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

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Dear Members,

I hope the enthusiasm in this letter from West Australia will inspire you to run to the potting shed!

"After reading of Maurice Haenke's experience with the birdsnest in Newsletter No.15, I remembered having a similar experience years ago, I had transplanted two (birdsnests) from the garden into the shadehouse and one I'd chopped in half; they died, but the one that had been cut, produced plantlets long after I'd decided it was dead. (I'd love to know if Maurice's plants were A. nidus or A. australasicum). My fern interest at the moment is trying to succeed at growing Phyllitus scolopendriums this way. As you probably know their real name is Asplenium scolopendrium, but we've called them Phyllitus for so long in Australia and America that it is easier to continue doing so. I've grown lots of fancy English A. scol's from spore, they don't all come "true" that way but you get some lovely varieties. If you can grow them by the frond base method they would come true to the very leaf from which they've been grown. Now--the birdsnest that I've grown from spores have produced a few unusual varieties although the parent was very ordinary, also I have a few unusual birdsnest that I've collected over the years. Could these be reproduced by frond base methods and come "true"? Or could I cross Asplenium scol. with Asplenium nidus or australasicum? The plantlets on the birdsnest long ago, were ordinary like the parent so maybe a fancy one could produce indentical plantlets too. I have an A.nidus crispafolium with fronds that divide three times on the tips, not unusual for Asplenium scol. but I think it is for A. nidus. Of course there's tissue culture but that's not for amateurs like me.

I would love to have the time and knowledge to cross ferns, there is no limit to what one could hope to do with them, what challenges - if one only had the time!"

It is always interesting to hear about the cultivation of ferns in other countries, we are pleased to include among our members, Nigel Hall, Archivist of the British Pteridological Society who, writing to John Lee had this to say:-

"You ask about my successes and failures in growing Australian ferns. I haven't systematically set out to grow them, but I've just been through the Jones and Clemesha book,

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(first edition, a lovely book which I am very pleased to own), and can offer some thoughts on the following points and species.

Some Australian ferns are widely available over here. Every florist, garden centre and supermarket seems to offer for sale Adiantum hispidulum, Asplenium bulbiferum, A. nidus, Microlepia speluncae and often Platycerium bifurcatum. They are very popular house plants but unfortunately are too rarely well grown. I have had them all and the best survivors have been Asp. nidus, Asp. bulbiferum and Adiantum hispidulum. My plants have been growing happily for about five years.

I have sown and grown from spore Pteris tremula (I had to give them all away - they grew too large) and Arachniodes aristata (so far not too large). I have small plants (from my own sowings) of Blechnum minus and Histiopteris incisa. Both seem to peter out when about an inch tall, maybe I'll succeed eventually. My best success has been with Asplenium flabellifolium. Lots of plants came up and I have distributed most of them. All the above have stayed strictly indoors. Our recent winter temperatures of down to - 17°centi - grade tempered my enthusiasm to even try them in a cold house (i.e. an unheated glasshouse).

Outside I do have three forms of Blechnum penna-marina. One fits the species description in Jones and Clemesha - one stays consistently about 3 inches tall, and I have a crested version of this. All are known over here as B. penna-marina but I suspect the small one must be incorrectly named. I did have plants of Cheilanthes distans, which grew happily all summer and perished in the recent winter. I have this year sown more Cheilanthes of Australian origin - caudata, hirsuta, lasiophylla, tenuifolia and vellea. I would like to sow more dry land ferns. Being fairly small plants I can keep quite a lot indoors. I have built a light garden and they seem to like that. I would be happy to exchange spore of British ferns although it wouldn't be for another three or four months as our ferns are only now, (early April) beginning to show. Do any of your members have spores of Cheilanthes prenticei, pumilio, sciadioides, seiberi and Paraceterach muelleri, Gymnogramma reynoldsii and Pellea paradoxa, that they could pass on to me?

P.S. My particular interest is in fern books. I don't know if you have any members with a similar avid interest, but I'd be happy to correspond - I collect them all - old - new - interesting and sometimes, boring!"

Our next correspondent is Steven Grove from Glenhaven Sydney with details of a trip north.

