

15 SEP 1985



# S.G.A.P. Fern Study Group

Newsletter Number 30

ISSN 0811-5311

DATE - SEPTEMBER, 1985.

"REGISTERED BY AUSTRALIA POST - PUBLICATION  
NUMBER NBH 3809."

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Dear Members,

I want to sincerely thank those members who are taking the time to write to me about their visits to interesting places and most important that members from other states are contributing.

The meeting on 23rd June was held at the home of Sylvia and David Garlick, and was attended by 31 members. At the meeting it was proposed by our Secretary John Lee and seconded by Joan Moore that a donation of \$500.00 be made to the Burrendong Arboretum towards the extensions to the Tropical Shade Area.

After the meeting, all members took part in a spore sowing demonstration. Take-away food and margarine containers were used, to hold the potting mixture which was a quantity of charcoal, followed by a layer of coarse sand then a layer of peat moss. Water was added to wet the mixture. The containers were covered with clear lids or gladwrap and placed in Sylvias' micro wave oven set at medium heat for 1½ minutes. When cool a small amount of spore was added, the containers labelled with fern name and date. It's been reported members are anxiously inspecting their containers for any sign of greenery to indicate germination.

The day was marred by the nasty fall Jan had, which resulted in a fractured jaw and a black eye, but she has assured me that she has recovered very quickly.

On 21st July, a group of 31 members gathered at the glass houses in the Royal Botanic Gardens. Our thanks to our guide, Peter Hind, for a very interesting and informative tour. It was nice to see some new faces in the group, please come again.

The severe winter has taken its toll, in the country. I've heard that many nurseries on the north coast have had losses. Our Tamworth friends have had the temperature down to minus 5.

I am always thankful when the day of our meeting turns out to be fine, and August 18th. was no exception, a glorious warm sunny day. Our hosts were Dorothy and Kyrel Taylor, who supplied many cups of tea and coffee and invited us to look around their lovely garden of native trees, shrubs and ferns.

There will not be a usual meeting in September. We will all be very busy at the Wildflower Show at Castle Hill.

I feel it is time for me to explain to members in other states and members in N.S.W. who may wonder how we are able to make generous donations to the Burrendong Arboretum tropical shade area. The \$3.00 membership fee barely covers the cost of printing and distribution of the newsletter.

There are about 35 members in the Sydney area who regularly attend our meetings and outings. At these meetings we have competitions, with ferns as prizes, and at the annual Wildflower Show a very large variety of native ferns are sold through the plant sales section. The profit from these sales provide the funds for our donations. The ferns are purchased from some very fine nurseries from Cairns to Melbourne.

Our main aim is to study and learn about, and, promote the growing of native ferns in all Australian gardens, and raise funds to enlarge the tropical shade area at Burrendong Arboretum..

We realise that some members are unable to attend our meetings but have made donations which we do appreciate.

I would like to say a special 'hello' to Mrs Olive Lecky of Narrabeen who is in her 91st year and I know she loves to get her Newsletter.

Phyll Brown.

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**HOLIDAY AT APOLLO BAY.** "sub titled" in search of the perfect Fern gully. By Michael Healey.

**MAIT'S MAGIC !!**

The Otways is no uniform bush area.

Right in the heart of the Otways, you can descend into what seems to be a sort of enchanted garden with monstrous trees overgrowing their roots, thick wild smelling ferns and rare orchids.

Mait's Rest is named after Maitland Byrne, a Forest Commissions officer who rested his horse in the area regularly in the early 1900's. At least that is what stories tell, but after seeing the lush area, you might wonder if he stopped because the place had woven its particular enchantment over him.

The beautiful 75 hectare reserve was created in 1958 to protect a superb stand of Myrtle Beech trees that line the deep fern gullies. A winding track leading through the lovely gully gives visitors a taste of the best of the Otways.

Mait's Rest can be found on the upper reaches of the Parker River, a focal stream of the Otways which leads to the Ocean near Cape Otway. In line with other changes in the area the walking track will soon be altered.

