



S. G. A. P. Fern Study Group

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HON TREASURER Margaret Olde, 138 Fowler Rd., Illawong. 2234
SPORE BANK: Sylvia Garlick, 3 Valleyview Cr., Engadine. 2233.

Dear Members,

VALE VIV BROWN.

Viv Brown, husband of our leader, died on 29th October after a short illness. All members would join in extending sincere sympathy to Phyll and her family.

FAREWELL TO VIVIAN.

Contributed by Ray Best.

Both in civilian and army life I enjoyed close association with many fellow men. Finest among them could be classed as the quiet achievers; namely those self effacing true Australians who had little to say at any time, but who were always ready at the critical moment, to provide support, encouragement and physical assistance when necessary. Never did they seek recognition; all they required was acceptance and understanding; Vivian possessed all these features, providing the background support to his wife Phyll enabling her to administer the fern group in a manner that had never been achieved before. Many trips and tours provided the opportunity for the detailed studies of all the Australian fern species.

Vivian's expertice in mechanics and the maintenance of their transport was largely responsible for this achievement. Most of us knew little of his private life; this was how he preferred it. However one thing that we are all sure about is that he maintained this standard throughout his entire life.

. He shall be sadly missed by both his wife and all those members who fully understood the important role he played in helping to make the "Fern Group" the friendly and successful organisation it has become.

THE BROWN'S FERN COLLECTION.

Most members of the "Fern Group" have been fortunate enough to visit and view the fern collection brought together over the years by Phyll and Viv Brown. This must be one of the largest and most comprehensive displays of the many species of Australian Ferns ever prepared. Maintained as it has been so well for so many years it serves as a memorial to the efforts of the two dedicated people who worked so hard

to provide a practical venue for all those interested in fern propagation and growth. In addition to all this effort the Brown's found time to assist in displays of ferns annually for the S.G.A.P. along with support for Burrendong and other projects. Both in finance raising and practical assistance, they provided the backbone for all these activities.

If Phyll so desired I'm sure all the local members would be only too willing to provide support and assistance to ensure the preservation of this collection in the interests of all the members. This is perhaps the least we can do to maintain the memory of our recent member who gave up so much for our interests in the past.

Ray Best.

SUCCESSFUL EXHIBITIONS

At the Newcastle S.G.A.P. Wildflower Exhibition on 13/14 September local Fern Group Members Bea and Roy Duncan Lyn Millington, Tony Clarke and Jan Stocks arranged an attractive fern display, answered questions and sold ferns. Phyll and Viv Brown travelled from Sydney for the two days and assisted with advice and information. Thank you to all those named and to others who helped or supported the Exhibition in any way.

The overall Exhibition was very well organised and highly successful. Many people expressed their appreciation of the display of ferns which created considerable interest. Over 300 ferns were sold and there were numerous enquiries for bigger specimens. Perhaps Study Group members should try to accommodate this section of the market in future.

On the following weekend 20/21 September, the Wildflower Spectacular conducted by S.G.A.P. NSW Region was held at the Castle Hill Showgrounds. Our Group mounted a small display and was responsible for the Society's raffle. Again the overall show was an outstanding success with an estimated 20,000 persons attending. Phyll and Viv Brown were largely responsible for the Group's effort in arranging for a big range of ferns for sale and just on 1,100 were sold.

It is not possible to mention all members who assisted with this highly successful venture but noteworthy at the pre-show setup on Friday and on the two days were Bea and Roy Duncan from Newcastle and Jan Laity who bused it to and from Colac in Victoria.

BURRENDONG RAFFLE.

Thank you all who supported the raffle held in conjunction with the 1986 Wildflower Spectacular at Castle Hill on 20/21 September. Proceeds from the raffle exceeded \$1,000 and will be donated towards development of the ShadeArea Stage 2 at the Burrendong Arboretum.

The raffle prize Winners were:

1st prize	Shadehouse	Mrs Steel
2nd prize	Large Platycerium superbum	Mrs A. Pearce
3rd prize	Copper Wall Hanging,	Mrs.T. Taylor
4th prize	Gr ^e villea Plants,	Mrs. Surtees.

