S.G.A.P. FERN STUDY GROUP - NEWSLETTER

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LEADER: Molly Murray
25 Nowill Street, RYDALMERE.....2116.

SECRETARY: John Lee
76 The Bulwark, CASTLECRAG.....2068.

HON. TREASURER: Faye Low
151 Raglan Street, MOSMAN.....2088.

SPORE BANK: Phyll Brown
254 Edgar Street, CONDELL PARK...2200.

Dear Members,

Our first letter for 1982 has news from Brisbane; Joyce Ward formerly of Sydney and now living amidst the leafy beauty of the national parks on Mount Glorious, has written this descriptive account of the local environment in which one of our most popular native ferns thrives.

DRYNARIA RIGIDULA.

A dominant fern which grows in eucalyptus forest on rocky hillsides of the mountainous ranges surrounding Brisbane.

At the beginning of the wet season (November), fresh fronds emerge, all pointing forward in the same direction with erect back bones thrusting upright, a field that resembles an army on the march. Try dislodging a thick fleshy rhizome from its chosen home in rock chinks and crevices and you will find it virtually impossible, they are safe from marauders and human hands!

As the heat of summer approaches, the fronds become less rigid and their colour deepens. At this time sterile fronds appear, short, broad, lobed nest leaves; at first a delicate green, then changing to brown and softening to a papery texture. In their natural habitat these line up, one against the other, broadside on facing the sun; in so doing, protecting the rhizome and acting as a reservoir gathering litter among the rock crevices.

During winter the fertile fronds are ravaged by winds and the control-burning of forest areas which is carried out at this time scars the fern colonies to blackened ashes!

After the first rain, regeneration is spectacular, prompted by this phenomenon I have applied fire to any ferns that have been crowded out at the back of our bush-house, I pile a heap of dead leaves on top of the ailing fern and using a little loosely rolled newspaper, set the leaves alight, after allowing the fire to burn away I water the plant gently when cold. This has proved a bonus as after a short time new croziers appear and eventually a healthy, luxuriant fern emerges.

Helen Moriarty, writing from Mount Nebo (adjacent to Mt. Glorious, is very pleased with the results of her spore propagation, she says "My nursery is going well, I have a misting house for young ferns and my CYATHEA BAILEYANA sporelings are now in individual planters, it looks as though I will have several hundred of them, I also

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have C. AUSTRALIS, C. COOPERI, C. ROBERTSIANA and C. REBBECAE as young sporelings, so I will soon have more tree-ferns than I know what to do with!" Helen is also interested in SELAGINELLAS (including exotics) and different POLYSTICHUMS, if any members have any that they would like to swap or trade.

Our Correspondent in West Australia writes:- Ray Best's article in Newsletter No.14, "An original name - PTERIS VITTATA", was of particular interest to me as I have two PTERIS ferns very much alike - but different, perhaps P.VITTATA and P.LONGIFOLIA are two different ferns and not just two names for one fern! I was able to find THESE descriptions in "Ferns of Florida" by Olga Lakela & Robert W. Long.

(1) P.LONGIFOLIA L:- Rootstock large, compacted in older tufts or clumps. Fronds 4-7 dm* long, stipes slender, wiry, blades oblong-lanceolate in outline; terminal pinnae truncate, stalked to 10cm long, 5mm wide at base; the middle pinnae 3-4cm long, 4-5mm wide, subsessile, base slightly auriculate, or the fertile ones cuneate; veins close, once branched; indusiate margins semi-translucent, minutely crenate, not fully covering the soral line; spores brownish. Crevices of oolitic rocks, pinelands, open shade. Collier, dade, monroe counties; WI: Tropical America. Pycnodoria Bahamesis (AG.) small; PTERIS LONGIFOLIA var. Bahamensis Hieron; PYCNODORIA LONGIFOLIA (L) BRITT.

(2) P.VITTATA L. - Rootstocks strong, knotted, erect to ascending, profusely covered with yellow scales; croziers and stipes densely chaffy with similar scales, diminishing through the rachis. Fronds erect 3-9 dm long, 20 cm wide. Blades oblanceolate in outline, the lower pinnae gradually reduced, the terminal pinna distinctly the longest one in young fronds. Soral stripe golden-brown, fully exposed along the hyaline, indusiate, reflexed margin: margins of ultimate segments fertile and sterile. sharply serrate with hardened teeth. Spores brown 2m = 116. Canal banks. hammocks. often in disturbed sites dade country to central FLA: OLA: LA. Old world species."

