



S.G.A.P. Fern Study Group

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Dear Members,

The year, 1984, has been very successful so far for the Fern Study Group, with our delightful outings, and as the Exhibition date draws closer I hope all our hard work and planning results in a very successful Exhibition.

On the 27th of May, which was a very sunny day, about twenty members turned up at Bola Creek, in the Royal National Park. This location was chosen because the walk was over a short distance with easy walking.

On the drive along Lady Carrington Drive, leading to Bola Creek we stopped briefly to view *Lindsaea microphylla*, *Doodia aspera*, *Pyrrosia rupestris*, *Dennstaedtia davallioides*, *Culcita dubia*, *Asplenium flabellifolium*, *Christella dentata* and *Davallia pyxidata*.

On the short walk along Bola Creek we identified *Blechnum nudum*, *B. patersonii*, *B. cartilagineum*, *Todea barbara*, *Cyathea australis*, *Adiantum formosum*, *Pellaea falcata*, *Sticherus flabellatus* and *Histiopteris incisa*.

Members of the party had lunch in the picnic area and then climbed a short distance up amongst large boulders. Excited members looked in amazement at the beautiful sight of huge boulders, trees and fallen logs covered with *Microsorium scandens*, *Arthropteris tenella*, *Grammitis* species and masses of filmy ferns. There were also *Asplenium australasicum* high in the trees and *Lastreopsis decomposita* as a ground cover. This glorious sight compensated for the few falls and slides due to the slippery surface and the presence of a few leeches. If the laughing and shouting of members is any indication this scramble was well worth while.

Thank you, to the members who rang to say how much they enjoyed the outing, this makes the planning of these trips all worth while.

Sunday, 17th. June, the Group spent a lovely day at the home of Sylvia and David Garlick. I congratulate them for the hard work and effort that has been put into the landscaping and planting of their native garden. The house is in a beautiful setting above a huge rocky outcrop, with tremendous potential and I am sure they have a lot planned for the area.

The fern Genus for discussion was *Lastreopsis*. Members brought along fern fronds and potted plants of this genus, which caused plenty of discussion. I hope this was of some assistance to members having problems with identification of these ferns.

There was a lot of discussion regarding a fern which was tagged *Lastreopsis wurunuran*. According to the references used *L. wurunuran* should not have an indusium and is very cold sensitive. The specimen presented has an indusium and is growing in a very cold area. This fern is listed as a Northern Queensland species so perhaps a member from that area can put us on the 'right track'.

Friday, 20th. July, has been the highlight of the year so far, when Rod Hill, one of our members from Victoria, was the Guest Speaker at the N. S. W. Regional meeting of S.G.A.P. This was the first occasion that someone had been invited to talk about Australian native ferns.

Rods talk was about the cultivation and propagation of Australian ferns was very interesting and well presented. The audience was enthralled with the magnificent slides used to illustrate the talk. Some of these were magnified 'close - up' of the intricate working of the fern spore release mechanism and the fertilisation and germination of fern spore. None of this is visible to the naked eye.

I was very proud to see so many of our Fern Study Group members present and all appeared to enjoy the talk and slide presentation.

On Saturday, members of the group, entertained Rod at the Stoney Range Flora Reserve, Dee Why, and after that at the home of Addie and John Lee who live at Castlecrag. One cannot help, but be impressed with the work and energy the Lees have put into the garden.

On Sunday morning there was a hurried visit to see the excellent fern collection of Peter Hind and then off to the Airport to catch the 'plane to Melbourne.

Thank you, again, Rod for giving up your weekend with your family, to come to Sydney, and also for the excellent presentation which will be a talking point for some time.

I was very delighted when members Carol and Arthur Stroud of the Barrier Reef Nursery, Deeral south of Cairns, despite a very busy schedule found time to call and see us. Thanks to Peter Hind we were able to show our visitors the Royal Botanic Gardens excellent and extensive fern collection.

Carol and Arthur mounted an impressive display of ferns at the Green Expo which was held in Brisbane. The ferns which were exhibited have been purchased by one of our members, Margaret Strickland, whose nursery is at Kelton Street, Cardiff. Margaret has issued an invitation to any member to call and see the ferns which were in the display.

Recently, on a very quick trip to Brisbane, I was very pleased to meet Daphne Moran, who is one very remarkable woman, and I congratulate her on the mammoth job she has done with the ferns. I wish to thank Daphne, Des. and son Steven for the donation of two native ferns to be used as raffle prizes.

