

**THE
FERN SOCIETY
OF
VICTORIA**

Inc.

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NEWSLETTER

VOLUME 15, Number 2, March 1993

FERN SOCIETY OF VICTORIA Inc.

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SUBSCRIPTIONS:

Single	-	\$15.00	(Pensioner/Student - \$11.00)
Family	-	\$18.00	(Pensioners - \$13.00)
Overseas	-	A\$30.00	(by Airmail)

Subscriptions fall due on 1st July each year.

PRESIDENT'S MESSAGE:

Our February meeting got the year off to an excellent start. Attendance was good and Bill Taylor's talk and demonstration on Adiantums was well delivered and well received, and has set a good pattern for the rest of the year.

Fern Sale Night: As advised earlier, we will not be having the autumn Fern Show this year. The Fern Show did give members an opportunity to sell surplus ferns and to purchase ferns perhaps a little bit different. It has therefore been decided to have an expanded sale time at the April meeting with all members invited to bring along ferns for sale - and the wherewithal to purchase ferns! The sale will be handled in a similar manner to the Autumn Show with sale ferns being booked in, sales handled by the Society, and the unsold plants booked out at the end. A 15% commission will go to the Society. The talk for the evening will be shorter than usual to allow more time for the sales, which will not commence until after the talk.

The success of the evening will depend upon members bringing along a good supply ferns of reasonable quality, so start now on selecting and preparing ferns for sale.

March Meeting: Hanging baskets and ferns are a natural combination and our meeting in March will focus on this combination. We will have a panel of three very experienced members - Keith Hutchinson, Ian Broughton and Doug Thomas - each presenting their ideas on hanging baskets - types, preparation, suitable ferns, care, etc. Each will give a short talk and there will be the opportunity for questions and discussion at the end.

March Fern Competition: To complement the topic for the evening the category for the fern competition this month is a hanging basket.

Regards, Barry White

NEXT MEETING

DATE: Thursday, 18th March, 1993.

TIME: From 7.30 p.m.

VENUE: The National Herbarium, Royal Botanic Gardens,
Birdwood Avenue, South Yarra.
(Melway Directory Ref. 2L A1)

TOPIC: HANGING BASKETS

SPEAKERS: Ian Broughton, Keith Hutchinson, Doug Thomas

MEETING TIMETABLE

7.30 p.m.	Pre-Meeting Activities:- Sales of Ferns, Spore, Books and Special Effort Tickets ; Library Loans.
8.00 p.m.	March General Meeting
8.20 p.m.	Topic of the Evening
9.30 p.m.	Fern Competition Judging
	Fern Identification and Pathology
	Special Effort Draw
9.45 p.m.	Supper
10.00 p.m.	Close.

The category for the Fern Competition this month is a hanging basket.

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FEBRUARY FERN COMPETITION

The category for the fern competition for the February meeting was an *Adiantum*. Congratulations to the following winners:

First:	Dorothy Forte	<i>Adiantum raddianum</i> "Goldelse"
Second:	Ivy Harris	<i>Adiantum tenerum</i> "Marsha's Pride"
Third:	Diana Mayne	<i>Adiantum formosum</i>

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APRIL MEETING FERN SALE

The President's Message gives the broad plan for the operation of the fern sale. Detailed arrangements will be organised by Bernadette Thomson - phone (03) 399 1587. All members who plan to provide ferns for sale should advise Bernadette of their intention as soon as possible and she will supply the necessary form for listing ferns to be booked in.

All plants should be individually labelled with their species or cultivar name. Price tags identifying the owner will be affixed at the time of booking in. Ferns offered for sale should, of course, be healthy and free of pests and disease.

SPEAKER REPORT - GENERAL MEETING - 18TH FEBRUARY, 1993

Speaker: Bill Taylor

Subject: ADIANTUMS

Setting the spirit of good humour which marked the presentation, Bill began by asking if any of those present did not grow Adiantums at all and how many did not have great success in their efforts. While one member admitted to the former and several felt their level of success was inadequate, the quality of the plants on display indicated that many were very successful in their endeavours.