"On a recent trip to the Barrier Reef, organised through Christian Youth Travel Association, (16 days for $550.), I came upon some places of interest to visit and see some really beautiful specimens of ferns.

Going north, the Big Banana " Garden Shop" proved to be important though fairly small, with pots of "Silver Dollar" maidenhair, Pteris tricolor, Polypodium grandiceps and Didymochlaena truncatula being amongst the fairly common ferns and indoor plants.

Maryborough Public Park had a very large fernery in it's grounds with very large hanging baskets of Polypodium grandiceps, the very fine Davallia and Drynaria sparsisora. Large "Silver Dollar" maidenhairs (4ft. tall), Adiantum formosum and Blechnum gibbum were in raised garden beds.

On Frazer Island a tourist attraction was the Angiopteris evecta growing in water on the

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edge of a creek bed in the middle of the Island, Central-Station (as it is called). They estimated that it was 2½ thousand years old but I felt that was stretched, knowing the quick growth I'd seen in my 4 foot plant; the fronds went up to 5 metres long. Todea barbara was evident, Cyathea leichhardtiana was prolific.
All this time Nephrolepis hirsutula was replacing N. cordifolia as a hedge and garden fern, every Caravan Park up north uses it in the landscaping.
The Carnarven Gorge has excellent walking tracks - flat shoes and shorts a must and at least one or two days needed to see and study all the sights. One spot "The Moss Garden" had an abundance of Cyathea cooperi 6-7 metres tall and a dainty cut leaf maidenhair growing amongst the mosses. Another spot called the "Ampitheatre" had Cyathea cooperi and C. australis growing there, with Blechnum patersonii and Sticherus lobatus. Elkhorns were growing naturally around the area mainly on rocks. Also a small variant of Adiantum hispidulum, some Doodias and Cheilanthes tenuifolia. Birdsnests were few and a Davallia type fern was growing amongst Adiantum formosum in natural leaf litter. In "Angiopterus Ravine" there were many Cyathea cooperi's up to 8 metres tall and about twenty A. evecta with fronds of 6 metres were growing naturally along a water course."

Sounds like Paradise! Steven has a general nursery background and his personal interest is ferns. He has supplied a very interesting list of ferns which he will be selling in the coming spring it will be included in our September Newsletter.

BURRENDONG ARBORETUM:

It was mentioned in our December Newsletter that a particular section of the Shade Area deserved special attention. A professional eye was cast over the site by our Hon. Treasurer, Faye, then following her instructions Peter Althofer valiantly gathered large rocks and "white-anted" logs into the area. The logs, greyed by time and the elements, had been sculptured by termites into attractive shapes, these selected pieces, while pleasing the eye with interesting contours, help to modify temperatures by retaining moisture in the ground beneath them and sheltering the roots of plants, as do fallen trees in the forest, rock , by absorbing solar radiation throughout the day and releasing it as warmth during cold nights also prevent frosts from forming nearby.
Margaret Wright sent a generous donation of ferns from her nursery near Ballina, including several pots of the dainty Maindenhair, Adiantum diaphanum. With the proceeds of raffles we bought three Asplenium simplicifrons and five Pteris umbrosa. These plants were supplemented by ferns from the Arboretum glasshouse and those brought along by members. Beatrice and Roy Duncan from Morisset and Felicity Holmes from the Arboretum Association joined our party to help with weeding and planting. After some deliberation and much exertion, the rocks, logs and ferns were combined into a promising arrangement.
I wish that it were possible for each one of you to see these common native ferns looking so grand, visitors are pleasantly surprised to find this sheltered area among the adjacent plantings of Acacias, Eucalypts and Hakeas. Also delighted with this bonanza of lush

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vegetation are a few of the local insects; early this year several Blechnum nudum were attacked by greenhouse thrip, (Heliothrips haemorrhoidalis) which feeds upon the back of fronds leaving them whitened and bleached, another arrival is the white palm scale (Phenacaspis Sps.) a thread like insect which rapidly multiplies, both of these pests, if not removed will severely damage the host fern.