FAMILY - Sinopteridaceae.

GENUS - Pellaea Link

pel ē'ā (ē in me- ā in sofa)

This is a large genus of about 80 species of small terrestrial ferns found growing extensively in tropical Asia, Indonesia, New Zealand, Tasmania and Eastern Australia.

The ferns are usually found growing in sub tropical areas, on damp rocks or creek banks, but are also adapted to survive in dryer areas and exposed to direct sunlight.

The rhizomes are short to medium creeping, the stipes are fairly erect and dark. The fronds are pinnate and the developing croziers are like shepherds crooks and do not unroll like other ferns.

The pinnae are leathery, dark green on the top and lighter green on the underside. On the fertile fronds the sori is continuous, marginal and covered by the reflexed edge of the pinnae there is no indusium.

PELLAEA falcata (R. Br.) Fee

The rhizome is usually shortcreeping and wiry. The fronds are pinnate, erect, close together and up to 60 cm long. The pinnae can be opposite or alternate, are leathery, dark green on top and a lighter green underneath, up to 60 mm long and 13 mm wide. The pinnae tend to be oblong with a slight tapering to the tip.



PELLAEA falcata
Actual size.

Sterile
pinnae



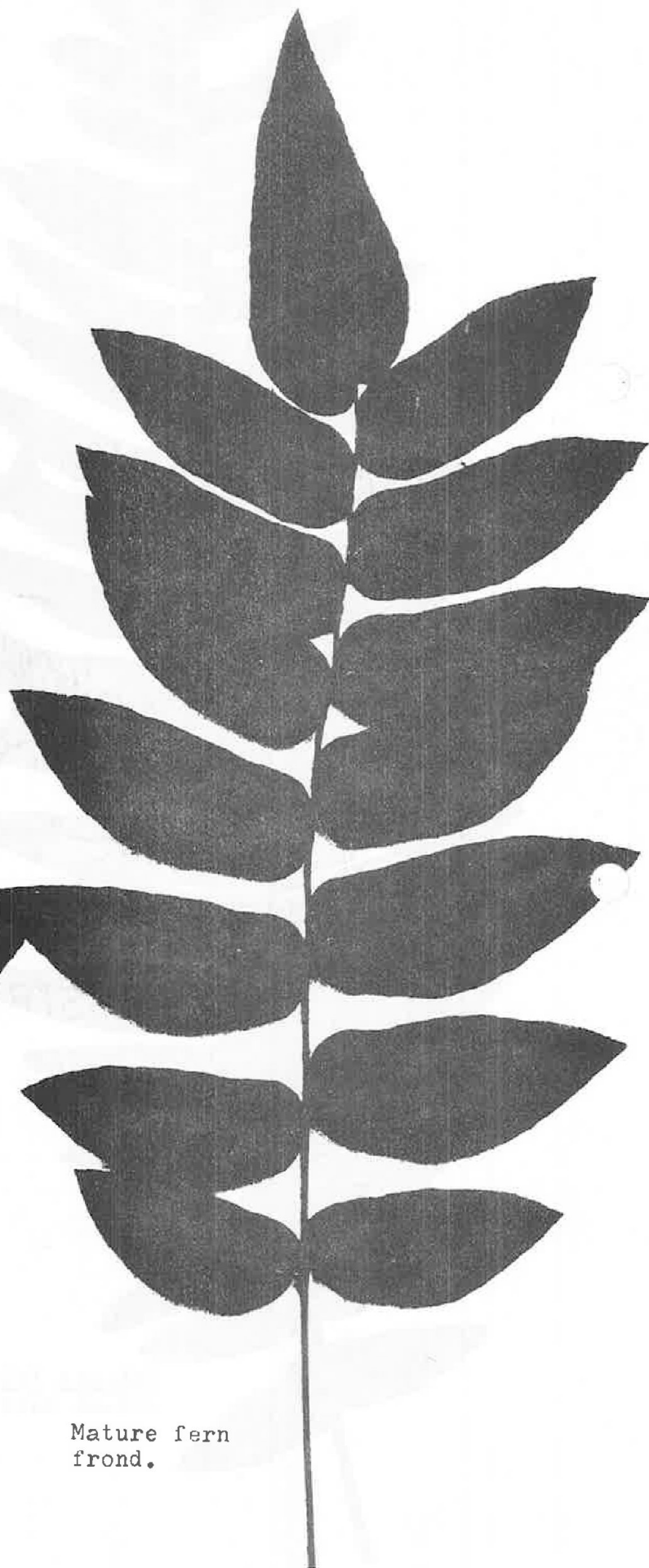
Fertile
pinnae

PELLAEA falcata
var. Nana
(Actual size)

PELLAEA paradoxa
(Actual size)



Young
fern frond



Mature fern
frond.