Bill regards Adiantums as reasonably easy ferns to grow as long as his cardinal rule is followed: 'Never over water them'. For most species and cultivars damp-dry is the optimum condition, although some such as *Adiantum aethiopicum* and *A. raddianum* 'Fragrans' will tolerate more water than the general rule.

Do not worry if the fronds of a plant shrivel from drying out. In most cases plants will recover quickly after watering or soaking in water; old shrivelled fronds should be cut off. Adiantums have amazing powers of recovery from drying out. When a fern has been absolutely bone-dry the recovery process may take up to a month, so the moral is not to discard such plants too quickly.

The opposite side of the story is that if a plant dies off because its roots have been killed by over-watering there will be no recovery.

POTTING MIX

A good potting mix is the basis for successful culture, partly because it plays a major part in controlling the watering schedule. Bill recounted the sad story of his own recent problems which he blamed on a faulty mix. In the 1991/92 growing season he excelled himself by getting all of his ferns (over 1,00) potted, but the plants did not burst into growth the way they normally do after re-potting, fertilising and trimming off all old growth. Normally, he would expect not to have a dead frond for up to nine months but in this case the plants were "shocking".

His suspicion that the mix was at fault was confirmed when he began re-potting this season. Normally, the root ball on one of his plants is a solid mass which cannot be pulled apart by hand. This time large quantities of roots virtually fell off and the previous year's pot size could be seen. In all he lost hundreds of plants and will have to sow spore of some varieties for the first time in years. The plants that survived are slowly recovering after re-potting in the new mix into the same size pots as used last time.

Bill's regular potting mix, which has given excellent results for years apart from the incident above, consists of 50% shredded leaves with the balance being fine pine bark, coarse pine bark, washed river sand and sandy loam in approximately equal proportions. His preference is for Oak, Plane and Liquidambar leaves, collected while wet and mixed in approximately equal proportions before shredding. He felt that some characteristic of the sandy loam, e.g., an excessive salt content, was probably the cause of his problems last season.

Other members use a variety of potting media, largely depending on the materials available but basically organic in nature. Tree-fern fibre

is a common component and shredded Bracken was reported by a member at a previous meeting to be a successful substitute for this. In reply to a query Bill suggested that a premium quality commercial mix plus 50% leaves should give excellent results.

Bill demonstrated his technique for re-potting. Some mix is placed at the bottom of the pot and about a dozen granules of Osmocote (he uses a mixture of all the available varieties) sprinkled on top. The fern is placed in position and the space filled with mix. Another dozen grains of Osmocote are added and lightly covered (it seems to work better when covered) and the pot tapped on the bench to settle the contents. In the demonstration the old deteriorated roots were pulled off, but with healthy roots this is not possible. It may be desirable to slice off the bottom few centimetres of the root ball if it is dark brown and "sludgy", but otherwise the roots should be left undisturbed. Bill prefers to do his re-potting with the root ball fairly dry. Potting should be done before the onset of hot weather as the new mix acts as an insulating barrier around the roots.

FERN TYPES:

Ferns fall into a number of different categories as regards their basic method of growth and these characteristics influence the preferred methods for culture.

(a) *Adiantum capillus-veneris*

The members of this family are shallow rooted and have a creeping rhizome. They do not send roots down to the bottom of the pot and hence require more frequent shallow watering rather than the usual deep watering. One member had observed *A. capillus-veneris* in Carnarvon Gorge creeping over rocks. This fern clearly sends the message that the rhizome should not be buried when planting.

Because of the creeping rhizome this fern gets to the edge of the pot quickly and then seems to stagnate. It then needs to be potted up or broken up. It is one of the best ferns for breaking up and multiplying, as it tends to fall apart at points of weakness. It will propagate well from very small pieces of rhizome.

One of the characteristics of the *Adiantum capillus-veneris* family is that the indusium is rectangular, rather than the kidney-shaped sort found on most other *Adiantums*. Collection of spores from these is difficult as they do not spit out but have to be scraped off with a knife. However, they do germinate readily and sporelings are often found on the floor of the fern house.