REPORT ON OUTING TO MINNAMURRA FALLS.

Sunday 26th October, 1986 coincided with the unfortunate hospitalisation of one of our foremost members Viv Brown, husband of our Group Leader and as well, the NSW District Conference of SGAP. As a consequence only four members made the approximately 140km drive from Sydney to the Minnamurra Falls Reserve.

The Reserve covers just over 400 ha of the Illawarra Escarpment and features pockets of temperate rainforest. The walk is on a well made track close to the small river and almost totally within rainforest. Prior to parking our cars we had observed stands of large Cyathea australis and at the outset of our walk we saw two of the smallest of the day's ferns Arthropteris beckleri and Asplenium flabellifolium the latter with very long necklace fronds. Then Adiantum formosum and very extensive stands of Doodia aspera with new fronds in many shades of pink.

We shortly left the closed canopy where large sections of the track had been roped off from areas under going regeneration. There was evidence of numerous plantings of trees and shrubs including many wattles, perhaps with the aim of getting a quick cover because these parts were badly infested with weeds.

However we soon reentered the rainforest canopy featuring many giants including huge Dendrocnide excelsa the large stinging leaves of which we carefully avoided,, Ficus obliqua with big surface roots, Syzygium australe Toona australis the Red Cedar and one very tall Citronella moorei. Readers may correctly conclude that the trees were labelled.

There were no name tags on the ferns and after seeing the first Lastreopsis, L. microsora, we thereafter diligently searched for other species of the genus with its prominent round sori and ridged main rachis flowing onto the last segment of the primary pinnae.

Other ferns abounded. Arthropteris tenella, Microsorium scandens and Pyrrosia rupestris covered moist rocks and competed for space on trunks of trees and shrubs, not apparently discriminating as to what was climbed. On rock faces and higher in the canopy there were many epiphytes including prominent Asplenium australasicum and Platycterium bifercatum happily living on their diet of decayed leaves and other litter. On tree trunks 3mtr or more from the ground, possibly saved by being out of easy reach of human depredation, several clumps of Asplenium flaccidum were evident when pointed out by one of the more observant members. Numerous thin trunked Cyathea leichhardtiana with spiny fronds were easily identified.

Undoubtedly one of the features of the day towards the end of the 1 km walk to the Lower Falls, was the massed display of Blechnum patersonii its strap-like fronds and lovely pink divided fronds covering an enormous area.

Over 80 species of ferns have been reported in the Falls Reserve many of these apparently are somewhat cryptic or at least off the prepared track. Most striking feature of the walk to the Lower Falls was the large number of ferns sighted but of comparatively few species. Many filmy ferns have been reported in the Reserve but few were seen and were identified by members on the day. Many of the moss covered rocks, a likely habitat for filmies were quite

desiccated which surprised us given the comparatively wet season and the absence of recent hot weather.

On one moist rock surface Adiantum diapphanum with stiff black hairs and membranous pinnules grew under heavy shade. In several of the more open areas Adiantum aethiopicum and Pellaea falcata were widespread. One patch of Pteris umbrosa was sighted while large numbers of Blechnum cartilagineum with fresh pink and green fronds were prominent.

The track to the Upper Falls was closed so we retraced our steps enjoying some of the earlier highlights but failing to locate other Lastreopsis species.

Intending visitors to the Falls should note there is a \$5.00 parking fee for cars. Nevertheless the Reserve is well maintained with barbecue and picnic facilities it seemed that at least no fernie would complain about the fee after a walk in this attractive area.

A WORKING WEEK END AT BURRENDONG.

On 15/16 November, 1986 members visited the Burrendong Arboreteum near Wellington NSW to help with the upkeep of the Shade Area where approximately 90 species of Australian native ferns have been planted since 1980.

The ten Study Groupmembers were assisted by two Newcastle SGAP Members, inveigled into coming by their now possibly former friends, Bea and Roy Duncan. The entire operation was over-sighted by Peter Althofer who kept us all supplied with hand tools, wheel barrows and mulch, patiently answered our questions about the various plants and generally inspired all by his obvious love and concern for the Arboreteum and the surrounding flora and its birds. We deferred to Phyll Brown, the hard decisions about ripping out patches of Lunathyrum, Hypolepis and other ferns that were proving too successful.

