

## S.G.A.P. FERN STUDY GROUP

Newsletter No. 2/Oct/75.

Leader: Steve Clemesha

Since its beginning early this year the Fern Study Group has grown to a present large membership of seventytwo, so we hope to receive notes from some of these. A list of members to date is included so that those living close to one another can make contact if they wish to do so. New members will be added each Newsletter.

NOTES OF INTEREST: Outing to Sonters Wholesale Nursery at Springwood. Some members of the Group had a most enjoyable visit to Sonters' Fern Nursery which, being wholesale, is not normally open to the public. We were shown ferns being raised commercially in large glasshouse areas and some of the difficulties of raising plants in such large numbers were explained. The Sonters raise popular exotic ferns as well as native Australian Ferns. In the latter they are doing a particularly good job as all their plants are raised in cultivation and not wild collected. An impressive area of tree ferns showed that this is one nursery that is raising tree ferns commercially from spores. They have selected good cultivars of certain species which are better suited for cultivation, i.e. compact rhizome forms of species which normally produce long rhizomes. After the inspection Mrs. Sonters kindly gave us all afternoon tea. Our thanks to Mr. & Mrs. Sonters for their hospitality and the good job they are doing in growing our native ferns. Being wholesale, their plants are available from most nurseries etc. that sell ferns. Look for their label when buying. For those who missed out George Sonters has agreed to another inspection being held in April next year. The exact date will be notified in the next Newsletter.

Exhibition at Kings School. On behalf of the Fern Study Group a few members arranged a large display of ferns at the Annual S.G.A.P. Exhibition (NSW Region). We were fortunate in being able to borrow some of George Sonters' special display ferns which, together with those grown by our members, contributed to a much commended exhibit. We tried to give the impression of an area people could create in their own gardens. A fern lined path leading to a sheltered terrace area with two levels of ponds - tree ferns protecting lower growing ferns. A couple of logs on end for seats. Sawn wood blocks for the path and sitting area and hollow logs and artificial rocks for the built up area, filling any spaces with leaf litter and bark. Our ferns were all in camouflaged pots from tiny *Doodia aspera* with its pink fronds which was used to edge the display with maidenhair fern, to one large *Dicksonia antarctica* (borrowed) giving height at the back. We gave a small area to special ferns with captions, for example, a pot of *Psilotum nudum* (as being one of our most primitive plants) and pot of "Nardoo" with sporocarps (used by aborigines for food). At the last moment we had to fit in the orchids which worked in reasonably well. A great deal of interest was created by the display. The exhibition will be held again next year at Kings School and there is no doubt that the Group will be asked to mount another display. It would be a great help if all local members could grow at least one fern in a container for this purpose. Also any ideas and/or assistance towards this next display would be really appreciated. Please contact Gerry Parker (Mrs.), 7 Blackbutts Rd. French's Forest, 2036 (phone 451 6558) who was "Co-ordinator" for the fern exhibit.



### Problems of Raising Ferns from Spores:

When raising ferns from spores problems can occur and these lead to disappointment and frustration. An understanding of these helps to overcome them.

