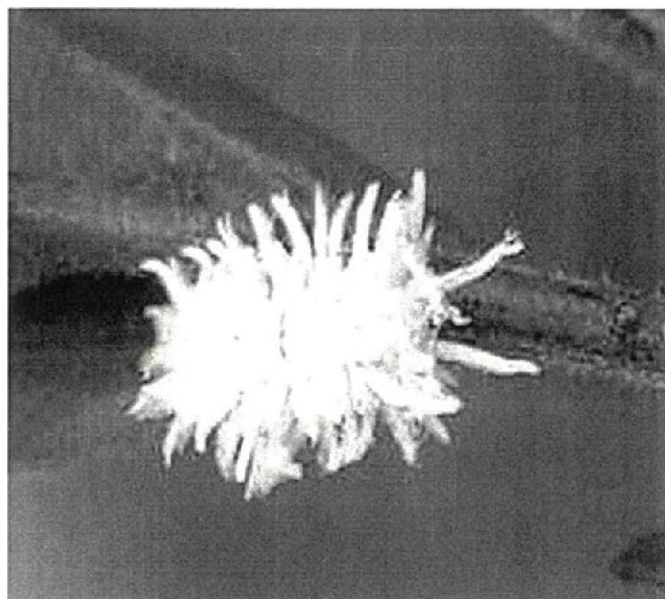
Most effective against mealybugs producing cottony egg masses. Several small releases at 2-3 week intervals are more effective than one large release. Can be used in combination with other biological controls.

Release rates/intervals:

Make 3-4 releases at 2-3 week intervals. Predators do best in warm, humid conditions. Use 2-8 adult beetles per 10 sq ft., or infested plant.

References:

Botanic gardens Sydney, University of Arizona



VENTILATING SYSTEMS IN FERNS

By Ron Wilkins

Reprinted with many thanks from ASGIP fern study group
September, 2004

It is well known that the ventilating pores on the surface of the lamina in ferns, called stomata, are essential for photosynthesis and transpiration. For these processes to be effective, carbon dioxide must be able to enter and oxygen and water vapour to exit the frond. The movement of gases within the leaf is facilitated by the presence of spongy parenchyma tissue in the middle of the leaf.

But what of the stipe and rachis? Some species of fern allies consist of nothing much more than stem, their leaves are so small, think of the skeleton fern *Psilotum*. From the green colour we can infer that stipes too contain chlorophyll. Even an old stipe of a true fern darkened by lignification is usually green inside. If you look carefully at, let us say a frond of *Asplenium bulbiferum*, you will see two pale green lines running the length of the stipe, passing off onto the rachis of the first pair of pinnae, and re-commencing on the primary rachis. On other ferns the pale green line may be discontinuous as in *Cyathea cooperi* so that it resembles rough stitching on a garment. These structures, called aerophores, pneumatophores or pneumathodes are often not mentioned in taxonomic descriptions although they inspired the name of one genus, *Pneumatopteris* (Thelypteridaceae), because this structure is very conspicuous in the type species. (For fern anatomy terminology see my article 'Inside Ferns' Dec. 2003 newsletter.)

In the transverse section of the stipe of *Asplenium surrogatum* the green parenchyma cells of the cortex penetrate the brown hypodermis to contact the outer epidermis layer at the position of the thin green line on the surface of the stipe. The ventilating system of the stipe is completed by the presence of stomata in the epidermis along the line of the aerophore, though because these pores are very small, they cannot be convincingly photographed with my low power microscope.

Although my photographs do not reveal the intercellular spaces which must exist in the

tissue of the cortex, there is a diagram in Bower (1923) that illuminates the way the aerophores function.

In this transverse section of the stipe of *Saccoloma elegans*, the black represents the vascular strands, the dotted areas represent thick-walled mechanical tissue or sclerenchyma through which gases pass with difficulty, and the clear areas are soft ventilated parenchyma connecting with the aerophores (p). In this way tissues deep within the stipe are provided with a way to access reacting gases, and to disperse gaseous products. Occasionally in some ferns, the cortex tissue breaks through the epidermis and forms a small patch with a honeycomb-like texture.