Successful performance for the weekend could be judged by the mountain of weeds, grass and dead fronds removed and by the fifty bales of straw put down as a mulch in order to suppress weed growth. A better performance indicator was the tidy appearance and cared-for look of the ferns at the end of the project.

Thank you to all who participated in this working bee with a special mention to Sylvia Garlick who not only toiled tirelessly but also kept us smiling, to Barbara and Pat Graham who made the trip from Tamworth and to the Duncans who spent 4 days on the job.

REPORT FROM S.E. QUEENSLAND.

by Irene Cullin

Meeting:-

On Sunday 19th October - fourteen members travelled to Mt. Glorious for our final get-to-gether of the year. Our venue Joyce and Alan Wards home, where we discussed our years activities, made tentative plans for the coming year and enjoyed a bar-be-que lunch. Alan is a good cook.

Field Trip:-

Our field outing to Barry and Robyn Simpson's property, led by Peter Bostock was all we were told to expect plus lots more. The panoramic view from their home, of the Glass House Mountains was magnificent. The walk into the gully was rather rugged, but well worth the scramble, as you will see by the accompanying article by

Peter. There are further names to be added to this list including possibly another filmy fern.

Regional Flower Show:-

Once again the fern display at Queensland Region's Annual Flower Show created great interest. Our thanks to Cliff Ritchie for the tremendous effort he put into it. Cliff also provided ferns for a display, Q'ld Region put on for the Royal Horticultural Societys' Centenary Show at Mt. Cootha.

Programme for 1987.

Our first study for the year will be Blechnums. We meet 9.30am Sunday 22nd February at Rod Pattisons Fernery 447Miles Plating Rd. Rochedale.

A field excursion is being arranged for Sunday 29th March. For particulars ring - J.Ward (07)2890147, Irene Cullin (07) 3414272.

FLORA CHECKLIST OF J.B. & R. SIMPSON'S PROPERTY
MT. MELLUM AREA 12KM WSW OF LANDSBOROUGH,STH. QLD.

C.200m ALT., 27° 17' 30" S, 152°42' 25" E (caboolture 9432-MQ714795, End 1, Series R631, 1:100 000 topographic).

By W.J.F. McDonald* & P.D. Bostock**22.4.86.

* Botany Branch, Department of Primary Industries Qld.

** Botany Dept. University of Queensland, St. Lucia Qld.

The area listed: The property of J.B. and R. Simpson and some adjacent areas of "Mt. Mellum" (previously owned by A.P.M. Forests Pty. Ltd.). The area consists of steep slopes and gullies along numerous minor and some major tributaries of London Creek (which feeds the Stanley River) between Mt Mellum and Bald Knob, WSW of Landsborough. SE Qld. Soils are primarily of basalt origin on the slopes and ridges, changing to a coarse sandstone along the creek system. Most of the region is dedicated to dairy cattle production, and a substantial part of the remaining closed forest is contained within the former A.P.M. Forest holding. A relatively small percentage of the region is devoted to Pinus plantation, usually on drier slopes. Rainfall in the area is normally 2000 mm or more per annum.

The higher slopes once supported extensive 'dry rainforests' of the Maleny type, but only isolated remnants remain. One such site was included in this survey and contained some 85 species of plants on an exposed site surrounded by grazing land. Notably, both *Araucaria bidwillii* and *A. cunninghamii* were recorded at this site as well as *Podocarpus elatus*. Lower altitude ridges support a floristically poor flora, dominated by *Eucalyptus* species and *Lophostemon confertus*, with a shrubby understory (site D) The richest vegetation occurs along the creek and gully systems (site A-C, E). The intergrading of basalt soils and nutrient-poor sandstone, and variations in drainage along the gullies, provides for wide variation in the floristic composition of the predominantly notophyll vegetation, which ranges from Complex Notophyll Vine Forest through Notophyll Vine Forest to Simple Notophyll Vine Forest (creekside fringing vegetation on the main creek. Localised areas of poor drainage support extensive almost pure stands of Bangalow or Piccabeen Palm (*Archontophoenix cunninghamiana*).

