

ASSOCIATION OF

S. G. A. P. Fern Study Group

Newsletter *Number* 56

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DATE - March 1992

LEADER: Peter Hind, 41 Miller Street, Mount Druitt, 2770
SECRETARY: Moreen Woollett, 3 Currawang Place, Como West, 2226
TREASURER: Joan Moore, 2 Gannet Street, Gladesville, 2111
SPORE BANK: Jenny Thompson, 2 Albion Place, Engadine, 2233

Most members know of the Burrendong Arboretum. Situated near the Burrendong Dam about 25 km from Wellington, its 162 ha is a wonderful place to visit housing one of the largest collection of cultivated native plants from all over Australia. Our Group's special interest is the excellent array of Australian ferns growing in the shade area. There are approximately 90 different species many thriving and all growing with a minimum of attention apart from watering. The miniscule amount of paid labour at the Arboretum struggle heroically and with dedication to maintain a semblance of order. But the staff have many other duties apart from the shade area.

Consequently, the Arboretum depends heavily on volunteer labour and in the past members of the Fern Study Group have done their part in developing and maintaining the fern collection. Those who make the trip to Burrendong - from Sydney, 5 hours driving, to contribute maybe one and a half days labour know that they have their own reward. But it comes at a cost. SGAP-Sutherland Group recently received a quote for hire of a mini bus, tents, driver and all meals provided from Friday evening to Sunday evening for \$170 per person. The price offered is not extravagant. However, given the expense and time expended labour could hardly be rated cost effective. Maybe there is better way in which to support Burrendong. Ted Newman is one who has been doing some lateral thinking lately and he voiced his concerns at a recent meeting in Sydney. If you have any ideas on how we should help support the Burrendong fern collection, our Leader and or our Secretary, would love to hear from you.

Meanwhile we are committed to a working bee at Burrendong during the first week end of April 1992 and we hope that many members will be able to join the project.

On another topic, one of our members is anxious to obtain spore of *Cyathea brevipinna*, the attractive, smallish tree fern from Lord Howe Island. If you can help meet the request, would you please forward spore direct to Jenny Thompson at the Spore Bank.

Potting Mixes

Our Leader recently reported having been contacted by an experienced member who wanted to know what potting mix he used. It seemed that the member had lately acquired a new shade house and was about to re-pot many of his long standing collection and wanted to check on the basics - what was the best potting mix.

Of course there is no one best potting mix. As related by our Leader, there are as many fern potting mixes as there are fern growers. Ferns are remarkably tolerant of soil conditions and will survive in a variety of mixes. Of course if you want your ferns to grow to best advantage then attention needs to be given to each fern and the type of soil condition it favours. John Mason in his book "Growing Ferns" explains as follows:

"Ferns are only as good as the soil they are growing in. If you want quality plants you must use quality soils or potting mixes. Ferns are generally adaptable as far as soil goes, but a soil that is well drained, well aerated, has a reasonable pH, has high organic matter and good moisture holding capacity is preferred by most.

There are basically two types of potting mixes - those which contain soil and those which don't. The essential consideration for a potting mix is that it should drain freely. To test this, fill a pot with your soil mix and dip it into a bucket of water. If the water moves away quickly, then it is acceptable - if it does not, then either the soil requires more sand (or similar drainage material) in it, or possibly the pot just doesn't have sufficient drainage holes in it.

Soiless potting mixes have the advantage of being cleaner than those which contain soil, i.e., soil can contain harmful pathogens. A soiless mix has much less chance of having these problems. Soiless mixes are more likely not to contain the necessary nutrients found in soil mixes - this means that well balanced fertilizers usually need to be added to them."

John Mason's book lists the following potting mixes as suitable for growing ferns:

1. A general soiless mix:
6 parts peat moss, 2 parts vermiculite, 1 part coarse sand.
2. A pine bark / soil mix:
7 parts 3 mm hammermilled composted pine bark
2 parts sterilized sandy loam
1 part peat moss
3. A compost based mix:
2 parts compost or leaf mould
1 part coarse sand
1 part perlite
4. A potting mix for epiphytic ferns:
1 part chunky pine bark (approx. 10 -20 mm)
1 part coarse sand
2 parts peat moss

5. An Alternative potting mix for epiphytic ferns:
 1 part tree fern fibre
 1 part charcoal
 1 part peanut shells or rice hulls
 1 part 6 mm composted pine bark or peat moss."