Pellaea falcata (Contd).

The sori is linear, continuous and marginal and covered by the reflexed edge of the pinnae. This fern grows extensively along the eastern coast from Northern Queensland through New South Wales and Victoria to Tasmania. It is easily grown in pots, baskets or in the garden, will tolerate some sun and dry conditions. This species has colonised large areas and unless controlled could become a pest in the garden.

Several variations to the pinnae shape have been recorded, ranging from almost oval to the usual oblong shape. Specimens of these are growing in the open ground in the Royal Botanic Gardens in Sydney. These are considered to be hybrids of *P. falcata* and *P. paradoxa*.

Pellaea rotundifolia (A New Zealand species) was recorded from Mt. Dryander, Northern Queensland in 1946 but this was probably a variation of *P. falcata*.

PELLAEA falcata variety nana Hook.

This is similar to *P. falcata* but much smaller with fronds to 20 mm long and 6 mm wide. This fern is usually found growing among rocks in the same areas as *P. falcata* but the range is from Northern Queensland to New South Wales.

This fern is easily grown in pots, basket or in the ground.

PELLAEA paradoxa (R.Br.) Hook.

The rhizome is usually medium creeping. The fronds pinnate with pinnae alternate up to 11 pairs with a terminal pinna. The pinnae are larger than *P. falcata* usually up to 9 cm long and 4 cm wide, dark glossy green on top and paler underneath. The sori is linear, continuous along the margin of the pinna.

The young ferns produce broader, heart shaped pinnae.

The fern is found growing on the coast and tablelands, extending from Northern Queensland to New South Wales. This species makes a good basket fern but will grow in the open garden and will tolerate dry conditions.

A fern recorded as *Platyloma* (now *Pellaea*) *brownii* was found near Brisbane and introduced into England in the year 1821. There does not appear to be any recent reference to this fern which (from the illustration) could be *P. paradoxa*. In the same publication "Ferns British and Exotic" there is a reference to a species that 'has a character and habit midway between *P. falcata* and *P. rotundifolia* and has been given the name *Platyloma falcata* variety *caudata*'. Is it possible one of the variations of *P. falcata* growing at the Royal Botanic Gardens belongs to this species.

There are two other exotic ferns sold commercially *P. viridis* and *P. paradoxica*.

The fern fronds, illustrated, (actual size) were collected from *Pellaea* ferns found in the Tamworth area of North West New South Wales. The ferns are growing in filtered sunlight, on an easterly aspect, in damp silt which has collected on flat rock outcrops. A search of the area failed to locate any ferns with larger fronds. This would appear to be a cross between *P. falcata* and *P. paradoxa*, miniature form.



Pellaea falcata is growing in the region but well away from where these ferns were found.

At a recent meeting of the S.G.A.P. Sutherland group a member presented similar fronds from a fern growing near Gympie a southern Sydney suburb.

DID YOU KNOW.

A mixture of skim milk powder and warm water poured over rocks forms a seal which creates moisture under the seal and encourages the growth of moss.

THE FASCINATING WORLD OF THE WALLUM.By Ross Scott.

It stretches from Coffs Harbour in New South Wales, northwards to Maryborough in Queensland, a mass of sand behind the beaches, some times only a few hundred yards in width, often 2 or 3 miles wide, known to its friends by the unlikely name of The Wallum.

Once it was the tough granite rock that made up the Great Dividing Range, but those relentless tools of nature, rain, heat and cold, worked ceaselessly through the ages to break the rock into boulders and slabs that were reduced to sand by the action of creeks and rivers.

The journey to the sea was slow but eventually the sand was washed out of the river mouths and onto the beach. The process still goes on today. The colonising of the sand by plants was a long process.