The area supports a moderately rich fern flora including 4 species of filmy ferns. The families Blechnaceae and Adiantaceae are well represented. Notable species from these families are Adiantum silvaticum and Doodia heterophylla. Two relatively uncommon ferns found in small numbers in the gullies are Lunathyrium japonicum (Athyriaceae) and Christella parasitica (Thelpteridaceae). Both of these ferns are found in the Conondale Range area, and probably occur in the Mooloolah-Eudlo area north of Landsborough.

Ferns recorded on previous visits (1980 -1986) are indicated by **.

Adiantaceae

Adiantum diaphanum	Filmy maidenhair fern
A. formosum	Blackstem maidenhair
A. hispidulum	Rough maidenhair

Aspidiaceae

Arachniodes aristata	Prickly Shield Fern
Lastreopsis marginans	Shiny Shield Fern.
L. decomposita **	
L. munita	

Aspleniaceae

Asplenium attenuatum	
A. australasicum	Bird's Nest or Crow's Nest.
A. polyodon **	

Athyriaceae

Diplazium assimile **	Austral Lady Fern
D. ? australe **	
Lunathyrium japonicum	Japanese Lady Fern.

Blechnaceae

Blechnum cartilagineum	Gristle Fern
B. nudum	Water Fern
B. patersonii	Strap Fern
Doodia aspera	Rasp Fern
D. caudata	" "
D. heterophylla	" "

Cyatheaceae

Cyathea cooperi	Coinspot Treefern
C. leichhardtiana	Prickly Treefern

Davalliaceae

Davallia pyxidata	Haresfoot fern
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Dennstaedtiaceae

Hypolepis muelleri	Swamp Bracken
Pteridium esculentum	Common bracken

Dicksoniaceae

Culcita dubia	False or Mountain Bracken
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Hymenophyllaceae

Crepidomanes walleri	Filmy ferns
Gonocormus saxifragoides	
Microgonium bimarginatum	
Microtrichomanes vitiense	

Oleandraceae

Arthropteris beckleri	
A. tenella	

Ophioglossaceae

Ophioglossum pendulum **	Ribbon Fern.
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Polypodiaceae

Microsorium scandens	
Platycterium bifurcatum	Elkhorn
P. superbum	Staghorn
Pyrrosia confluens	Felt Fern

Pteridaceae

Pteris tremula	Trembling Brake
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Sinopteridaceae.

Pellaea falcata var. nana	Sickle Fern
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Thelypteridaceae

Christella dentata	
C. parasitica	
Macrothelypteris torresiana	**

Vittaria elongata

Programme - Sydney Area.

Sunday 14th December, 1986.

Our final meeting and get together for 1986 is to be held at the home of Tess and Les Taylor, 4 Prospect St., Blacktown, commencing at 10a.m. Please bring your lunch and a plate for afternoon tea. Members are requested to bring a gift and win a gift. Any enquiries phone 6215840.

Sunday 15th February, 1987.

The centre piece of our first meeting for 1987 is study of Arachniodes aristata including how it differs from Polystichum and Dryopteris spp. The session is to be conducted by Les Taylor. Meet at the home of Phyll Brown, 254 Edgar St., Condell Park at 10a.m. Bring own lunch and afternoon tea. Any enquiries phone 7056413.

Sunday 29th March, 1987.

A visit to a ferny area in the Watagan State Forest located south west of Newcastle. Meet at 9.30am at the home of Bea and Roy Duncan 167 Freemans Drive, Morisset; then by convoy to location. Travelling from Sydney by car should take approximately one and a quarter hours drive from toll gates at Berowra. Follow Freemans Drive past the two caravan parks, over a bridge, No. 167 is the second drive way on the left. Bring own lunch and afternoon tea. Any enquiries phone (049)77 1482.

Please check your Membership Status.

Many members are probably aware that there have been discussions for some time regarding their status. To others this matter may be quite new.