A. capillus-veneris 'Imbricatum' is a beautiful cultivar of this species which is particularly good in a hanging basket. Bill finds it easy to grow; some present found it very difficult. The controlling factor might be that this fern appears to like a lot of fresh air, which favours shade house (Bill's case) rather than glasshouse culture. Bill said that the ones in baskets often look quite dead but they will come back; do not water them. There was discussion as to whether there were really three sub-cultivars of this fern, viz., the 'Imbricatum - Wal Pearce' displayed, 'I.- imbricatum' and 'I.- magnificum'. Bill considers they are distinctly different but conceded defeat when Chris Goudey quoted Barbara Joe Hoshizaki's opinion that they are all just 'Imbricatum'. The other cultivars of this species, 'Banksianum' and 'Fimbriatum' are hardy and easy to grow.

(b) *Adiantum raddianum*

This species, the parent for numerous cultivars, has a clumped creeping rhizome. Division can be done easily by cutting the plant into sections. A refinement on this is to cut through the root ball but break the rhizome apart manually at its natural points of weakness. Even quite small plants can be sub-divided successfully.

(c) Ground Ferns

The Victorian native *Adiantum hispidulum* is not particularly easy to grow in a pot but survives in the lower levels of the shadehouse; it does not grow well in the ground. Bill has a taller variety of this species of unknown origin which grows well both in a pot and in the ground. (He feels it may well be a different species but our local experts are dubious.)

Adiantum whitei, a native of south-east Queensland which is now classified as a variety of *A. hispidulum* (see Editor's Note below), is very hardy in the ground and produces fronds with a brilliant coppery tinge that becomes more intense with increased light level.

Adiantum aethiopicum is very hard to maintain in a pot, although the variety *frostii* does well. The species grows well until it reaches a peak, but after a while it starts to deteriorate and it is best to then break it up or pot up; it will not stand neglect in the same pot in the way many ferns will.

This fern can be cultivated easily in the ground in a suitable spot with good light. In nature it usually grows on a bank with a lot of water running over it and tends to dry out in summer; it tends to disappear at times and is effectively deciduous. In pot cultivation it seems to like to dry out at some time during its cycle, which is consistent with many of the Maidenhair family. Huge areas of it can be seen in western Victoria growing in full sun and it grows in an arid gully in the Brisbane Ranges which has a small creek through it.

Adiantum diaphanum survives in a pot but tends to make most growth through the holes at the bottom, where it apparently enjoys the extra moisture. In nature it is a fern of very wet places. Bill found that if this was placed in a hanging basket with a coconut fibre liner, it produced a mass of its small fronds through the lower part but nothing on the top surface.

(4) Tropical Maidenhairs:

The plants on display included a number of beautiful tropical varieties. These are extremely rewarding if one has a heated glasshouse and the time to tend them properly. Some, such as *Adiantum peruvianum* ('Silver Dollar'), will survive through winter in an unheated glasshouse but then take virtually the whole of spring and summer to return to good condition.

(continued page 23)

Editor's Note: By sheer coincidence I found after the meeting a back copy of the Newsletter of the S.G.A.P. Fern Study Group which included a copy of a paper by Peter Bostock of the University of Queensland in which he reported the work supporting this change of classification for *Adiantum whitei*. It is an interesting illustration of the amount of detailed work that goes into deciding those fern classifications which we ultimately take as a matter of course. I shall endeavour to get permission to reproduce it in a later issue of this Newsletter.

THE GENUS *PYRROSIA*

by Charlie McDaniel

(This article is taken, with thanks, from the May, 1991 edition of the Bulletin of the South Florida Fern Society Inc.)

Pyrrosias are easy to grow epiphytic ferns, originally from Asia, Indonesia, Africa, Australia and Malaysia. Within the last few years I have imported Pyrrosias from India, Thailand, Malaysia, Singapore, Philippines and Australia. Of all the plants I have collected and imported, Pyrrosias have become my favourite genus of ferns.