Wind-driven beach sand is a most inhospitable thing, and this area could have been another desert, but there were several factors waiting to make the "desert" blossom. The Wallum area is one of good rainfall, but water and sand are not enough for growth - more is needed. If we stand on the sandhills when a strong wind is blowing, and look along the beach for a mile or more, we see a white mist rising and being blown far inland, do not just say "spray" and write it off as of no importance because sea water is a solution - an ultra weak one - of all the minerals necessary for life, except one - nitrogen. The spray also contains a marine "soup" consisting of diatoms, radiolaria and other minute life forms plus particles of decomposed seaweed, and other organic matter. When this mixture falls into the sand mass it goes through several changes and ends up nitrogen.

Seeds of trees, shrubs and plants blew onto the sand mass from nearby ridges but while most germinated, survivors were few because the pH of the sand was 4.0 or less. This means that it was so acid that none of the flowers or vegetables that we know so well would grow in it but would turn yellow and die.

The survivors spread and as their leaves added humus to the sand it became more hospitable and could support a wider range of species. The passing of the ages saw adaptation and changes until today there is a unique ecosystem of several hundred species of trees, shrubs and plants that burst into a riot of colour in the spring and rival the famed wildflower areas of the West. We love and cherish all the many moods of the Wallum but there is a group of cells in our brains that react energetically to the stimulus of "FERNS", and the last Saturday in April found us entering the Cooloola National Park to see how many of the phyla Pteridophyta were at home.

The road along which we drove ran north through the Noosa Plain, the eastern edge was marked by timber covered sandhills about 200 metres high and 45 kilometres long. In the valleys between the sandhills is the finest areas of Littoral Rain Forest on the Continent. The easiest way into the hills is usually via creek, so we went to the nearest gully and the passage from the twisted Wallum eucalypt forest, into the Rain Forest was as marked as walking from one room into another.

The gully was narrow, 20 metres deep with sides dropping down at 60 degrees. How could sand remain at that angle without washing away? Closer examination showed there was 70% roots and 30% sand in the sides. Ten paces down we found a *Schizaea*, which is certainly not in the New Edition of *Australian Ferns and Fern Allies* by Jones and Clemesha. The arrangement of the sporophores in a circle on a fertile frond identical in shape to the sterile frond makes it quite different to the 6 species illustrated. Several clumps of "Adiantums" were seen but the linear sori caused a reappraisal. It turned out to be *Lindsaea brachypoda*.

The gully ran into a swift flowing creek and here the real excitement began. The creek had level ground on each side and here the scene changed dramatically. Tree ferns of all sizes grew vertically or horizontally and most were covered with *Tmissepteris ovata*. *Dicksonia youngae* was the only tree fern growing in the area. At the waters edge *Todea barbara* stood with large barrel like trunks and some with a crown of fronds 6 metres across outshining the tree ferns.

The Fascinating World of the Wallum. (Contd.)

A few *Blechnums* were present but the absence of fertile fronds made identification difficult. They could be *Blechnum camfieldii*.

Struggling up through masses of *Freycinetia* or Climbing Pandanus, was a soft fern about 2 feet high, a very wiry stipe, pinnae entire, linear-lanceolate, pinnae decreasing in size towards the top of the frond and sori in a continuous marginal band. This one had to be referred to The Book. It was another *Lindsaea ensifolia* var. *ensifolia*.

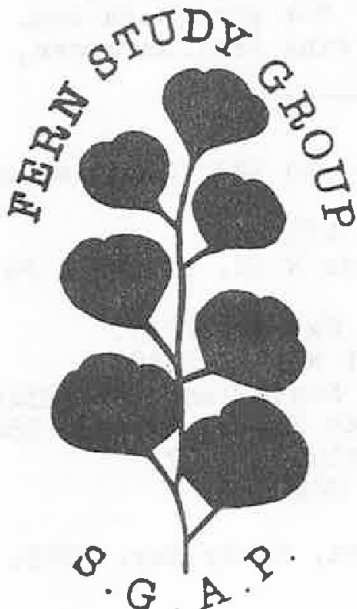
Several tree fern trunks were covered with one of the filmy ferns. They are never easy to identify. *Macroglena caudata* is usually found on tree ferns but this one did not match up to David Jones' drawing. Further study will have to be done.

Sticherus flabellatus made an attractive curtain on the opposite bank and *Blechnum cartilagineum* provided the the contrast.