An interesting question is how light penetrates stipes that perhaps began their life green, but they have darkened by cell wall thickening and lignification with advancing age, even those that clearly have green chlorophyll-containing parenchyma within. It seems that the pale green-coloured aerophores behave like glass bricks in the otherwise opaque wall of a stairwell, allowing diffuse light to penetrate the interior of the stipe (I am indebted to Trevor Clifford for this nice analogy.) You can test this by cutting a longitudinal section along the stipe of your *Asplenium bulbiferum* and hold it up to the light. In some ferns the aerophores are not so easy to see. Try cutting off a small piece of the stipe and let it dry. Put the rest of the frond into a wet plastic bag. Differential loss of water from the ventilated tissues below the aerophores causes a shrinkage crease to develop in the drying piece. Matching this crease with the undried portion of the frond reveals the line of the aerophore. Rose Bach kindly gave me the specimen of *A. surrogatum*, a Lord Howe Island endemic species shortly before she died.

Reference:

Bower, F. O. (1923) *The Ferns (Filicales)*. Vol 1 Cambridge University Press, London. p. 169.

DRYNARIAS

A GROWERS POINT OF VIEW

As a keen collector and grower of Drynarias, I've decided to put my procedure and views to paper. whether they be right or wrong, they work for me giving excellent results.

The growing season here in Adelaide appears to begin around the month of October. at this time old fronds would be, by now deciduated or browned off and should be removed allowing new growth buds and fronds to progress freely. During this period I top up my baskets as required, with an epiphytic mix supplemented with one of the following, Dynamic Lifter, Rapid Raiser, Ultrallora 2000 or a s~ fertilizer. If the fern needs rebasketing this is the time to rebasket, using an epiphytic mix laced with one of the above mentioned fertilizers. I then dunk the ferns in an old tub filled with water, to which I add Fish Emulsion or Nitrosol or similar, the baskets are totally immersed for 10- 15 minutes, removed, drained and hung in a well fit position with good air movement.

The ferns should grow on to become a healthy and attractive specimen by mid to late November or early December with large fronds. Care should be taken when ferns have their new growth, because at this stage the fronds are quite tender and brittle, if mishandled they could snap or break easily.

Mid to late December the ferns should be flourishing, and by now will be quite hardy with some signs of new growth appearing. As January progresses the ferns should be fiffi and weft developed, at this time I give a dose of fertilizer, Dynamic Lifter or sifilar to ensure that they will have enough nourishment to last for the rest of their growing season.

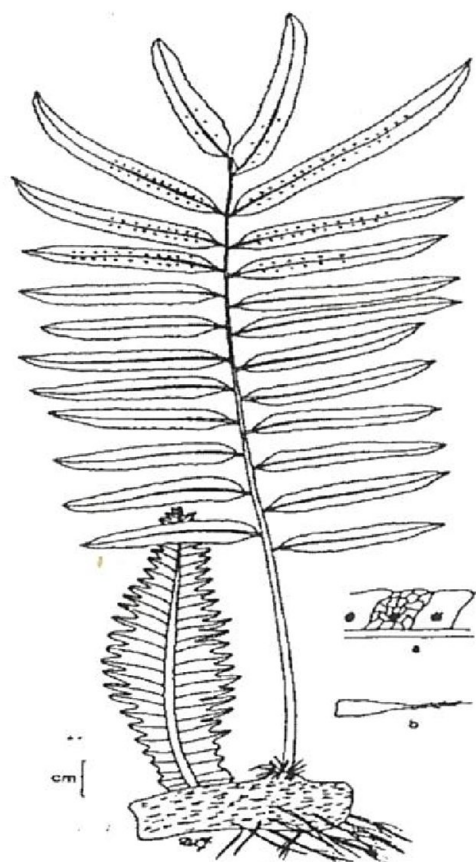
You wiffi find on well established ferns, that through January to March, and at times into April there could have been at times, that some new growth would have appeared, this of course will depend on the climatic conditions at the time. A late and humid summer could have astonishing results in growth, but whatever the conditions from November through to April, you should be rewarded with excellent ferns to admire.