The letter continues, "Ray's article mentions the work "A Census of the Pteridophyta of Western Australia" by G.G. Smith, I had a chat to Mr.G.G. Smith who said that the new census hasn't gone to print as yet, but there was nothing new on P.VITTATA LINNAEOS and he did not think it would have any further name changes. He added that it grows in the Kinberleys in such places as Dale Gorge near running water - beside streams. I have found that some PTERIS species do better with crushed limestone in the potting mix. Mr. Smith didn't seem surprised when I said that I thought I had two different ferns. When they develop fertile fronds I will make an effort to have them identified."

*dm. decimetre, derived from the latin deci-centi-milli division by 10-100-1000 thus one decimetre is one tenth of one metre or 4-7dm = 40cm to 70cm.
N.B. Pure metric texts advise that the use of dm. should be avoided.

Our Spore Bank Curator Phyll Brown, writes of yet another southern tour:-
After visiting the National Botanic Gardens with the Fern Study Group during last November, we decided to continue our journey south, the first sight to interest us was

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BLECHNUM PENNA-MARINA growing naturally in icy cold water at a spot between Adaminaby and Cabramurra and again at Shingle Creek near Tooma Reservoir. At the Corryong Caravan Park we were told that two "NEW" ferns were located on the nearby pine mountain about twelve months ago, but no information was available about which species they may have been, perhaps a Victorian member could tell us? At Normas Nursery in Carboor we saw a crested POLYPOLIUM FORMOSANUM - not native, (and not for sale)! Driving along the Ovens, Kiewa and Omeo Highways we saw the following ferns growing between Bright and Bairnsdale:-
ASPLENIUM FLABELLIFOLIUM, A. TRICHOMANES, BLECHNUM FLUVIATILE, B. MINUS, B. NUDUM, B. PATERSONII, B. PENNA-MARINA, B. WATTSII. Two different species of CHEILANTHES, DICKSONIA ANTARCTICA, HISTIOPTERIS INCISA, PELLAEA FALCATA and P. FALCATA var. NANA, PLEUROSORUS RUTIFOLIUS and POLYSTICHUM PROLIFERUM. Viv and I are "amateur Spotters" so there could have been many species that we missed.(I doubt that! M.M.)
A warning notice on the Omeo highway advises that the road is unsuitable for caravans between Mitta Mitta and Omeo -- an unbeliever is now thoroughly convinced!! We spent several enjoyable hours with Lyn and Rod Hill admiring their beautiful native garden, fern collection and Rods successful spore germinations. Rod, who lives at Frankston is Curator of the Spore Bank for the Fern Society of Victoria and would be delighted to show visiting members around, he mentioned three areas worth visiting - Badger Creek in the Healesville area, Nayook Glen near Neerim Junction and the Mt. Baw Baw area near Noojee. The Dingely Fern Market is worth a visit if only to see the manufacture of Planters from tree fern trunks. We travelled home on the Princes Highway where a place of interest during dry weather would be Mt. Drummer between Cann River and Genoa, unfortunately, we arrived during a rainy period and the leeches were out in force, it is claimed that all five varieties of tree fern grow here."

Rod Hill mentions that he paid a visit to Burrendong Arboretum and describes the shade area as "A REAL OASIS" he plans to send Peter a host of Cycads and some of the rarer tree ferns. Rod, in part, had this to say - "One of the most interesting parts of the Newsletter are descriptions of interesting parts of the State to visit and notices of excursions, but very often insufficient instructions are provided to enable interstate visitors to find these spots e.g. in the December Newsletter, where is TERANIA CREEK? GORDON FALLS?"
Our excursions to the Blue Mountains are initially reconnoitred by members living on, or familiar with the mountains; directions are given for an assembly point, we are then led, in convoy to the beginning of the walk. Generally speaking these mountain walks are not well advertised and directory signs are inadequate. The visitor may be unaware of walking trails nearby and a sign simply saying, for instance, Mt.Banks, gives no indication that along this dirt road there are picnic and barbeque facilities, well maintained, and lookouts from where the visitor may see panoramic mountain views equal to any in the world. Maps showing walking trails are available from stores that specialise in bushwalking and camping equipment, or call at or write to, the Parks Office:-

The Ranger
Blue Mountains National Park.
244 Great Western Highway
BLACKHEATH...N.S.W...2785.