The rhizomes of Pyrrosias are usually slender, long creeping and scaly. The scales are usually papery rather than hairy. Fronds are simple and entire, sometimes lobed, cut or waffled. Fronds are attached to the rhizome by phyllopodia which are actually joint-like structures which release the fronds easily as they age, leaving a smooth socket-type scar on the rhizome. Fronds are stalked, usually short stalks, but sometimes proportionally quite long. Fronds are normally fleshy with the venation pretty well hidden. They are usually covered with stellate hairs. Pyrrosias are mostly very resilient and can withstand occasional drought quite well. Some believe the abundant stellate hairs serve as a water-loss control mechanism.

Although most all Pyrrosias have abundant stellate hairs originally, they tend to lose the ones from the frond's upper surface rather soon. Several species have very obvious hydathodes on the upper surface of their fronds. Hydathodes are areas where moisture is given off regularly, often creating white appearing spots on the surface.

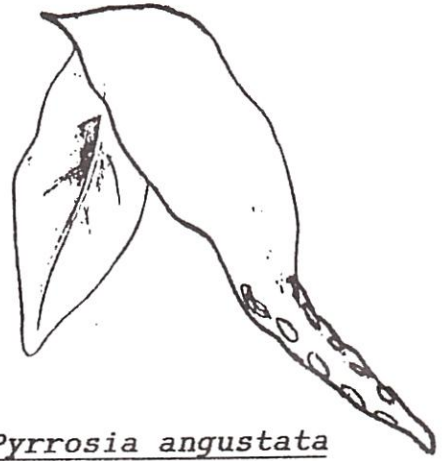
Sori are normally confined to the upper or apical half of the frond and in close rows on either side of the midrib. Sometimes they appear larger and almost solid on the underside of the frond.

The one thing that distinguishes Pyrrosias from all other Polypodiums is the abundance of stellate (star-shaped) hairs all over the young fronds. A coating of hairs protects the immature sporangia and the lower surface of the frond in general from water loss. In times of drought Pyrrosia fronds will curl up or shrivel for additional water loss control but will refill and rejuvenate when adequate water arrives.

The following are some of the species which I am successfully growing. I say successfully growing because a few species do not want to adapt to Florida's flat terrain after having grown at greater altitudes and cooler nights and so are not great for us to grow.

Pyrrosia adnascens: I have plants of this species from Malaysia and also from Lord Howe Island near Australia. The main difference is the thickness and stiffness of the ones from Lord Howe. The rhizome is quite slender, long creeping and scaly. Fronds are 3"-5" long with fertile fronds being the longest. The sori appear only on the apical half of the frond and cover almost the entire space between the edge of the frond and the midrib. The fertile half is frequently narrower than the basal half. *P. adnascens* occurs in nature in quite exposed, low land areas usually on old trees, rocks or sometimes on the ground. *P. adnascens* is easy to grow and will withstand more neglect than some.

Pyrrosia angustata: I have *P. angustata* from Malaysia and from the Philippines. The only difference is that the Malaysian variety is slightly larger. The rhizome is long creeping and very scaly all over. The fronds are dimorphic with sterile fronds being 8"-10" long and fertile ones 12"-16" long. New fronds appear very downy or fuzzy with the upper surface soon losing its scales and becoming waxy and shining. The fertile frond is sometimes bearing of sori from end to end but most commonly only on the apical end. The sori-bearing part of the frond is always much more narrow than the sterile area. The sori appear as a single row (large and round) on each side of the mid-rib. The sori are located in slight hollows which form bumps on the top side. *P. angustata* is found commonly on old trees in the lowlands but is never found in very exposed locations. This is a rewarding and beautiful species but must be protected from drought and cold.



Pyrrosia angustata

Pyrrosia varia: The *P. varia* in my collection are from India and Malaysia. As the name implies, *P. varia* is quite varied but does not have any apparent correlation with area of origin. *P. varia* has fast growing, long creeping, slender rhizomes with scales somewhat sparse. Fronds are dimorphic, 6"-10" long. The upper surfaces of fronds are usually smooth and dark green (darker than *P. adnascens*). The lower surface is sparsely covered with hair. The sori are abundant, somewhat in groups divided by the vein system. *P. varia* will roll its fronds under toward the lower surface tightly when dry, but unfurl quickly to adequate water. *P. varia* occurs from lowlands to 1500 feet, mainly on trees by streams in somewhat protected areas.