The ferns I find prefer a wed fit position with an Easterly to North Western aspect, although this is not necessary, plenty of air circulation, common sense watering, remembering that these ferns are mainly Tropical to Semi Tropical, and

in nature can be deluged in the wet season with copius quantities of water, but being epiphytic they should only retain the amount they require, so to simulate these conditions, or as close to their natural growing habitat. they should be monitored and watered to suit their requirements. In exceptionally hot weather, this could be twice daily, or a little but often, not heavy watering, but an amount to keep the fern damp. It should be noted that it is not advisable to excessively water overhead (as we could be prone to do during a hot spell), this tends to weigh down the fronds, causing them to fold or crease, and they will eventually die off

Drying out over a short period doesn't seem to cause damage, but undue dryness under exceptionally hot conditions could be damaging. Drying out in the winter would be advised during their dormant period, but this should also be monitored.

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DRYNARIA RIGIDULA
a) Section of fertile pinna
b) Scale

Away from ferns - or nearly

Part 2

By John Hodges

In May Norma and I went for a three night break to Sandy Point via a turn off before Wilson's Promontory. A very quiet place in the off season with just the odd surfer about. We were in one of four brick cottages and we were told in our booking confirmation to ring from Leongatha, so the owners could have the coonara type heater alight or in hot weather have the windows opened to allow the cool breeze through. On arrival we found the cottage well equipped with everything required for a very comfortable stay. Even a container of bird seed to feed the parrots and varied bird life that abounded.

After settling in about lunch time we had a short walk to the beach and then a drive to the town which consisted of "A General Store", and a part time Estate Agent and a Café both of which were closed and didn't bother us. The main road continues for 2 km and ends at Shallow Inlet where there is provision for small boat launching in the distance the only access being to drive along the beach. After a great meal served up by Norma. We settled in for a very peaceful night. With the occasional possum about. But not enough to disturb us.

After breaky on our first full day we packed some sangers and the thermos and headed out through Foster and on North to the old locality of Turtons Creek where most of the gold of the Foster district was discovered back in the mid 1980's. Along the way we watched the harvesting off trees in part of the large pine plantation. Each tree being held by hydraulically controlled vertical clamps and sliced through just above ground level in a matter of seconds. And then placed alongside others. The huge machine then turning back for the next victim, fascinating to watch.

There is no sign of buildings at the locality but at the falls is a small, but very nice picnic spot where we lunched and shared a few crumbs with the little birds of the area as we watched the falls in the background. When re-charged we walked along the track down stream which leads to a bigger picnic spot, also accessible from the road. Along here were *Blechnum fluviale*. *Polystichum proliferum*. *Adiantum Aethlopicum* and *histiopteris incisa* and lower down on the creek banks *Blechnum nudum*. *Watts* and *minus*. And *Dicksonia Antarctica*.

On our second full day we decided to drive

around the coast to where I'd heard or read sometime of the Walkerville Lime Kilns. As we arrived at Walkerville North where there are only a few houses. The road finishes at the boat ramp, on back tracking for about 12km we came to Walkerville South which also finishes at a boat ramp, but with the ruins of the Lime Kilns in view. The information I obtained there was very interesting and thought I would like to share it.

A local farmer discovered limestone deposits in 1875 and the first kiln was built in 1878, the township and port operated from 1875 to 1926, supplying quick lime to the Melbourne building industry and supporting 80 workers and their families. During this time Waratah (now Walkerville) flourished with a store, Post office, Coffee palace, and cottages.

Six kilns were constructed at the base of the cliffs. Each brick lined and about 40 feet deep. The limestone was excavated from the cliff face and carted to the kilns in horse drawn tippers and shovelled in for fixing between layers of firewood, after a slow burning process the powder was scraped from the grate as quick - lime and bagged.

Timber came about 8 miles by bullock wagon for the unusual jetty, which had several curves in it to avoid driving holes through the rock reef in Waratah Bay. Tramways were constructed for hauling in firewood, and also from the kilns along the jetty, where draught horses pulled the bagged quick-lime on flat topped trolleys to the ships for transport to Melbourne, when the ships arrived, the whole population would turn out to see the horses transport the loaded trolleys from the store shed to the shops.

Sadly the elements have taken their toll on bagging and store sheds, houses, shops etc with just parts of the kilns and two posts from the jetty battling nature to survive.