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TERANIA CREEK is not in a National Park, the logging that has taken place there under the control of the Forestry Commission has rightly been the subject of much heated debate and drawn the area to public notice. Lismore is the nearest city to Terania Creek, information and maps may be obtained from the Tourist Information Centre, Ballina Street. 8.30 am to 4.30 pm Mon/Fri. Phone (066) 216040.

Visiting this district in the summer of '79 we travelled some 25 kms from Lismore through Dunoon to the Nightcap National Forest which includes the Whian Whian State Forest, here we stayed at Minyon Falls where the Forestry Commission provides a camping area with toilets, cold showers and a corrugated iron cooking galley with fire places and wood free of charge to overnight visitors. Retracing the route to Dunoon take a road to the Channon where further signs indicate Terania Creek. A sign says "Nursery at end of road", what it doesn't say is that the road is 15 kms of narrow winding rocky road churned up by Timber Jinkers! In '79 logging had temporarily ceased, I can't imagine what the outcome of meeting a logging truck on that road would be.

POTTING MIXTURES

COMPILED FROM ARTICLES BY:
DAVID BEARDSELL & DAVID NICHOLS
In a Publication of THE FERN SOCIETY OF VICTORIA
and C.O. GOULDTHORP
In a Publication of THE W.A. FERN SOCIETY

The functions of the potting mixture are: To support the plant and to supply (1) Air, (2) Water, (3) Nutrients.

(1) AIR

Plant roots require oxygen for respiration and this is provided from air spaces in the potting mixture. Only mixtures which contain large pores drain adequately enough to provide sufficient air space, those made of fine materials, such as sandy loam, contain only small pores which do not drain well and so lead to waterlogging. Materials such as coarse river sand, drain rapidly and as a consequence have adequate air space. It is best to develop an even mixture varying the basic mix slightly to suit the conditions. Coarse sand is important, but not always available, perlite or even 1/8th blue metal gravel will do to ensure the soil stays open and drains well. Charcoal also helps in keeping the soil open and sweet.

(2) WATER

The water-holding capacity of a potting material is the amount of water held after drainage has taken place. Not all of this water is available to plants, some being held so strongly that plants cannot extract it from the medium. Leaf mould, peat moss or compost supply the fibrous, moisture-holding part of the mix, wood chips and/or pine bark fines supply the coarser fibrous material. Tap water contains traces of fluoride and other chemicals used to maintain a standard of hygiene in our drinking water, therefore ferns that do not occasionally receive rain-water direct, benefit from flushing with clean water to leach any chemical or salt build up. Water should penetrate rapidly and easily throughout a potting mix. Organic materials such as peat moss and pinebark actually repel water when they are dry, to improve water penetration they should be combined with easy-to-wet materials such as coarse sand or scoria.

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(3) NUTRIENTS

The nutrition of plants is concerned with the application of chemical elements which are essential to plant growth. Three of the essential elements viz., carbon, hydrogen and oxygen are supplied from air and water so that often only nitrogen, potassium and phosphorus need to be added. Nutrients in the form of hoof and horn or old weathered cow manure added to the basic mix, will supply ferns with food for some time and after six months or so may be supplemented by using proprietry brands of fertiliser.

AS A TOP DRESSING, use granular fertilisers such as osmocote or nutricote at half recommended strength.

AS A LIQUID, products available in granular, powder or liquid forms are used to make up solutions and include aquasol, fish emulsion, thrive and liquid cow or sheep manure diluted to the colour of weak tea. These fertilisers are about 26%; 6%; 25%-30%, nitrogen respectively. The liquid manure is mainly nitrogen.

