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G. Parker 451-6558

FERN STUDY GROUP - SOCIETY FOR GROWING AUSTRALIAN  
PLANTS

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NEWSLETTER NO. 8

MARCH, 1980.

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Dear Study Group Member,

This will be the last Newsletter I will be sending out as Leader of the Fern Study Group and I do apologise for its long delay. The new leader will be Mrs. Molly Murray of 25 Nowill Street, Rydlemere. N.S.W. 2116 and I wish her well in this time demanding task. 6381094

THE SPORE BANK: Will be handled by Mrs. Gwen Hardwick of 21 Nowill Street, Rydlemere. 2116. Please send a stamped self addressed envelope when requesting spores and limit your request to no more than six ferns at one time. (See Page 8). 638-3332

THE TREASURER: is Mrs. Fay Low, 151 Raglan Street, Mosman. N.S.W. 2088. Please send subscriptions to her. 969 1446

SUBSCRIPTIONS: These are now due for all members - except those sent in during the past three months. \$2 was agreed upon as the rate for all Study Group subscriptions at the last Federal Conference. If your subs. are not paid we will assume you no longer wish to remain a member of this group, but we would appreciate a note to this effect.

DISTRIBUTION OF NEWSLETTER: John Lee, 76 The Bulwark, Castlecrag, 2068, looks after this. 95 1961

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MICROSCOPE: It has been decided to purchase a microscope for use of the Spore Bank Curator. This will ensure that all spores are checked before despatch and are of good quality. The microscope will also be available at Sydney Group meetings. Sydney Group have already raised over \$100 by raffles and donations. However, as this is not sufficient, other members might like to add a small donation to their subscription.

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I would like to apologise to those members who have written to me and not received a reply. Thank you very much for your letters and particularly to those willing to become active members. Because of the widespread nature of our Group it is essential to have feedback from members if we are to achieve anything. The more we hear from you about what you are growing and how you are doing it, the more information we will have.

We are a Study Group of the Society for Growing Australian Plants and our activities are restricted to the study of NATIVE ferns only. Of course this does not mean that our members cannot grow other ferns (I have some myself), but it does mean that we endeavour to find out more about our own ferns, where and how they grow best, what conditions suit them best; in fact, everything we can find out about them. We are then in a position to disperse this knowledge amongst our members.

We would particularly like you to write about ferns of your own area, excursions to fern areas and nurseries and how you grow particular ferns, especially difficult or unusual ones.

In this respect, Anton Schmid of Mount Isa writes that he is growing *Platyzoma microphyllum* and I would like to hear more about that. This is a beautiful little fern that grows naturally in the northern part of Australia. I saw it first a couple of years ago growing at Kununurra (The Ord River town in Northern W.A. not far from the Northern Territory border). It was growing in a dry, burnt out rocky area and I found it hard to believe it was a fern. The rhizome is

covered with golden hairs, the fronds erect, very narrow and the pinnae rounded and very close together giving it a braided appearance - hence its common name, Braided Fern. Is anybody else growing this fern?

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LIST OF NURSERIES WHERE RELIABLE FERNS can be purchased - As native ferns are sometimes hard to get it has been suggested we publish a list. Whilst we wish to encourage members to grow their own, we'd like to hear from you of nurseries you'd recommend.

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I've had another excellent report from PAT HARRIS of Mosman (N.S.W.) on growing ferns from spores. We published her previous report in Newsletter No.5. She is still experimenting with mediums and having reasonable success. Sydney based members were privileged to have a meeting at her house and were able to see the results of her efforts.

MR. CLIFF RITCHIE, 210 Persse Road, Runcorn, Brisbane. 4113... Phone 341 5809 - is interested in forming a Group in Brisbane. He also invites members passing through to visit his fern house. Thank you Mr. Ritchie.

THANK YOU JEANETTE CUNNINGHAM for your suggestion for an article on ferns easily grown from spores. Perhaps the spore bank will make up a set for beginners? We'll certainly consider such an article for our next newsletter.

MRS. H.R. BOSWORTH, P.O. Box 23, Victoria Estate, INGHAM. 4850, would be interested to meet any fellow members passing her way.