We went on to lunch at Tarwin Lower and then onto Inverloch and returned to our temporary home for tea and one more peaceful night. Arrived home for lunch after a lovely break.

Bye Fern - ow
John Hodges.

Remember that information gained, whether it be from books, articles or verbally, should be considered, but the knowledge used at the discretion of the grower. Conditions such as position, light, atmospheric conditions, geographical position and growing medium are all important factors, this brings into calculation one more condition, the human element. It is up to you as the grower to use your own findings to a certain degree, by trying to simulate the natural requirements of this fern, if you do so and abide by your findings, you can only succeed in growing excellent specimens.

Please remember we cannot duplicate Mother Nature, but we sure can simulate her.

Take note that this is my personal summation for growing these ferns in the Adelaide area, and therefore should be adjusted to suit the individual conditions and requirements of your particular area.

Hoping that this article can be of some assistance with the growing of Drynarias.

My Epiphytic mix for Drynarias

1 part Tree Fern Fibre 1 part Pinebark 10- 15 mm 1 part Charcoal 10- 15mm 1 part Peanut Shells 1 part Mulched Oak Leaves to which I add, of your choice, Rapid Raiser or Dynamic Lifter or (Atraflora 2000, using your own discretion as to the quantities, as conditions and requirements differ from area to area.

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Reprinted with many thanks to San Diego Fern Society October, 2002

Growing Ferns In and On Rocks

Bob Halley

For years Bob Manthome has been collecting trophies at the LAIFS Fern Show with his exhibits of ferns mounted on rocks, logs, boards, etc – but mostly rocks. At this meeting he brought a number of examples of his art and let us in on the secrets of successfully growing ferns on rocks.

Many ferns are described in the literature as epipetric or epilithic meaning that they grow on rocks. As a matter of fact, nearly any epiphytic fern will grow on a rock with a little encouragement.

Here's how

Secret Number One:

Choose the right rock. The rock needs to be somewhat porous, so you need some kind of volcanic rock. In the garden supply places you will find 'Waterfall Rock'. It has a nice appearance and can be used, but it is awfully heavy. You will also find 'Feather Rock'. It is very light and porous but it will tear your hands to bits. In between the two you will find what is usually known as 'Lava Rock'. It is fairly light and comes in all sorts of attractive shapes and sizes and is reasonable to work with. Try to find 'Lava Rock' and try to find pieces with natural cavities.

Secret Number Two:

If there is no natural cavity in the rock you must make one by drilling or chipping to make a little nest (2 in. in diameter by 1 inch deep) into which you will pack sphagnum moss.

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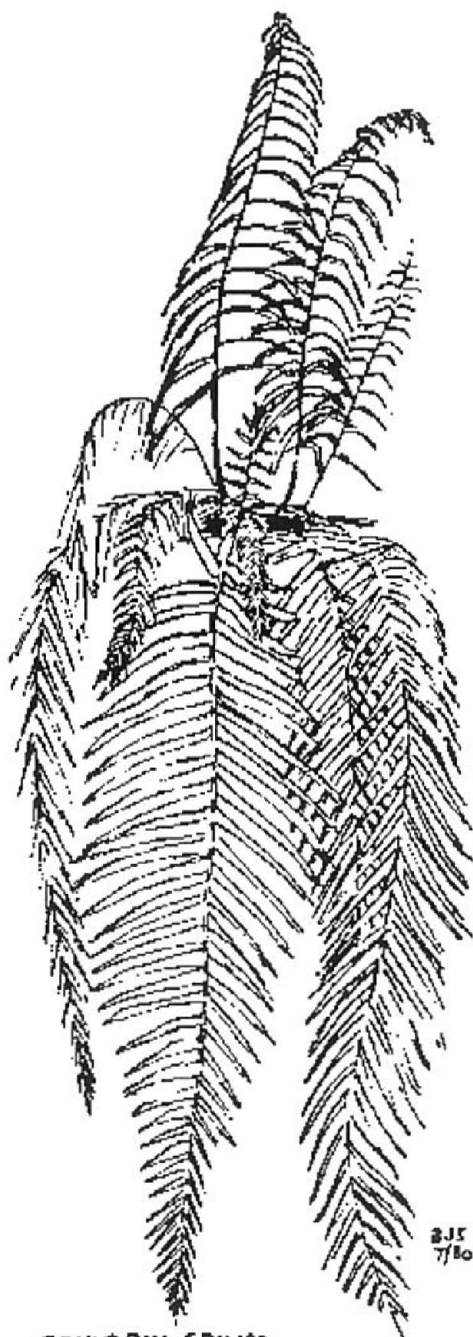
Multicrop & Maxicrop products are available at all leading garden supply outlets.