Pyrrosia penangiana: The *P. penangiana* in my collection are from India and Malaysia. I thought I also had some from the Philippines but have decided it is in fact another species. *P. penangiana* has a pencil sized rhizome which is rather short creeping with numerous stipes close together. Scales on the rhizome are long and bright red-brown on the growing tip. The variety from India has some light-yellow brown scales on the growing tip. Around Florida this form has frequently been called *P. splendens*. Fronds are 20"-30" long and 2"-4" wide. Fronds are not stalked but begin at the rhizome. Sori commonly only occur in the top 1/3 of the frond and are solid from centre vein to narrow clear area around the perimeter of the frond. The areas of sori of sori are somewhat divided by the veins.

Hydathodes are easily seen on *P. penangiana*. These are at the end of each free vein and appear as small spots usually chalky in appearance on the upper surface of the frond.

P. penangiana is found in sheltered areas in the lowlands to 1500 ft. It is usually found on limestone formations and sometimes as epiphytes. This is an easy species to grow but likes some dolomite or hydrated



Pyrrosia penangiana

lime added to its planting mix. It does curl up quickly when dry but also recovers quickly.

Pyrrosia splendens: My plants are from the Philippines. While this *Pyrrosia* is very similar to *P. penangiana*, it is also quite different. *P. splendens* has a finger sized rhizome which is short creeping and much dividing. Scales are long and abundant and brown coloured. The newest scales are bright and light. The fronds are slightly longer than *P. penangiana* with slight undulations and are frequently forked. Fronds are not stalked. Sori cover the apical half of the bottom of fertile fronds. The fronds are very fuzzy with a great abundance of stellate hairs. The entire frond appears and feels very hairy. This gives the appearance of soft fuzzy fronds. The hair does wipe off easily but does not seem to shed itself. *P. splendens* seems to grow well for me but was slow to get established.

Pyrrosia dielsii: My plants are from Australia. *P. dielsii* has a very slender, creeping, much branched rhizome. The fronds are dimorphic, very thick and cardboard-like. The fronds are slightly silver in colour. They are 2"-3" long and 3/4" wide and somewhat paddle shaped. The sterile fronds are shorter and much blunter on the apical end. Sori are large and appear in a single line on each side of the midvein. *P. dielsii* occur in very open, bright areas and usually appear only on the edges of rain forest. They can tolerate drought but cannot survive lower light. *P. dielsii* seems to grow easily in Florida but was very slow to establish. It does demand full sun or at least partial sun and bright light.

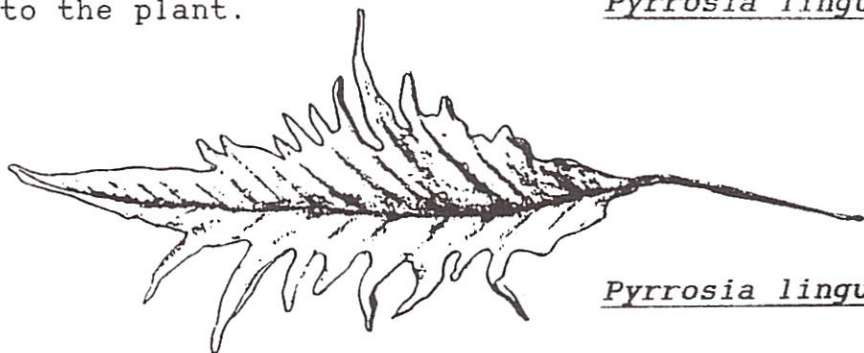
Pyrrosia lingua: This is commonly called Japanese Felt Fern. This is the most commonly seen *Pyrrosia*. It has a long creeping, much branched rhizome about 1/3 the size of a pencil. The fronds are stalked, 10"-12" long and 1"-2" wide. Fronds are simple and tend to undulate on each side. Sori appear pretty solidly on the apical 1/3 of the frond. They seem slightly divided into parallel patches by the veins.