Way back in March 1989 our Newsletter mentioned our South Eastern Queensland member, Cliff Ritchie's use of a potting mix which included 30% coarse clinkers (from a power house) washed and put through an one eighth inch sieve. If you have a potting mix which has been giving good results how about sharing your secret, please write and let the Secretary know so the information can be passed on in our Newsletter.

More Help for Burrendong

On the 1st of December two of our members notable for doing many chores for SGAP behind the scene, Pat Kenyon and Ted Newman, travelled to Burrendong Arboretum to install a misting system with bottom heat in the existing hot house. The interior needed modifying somewhat but with able assistance of Gaye and Bruce (Arboretum staff) and Peter Furphy, a student, the work went forward apace. Thirty mist sprays and a controller and two hot boxes with thermostatic controls were installed (4 more to be installed) by the end of the week.

Hazel Althofer officially turned the system on and was most pleasantly surprised on seeing the system operate.

Thanks Pat, thanks Ted, for your valuable contribution.

A Ferny Spot on the South Coast

The George Boyd Lookout, about 8 km along a good gravel Forestry road west of the Princes Highway, is a spot where a large number of ferns can be seen on a short walk. The turn from the Highway is 20 km north of Milton and is clearly sign posted. From the Lookout there is a panoramic view of the surrounding countryside and near at hand large clumps of Davallia pyxidata and Pyrrosia rupestris. There is a short walk along a path from the Picnic Area around the base of the escarpment. In less than 100 m, these two ferns can again be seen in abundance, together with approximately another twenty species.

Ferns of Thailand

We have received a letter from Mr M.L.C.Thongtham of Royal Project Coordinating Office, c/- Highland Agriculture Project, Kasetsart University, Bangkok, Thailand, who is presently working on the hybridization of ferns. Mr Thongtham has asked for membership details and is interested in exchanging fern spores. As well, he wishes to correspond with any member who would like to discuss ideas, germplasm, or techniques of tending young sporophytes. If you can meet this request please contact Mr Thongtham at the above address.

REPORT FROM MID NORTH COAST MEMBERS

(Contributed by Charlie Charters)

Notes on Outing 23-24 November 1991

With the dry weather persisting we expected that things would be dry and burnt off as they had been for the last few months, but as luck would have it the Kookaburra Area - approximately 40 km to the west of Kempsey had rain, so the forest was lush and green. Although only Steve and Jean from Coffs Harbour, Phill and Julie from Kempsey and Charlie from Wauchope turned up, we had an enjoyable week end. We had the use of a forestry hut (the cleanliness left a lot to be desired) for the Saturday night. On the Saturday we spent a pleasant afternoon along the creek not far from the hut finding 34 species of ferns - several more than on the Forestry list. That night we sat around the fire talking and enjoying Christmas cheer.

Sunday with no other walks close by, we decided to do a scramble along the creek, finding nothing different we had a cuppa and headed towards home. On the way we stopped at Haydonville to inspect the limestone cliffs. Approximately 1 km off the road across open grazing land we found a cave called the Natural Arch - about 40' through, you came out to a different world as the growth was tropical. Further on we stopped on the side of the road for lunch then investigated the cuttings and gullies along the side of the road and found 14 more ferns that weren't at the higher altitude.

Ferns near Kookaburra: Adiantum silvaticum Arthropteris tenella
Asplenium australasicum A.flabellifolium A.flaccidum
A.polyodon Blechnum cartilagineum B.minus B.nudum
B.patersonii B.wattsii Calochlaena dubia Cyathea australis
Davallia pxydita Dennstaedtia davallioides Dicksonia antarctica
Dictymia brownii Diplazium australe Doodia aspera Histiopteris
incisa Hymenophyllum cupressiforme Hypolepis glandulifera
Lastreopsis acuminata L.decomposita L.microsora Microsorium
scandens Pellaea falcata P.falcata var. nana Pteridium es-
culentum Pyrrosia rupestris Sticherus flabellatus S.lobatus
Todea barbara

Additional Ferns at Lower Altitude: Adiantum aethiopicum
A.diaphanum A.formosum A.hispidulum Christella dentata Doodia
caudata Lastreopsis munita Pellaea paradoxa Platycterium super-
bum Polystichum formosum Pteris umbrosa Pyrrosia confluens
Rumohra adiantiformis.