Goniophlebium subauriculatum

Reprinted from newsletter November 1980

Drawing by Barry Stagoll.



GONIOPHLEBIUM
SUBAURICULATUM

Goniophlebium subauriculatum is a tropical fern of the Polypodium family, and grows from North Queensland into Asia and the Pacific Region.

It has a fairly thin, long-creeping rhizome, covered with brown scales, which may grow on or just below the surface.

The pinnate fronds are long and flimsy, and under hothouse conditions may produce a lush green cascade up to 1.5 metres long. It can be grown without heat in Melbourne, but produces fewer, smaller fronds.

The orange/brown sori form two sunken rows on either side of the mid vein of the pinnae, and appear on the upper surface as neat rows of "pimples".

The cultivar Goniophlebium subauriculatum cv. Knightiae has pinnae with deeply lobed margins.

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July competition winners:

1st.	Diana Mayne	<i>pteris dentata</i>
2nd	Don Fuller	<i>pteris wimsettii</i>
3rd	Barry White	<i>pteris tricolor</i>

Raffle winners

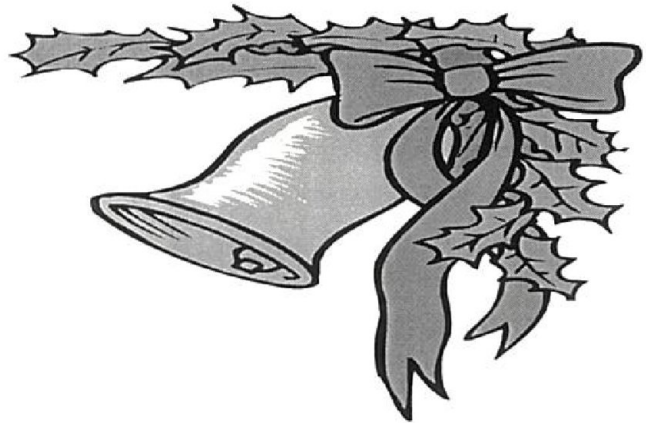
Don Fuller
Jack Barrett x 2
Lauren Radley
John MacKenzie
Margaret Radley
Keith Hutchison
Ken Hall

August competition winners:

1st	Gay Stagoll	<i>Asplenium oblongifolium</i>
2nd	Don Fuller	<i>Asplenium Lividum</i>
=3rd	Don Fuller	<i>Asplenium aethiopicum</i>
=3rd	Keith Hutchison	<i>Asplenium bulbiferum</i> <i>ssp. gracillimum</i>

Raffle winners

Robin Wilson
Margaret Radley x 2
Ken Hall



DATE TO REMEMBER

Christmas is fast approaching, our Christmas break up will again be held at the Kevin Heinze Centre on Sunday the 4th of December.

This will be a catered event as in past years.

Further information will be in the next issue.

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Secret Number Three:

Drill a hole (3/8" to 1/2") through the rock from the bottom of the cavity to provide drainage. You will need to use a masonry bit with a carbide tip, but if you have the right type of rock it should not be too big a job.

Secret Number Four:

You could guess this one. Fill the cavity with well soaked sphagnum moss. If you have a fairly heavy rhizome (*Davallia*, for instance) put the rhizome on top of the moss and pile some moss up on the sides but not over the top. Take some monofilament line (20# will do) and wrap it around the rock and over the moss to hold everything in place.

After a year of growth you can remove the line. If you have a small plant (2' or less) you should tuck it into the moss and pile the moss up above the level of the soil but don't

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AUSTRAL FERNS

Wholesale Propagators.