This is not as simple as it sounds as rangers and obliging volunteer helpers will have to literally dig a path through the thick undergrowth and between the monstrous and serpentine roots of the huge Myrtle Beeches. This will take place in the near future so visitors might like to have a last look at the old path

The types of tree ferns to be found in the area includes the Soft Tree Fern which grows in the wettest parts of the gully, the Slender Tree Fern with its tall, thin trunk and the umbrella of fronds and the rare Skirted Tree Fern.

There are many varieties of birds in the area and if you are lucky you might catch a glimpse of the lovely Satin Bowerbird. Rosellas, parrots, cockatoos, robins, wrens, honeyeaters and thornbills abound.

After dark the glow worms are an added bonus and the nocturnal birds and animals come out to play and feed.

Mait's Rest can be found by travelling West along the Great Ocean Road from Apollo Bay and up into the Otway National Park. There are two land marks to be watched for - a section of sealed road near the car park and a small sign denoting Mait's Rest....  
 ..... After reading the above article while holidaying at Apollo Bay I could not wait to see the gully. Early one Sunday morning I drove out to the car park at the top of the gully.

The track takes basically a circular route winding through massive mountain ash, blackwoods and myrtle beech down to hundreds of tree ferns some approximately 30' high and then the track continues on back to the car park.

Other than four species of tree ferns *Dicksonia antarctica* (soft tree fern) *Cyathea cunninghamii* (slender tree fern), *Cyathea australis* (rough tree fern), and the rare *Cyathea marcesans* (skirted tree fern) there were at least 12 different species of fern including *Microsorium diversifolium*, as both ground cover and epiphyte twining into trees hundreds of feet up. *Lastreopsis hispida* and *Asplenium bulbiferum* growing as epiphytes on trunks of *Dicksonia antarctica*, *Asplenium flaccidum*, hanging from trees, *Asplenium flabellifolium*, growing in wet soaks, *Grammitis billardieri* growing in masses on fallen logs.

Many ground ferns that without relevant documents, I could not identify. By far the most common ground fern growing in the gully was *Blechnum wattsi*, covering the medium to lower slopes while on the higher slopes *Polystichum proliferum* was quite profuse. *Blechnum chambersii* became common in the very lower reaches of the gully and covered the creek bank. One pleasant surprise was a nice clump of *Tmesipteris billardii* growing in the trunk of *Dicksonia antarctica*.

On the way out of the gully I observed one small clump of *Histiopteris incisa* which added to other plants observed makes me believe that this is undoubtedly the best Fern gully I have ever seen and I would have no hesitation in stating that. If any member is visiting the Apollo Bay region and has a spare ninety minutes they should visit this gully.

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The above has been reprinted from the February 1985 Newsletter by courtesy Society for Growing Australian Plants, Central Highlands Group, Victoria.

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Michael Healy in a letter to our Secretary, John Lee, has supplied the following interesting information:-

'Gold mining decimated an area between Creswick and Ballarat during the last century. Trees have struggled to establish themselves on the upturned clay etc. so you can imagine the surprise to discover a species of *Sticherus* and a small *Dicksonia* or *Cyathea* growing in a filled in mine shaft, on a recent S.G.A.P. excursion.'

Michael who lives at 272 Humpfray Street North, Ballarat is a member of the Fern Study Group as well as Editor of the local S.G.A.P. Newsletter. He has invited any member of the group visiting the Ballarat region, to drop in for a chat.

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BACK TO THE CONONDALES.

By Irene Cullen.

On Sunday, 14th July, Ross Scott led a small but enthusiastic group of Fern Study Group members back to the area of our first group outing, into the Conondale Range Forest.

This time we went further along the track to Scrubby Creek. The road from Booloumba to Scrubby Creek passes through one of the most magnificent stands of natural rainforest to be seen anywhere. Not only are the fern colonies lush, they are fantastically diverse. Even the average 'green horn' would not be hard pressed to count over forty species on a day's outing.