SOME INTERESTING COMMENTS FROM A W.A. MEMBER:

Adiantum aethiopicum - could it require lime? "A relative trying to garden on a limestone rock planted hers in small holes in the rock which she filled with leaf mould. It grew so well she was afraid snakes would hide in it. As often as I transplanted it to my garden where acid loving plants grew, it died. Now I sprinkle a little freshly ground limestone on Adiantums and wish I had more room!

I am experimenting with mixtures for spore growing. One which was quite successful for Blechnums and Pteris was 'Compeat' and vermiculite. I don't sterilize and sow it in margarine boxes which have been washed in very hot water and detergent and I have no fungus, moss or weeds. For drainage I sometimes use broken up styrofoam .. and the six margarine boxes fit neatly into a wallpaper water tray and I cover them with a glass louvre."

ASPLENium AUSTRALASICUM - In view of this ferns name change and the remarks published in Newsletter No. 4, RAY BEST thought members might be interested in comments published about it and A. nidus over a hundred years ago in "Select Ferns and Lycopods", B.S. Williams, 1873. The genus was then known as -

THAMNOPTERIS (Presl.) - This genus consists of a few species producing entire fronds, remarkable from the peculiar manner of their growth. The fronds rise up from the crown leaving quite a hollow centre, from which habit they have been called Bird's Nest Ferns. They are very long lived and make splendid objects for vases, to stand on each side of a doorway in a fernery - and indeed Thamnopteris australasica will answer well for this purpose out of doors in summer time if not exposed to full sun. These plants will require but little soil as they make a mass of aerial fibrous roots on the surface from which if the atmosphere is in proper condition, they derive much nourishment. Rough fibrous peat, sphagnum moss and lumps of sandstone suit them best.

THAMNOPTERIS AUSTRALASICA (Presl). Fam: Aspleniaceae - Fronds which are simple and elliptic-lanceolate in shape and bright shining green, grow all around the rhizome so as to leave the crown elevated and exposed and thus form a hollow centre - their length is about four feet and their breadth from three to six inches; the midrib below is sharply carinate (with a keel) a character to be found in

the species from its youngest stage. As it succeeds well in a cool house it becomes an invaluable plant where contrast and noble outline is studied. Native of New South Wales.

THAMNOPTERIS NIDUS - This is popularly known as the Eagle's Nest Fern, and is often confounded with the previous species; it is indeed similar in habit, and grows about the same size, the chief difference being that in the present plant the fronds are almost of equal breadth to the base, with the midrib obtuse, and that they grow out horizontally at first before taking up their upright course, thus leaving a much broader centre; it also requires the heat of a stove. Native of the East Indian Islands."

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IDENTIFICATION OF FERNS: Some members say they are having trouble identifying their ferns. I suggest you try your State Herbarium if in other states. If nobody can help you send a specimen to us and, if we cannot do it ourselves, we will have it done for you. The specimen is best pressed and we would require a frond with stipe and part of the rhizome. Also a small piece with spores if possible and a general description of its habit of growth, also where obtained if known. We suggest you number your specimens if sending in more than one and that you keep a second numbered one for yourself so that it does not have to be returned. Actually, using whatever books you have and trying to do it yourself is one of the best ways to learn.

We try to give pointers on identification in our newsletters, but there is really no simple way. Try to recognize your spore patterns, whether round or elongated, growing on the edge of the frond, etc. use a 10x hand lens and look at the spores every opportunity you have. As ferns are classified mainly by their spores you will be half way there once you can recognize these.

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G.C. SIMMONS of Durack, Queensland, states he is opposed to the system of dual membership, but does not say why? I'd be interested to hear his point of view.

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TASMANIAN MEMBERS may be interested to hear that a new species of Filmy Fern, APTEROPTERIS APPLANTA, has been discovered in Tasmania. ... on the Eastern slopes of Mt. King William Range, Central Western Tasmania.

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REPORT FROM DEBBIE EDWARDS on FERN GROUP OUTING - Sunday 17th March, 1979 - to Mt. Wilson, Blue Mountains, N.S.W. Thank you Debbie.