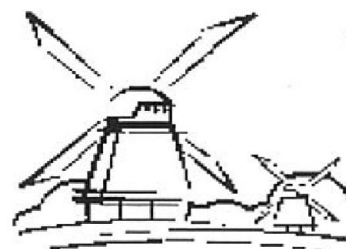
Phone (03)5282 3084.

Specialising in supplying retail nurseries with a wide range of hardy ferns; no tubes.





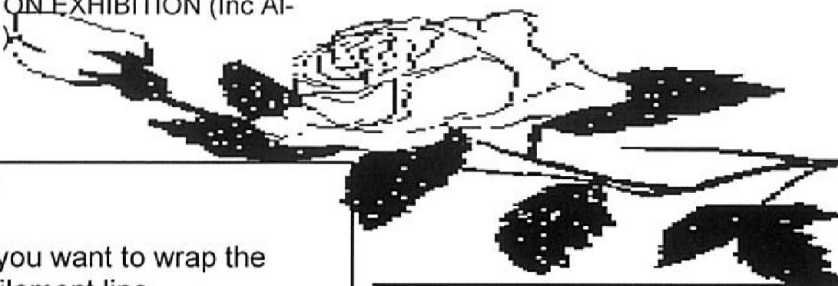
Welkom



THE ROAD TRAUMA SUPPORT TEAM

INVITES YOU AND YOUR FRIENDS TO COME
AND CELEBRATE OUR
101h ANNUAL OPEN ROSE GARDEN WEEKEND
This year with a Dutch theme
JOHN NIEUWESTEEWS RENOWNED ROSE
NURSERY
4 TARRAWARRA ROAD, COLDSTREAM (OFF MA-
ROONDAH HIGHWAY 12 KIVIS OUT OF LILYDALE
MELWAYS REF 276/B6
SAT12 TH & SUN13 TH NOVEMBER 2005
A ONCE A YEAR OPPORTUNITY TO VIEW & BUY
HUNDREDS OF ROSES ON EXHIBITION (Inc Al-
ister Clark & David Austin)

Unusual Perennials, Hourly Prizes, Refreshments,
Sausage Sizzle, Devonshire Teas, Cake Decorators
Association of Victoria, & much more
Huge raffle with great prizes (All generously donated!)
Leanne Patrick - well known local singer - Sunday
afternoon
Admission \$5 adults \$2 children \$3.50 Pensioners 9
AM TO 4 PM EACH DAY Proceeds to the Road
Trauma Support Team Vic Inc. For further details
phone 9819 9922



Continue from page 77

bury the plant. Again, you want to wrap the
whole thing with monofilament line.

Secret Number Five.

If you want to grow one of the little crawl-
ing epiphytes with thin rhizomes (1/8" or less),
you may not need the cavity and drain hole. Find
a piece of Lava Rock with a crease or crack in it
that will hold a little moss, and tamp sphagnum
moss into that crease or crack. Put in more
moss,
piled up around the rhizome but not covering it,
and then tie everything down with the fishing line.

Secret Number Six.

Remember that epiphytes live in the tops of
trees or naturally on rocks. They need very fre-
quent watering, daily perhaps, but they expect to
dry out in between. Never, ever, let the moss dry
out. If it does and you catch it in time dunk it a
bucket or something to rewet the moss. A gentle
sprinkling won't do it. As the plants grow the
roots will try to attach to the rock so the whole
thing must be kept watered,

These rules, as they may apply, may be used to
fasten little ferns or fern rhizomes to logs, hapu
(tree fern) boards, etc.

Update on the Hand Magnifier Lens

When we mentioned the 10x magnification
hand lens in the last Newsletter, we expected
that we would be paying a discounted price of
\$24.50. In the event the supplier volunteered to
discount to \$23 (normal price \$27.50) and we
purchased a number at this price. We have a
few left in stock for members - let us know if
you'd like one.

the bush house nursery
wholesale and retail

Visitors welcome

Lorraine Deppeler
Phone (03) 5565 1665
18 Hermitage Drive,
Allansford 3277



FERN SOCIETY OF VICTORIA

SPORE LIST

Ordering: The following spore is free to members who donate spore; otherwise members 20 cents per sample. Non-members 50cents. Plus \$1.00 to cover postage and handling. Available at meetings or by mail from Barry White. 34 Noble Way, Sunbury, Vic, 3429 Australia, Ph. (03)97402724. there is no charge for spore for overseas members, however to cover postage two international coupons would be appreciated. Coupons can be purchased at the Post Office. Overseas non-members may purchase spore at three packets for one international reply coupon, plus two coupons for postage and handling. There is a limit of 20 packets per order.