Our leader was anxious for us to see as much of this wonderful spectacle as possible. He delighted us all at lunch time, by producing an extremely large duster and methodically cleaned the glass areas of our vehicles. Roads into most forests are notorious for covering any moving thing with clouds of powdery dust.

Scrubby Creek was twisting and narrow with slippery banks, while lawyer vines tended to say 'Leave this little creek in peace'. Every trip has its highlight. This time it was the sighting of *Selenodesmium elongatum*, probably the first recording in this area. On our previous visit we sighted *Macroglena caudata*. These filmy ferns are delightful. We are awaiting positive identification of a fern we believe is *Lastreopsis smithiana*. This was very exciting for on the road down to the Creek Peter Bostock identified *Christella parasitica* to add to our list.

Ross thoughtfully brought his personal herbarium collection to show us. Simply presented, yet so effective, it gave added depth and meaning to fern study.

We are privileged to have you in our group, Ross, and once again extend our deep appreciation for another memorable outing.

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FAMILY - Schizaeaceae.

GENUS - Lygodium Swartz.

(Lī gō'di um)

There are forty species of this genus found in all continents, four have been found in Australia. These ferns are terrestrial with short or long creeping underground rhizomes, found in tropical and sub tropical areas.

These are true climbing ferns which are unique in having a frond or stem which can twist and climb around and over other plants, fallen tree trunks and up rainforest trees, sometimes to the very top. The main rhachis or stem of the frond extends from the rhizome to the growing tip and can be of indefinite length.

Other so-called climbing ferns (microsorium, arthropteris, davallia ) clamber and climb over rocks and tree trunks by means of a long creeping rhizome which attach to the host by the roots and not a climbing stem.

The sterile and fertile pinnules are produced on the same frond with the fertile ones usually at the growing tip. The fertile pinnules are smaller with projected lobes around the margin which bear the two rows of sporangia covered by an indusium. The ferns are propagated from spore.

These ferns can be grown in a basket, but are usually grown in the ground and trained over trellis, fence or around posts and trees. Will tolerate bright filtered or indirect sunlight provided the roots are kept moist but not soggy.

The old fronds should be removed in the spring to allow the new growth to develop.

The stems of these ferns are very strong and tough and are used in some countries as a substitute for string and rope.

Lygodium flexuosum.

This species has a short creeping rhizome. The fronds are mostly pinnate but can be bi-pinnate. The sterile pinnules are deeply lobed at the base. The fertile ones are smaller and roughly triangular in shape.

This species is distributed from India to South China and from Malaysia to North Eastern Queensland and the Pacific Islands.

It can be grown in the ground in a sheltered position.

Lygodium japonicum

This species has a long creeping rhizome. The pinnules are pinnate with the lobes deeply cut and toothed, the terminal lobes longer than the others. The fertile pinnules are similiar but smaller.

This species will hybridize with *L. flexuosum*, variations can occur which can create difficulties in the actual identification. Will grow in a shady sheltered frost free location in a well drained mixture. It is being grown in the ground and also in hanging baskets in the Sydney area.

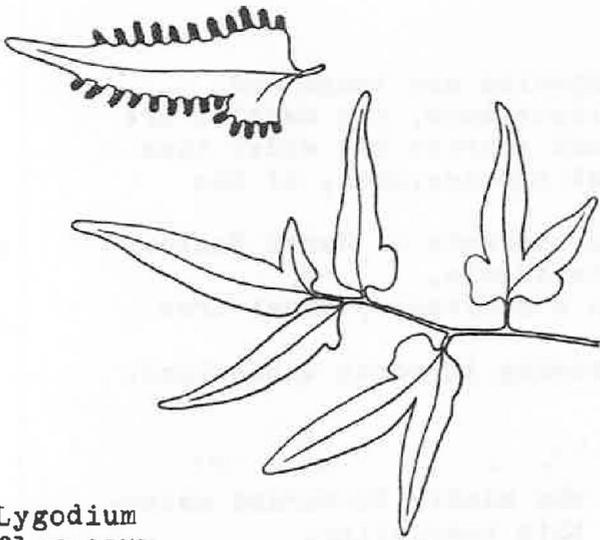
The fern is a native of eastern Asia, found also in south eastern Asia, India, China, North Queensland, North Western Australia and the Northern Territory.