P. lingua grows best in medium to bright light in a well drained epiphytic mix or on tree fern.

P. lingua seems to do well in Florida and does not suffer much from our cool winters or hot dry summers. There are some beautiful variants of this species such as *P. lingua* "Oba", *P. lingua* "Kutakii", *P. lingua* "Variegata", *P. lingua* "Lacerata" and *P. lingua* "Nokogiriba". All of these grow essentially the same way and are quite hardy in Florida. The veins in these variants are frequently outstanding and add great beauty to the plant.



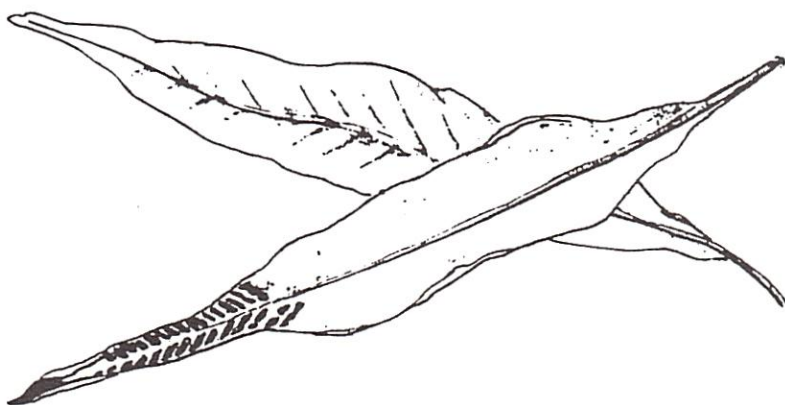
Pyrrosia lingua 'Oba'



Pyrrosia lingua 'Lacerata'

Pyrrosia polydactylon: This beautiful *Pyrrosia* is quite different from the other *Pyrrosias*. *P. polydactylon* is long stalked with multi-fingered oak-leaf fronds. The rhizome is short creeping, sparsely branching and covered with brown scales. This species is tender but beautiful. It requires high humidity and filtered light. It grows best for me in sphagnum and tree fern. It does best when it is kept cool but not cold. It quickly rolls up when too hot or dry but opens up quickly when moist and cool.

Pyrrosias are a varied genus of ferns that have something to offer to everyone, from fragile *P. polydactylon* to thick, hard *P. dielsii*, from beautiful *P. lingua* "Oba" to simple inconspicuous *P. adnascens*. They are easy-to-grow, rewarding ferns that in general are quite tolerant of man's inhumanity to plants.



Pyrrosia samarensis

FROM THE EDITOR

As this issue is the first of my third year of editing our Newsletter, a review of the past two years seemed appropriate.

This revealed the rather depressing statistic that, apart from the numerous contributions by our President, Barry White (through his regular President's Messages and Spore Lists plus various announcements, reports on functions, etc), there have been in those 22 issues a grand total of eight items contributed by members - and these were from only five authors, one of whom provided three excellent illustrated articles. The journals of some other fern societies often have more authors than this contributing to a single issue.

As I said in the Newsletter for July, 1991, "... there is an on-going need for regular contributions from our own members to fill these pages.

These do not need to be major articles, just summaries, as long or short as you like, of information you have gained from personal experience, reading or other sources. Practically any experience one of us has had with ferns, be it success or failure in cultivation (especially if the reasons for failure are known), useful gadgets, findings on a trip to a fern area, social occasions, etc., will be of interest to other members".

Your help in generating enough copy to produce this Newsletter every month would be much appreciated.

Miscellaneous comments based on the ferns on display were

- *Adiantum excisum* loves water.
- *A. reniforme* likes to be kept cold and does best on the floor of the fern house as long as the light is adequate. It should only be watered when the new furry croziers appear.
- *A. raddianum* 'Micropinnulum' is extremely variable in form and never comes true from spore; many with larger pinnae are always produced.
- Certain specimens of Maidenhair are excellent for hanging baskets, especially some of the tassellated varieties. Examples quoted were 'Bridal Veil', 'Gracillimum' and 'Micropinnulum'. The only problem is keeping the water up to them. Bill uses plastic baskets and leaves the saucers on.