1. "Ring-ins": No matter how thoroughly the growing medium is sterilized and how brief a time the pot is left uncovered, spores of unwanted ferns can creep in. Whether this is because the air is rich with them or they come with the spores is not very clear, but it seems to be the former as it is usually local ferns that appear. The frustrating point about them is that you may get 20 or 30 ring-ins in one pot and the spores you wanted may fail. When this happens it is some time before the error is realized. Ring-ins should be suspected in pots where germination is sparse. They seldom occur in nuisance proportions in pots where germination is thick. Ferns which (around Sydney at least) are likely to be ring-ins include Athyrium australe, A. japonicum, Cyclosorus nymphaealis, Calceita dubia, Histiopteris incisa and Gyathea cooperi. Any fern growing near where you are raising spores is likely to cause ring-ins to appear.
2. Infertile Spores: Spores which are sown often prove to be infertile. Reasons can be: collected before maturity; Collected after all spores have been shed and only sporangia remain (a common problem with Blechnum, Asplenium and many Polypodiaceous ferns); spores which have lost their viability through being stored too long (the shelf life of spores varies from species to species and in many cases is very short); sowing spores of a sterile hybrid (rare among Australian natives). When infertile spores are sown a crop of "ring-ins" often follows and this causes one not to realise for some time that the desired ferns are not growing.
3. Fungi Infection: Some fungi will appear on pots soon after spores have been sown and grow for a time then disappear. Others may cause the prothalli in a certain area to die and that area gradually spreads until the pot is wiped out. This can be stopped in two ways - (1) Mix Benlate in proportions recommended by the manufacturer and water with this. It will stop the fungus quickly and causes no damage to prothalli or young sporophytes; (2) Remove prothalli from part of pot away from infection and reset - watch for further outbreaks. Benlate treatment is easier and more effective.
4. Algae: This develops faster than spores germinate and may prevent them from doing so. Sterilizing growing medium usually prevents their getting off to an early enough start to be a problem; if algae germinates after the spores it seldom causes any problem. Little can be done except to reduce the amount of light and transplant young plants.
5. Incorrect Light: Too little will greatly slow up growth, too much causes algae formation and direct sun causes burning.
6. Unsatisfactory growing medium: Some ferns will grow on sand, peatmoss is better but spagnum moss is better still. Prothalli on an unsatisfactory growing medium will either die or grow extremely slowly.

### FERNS IN NATURE ... by Charles Taylor:

Where do ferns grow in nature? I have read the statement that ferns grow in rain forests living on the compost under the trees. After spending many hours bush walking I have noticed that ferns



grow on the edge of forests where light is good, or along the banks of creeks where there is better light as no heavy trees grow there. They grow on logs, rocks etc.. Ferns that grow in the top of trees are actually just above the heavy foliage. Those falling to ground where the light is bad always die. From this we see that ferns need good light to thrive.

Ferns are very adaptable plants. To get a nice fresh green plant they need a plentiful supply of water, good light, but no direct sun. But, some will grow in the hardest conditions, on rock faces, out of cracks in stone fences, sometimes in full sun, resulting generally in small, tough, "Bonsai" plants.

I have found it far easier and quicker to grow a good plant from a sporeling than from a piece taken from a large plant. When my ferns are about 1 1/2" to 2" high I lift them out and plant singly in a 3" pot. Fill pot with soil, make a hole in centre, plant sporeling, firm, water until the soil is almost mud and keep in this condition for a couple of weeks. After about 2 months when well established, move into a larger pot. From September ferns are strong growers. It is in September/October that the new fronds appear. During these months if one were to knock a fern out the roots would be seen around the sides of the pot and for good growth, then is the time to move to a larger pot. A sporeling potted in August/September is moved to a larger sized pot 3 or 4 times to April. Winter is a dormant time for fern growth but still they need liberal watering.

The adventitious stem of a Hare's Foot fern needs something to grip on for best results. If this root is allowed to hang loose it stops making new fronds. In nature these ferns climb along branches or trunks of trees, thus having something to grip on all the time. To make a pot plant of one, place bits of bark or hardwood in pot and train fern along. These can overlap. Polypodiums, like the Maiden Hair, are mainly terrestrial and will grow well in pots provided the compost is very open.

Artificial fertilizing is not desirable for ferns. A little old cow manure on top of the pot may help but the main thing is, are they wet enough? If collecting bush grown ferns bring them home with the root only in a plastic bag. When potting up or placing in the garden keep wet for weeks. When growing ferns it is a case of experimenting with compost, situation, etc..

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Unfortunately, the length of this newsletter will be restricted by the long membership list, but from next time it should have settled down to normal. Let me know what you want to see in the newsletters. Notes will appear on cultivation and vegetative division of ferns as this is at least as important as spore raising.

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S.G.A.P.

Dr. N.C.W. Leadley's very helpful book on the ferns of north eastern N.S.W. (ferns which grow in a lot of other places as well) - "Students Flora of North Eastern New South Wales - Part I - Pteridophytes", pub. by University of New England, is now available from Nature & Field Hobby Centre, 24 Burlington St., Crows Nest - \$2.75.

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