Lygodium microphyllum

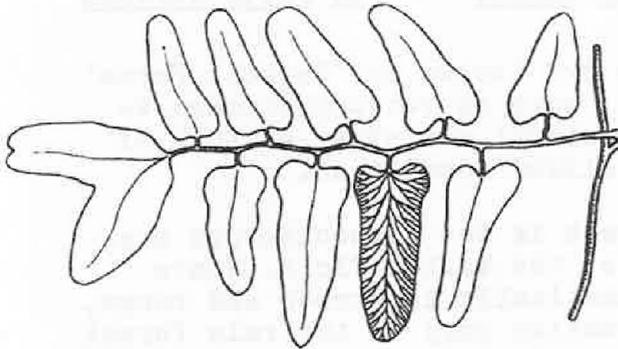
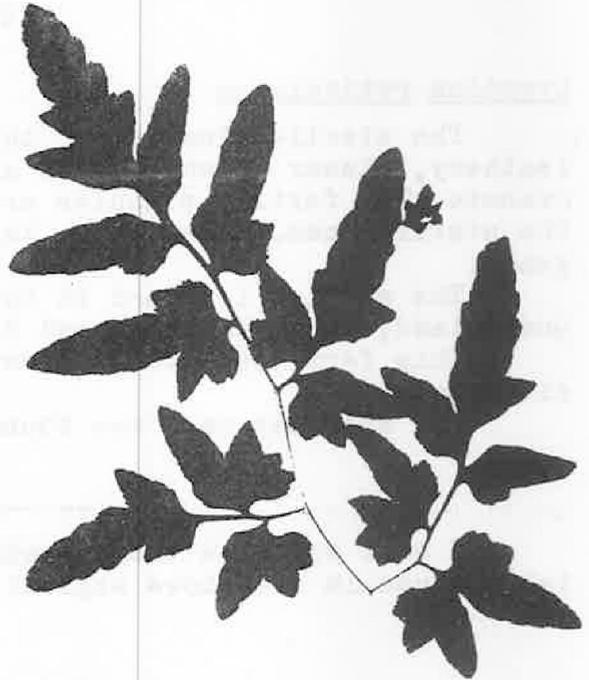
The rhizome is long creeping. The margins of the sterile pinnules are entire, the pinnule simple, ovate with a rounded apex and heart shaped base. The sterile ones are shorter and narrower.

The species is found in tropical Africa, S.E. Asia, Malaya, Kimberley area of Western Australia, Northern Territory Northern Queensland to Northern New South Wales.

This fern can be grown in a sheltered moist position.



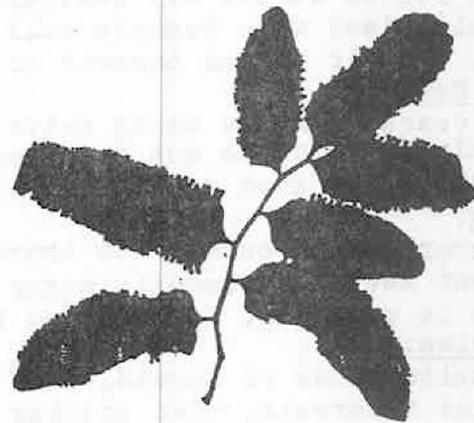
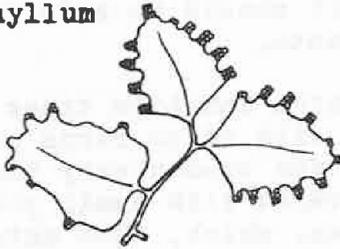
*Lygodium flexuosum*



*Lygodium microphyllum*



*Lygodium japonicum*  
(Actual size)



*Lygodium reticulatum*  
(Actual size)

Line Drawings by curtesy  
Ferns of Hong Kong, Harry H  
Edie.