AS A FOLIAR SPRAY, plants take up nutrients through their leaves, but do so more effeciently through their roots. Foliar spraying is better used for supplementary feeding or corrective dressings. From the many fine articles written by experienced fern growers one finds similar advice on fern potting-mediums repeated. For the non-commercial fern lover growing ferns in their house and garden; it would seem to be more a matter of commonsense rather than involved weights and measures, let us return to the W.A. Fern Societies booklet and consider this intuitive article.

"Leafmould and sand is a good basic potting mix for ferns. Although the rain-forest soil is heavy and clay-like, the ferns grow either in the very thick layer of decayed leaves that act like a sponge, holding the moisture, yet letting the excess drain away, or on the damp trees and rocks. The canopy formed by the leaves and branches above and the leafmould below help to keep the place humid even in the dry season. Ferns don't send their roots deep into the earth to obtain the minerals that they require, but the trees do it for them. The tree draws essential minerals up into its leaves, they fall and start rotting down, as they return to the earth, the ferns growing in the leafmould are able to absorb what they need from them. The U.C. method (uniform-control) of growing plants was started in California years ago. Instead of using leafmould the growers used peat moss and sand, as there is no food in this, required nutrients were added thus giving control of size and growth rate. Light, water and warmth were also controlled as these factors have an effect on growth. Ferns that have a bluish look need more light than their green relatives. Ferns from darker areas of the forest have very dark green leaves, sometimes their new fronds are pink. The lighter green PTERIS TREMULA & TODEA BARBARA grow near waterfalls and open spaces where there is more light from above. Some ferns are covered with whitish hair or have silver or yellow dust on the underside of their leaves, the purpose of this is to conserve moisture as these ferns grow in dry areas. Try to avoid wetting their foliage. The Silver elk (PLATYCERIUM VEITCHII) is one of these and comes from inland areas of Queensland where it is dry and hot. They grow on rocks and get moisture from water seeping over the rocks. The rocks also contain warmth after the sun has set."

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The victorian, Horticultural Research Institute, has released a preliminary assessment of extensive testing being carried out on Peanut Shells. "The coarser grade of peanut shells are good for improving porosity, drainage, aeration and water penetration of mixtures which contain soil. The water holding capacity is approx. 2½ times, making it suitable for mixing with materials with a poor water capacity such as coarse sand. Peanut shells mix well with other materials provided they are damped down initially. Once mixed they bind well with other materials. The Ph is 5.6 (near neutral) which is slightly acid. Peanut shells are a promising substitute for peat moss."
Aiming for a fairly open but moisture retentive fibrous soil mix, various combinations of the following ingredients may be used. (Remember, TOO MUCH peat will result in thick soggy soil and TOO MUCH wood-chip or bark will render the mix too open, loose and quick drying.)
German peat, coarse sand, leaf mould or compost, peanut shells, composted wood chips, pine needles, pine bark fines,perlite, vermiculite, charcoal, fertiliser.

This subject will be continued in our next issue in a further article, written with a scientific approach, to cater for those who need large quantities of suitably fertilised and precisely measured potting mix.

H E L P:

George and Gerry Parker are selecting 35mm transparencies of ferns, to be used in a slide show which will be shown at Group and Regional meetings or loaned interstate if requested. Shows previously produced by the Parkers include one on the Flora of Western Australia, which has been widely acclaimed by S.G.A.P. audiences. To assure a smoothly running presentation, two (2) projectors with a co-ordinated, taped commentary are used. To accommodate one of our Regional Groups, Gerry and George are hurrying to finish this production and would very much appreciate any colour slide of a fern or ferny area that you would like included. If you have such a slide would you please send it to us as soon as possible along with a note describing the fern and its location. Mailing and other costs will be refunded.

Sydney Members: Our programme is incomplete; a trip to Burrendong on Saturday 17th and Sunday 18th April, is definite (planting on the Saturday). Those interested may ring 6381084 for details of our May meeting.

ODE TO THE MEGALONG VALLEY

By: Monica Sharp

Up and down the Megalong valley
In the ponds and out,
Round and round and round and round
Searching all about
Plenty of tadpoles, plenty of frogs
Plenty of ferns, plenty of logs
Plenty of everything
But you guessed it - that's right -
Not a toot in sight!

Holly Murray

M. MURRAY / LEADER - FERN STUDY GROUP
S. G. A. P.