In spite of the steady rain, by 9.45 a.m. about eight car loads of people had arrived at "The Fruit Bowl", Bilpin, our meeting place. It was decided that we'd go to the Mt. Wilson Reserve and walk the track after having morning tea. At least eleven ferns were identified, although it was hard to stop and get a good look - the minute you did the leeches latched on. We had to stamp our feet if we did stop! A ~~xxx~~ few very small ferns were not identified.

We saw *Asplenium flabellifolium*, *Blechnum cartilagineum*, *B. patersonii*, *Culcita dubia*, *Dennstaedtia davallioides*, *Doodia aspera*, *Microsorium diversifolium*, *Microsorium scandens*, *Pellaea falcatá*, *Polystichum proliferum* (and possibly *australiense*), *Pteridium esculentum*. Tree ferns were numerous - *Cyathea australis* and *Dicksonia antarctica*.

Most people then lunched under shelter, then five cars went to a site about six miles out on Combroy Road (the Singleton Road from Kurrijong) found previously by Les Taylor. There was a wet sandstone overhang with masses of *Lycopodium* (probably *laterale*), *Gleichenia dicarpa* and *Sticherus flabellatus* in clayey soil. One small *Adiantum* was found, possibly *hispidulum* and one *Histiopteris incisa*.

We then continued down the road to Little Wheeney Creek, which looks like an area worth investigating. Just a short way from the picnic area along the creek were found *Adiantum aethiopicum*, *A. hispidulum*, *Asplenium flabellifolium*, *Cheilanthes tenuifolia*, *Culcita dubia*, *Doodia aspera*, *Pteridium esculentum* and a small filmy fern - possibly one of the *Hymenophyllum* species.

Altogether an interesting and pleasant day in spite of the weather.

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THE GENUS GLEICHENIA AND ITS RELATIVES by STEVE CLEMESHA.

1. Gleichenia - These ferns are well known and as a genus are very common. They grow from a long creeping rhizome. The fronds branch dichotomously and in the centre of each pair of pinnae is a bud and from this another part of the frond may grow. They grow intermittently and are capable of indefinite growth. They branch on up to four and five times and often are a dominant feature of the area where they grow. They can form thick tangles that are hard to penetrate. Old fronds are persistent and give the plants an untidy look.

The plants favour more light than most ferns and they grow back rapidly after bushfires. One thing they cannot stand, either in cultivation or in the wild, is drying out and if ever they dry out to a point where the fronds show signs of wilting they will not recover. As a result all their habitats are ones which never dry out i.e. swamps, damp rock faces and crevices and cliff faces.

Big plants are hard to transplant but small ones will move and plants are easy to raise from spores. If potted in a peaty mixture the pot can be stood in water which needs to be changed from time to time to keep it fresh. The common species are:

G. dicarpa - This has green to yellowish fronds which are pinnatifid with numerous fine pinnules; the margins of these are inrolled and form a pouch on the underside. This occurs from Victoria to Queensland, and also Tasmania. It also extends to South East Asia, to New Zealand and New Caledonia. It is easily recognized by the pouched underside of the pinnules. This probably is the most plentiful species of the genus.

G. microphylla - This species is closely related to and resembles *G. dicarpa* but its leaves are a more attractive shade of green and they are flat and have no pouch on the underside which is light green. I have not seen this species near Sydney though it is plentiful in the Blue Mountains. It is found in all Australian States and also in New Zealand and New Caledonia, Malaysia and S.E. Asia. It is a more attractive species than *G. dicarpa*.

G. rupestris - differs from the above species in that the pinnules are larger and they are bluish green (glaucous) below. The rhachis are smooth and have very few or no scales nor hairs. It grows on rock faces and cliffs - sometimes facing the sea. One colony that grows on a cliff in the Coffs Harbour district is much larger than forms I have seen near Sydney and the leaves are thicker in texture. This species is found in South Queensland, New South Wales and New Caledonia.

The three species described above are plentiful and widespread. The following two are restricted in habitat and I have not seen them:

G. alpina - resembles *G. dicarpa* but is more dwarf and compact in habit and at times of the year it takes on a reddish or bronze colouration. The pinnules are pouched as in *dicarpa* but it has abundant fringed scales on the rhachis. It is found in subalpine meadows of Tasmania and New Zealand and is often abundant.