Lygodium reticulatum

The sterile pinnules of this species are tough and leathery, linear in shape with a falcate base, the margins are crenate. The fertile pinnules are much shorter but wider than the sterile ones. This is the largest species, seen, of the genus.

The species is found in the rainforests of North Eastern Queensland, Fiji, Malaysia and New Calidonia.

This fern needs to be grown in a sheltered, frost free situation.

The specimen used was found growing in north Queensland.

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I want to thank those members who kindly forwarded material for use in the above segment of this newsletter.

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WHAT YOU SHOULD KNOW ABOUT TASSELL FERNS.

By Carol Stroud.

Family: Lycopodiaceae.

Seven species of Lycopodium are listed as 'Tassell Ferns' but it is known there are several more as yet unpublished. We are dealing here with the more plentiful varieties as some of the rarer ones require very specialised conditions.

History:

Lycopodiums were at their peak in the Carboniferous era, when they were important members of the worlds flora. Since that time, they have declined dramatically in number and range, and the Australian tassell fern remains only in the rain forest of the far north. As the forests are felled, so are some of our more rare and lovely plants. Every effort should be made to cultivate, and so preserve these unique plants.

Description:

Tassells are a native fern ally which inhabits trees of tropical rain forests, often in company with other ferns and vines. Fronds appear as a single shoot and branch many times. As they continue to grow the fronds are covered with small pointed 'leaves' usually pointing along the stem, which, when mature forms spore bearing strands like tassells, at the end of each branch.

Conditions:

Protection from full sun and dry winds should be provided whilst allowing for good light and air circulation. Misting water on leaves during dry weather is beneficial.

Galvanised wire baskets will damage fronds where contact is made. Plastic coated baskets or slabs are ideal.

Potting Medium:

A coarse mixture using materials that are moisture retentive well drained, which do not decompose too rapidly and are aerated is essential for good growth rate.

Watering:

Water should be applied thoroughly only when required. On no account keep the tassells soggy and wet. Make sure optimum drainage is provided. If kept too wet, tassells will rot and die.

Fertilizing:

Applications of liquid, half normal strength, fertiliser at regular intervals. Most popular brands are satisfactory.

Pests:

'White mite' are the most troublesome pests encountered on tassell ferns, they appear as tiny flecks, are sap suckers and should be controlled with a systemic insecticide.

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PROGRAMME.Saturday and Sunday 28th and 29th September, 1985.

The Wildflower Exhibition at the Castle Hill Show Ground, 9.00am to 5.00pm. The only entrance is from Carrington Road. There will be a wide range of features including a walk through rain-forest and fern area. Books and native plants will be on sale. This group will be presenting, for sale, native ferns of about 70 species from 36 genera.

Saturday and Sunday 19th and 20th October, 1985.

A visit to the Watagan State Forest which is located south west of Newcastle.

Meet at the home of Roy and Bea Duncan, 167 Freemans Drive, Morisset at 10.30am each morning. The group will then proceed to the location of a forest walk. Their home, if travelling from Sydney is about one and a half hours drive from the Berowra toll gates.

Follow Freemans Drive, past the two caravan parks, over a bridge, its the second drive way on the left.

There will be a bar-b-que at the Duncans on Saturday night. Please bring your own steak.

There are two caravan parks in the area as mentioned. Lake Macquarie Caravan Park, Stockton Road. (049) 731883. Merrindah Caravan Park, Gimberts Road. (049) 731333.