Less than one kilometre was examined in two hours and the thing that stood out was not the number of species growing there, but the names of the ferns. With the exception of *Blechnum cartilagineum* and *Sticherus flabellatus* we have not seen some of the other species anywhere else. *Dicksonia youngiae* is regarded as a high altitude species and *Tmissepteris* grows in the Antarctic Beech Forests on the Queensland New South Wales border at 3500 feet. (*Dicksonia youngiae* has been found in a small patch of rain forest at Broken Head near Ballina). This area may be the southern limit of *Lindsaea ensifolia* and the northern limit of *Blechnum camfieldii*.

One of the lessons learned early by the wise fern enthusiast is not to be dogmatic so we will not make any pronouncements but will have another look at the Littoral Rain Forest areas of Cooloola and Fraser Island. *Angiopteris evecta* grows on Fraser Island in the acid Wallum sand, which is a totally different environment from the rich red tropical soils of Northern Queensland.

A SELECTION OF ITEMS FROM NEWSLETTERS.



I am pleased to be able to tell you Volume 1 of selected items from newsletters 2-20 has been printed. Our thanks go to Molly Murray for the excellent job she has done condensing these newsletters. I am sure all members will want a copy.

Illustrated is a reduced copy of book cover which is lime green. The book size is 17cm X 21cm and consists of 51 pages.

The book is available to members (at cost of printing plus postage) by sending \$2.00 to either John Lee or myself. Our addresses are on the first page of this newsletter.

A SELECTION OF ITEMS FROM NEWSLETTERS

ISSN706 / 151X

NUMBERS 2 to 20 VOLUME 1

JULY 1984

A SUNKEN FERN GARDEN.

Mrs Dorothy Powell from Wagga Wagga writes;-

Our fern house was once a sunken swimming pool about six feet deep and about fourteen feet in diameter. The sides have been cemented and steps have been constructed down into the pool (fern house).

Iron rails etc. have been placed across the top which has also been covered with plastic. Shelves have been built around the walls and the floor built up with soil in a hope that spore falling from the ferns will germinate. A mist spray has been installed and the ferns have responded well to a cool misting in the middle of the day.

The ferns are started off and grown on in the fern house and when grown are placed out in a another fernery protected from wind and hot sun.

Mrs Powell has issued an invitation to any member going through Wagga Wagga to call and see her ferns. Please telephone number 311202 before calling.

PROGRAMME.

Sunday, 23rd September, 1984.

Meet at the home of Geoff Long, 23 Fowler Street, Camperdown, at 11.00am. Please bring your lunch and a 'plate' for afternoon tea.

Saturday and Sunday, 13th and 14th October, 1984.

SYDNEY WILDFLOWER EXHIBITION.

See page 5 of this newsletter.

Saturday and Sunday, 10th and 11th November, 1984.

A visit to the Watagan State Forest arranged by members from the Newcastle area. Meet at the home of Roy and Bea Duncan, 167 Freemans Drive, Morisset, at 10.30am each morning. Their home is, if going north from Sydney, about one and half hours drive from the Berowra toll gates. There are two caravan parks close handy for those wishing to stay overnight. (A map of the area appears in this newsletter).

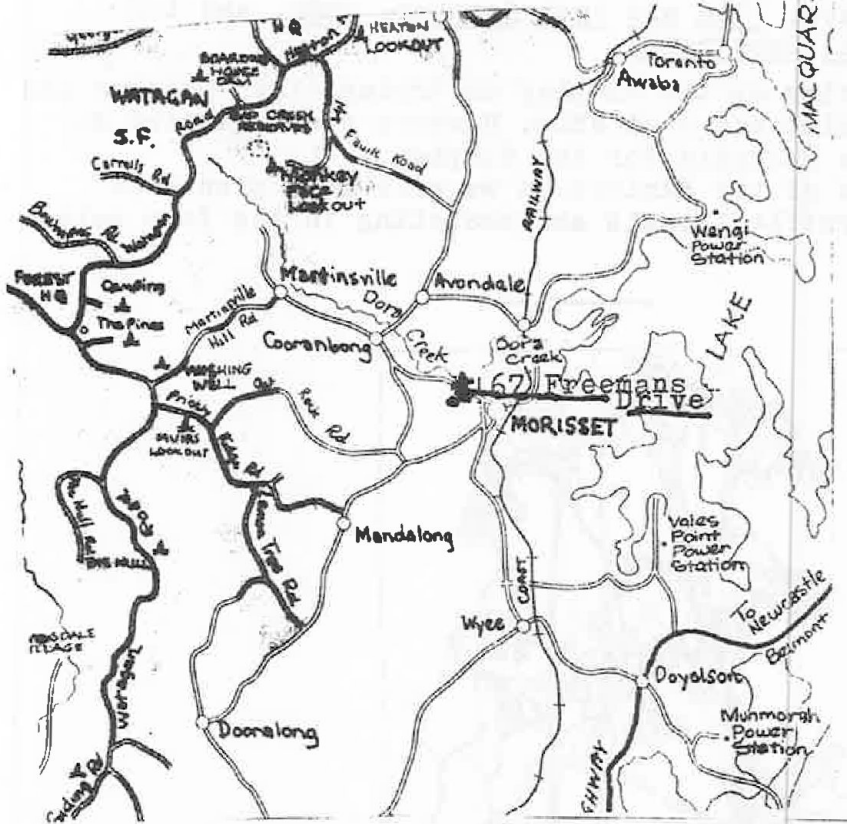
Sunday 2nd December, 1984.