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In the domestic garden thrip and scale can be controlled by persistant use of a *soap and water solution, in circumstances such as those at the Arboretum, where three people care for some 160 hectares and thirty thousand plants, results must be quick and positive so that visitors may see the plants in good condition. In "limited time" situations, thrip can be controlled by using Rogor as a drench at .02% of recommended strength or Malathion at .05% parts water and applied at 28ml. to each 25m.m. of pot diameter (1 fl. oz to 1" dia). Always water overnight prior to treatment. Insecticides are highly toxic, whether used as a drench, sprayed, or applied in a granular form. Some risks are obvious such as inhaling poison from the air while spraying, or absorbing it through the skin during mixing, however Phillip Hicks, an entomologist from the Garden Advisory Service, alerted us to a more insidious danger while addressing members of the Fern Society of Victoria. Quote:
" Care should be taken when repotting plants, there have been instances in which poisoning has occured even months after granular chemicals were applied because the grower didn't wear gloves. Particular care should be taken when repotting ferns purchased at nurseries as you don't know if, in fact, granular chemicals have been used!"
* Grate 8g of sunlight soap and mix with 650ml of boiling hot water, stir or shake till dissolved and allow to cool until the mixture gells. Use about 1 tablespoon of this jelly to 650ml of water shake well, spray twice in the first week, then after the second spray application, when the soap has dried and choked the pest, spray neat water from a fine atomiser into the base and foliage of the plant. Repeat this treatment until all signs of the pests disappear.
The above formula and other practical advice on ferns may be found in the Bay books Australian Gardening Library Publication, Growing Ferns by Ray Best.

WIRRIMBIRRA SANCTUARY:

Thistle Stead, better known to us as Thistle Harris, the author of several books on Native Plants, asked if a member of our group would conduct a workshop lecture on the care of ferns and indoor plants, at Wirrimbirras Native Plant Day held during May. The invitation was accepted by Sue Montgomery, who, well qualified by years of horticultural study and practical experience in different types of gardening, gave an interesting and competent talk which encompassed, the choice of plants suitable for indoors, selecting containers, the importance of light, fertilising, watering and potting mediums. Sue spoke on the various methods of growing ferns and during a demonstration of vegetative propagation showed the class how to transform one basket of Davallia denticulata into four.
It was one of those perfect days, so typical of Sydney in autumn, between workshops we joined one of the conducted tours, learnt something of the local flora and noted that at one time

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an attempt had been made to establish a fern area, unfortunately, at the time, there was no watering system connected and with the onset of the prevailing drought few species have survived, a few Dicksonias, some clumps of Pteris umbrosa and the hardy Adiantum aetheopicum, deep green and abundant cascading along a dry creek!
The Fern Study Group donated fifty dollars to the Sanctuary.

Notes from the Workshop:

Particular qualities to look for when selecting plants.
They should be ornamental in foliage, slow growing, long living, tolerant of low light intensity, variable temperature and humidity, with a limited root run, many Rain-forest plants are suited including the well known trees Lilly-Pilly, Illawarra Flame tree, Kurrajong, Black-bean and Silky-oak among the smaller plants are the Holly Flame Pea, (Chorizema), Peperomia, Kangaroo vine and our native palms, cycads and ferns. To test the light, hold a hand in front of a sheet of white paper, if it shows shadow there is sufficient light, a plant placed too far from light will result in spindly growth and the leaves will turn up. Watering of indoor plants will vary depending on the size of plant and container, a plant which seems to use water quickly could need repotting. Whatever the source of soil it should be light and friable, the addition of perlite, which is a mineral will help to absorb and hold water. One hint is to place pebbles on top of the soil to conserve moisture, lift a pebble and if it is dry underneath the plant needs watering. I have some literature left over from the Workshop lecture which lists more suitable plants etc., if you would like a copy please send a stamped and addressed envelope.