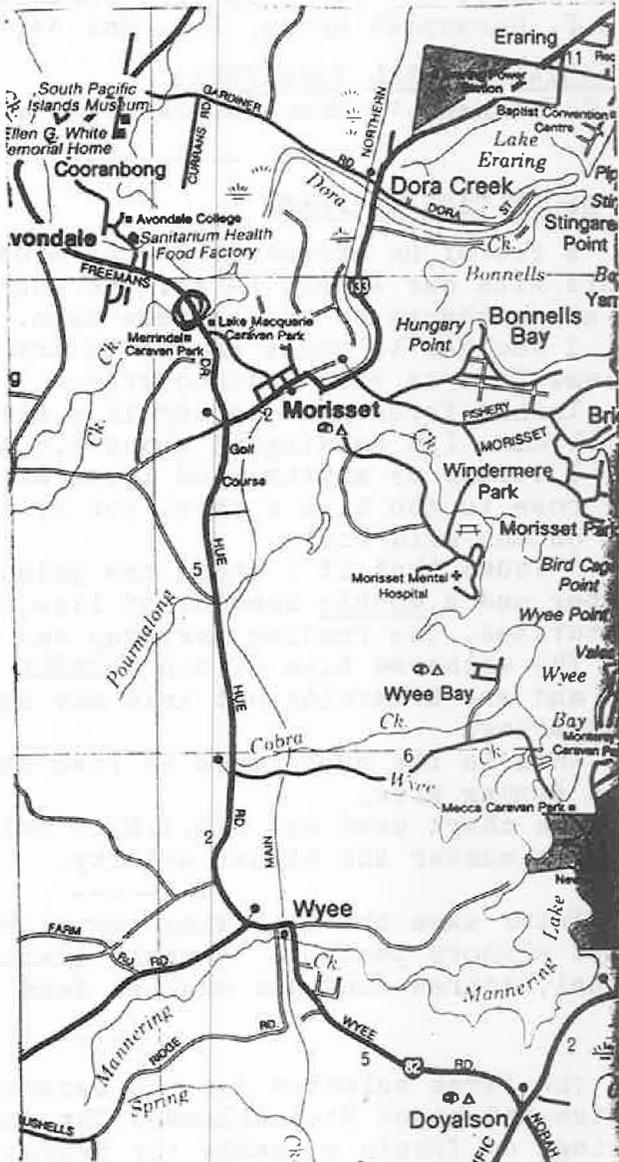
Sunday 24th November, 1985.

Visit the rain forest areas at Mount Wilson. The turnoff to this area is on the Richmond to Lithgow Road through Kurrajong. The group to assemble at the 'Fruit bowl' near Bilpin which is about 28km east of the Mt. Wilson turnoff. The time for departure from the assembly point has been set at 9.30am.

Sunday 15th December, 1985.

Meet at 11.00am at the home of Phyllis and Viv Brown, 254 Edgar Street, Condell Park. Please bring your lunch and a 'Plate' for afternoon tea.

For any further information regarding the outings, please ring Phyll. Brown telephone number 7056413.

Answer

The fern frond reproduced on page 8 of the June, 1985, newsletter, was from the fern *Ctenopteris fuscopilosa* located in North Queensland.

RED CARPET.

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

MORE ABOUT TASSELL FERNSBy Peter O'Connell.

A few of us around EPPING (a Sydney Suburb) were having trouble with our Tassle Ferns. The lush young stems were becoming thin and withered on the extreme tips.

I decided to phone around to try and find a solution to our problem. This is what I discovered;-

Tassle ferns grow better in a slightly acid mix, but not a neutral mix. (pH reading of about 5.5 to 6)

I tested my mixture and found as it was decomposing the acid level rose to too high a level for my tassell ferns. (The reading was 3 on the acid scale.)

I found that if I stood the pots in a mixture of 2 gallons of water and a double handful of lime, until the potting mix was saturated, the reading next day was 5.5 to 6.

The withered tips of the TASSELL FERNS are now becoming thick and are branching out into new healthy shoots with no sign of withering.

This is the experience of five other tassell fern collectors in the Epping area.

The chart used was C.S.I.R.O. colour chart for soil pH. The lower the number the higher acidity.

Peter uses the following ingredients in his potting mixture. Chopped elkhorn peat, a small quantity of pine bark fines, charcoal, coarse sand and munched dead tree fern stipes.

The ferns selected for the December newsletter are the genus Psilotum and genus Stenochlaena. Can any members assist with pressings of fronds suitable for reproduction? Perhaps you have some information regarding the propagation, growing or treatment of pests of these ferns to pass onto other members.

*Phyll Brown*

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