The position is that the Fern Study Group is one of a about two dozen special interest groups set up within the Society for Growing Australian Plants (S.G.A.P.) in order to study a particular group of plants and to exchange information.

Membership of the Fern Study Group confers the following benefits:

- Quarterly newsletter
- Free fern spore
- Access to advice and information
- Opportunity to participate in meetings, studies and field trips

The Fern Study Group is part of the S.G.A.P. legal entity. The Society carries public risk and other insurance relating to Study Group activities and it is an incorporated body with limited liability under the Companies Code. Accordingly, Study Group Leaders along with other office bearers of the Society are protected against heavy personal loss in the event of any legal action arising out of the activities of the Study Groups.

It follows that the Fern Study Group is only open to financial members of S.G.A.P. and the Society's Federal Council has recently drawn this to attention. Furthermore, it seems that any Group Leaders who wittingly allow non-S.G.A.P. members to continue to participate on an on-going basis in the activities of the Group, could be placed in a difficult position in the event of any legal action by one of those non-S.G.A.P. members against the Group.

Accordingly our Group is obliged to emphasise the requirement that all Study Group members and prospective members must be financial members of S.G.A.P.

It is known that most of our members already belong to S.G.A.P. There are branches of the Society in all states as well as many District Groups. However, if you are not a member of S.G.A.P. and for some reason do not see any advantage in joining, our Group will continue to forward you copies of the quarterly newsletter for an annual subscription which is currently \$3.00. Nevertheless, in future fern spore and other information will only be supplied to those persons who indicate that they are S.G.A.P. members.

RED CARPET.

We wish to extend a warm welcome to the following new members:

Queensland.

Mrs. Rosemary Clarke 88 Anzac Rd., Karina 4152
Mrs. Val. Jimmieson, 55 Foxglove St., Mt. Gravatt. 4122

New South Wales.

Mrs. J. Clark, 35 Saunders Road, Oakville 2765
Mrs. P. Reeves, 4 Pulpit Hill Rd., Katoomba 2780
Mr. & Mrs. L. Hall Lot 4 Badgery St., Willow Vale 2575
Mr. Peter Gould, 17 Avery Street, Normanhurst 2076
Mrs. Jean Hayden, 16 Kahibah Road, Umina 2257

Victoria.

Mr. Barry White, 24 Rugby Street, Essendon 3040
Otway S.G.A.P., RMB Gellibrand River 3239

A Fine New Book on Ferns

Copies of the Book Ferns and Allied Plants of Victoria, Tasmania and South Australia by Betty D. Duncan and Golda Isaac are available from S.G.A.P. Book Service, Box 104, Winnalee, 2777 for \$20.00 each plus postage and packing. Weight is 1kg & dispatch charges for 500 gms to 2 kg are \$2.50 Sydney and Blue Mountains, \$3.60 Other NSW and \$6.10 Interstate.

Phyl Brown has described Ferns and Allied Plants of Victoria, Tasmania and South Australia as the best fern book that she has seen. The photographs and drawings highlight identification features and the book should be invaluable to anyone wanting to put a name to ferns in the

field throughout most of Australia's temperate zone. The book is very attractively presented and the cover is striking.

The first print run was selling in the book shops for \$25 and it is understood that the second print run has a recommended retail price of \$35.00.

When in Wauchope You are Invited to Call

Charlie Chartes in advising that he has moved to 203 Oxley Highway, Wauchope, has invited members to contact him if in that area. His phone number is (065) 856-296. Charlie writes that he has been busy building new bush houses for ferns and orchids but having previously lived in nearby Port Macquarie, he knows the location of quite a few ferns in the Hastings area.

Extracts from Tasmanian Fern Society Newsletter.

'FAIRIES OF THE FERN WORLD.' -Filmy Ferns.

by Michael Garrett.

Filmy ferns are indeed the miniatures of all ferns. They are characterized by having thin membranous fronds--usually only one cell thick. However, the veins, margins of the fronds, and the bands around the veins are sometimes thicker. Some fronds are also thicker, such as the Tasmanian filmy, *Hymenophyllum australe* which are 2 to 3 cells thick.