On a Sunday morning in May, our Sydney members visited Sonters Nurseries at Winmalee in the Blue Mountains. We assembled in the car park where David Sonter, after introducing us to the Doberman dogs who patrol the premises, then spent the next few hours of what should have been his "day of rest" conducting us through the nursery outlining techniques that have made it possible for some of the more unusual ferns to be offered for sale. We were shown how collected spore is sown directly onto "Jiffy Pots" made from a peat mixture particularly suitable for fern culture. As the European peat bog, (source of the basic material), is owned by the Jiffy Company, it is economic wisdom to import these special pots which are manufactured exclusively for Sonters Nurseries. Quality control and the mixture will vary marginally if, for instance, a new Production Control Manager is employed by the Overseas Comany, but this can be adjusted in the growing process, and the ultimate success rate is high. The Ph. of the peat mixture is 5.5. In conditions described as "kitchen cleanliness" Jiffy pots sown with spore are stood directly into trays of filtered chlorinated water. When not in use the trays are sterilised and covered with plastic sheets. Constant humidity and a temperature of twenty three degrees plus or minus one degree is maintained while a light cycle of three days and two nights is programmed into each day. After three weeks, pots not showing vigorous growth are discarded and the remaining pots, now green and each covered with the potential of fifty healthy ferns, are moved to a glasshouse where the temperature is never below 17^{o} and fogging occurs automatically for one minute in every two to three hours. The ferns develop until they are

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individually potted, moved into large sheds and prepared for sale.
Leaving the Spore Propagation Department we went to the Tissue Culture Laboratory where a stricter code of hygiene is required. Because bacteria lives in soil carried on shoes we were asked to remove our outer footwear before entering. The stages of tissue culture as explained to the layman are - to take a small piece of dissected tissue, a growing tip, surface sterilise it and then place it in a nutrient holding medium of sugar and agar for three to four weeks, this period should confirm whether the culture is free from microbial contamination and initiate growth of tissue. The tissue is then transferred onto a medium which will support shoot growth and rapid multiplication of buds. The single, original, dissected growing tip, at this stage may be multiplied into thousands or as far as required. Having decided the number of plants wanted, multiplication of buds ceases and the single buds are transferred onto a medium designed to initiate root growth and foliage, the balance between the two may be manipulated by using or removing certain hormones from the medium. The laboratory is air-conditioned and the actual tissue culture is performed in Laminar flow or sterile air-flow cabinets, work benches and surrounding surfaces are continually disinfected with alcohol. A flask of tissue culture even opened and closed immediately outside of the sterile conditions, will surely become contaminated. The final steps are the transfer to soil, hardening off and sale of the fern.
After this fascinating glimpse into things scientific, we continued along Singles Ridge Road to the Yellow Rock Lookout, lunched in the open air, listened to the birds and enjoyed the splendid view far below of the Nepean River winding through Agnes Banks.

PROGRAMME:

July - Sunday 25th - 11 a.m. At Faye Low's home - 151 Raglan St. Mosman. Bring your lunch, a plate of goodies and an unusual or interesting fern to study.

August - Sunday 22nd - 11 a.m. At Les Taylor's home - 4 Prospect St. Blacktown. Again bring your lunch and a plate. Les will show us his garden and collection of ferns.

September - Saturday 11th and Sunday 12th - N.S.W. REGIONAL FLOWER SHOW - Peakhurst High School, Isaac St. Peakhurst.
Your help will be appreciated in setting up the Fern Study Group display on Friday 10th. Please bring along pots and baskets of native ferns to make our exhibit attractive.

September - Sunday 19th - Meet at 10 a.m. at Kuringai Wildflower Garden where the annual "Festival of Wildflowers" will be in progress. We hope to be shown through the fern house at 11 a.m., have lunch and then take one of the gully walks at about 1 or 1.30 p.m.

October - Sunday 24th - 11 a.m. At Jan Fairley's home - 82 Edgecliff Blv. Colaroy Plateau. Bring your sandwich or salad lunch and a plate. Jan has ferns growing in her garden and some attractive glass house specimens.

November - Saturday 13th and Sunday 14th. A weekend at the Burrendong Arboretum. (Some members will arrive on Friday 12th). We hope to be accompanied by people qualified to identify fern species. As usual there will be plenty of weeding. The main work day will be Saturday with a B.B.Q. at the caravan park in the evening.

Molly Murray
.....LEADER.
FERN STUDY GROUP...S.G.A.P.