Notes on Outing 1-2 February 1992

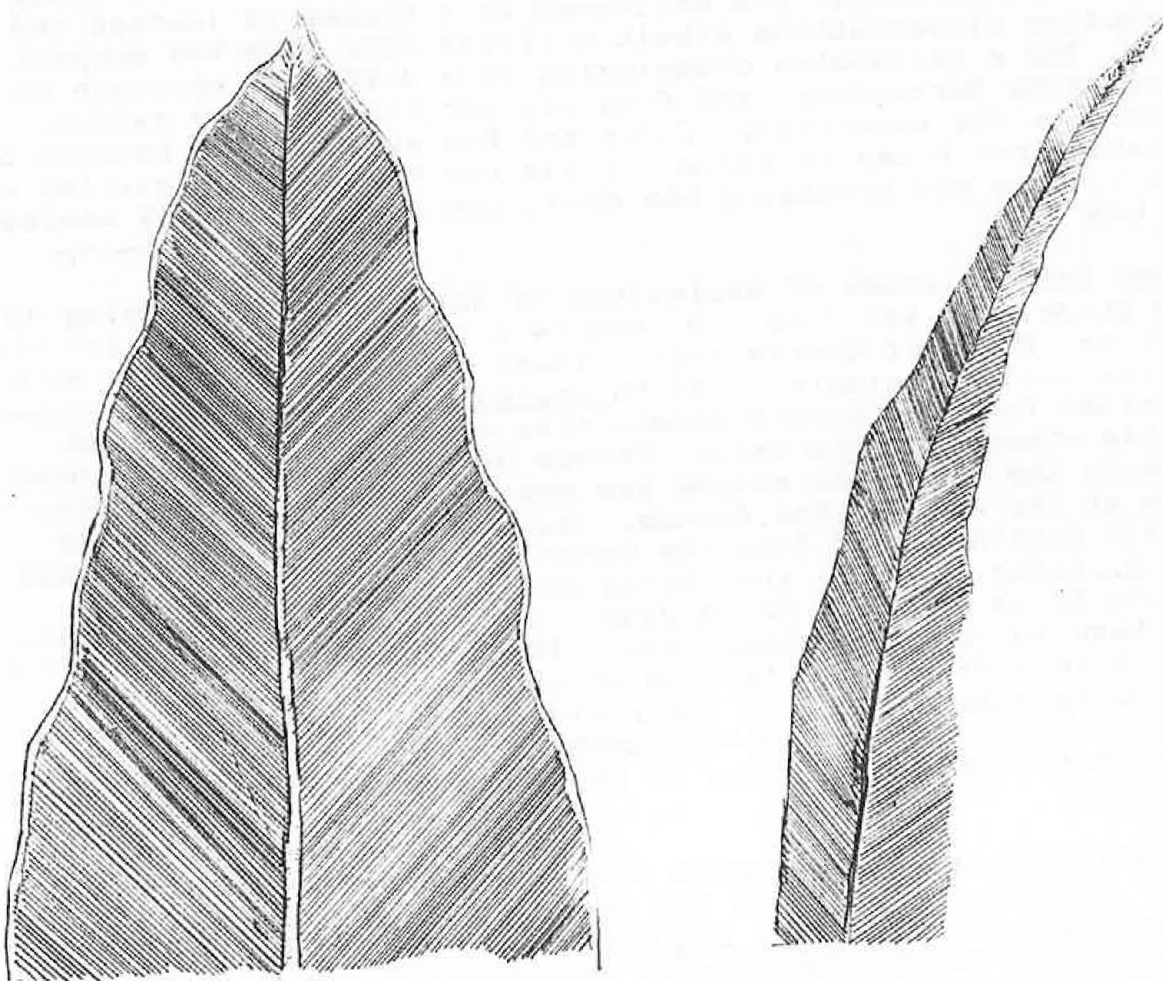
For the start to the new year we chose the Pappinbarra Field Centre, about one hours drive from Wauchope. It is a lovely place with plenty of accommodation either in the old farm house or the dormitories. For our group of 12 we chose the farm house.