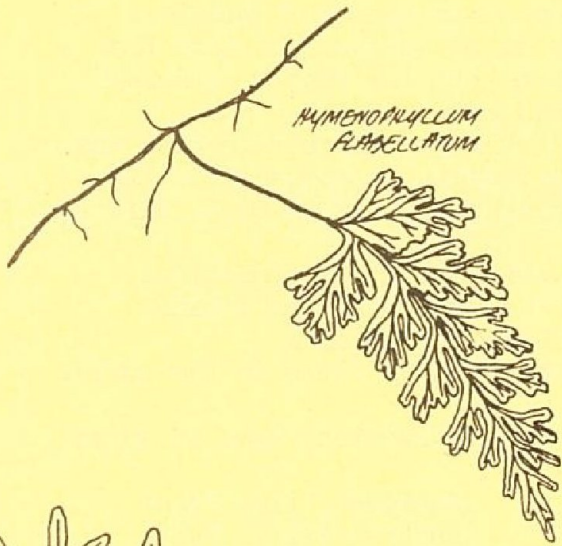
Because of their very thin texture, the ferns can take in water vapour from the atmosphere directly through the frond surface. But they can also lose moisture just as easily if conditions are too dry. Because of this means of taking up moisture, they have a much reduced vein system. As can also be expected, they are restricted to very moist gullies with little air circulation.

They are usually epiphytic (growing on trees, man-ferns, logs, etc.) or lithophytic (growing on rock) and spread by means of an extensive thin almost hair-like rhizome. In fact, they spread to such an extent that they may completely carpet sides of man-ferns or rocks which makes quite an amazing sight.

Some of the filmy ferns can stand quite a bit of drying out, to the point where they may completely shrivel up and then rejuvenate when conditions are better. Others such as *Hymenophyllum cupressiforme* can survive under much drier conditions, but the fronds lose much of their attractive green colour and curl downwards at the edges. Filmy ferns have no strengthening tissues in the fronds and rely on water pressure to keep their fronds turgid.

As far as propagation is concerned, I could not find any information or if they can be raised from spore, or how successfully. One interesting point is that in their first stage of cycle of growth, the prothallus is long and narrow, compared to heart-shaped as in other ferns. By far the simplest method of propagation is removing a small piece from the wild (still intact to its host) and if you provide a larger substitute host, it will soon spread over this. BUT you will not be able to grow it successfully in a pot as with other ferns. A terrarium about the size of a fish aquarium is the best container as it can be completely sealed and provide a very high and constant level of humidity.

Most filmy ferns are pendulous in habit, so a reasonably high terrarium allows for curtains of ferns against its rear and side walls, leaving the front clear for viewing. Suitable backing materials include man-fern, wood and rock. Great use can be made of gnarled, deformed pieces of wood and weathered rock to create a miniature fern glade. Also a lot of use can be made of different coloured or textured sand or gravel in the place of soil. This can be an important choice because under terrarium conditions, soil makes an ideal host for all sorts of other guests, such as mosses, liverworts and ferns to appear. Mosses are great, provided they stay small and don't overpower the filmys. And you will be