G. abscida - This also is a Tasmanian subalpine fern which is related to G. dicarpa and like it the pinnules are pouched on the underside. Each frond divides once only into a single pair of pinnae and there is no bud in the fork. The pinnae are most attractive being a deep emerald green above and dull green or even glaucous below. It was originally found growing with G. dicarpa (or alpina) south of Arthur's Range and was not seen again for a number of years. Recently it has been found in two other locations in the same general area. It would be most interesting to know how these two species grow in cultivation and what reaction they make to a warmer climate. Perhaps some of our Tasmanian members may be able to answer this question.

Two genera are closely related to Gleichenia. They are Dicranopteris and Sticherus. Both have much longer pinnules than Gleichenia and their fronds often are umbrella like in shape. They produce buds in the frond axils and can grow on indefinitely like Gleichenia. These genera are just as intolerant of drying out as Gleichenia.

Dicranopteris linearis - grows in sunny wet places and in the southern part of its range it grows in sandstone country, especially in roadside cuttings and crevices. It favours sunny places and its fronds are quite umbrella like. It produces a pair of small accessory pinnae below each branching of the rhachis. The fronds are green above and glaucous below. The rhizome is clothed with hairs and not scales - which are found in Sticherus and Gleichenia. It can be cultivated in the same way as Gleichenia.

There are three species of Sticherus in Australia. They prefer more shade than Gleichenia and Dicranopteris. Their fronds are in the form of umbrella like pinnae. They form up to six tiers of these and may be straggling or upright.

Sticherus flabellatus - has pinnules at 45 degrees to the rhachis. The fronds are shiny above and glabrous below. The pinnule margins are slightly serrated. It occurs from north Queensland to eastern Victoria and also in New Guinea, New Caledonia and New Zealand. It forms colonies which can be quite large. It is found in gullies and damp soaks - places that never dry out.

S. tener - is similar in appearance to S. flabellatus but the frond margins are entire and there are silky hairs on the under side of the frond. It occurs in N.S.W., Victoria and Tasmania.

S. lobatus - has less umbrella like fronds than the other species. Its pinnules are at right angles to the rhachis and there are lobed pinnules at the pinnae junctions. Its fronds are dull green above and lighter green below or glaucous. It occurs from south Queensland to Victoria.

The three species of Sticherus can be cultivated provided they do not dry out. Small plants are best as larger ones resent disturbance.

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BURRENDONG ARBORETUM: Have a project under way to establish a fern area and it has been proposed that our Group support such a project by providing ferns. I visited the Arboretum when passing through Wellington last year and was shown the area that was being considered for development for this purpose. Peter Althofer was away at that time and I was unable to discuss it with him. However, I would ask all members who can to grow a fern or two for them. By the next newsletter we should have more information and will possibly be able to organize a delivery from Sydney. They have an excellent shade house so should be able to hold any ferns received..

SYDNEY REGION ACTIVITIES:

Sunday March 23rd - Excursion to Megalong Valley - Meet 10.15 a.m. outside Hydro Majestic Hotel.

Sunday April 20th - MEETING - Home of Sam and Betty Jack - 16 Railway Parade, WARRIMOO... 10.30 a.m. for a Barbecue lunch .. Bring your own food (Phone 047 - 53 6491). Railway Parade is just before the highway crosses the railway line. If you reach the Fire Station you have gone too far.

Sunday May 25th - Excursion to Holland Park at Glen Haven. Meet 2 p.m. at Holland Park Oval, Glen Haven. Geoff Edwards has recommended this one.

At the last meeting we had a look at the genus Athyrium. It is at present under review and it is possible that we will finish up with no Australian species in this genus. Athyrium japonicum has had its name changed to Lunathyrium japonicum. This will be a good genus to have a look at again at a later date.

I suggest Blechnum for the next meeting at the Jacks - there are some interesting Blechnums in the Blue Mountains and I'm sure Sam and Betty will have specimens of them. Bring any you think may be of interest.