The last outing for 1984 will be held at the home of Peter and Margaret Olde, 138 Fowler Road, Illawong, commencing at 11.00am. Please bring your lunch and a 'plate' for afternoon tea.

For further information please ring Phyllis Brown, 7056413.

RED CARPET.

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



CARAVAN PARKS.

Lake Macquarie Caravan Park.
Stockton Road Morisset
(049) 731883

Merrindah Caravan Ranch
Gimberts Road, Morisset
(049) 731333.

The thirteen State Forests in the Watagans form part of the much larger area administered by the Newcastle Forestry District, through the Forestry Commission of N.S.W.

As the Watagans are close to the major timber markets of Sydney, the Hunter Valley and the mines of the northern coalfields, their economic importance as a timber source is considerable.

The Forestry Commission welcomes visitors to its forests. Please enjoy your stay.

Camping and Caravanning: There are no objections to an overnight or short term stay in areas other than day picnic areas.

Driving: These State Forests are well roaded. However, roads are often narrow, winding and used by heavy log trucks - so drive with care at all times, particularly after rain.

Rubbish: Please place rubbish in bins provided or take it home with you.

Trail Bikes: Roads and trails within State Forests can be used by bikes. But remember ... all are public roads, your bike must be registered and you should hold a rider's license.

Pets: Bring your pets with you, but please keep them under control.

Flora and Fauna: Are protected - firearms are not allowed.

RECREATION FACILITIES

Fireplaces, tables and walking trails are at the following locations. Other facilities are shown.

1. Wishing Well Forest Park - Toilets, water, camp sites.
2. The Pines Forest Park - Toilets, water, camp sites.
3. The Basin Camping Area - Toilets, water, camp sites.
4. Boarding House Dam - Toilets, water.
5. Muir's Lookout - Toilets, water.
6. Heaton Lookout - Toilets, water.
7. McLeans Lookout - Toilets.
8. Hunters Lookout
9. Monkey Face Lookout
10. Mt. Vincent Lookout

COOKING FIRE REGULATIONS

1. In established picnic areas wood fires may be lit only in fireplaces constructed by the Forestry Commission. Gas or liquid fires may also be used.
2. Elsewhere, cooking fires must be 4.5 metres from any tree or log, and all grass, leaves and twigs must be cleared for a distance of 1.5 metres from the fire.
3. All fires must be continuously attended and be extinguished when left.

SYDNEY WILDFLOWER EXHIBITION.

Remember the date, 13th and 14th October, 1984, and the place, the Castle Hill Showground.

We will be setting up the display on Friday, 12th October and will need all the assistance available. Members are requested to bring along any ferns suitable for the display.

On the two days of the Exhibition we will need plenty of assistance, selling raffle tickets and assisting in the fern sales area.

FERNS.

I love the cool green look of ferns,
 Their elegance, their twists and turns,
 I love them for their slender grace,
 Their tendency to float in space:
 The ladder fern that climbs so high
 Its limit seems to be the sky;
 The lovely, gentle maidenhair -
 Perhaps of all its kind most fair -
 And many others, all designed
 To lift like me, whose pleasure springs
 From contemplating growing things.

Ida Holmes-Moss.

By curtesy of the Tasmanian Fern Society.

Phyllis Brown

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