HYMENOPHYLLUM
FLABELLATUM



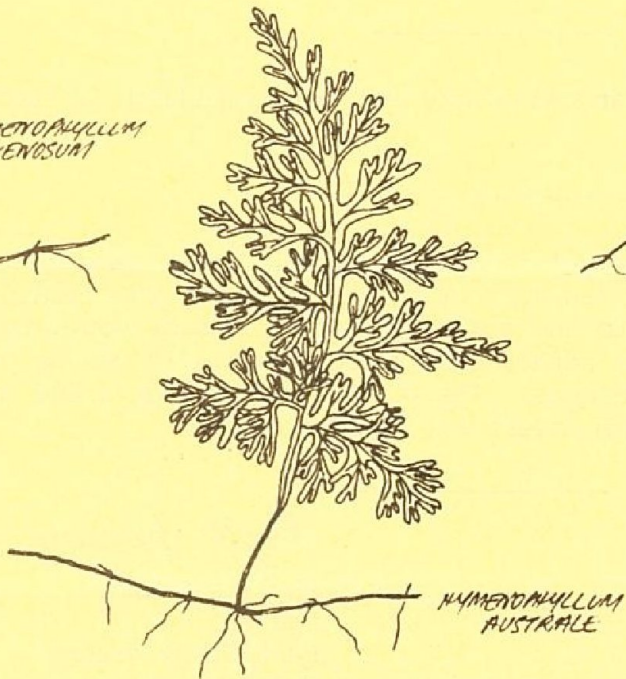
HYMENOPHYLLUM
MARGINATUM



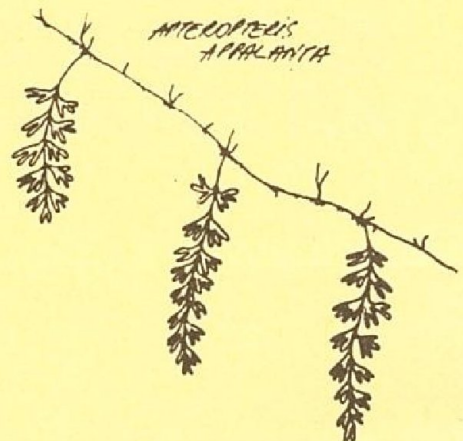
HYMENOPHYLLUM
RARUM



HYMENOPHYLLUM
VENOSUM



HYMENOPHYLLUM
AUSTRALE



ATEOPETES
PAPILIONATA

surprised to see the number of other ferns raise themselves from spore and appear in the terrarium. But they will mostly be ferns such as the Ruddy Ground Fern (*Hypolepis rugosula*) and Batswing Fern (*Histiopteris incisa*) which will grow too big, then spread and only detract from the appearance of the whole scene.

If the terrarium is kept sealed there is no need for watering (apart from an initial very light watering) as no moisture is lost from the system. However, a close watch should be kept for fungus diseases, as they can also flourish under these conditions.

It isn't a bad idea to leave the lid off now and then to give the ferns a "breather" and then perhaps a light misting to compensate. If any insect pests appear, throw in a pest strip for a day or two. "This'll learn 'em!"

Other ferns that can also be grown under terrarium conditions include *Asplenium trichomanes*, *Ctenopteris heterophylla*, *Cystopteris filixfragilis*, *Lindsae trichomanoides* and *Grammitis* species.

There are about 650 different species of filmy ferns in the world. Fronds range in length from 1/2" to 18".

Following is a list of the eight Tasmanian species, some of which are found in almost every fern gully:

<i>Apteropteris appalanta</i>	(Skeleton Filmy Fern)
<i>Hymenophyllum australe</i>	(Austral Filmy Fern)
<i>Hymenophyllum cupressiforme</i>	(Common Filmy Fern)
<i>Hymenophyllum flabellatum</i>	(Shiny Filmy Fern)
<i>Hymenophyllum marginatum</i>	(Bordered Filmy Fern)
<i>Hymenophyllum peltatum</i>	(Alpine Filmy Fern)
<i>Hymenophyllum rarum</i>	(Narrow filmy Fern)
<i>Polyphlebium venosum</i>	(Veined Bristle Fern)

References:

"Fern Growers Manual" by Barbara Joe Hoshizaki.

"Australian Ferns and Fern Allies" by Jones & Clemesha.

Deadline for Copy

We would welcome articles from our members for our newsletter. If you have hints or have been a successful fern grower and propagator, share your knowledge with us by sending your ideas and methods, or you may have been on an outing to a fern glade that would be of interest. Any inquiries connected with the next issue can be made to the Secretary--phone 528-4881.

Many thanks to Moreen and Alan Woollett for compiling, collating and posting this newsletter.

A new product on the market called Wetta Soil is an excellent product for adding to your garden soil or basket medium. The liquid is mixed with water and applied to the soil. When it rains or you water your plants the water soaks in rather than running off. It can be purchased in nurseries or supermarkets. Its price is \$8.25 for a 500 mL bottle in the Sydney area (5 mL covers one square metre).

Phyll. Brown.

(Mrs.) Phyllis Brown,
Leader,
Fern Study group.
S.G.A.P.