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FERN COURSE AT MEADOWBANK TECH. - This was most successful and those members who were able to attend felt they had learnt quite a lot. There is a possibility that it can be repeated towards the end of the year, but rather remote at present. We will let you know as information on this becomes available. Meanwhile some notes taken from David Sontter's lectures on propagation and cultivation may be of interest to members. He spoke of average conditions that apply to most ferns - there are exceptions.

Light requirement - Outdoors - under shade cloth 75%  
in garden - shaded from sun  
Indoors - filtered natural light - not on window sill where sun shines.

If there is not enough light fronds become elongated and very spindly. Rhachis become elongated between pinnules. Ferns tend to yellow.

Ferns yellowing (outdoors) could be getting too much sunlight provided they have sufficient fertilizer. Try fertilizing and if they don't respond then there is too much sunlight.

Ferns can't be changed from low light to high quickly - if moving them make the change gradually, protecting them with a cover if necessary.

Temperature - 25 degrees C. is ideal for most ferns.

SOME GOOD OUTDOOR FERNS ARE: Asplenium bulbiferum, Blechnum cartilagenium, Polystichum australiense and P. proliferum, Sticherus sp., Pteris tremula, P. umbrosa, Doodia aspera, D. media and D. caudata, Pelaea falcata, Davalia pixidata, Adiantum aethiopicum, and A. formosum (likes lots of shade)  
Lygodium japonicum is a fern that does not grow well outside - but does extremely well indoors. It gets a fungus if it gets cold.

Watering: Ferns generally don't like water on foliage all the time - but keep soil moist. If using overhead watering have plenty of ventilation. Ferns, as Sydney people noticed in the recent very hot weather we had, are very susceptible to dry, windy days. Rate of uptake of water is not as fast as that of angiosperms. Protect if possible, otherwise spray. Indoors pots should always be damp. Outdoors the ground sometimes appears to be dry but probably they have their roots well down in moisture. In cases of areas with seepage problems plant on the edge or mound soil over.

A good basic soil mixture was given as 40% Peat, 60% sandy loam with humus, plus 3 healthy pinches of Lime (for a 5" pot) and Osmocote (9 month). The lime is to counter action of peat. Adiantums thrive at a pH of 7 (See experience of our W.A. contributor).

Actually earlier on in the lecture David recommended a pH of 6.5 for Maidenhairs and 5.5 for other ferns.

Repotting: If plant is drying out every day it needs a bigger container or heavier mix. (Sonters ferns need watering every day - or repotting)

Fertilizing - (Indoors).. if yellowing suggest Aquasol at  $\frac{1}{2}$  strength to test for nitrogen deficiency and if it doesn't green up in 4 days needs something else. Other fertilizers suggested Fish Emulsion... plant pills... Always start at half recommended strength .. once a week during growing period.

Indications of Cold - All tips will yellow. Notice ferns when first weather turns cold - tips yellow - ferns become crinkly. Fertilizer burn is random. If all tips, possibly fern is in a draught.

#### General Care of Ferns:

Good management is the easiest and best way of looking after plants. Watch for insects and pick off each morning. For Scale, Mite, Aphis, Mealybug - if possible submerge in a bucket of soapy water. Dipel recommended for caterpillars. If necessary to use insecticides, etc., use at low strength. Use Baysol for slugs and snails. If green algae forms on top of soil - soil in pot is too acid or not well enough drained.

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Returning from a recent trip north I called at Bangalox to see Margaret Wright's fern collection. This was quite impressive and Margaret would welcome members if they would phone or write before they call. She runs, with her husband, a very busy wholesale nursery so does not have much spare time - prefers week-ends. Her address is 11 Rifle Range Road, Bangalow. (P.O. Box 37). She has had considerable success growing ferns from spore and always sterilizes her spores. Using boiled water add 5% by volume household bleach... immerse for 5 to 10 seconds. Rinse two to four times with sterile water. Sow from the water solution or dry and store until needed.

Barbara Joe Hoshizake in her "Fern Growers Manual" (P. 65) gives similar instructions - also instructions for sterilization of spores still within the sporangia.