Arriving at lunch time we settled in, then off on one of the walks, which crossed the creek about five times before we arrived at the Cascades. The ranger had give us a list of 18 ferns composed in 1977 to which we added many more. On the way back we took the timber getters trail which proved to be a much better walk for ferns. Unfortunately with the trails being poorly

marked and the only map a sign board back at the huts we took the wrong turn and finished up walking an extra 2 km. For the afternoon we finished up finding 40 different ferns.

On Sunday we did two more short walks without finding anything different - feeling very adventurous we decided to try another trail but it proved too steep so we decided to return to the house for lunch and pack for home. Pappinbarra Field Study Centre is a beautiful place and well worth keeping in mind for another visit. We are very pleased to have been able to give the Ranger an up to date list of ferns found in the area.

Pappinbarra Field Study Centre: Adiantum formosum A. hispidulum
A. silvaticum Arachniodes aristata Arthropteris beckleri
A. tenella Asplenium australasicum A. flaccidum A. polyodon
Blechnum cartilagineum B. minus B. patersonii Christella dentata
Culcita dubia Cyathea australis C. leichhardtiana Davallia
pyxidata Dennestaedtia davallioides Dictymia brownii Diplazium
australe Doodia aspera D. caudata Histiopteris incisa
Hypolepis australis H. muelleri Lastreopsis acuminata
L. decomposita L. microsora Lunathyrium petersonii Microsorium
scandens Pellaea falcata P. falcata var. nana P. paradoxa
Platyserium bifurcatum P. superbum Pteridium esculentum Pteris
tremula P. umbrosa Pyrrhosia confluens P. rupestris.



Sketch depicting venation on part of frond of Asplenium australasicum with intra-marginal vein and Asplenium simplicifrons with veins free. Except for immature ferns, the two are easily distinguished as Asplenium simplicifrons is far smaller.

Report on Christmas Function, 30 November 1991
(Contributed by Pat Kenyon and Ted Newman)

The Christmas Party held at Ann and Geoff Longs' at Camperdown was to us and others I'm sure, a pleasant surprise to have such a delightful house with style and privacy in the centre of the city of Sydney.

The design of the house exploited to the full, the view in both the courtyards, of ferns and native plants with a spectacular Castanospermum australe in full flower (about 5 m tall) as a backdrop.

As usual members contributed a great array of food and Ann and Geoff were wonderful hosts. A jolly good time was had by all. Thank you Ann and Geoff.