Acrostichum sp. 6/04
Adiantum concinnum 1/05
Adiantum cunninghamii 1/05
Adiantum formosum 6/05
Adiantum hispidulum v. whitei 7/05
Adiantum pubescens 'Rosy Ruffles' 1/03
Adiantum radd. 'Fragrans' 3/05
Adiantum raddianum 'Legrand Morgan' 3/03
Amphineuron opulentum 2/05
Anemia mexicana 7/05
Angiopteris evecta 7/05
Arachniodes aristata 6/05
Arachniodes simplicior 7/03
Asplenium aethiopicum 6/05
Asplenium polyodon 4/04
Athyrium filix-femina 12/04
Athyrium niponicum 'Pictum' 4/05
Athyrium otophorum 12/04
Blechnum chambersii 4/05
Blechnum discolor 6/04
Blechnum minus 5/05
Blechnum novae-zelandiae 1/05
Blechnum nudum (bifurcate) 11/03
Blechnum orientale 7/05
Blechnum patersonii 6/04
Blechnum spicant 12/04
Blechnum spicant 'lobatum' 12/04
Blechnum wattsi 4/05
Cheilanthes argenta 4/04
Christella dentata 1/05
Cibotium scheidii 7/05
Coniogramme intermedia 3/03
Cyathea australis 4/05
Cyathea brownii 2/04
Cyathea cooperi 1/04
Cyathea cooperi 'Cinnamon' 2/05
Cyathea dealbata 1/05
Cyathea medullaris 4/04
Cyathea medullaris 7/05
Cyathea robusta 2/05
Cyrtomium caryotideum 7/05
Cyrtomium macrophyllum 5/05
Dennstaedtia davallioides 2/04
Deparia petersenii 12/04
Dicksonia antarctica 2/04
Dicksonia sellowiana /03
Diplazium assimile 12/04
Diplazium melanochlamys 12/04

Doodia australis 12/04
Doodia dissecta 6/05
Dryopteris affinis 'Cristata' 12/04
Dryopteris athamantica 4/05
Dryopteris cycadina 4/04
Dryopteris dilatata 'Crispa Whiteside' 12/04
Dryopteris erythrosora 2/04
Dryopteris guanchica 12/04
Dryopteris labordei 4/05
Dryopteris tokyoensis 12/04
Dryopteris wallichiana 5/05
Gymnocarpium oyamense 5/05
Hypolepis glandulifera 1/05
Lastreopsis acuminata 11/04
Lastreopsis hispida 1/05
Paesia scaberula 1/05
Pellaea sagittata 3/03
Pellaea viridis 2/05
Platycterium bifurcatum 3/03
Platycterium superbum 8/04
Pneumatopteris pennigera (NZ) 1/05
Polystichum australiense 12/04
Polystichum onocolobatum 4/05
Polystichum proliferum 4/05
Polystichum tsus-simense 11/04
Pteris biauaria 6/05
Pteris cretica 'albo-lineata' 1/05
Pteris cretica 'Alexandrae' 3/03
Pteris quadriaurita 4/05
Pteris ryukyuensis 3/03
Pteris sp. (Nepal) 1/05
Pteris tremula 1/05
Pteris umbrosa 3/04
Pteris vittata 6/05
Rumohra adiantiformis (Cape form) 3/05
Rumohra adiantiformis (Native) 4/05
Sadleria pallida 6/05
Woodwardia fimbriata 3/03

Thanks to spore donors Keith Hutchison, John and Judy Marley, Lorraine Deppeler, Keith Ross and Claire Schakel

□

NEWSLETTER

If undeliverable return to:
FERN SOCIETY OF VICTORIA INC.
P O Box 45, Heidelberg West, 3081
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print post approved PP334633/0002

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