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#### WELCOME TO THE FOLLOWING NEW MEMBERS:

##### NEW SOUTH WALES:

Mrs. S.A. Carmody, 63 Smith Street, WOOLLONGONG. 2800.  
Mr. D. Commins, P.O. Box 2, BADGERY CREEK. 2171.  
MRS. L. Oliver, Flowers Road, BINNA BURRA via BANGALOW. 2479.  
Mr. & Mrs. M. Reed, 3/29 Bridge Road, HORNSBY. 2077.  
M/s Michelle Veness, 86 Roland Ave., WAHROONGA. 2076.  
Mr. Ross Tynan, 43 Bligh Avenue, CAMDEN SOUTH. 2570.

##### VICTORIA:

Mrs. W. Gunn, 22 Epworth Street, OCEAN GROVE. 3226.  
P.R.S. Clarke, 8 Wickham Road, CROYDON. 3136.

~~Mrs. P.M. Ward, 18 Davidson Street, NEW~~ (+ see below)

##### SOUTH AUSTRALIA:

Mr. J. Doyle, 22 Fourth Avenue, St. Peters. 5069.  
Mr. B. Mules, Box 86, Port Pirie. 5540

W.A. - Mrs. A.R.W. Bubb, 10 Ponton Street, ESPERANCE. 6450.

QLD. - Mrs. P.M. Ward, 18 Davidson Street, NEWMARKET. 4051.

+ VIC. M/s. Lynn Hadow, P.O. Box 81, BEECHWORTH. 3747.  
Mrs. Pam Missen, 17 Kelvin Close, NIDDRIE. 3042.

REPORT FROM SPORE BANK:

The Bank has supplied spore to members in Sydney, Narromine and the Tweed area of N.S.W. and to a member in Lathlain Park, W.A. We would like to hear back from you the results of these plantings.

Thank you Ray Best of Kenthurst and Elaine Boyd of W.A. for sending Spore to the Bank.

Could any Queensland member send us spore of *Pteridoblechnum neglectum*?

Would all members please send spore to the Bank. It doesn't matter how common a fern is in your area as it may be just what the other person wants. People in the Sydney metropolitan area or outlying suburbs who have access to material but do not have time to separate spore could just place fertile fronds in bags and ring the Bank on 638 3338 and we would be happy to collect.

At present in Spore Bank:

- Blechnum      *gregsonii*
- wattsii*
- Cyathea      *australis*
- brownii*
- cooperi*
- leichhardtiana*
- woollsiana*
- Christella   *dentata*
- Dicksonia    *antarctica*
- squarrosa*
- youngiae*
- Polystichum *proliferum*
- fallax*
- Pteris        *tremula*
- Microsorium *pappei* (New Guinea)
- Microlepis   *speluncae* (We believe this correct but it has not yet been officially identified)

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I spent a couple of weeks in the Northern Rivers area in January... The Whian Whian State Forest has much to offer... if you are in that area be sure to go down into the Palm Valley at Minyon Falls... I saw there much of interest - *Dicksonia youngiae*, *Pneumatopteris sogerensis*, amongst many other plants of interest. A stiff climb up but well worth it. The Night Cap walk is another must... I saw there growing on *Cyathea leichhardtiana* the filmy fern *Macroglena caudata* together with *Tmesipteris truncata*.. a beautiful walk. On the way home called to see Margaret Wright's fern collection at Bangalow. Quite impressive and Margaret would welcome Group members, but phone or write before you call. She runs with her husband a very busy wholesale nursery and has little spare time.. prefers weekends. Her address is 11 Rifle Range Rd., Bangalow (P.O. Box 37). She is one of the growers who has had success sterilizing her spore.. uses boiled (in my note it looked like "boiling" water but that sounds a bit drastic & I suggest anyone wanting to try this method better contact Margaret first) water add 5% by volume household bleach... immerse for 5 to 10 seconds. Collect on filter paper. Rinse two to four times with sterile water. Sow from water solution or dry and store until needed.

Barbara Joe Hoshizake in her "Fern Growers Manual (P.65) gives similar instructions - also instructions for sterilization of spores still within the sporangia.

Very best wishes to all members and good growing!

GERRY PARKER, (ex Group Leader)