Pests and Diseases:

Effective control of everything except slugs and snails can be achieved by using full-strength Carbaryl with Rogor added at the rate of five drops to five litres. A technique used by some members is to leave the plant overnight in a rubbish bin in which a Pest Strip is suspended, presumably a small or partly exhausted one, as one of the members at the meeting had found a new strip to be adequate to treat a 20 square metre glasshouse sealed up overnight. A "mozzie zapper" remote from the fern house has been found to have the side effect of reducing caterpillars by attracting and killing the moths.

Bill included a section on growing from spore in his presentation but space does not allow its inclusion here. The subject has been covered a number of times in earlier issues.

President Barry White thanked Bill for an excellent and very much down-to-earth talk, which was clearly enjoyed by the members present who acclaimed in the traditional fashion.

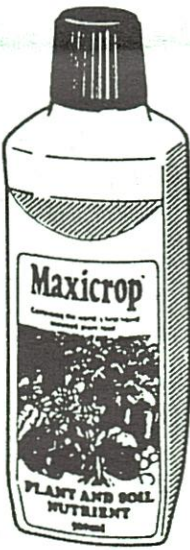
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SPECIAL EFFORT WINNERS

February General Meeting

Norma Hodges
Jean Trudgeon
Margaret Radley
Anne Bryant
Mavis Potter

* * * * *



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Opinions expressed in articles in this Newsletter are the personal views of the author and are not necessarily endorsed by the Society.

BUYERS' GUIDE TO NURSERIES

VICTORIA:

Andrew's Fern Nursery - Wholesale and Retail.
Melbourne Road, Arcadia, 3613. Ph: (058) 26 7285.
Large range of ferns for beginners and collectors.
Open daily 10 am - 5 pm except Christmas Day.

Austral Ferns - Wholesale Propagators. Ph: (052) 82 3084.
Specialising in supplying retail nurseries with a wide range of hardy ferns; no tubes.

Dingley Fern Market - Wholesale and Retail. Ph: (03) 551 1868.
233 Centre Dandenong Road, Dingley, 3172.
Specialising in Ferns, Palms, Indoor Plants, Orchids and Carnivorous Plants. Open daily except Christmas Day.

Fern Acres Nursery - Retail.
Kinglake West, 3757. Ph: (057) 86 5481.
(On main road, opposite Kinglake West Primary School).
Specialising in Stags, Elks and Bird's-nest Ferns.

Fern Glen - Wholesale and Retail. Visitors welcome.
D. & I. Forte, Garfield North, 3814. Ph: (056) 29 2375.

R. & M. Fletcher's Fern Nursery - Retail.
62 Walker Road, Seville, 3139. Ph: (059) 64 4680.
(Look for sign on Warburton Highway, 300m east of Seville shopping centre). Closed Tuesday, except on public holidays.

Ridge Road Fernery - Wholesale and Retail.
Weeaproun, 3237. Ph: (052) 35 9383.
Specialising in Otway native ferns.

Viewhaven Nursery - Wholesale and Retail.
Avon Road, Avonsleigh (near Emerald), 3782. Ph: (059) 68 4282
Specialists in Stags, Elks, Bird's-nests and Native Orchids.

NEW SOUTH WALES:

Jim & Beryl Geekie Fern Nursery - Retail. By appointment.
6 Nelson Street, Thornleigh, 2120. Ph: (02) 484 2684.

Kanerley Fern Exhibition and Nursery - Wholesale and Retail.
204 Hinton Road, Nelsons Plains, via Raymond Terrace, 2324.
Ph: (049) 87 2781. Closed Thursdays and Saturdays.
Groups of more than 10 must book in advance, please.

Marley's Ferns - Retail.
5 Seaview Street, Mt. Kuring-gai, 2080. Ph: (02) 457 9168.

QUEENSLAND:

Moran's Highway Nursery - Wholesale and Retail.
Bruce Highway, Woombye (1 km north of Big Pineapple; turn right into Keil Mountain Road). P.O. Box 47, Woombye, 4559. Ph: (074) 42 1613.