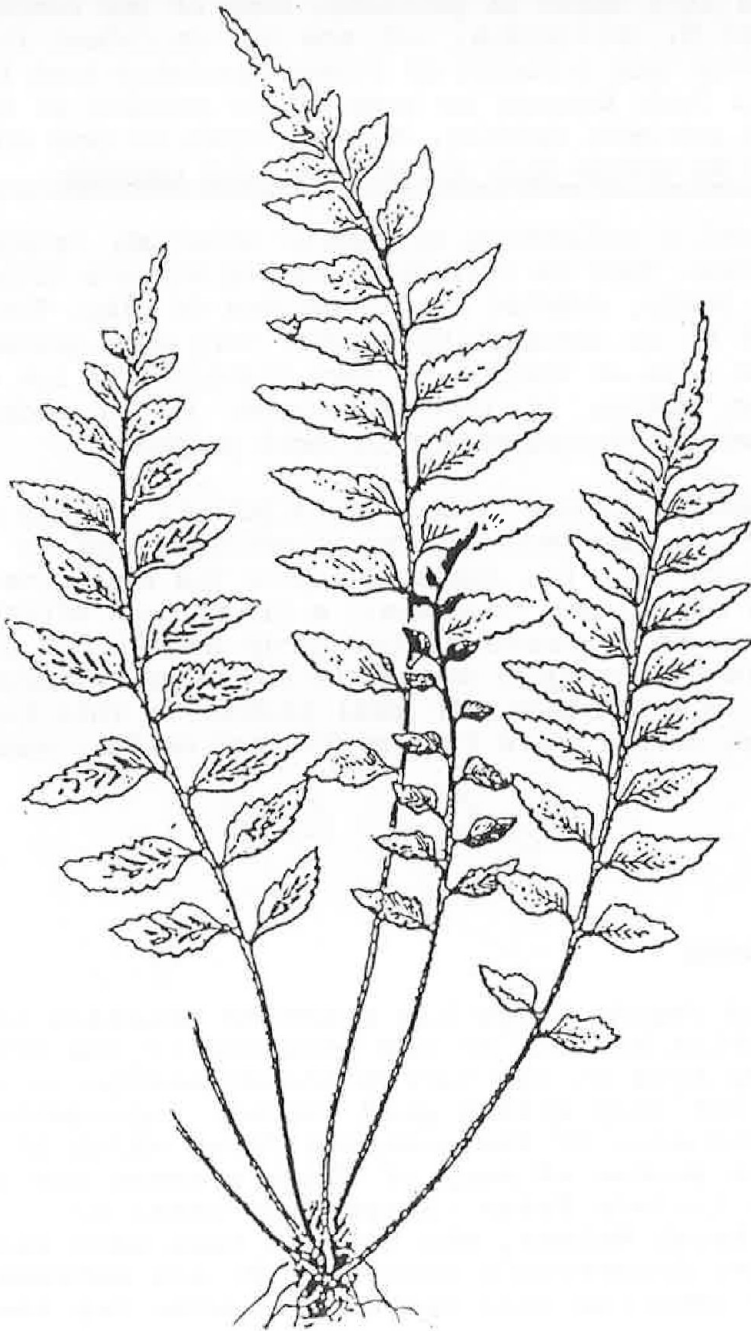
Report on Meeting at Gladesville, 23 February 1992

Joan Moore was hostess to 22 members. Unfortunately rain which arrived during lunch prevented most of us from gaining more than the briefest look at Joan's wonderful garden and plants that included a great number that are not commonly encountered. However, the day was marked by plenty of enthusiastic discussion. This included Peter's knowledgeable presentation of the study session which itself was enlivened by a number of learned and instructive dissertations albeit a little away from the subject at hand, Ted's persuasive championing of a different approach to supporting Burrendong, and finally, our biggest ever raffle, thanks to the generosity of Roy and Bea and Rose who between them donated four boxes of ferns. Thank you too Tess for selling all the tickets and arranging the draw, the last chore ably assisted by Les.

Peter led our study of Aspleniums of North Queensland using as his guide, the key from S.B. Andrew's incomparable book for that purpose "Ferns of Queensland". There are four Aspleniums with lamina that are simple, a fifth Asplenium harmanii has only been reported from the Border Ranges area of Southern Queensland. Unlike others in this group, fronds of A. attenuatum are lobed towards the base, the stipes are not winged and bulbils often form at the apex of the fronds. A. simplicifrons is usually easily distinguished from the other two ferns A. australasicum and A. nidus, because its fronds are much smaller - only to around 65 cm long and 35 cm wide. Also A. simplicifrons, does not have an intra-marginal vein. The position of the keel of the midrib is a diagnostic feature which can be used to separate A. australasicum (keel on lower side) and A. nidus (keel on upper side). Peter gave us another method, plant both outside in Sydney conditions and A. nidus is the one that quickly turns yellow and dies.

Dealing with Aspleniums which have fronds that are more divided, Peter separated these into two groups, firstly those with lamina one pinnate or pinnatifid and pinnae not lobed more than one third of the way to the midrib, and secondly, those with lamina divided more than one pinnate (at least at the base) or if only one pinnate-pinnatifid then the basal pinnae lobed more than half way to the midvein. There are 11 species in the first of these two groups and in three species, the midrib of the pinnae are

grooved above. All the others have midribs which are not grooved. Before running out of time, Peter finalized the day's study by discussing the 3 ferns which have grooved midrib. A. parvum is easily distinguished from the other two as its stipe and rhachis are softly hairy being covered with small sticky (glandular headed) hairs. The stipe and rhachis on the others, A. polyodon and A. pellucidum are scaly or almost glabrous. A. polyodon is widely cultivated and would be well known to most members. The lower pinnae on A. polyodon are almost of the same size as the middle pinnae, whereas on A. pellucidum the lower pinnae are much shorter than the middle pinnae. Although sensitive to cold and dryness, A. pellucidum a fern with semi-weeping fronds up to 1 m long, is fairly easy to grow in a coarse epiphytic potting mixture in warm moist conditions.



Asplenium parvum

Enlarged copy of Margaret Saul's drawing in the book "Ferns of Queensland" by S.B. Andrews.

Fronde can be from 8 to 25 cm long. A distinguishing feature, the glandular hairs on the rhachis are not readily apparent here. This is an uncommon fern of the rainforests of North Eastern Queensland, Pacific Islands, India and Madagascar.

Although an epiphyte, this is a fern which resents disturbance and can be slow to re-establish. Grow in a coarse, epiphytic type soil mixture.

Notes from Fern Study in South-east Queensland.

At our first meeting of the year, held at Jim and Robyn Collin's home in Ipswich, twenty-three members and two visitors attended. Business for the day included collecting the yearly subscriptions to be sent enmasse to Sydney and arranging meeting dates for the year. Unfortunately nothing more has been heard from the Group in Port Macquarie re a visit they had been tentatively planning, so we were not able to include this in our activities.

Peter Bostock led the study on *Nephrolepis*. He started by pointing out many discrepancies in some published works. Also pointed out that many of the bipinnate forms of *N. cordifolia* and *N. biseratta* found in virgin bushland, could be the result of wind blown spore from cultivated plants and not necessarily natural mutations of the species.

N. obliterata also caused it's share of problems. Many of our members have bought ferns labelled *N. obliterata*, but are now confident they were incorrectly named. Peter took a bundle of rooted specimens home for further study and we will look forward to hearing his verdict at our "What fern is this ?", at our next meeting. He also hopes to have some suitable specimens to send to Graham Bell in Adelaide, for comment.

After the study we examined a collection of exotic *Adiantum*, brought along by one of the visitors. Then we inspected Jim and Robyn's rather wonderful garden, of four years, created on 52 perches of clay. Their rain forest has developed to an astonishing height. Very well planned tracks, enabled us a close look at their many fern plantings. A lot of hard work has gone into making it the cool haven it is today, considering their young family and involvement in local projects.

Lunch over. we drove a couple of blocks to St. Mary's School. Jim led us along a nature trail around the school. The plantings done by a dedicated group of the school P. & C., featured plants the Aborigines used as a food source and other uses. Once again a first class effort. It was getting late. However a number of the group headed for the Ipswich Tafe College, where Jim is again one of the stalwarts, involved in a large scale planting of endangered and local plants. By this time no one wondered what he does in his spare time or for that matter, where he gets the time to do it.

Jessie Collin

A Slide Story of Burrendong

Our thanks to member Fred Johnston for his generous donation to the Group of 25 slides which he took on the occasion of the Official Opening of the Shade Area at the Burrendong Arboretum in October 1990. The slides not only give a good overall impression of the vast shade area and some of the numerous ferns which it houses, but also includes photos of many of those present for the Opening Ceremony. These include Peter, George and Hazel Althofer, Jack Harris and Keith Holmes, who between them have contributed enormously to the Arboretum's success. We are extremely grateful to you Fred for creating this splendid memento for the Group.

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

Statement of Receipts & Payments for the Year 1991 (\$)

<u>Receipts</u>	<u>1991</u>	<u>1990</u>
Membership Subscriptions	611	519
Donations	114	104
Net Proceeds of Raffles	96	94
Interest Received	79	163
Sale of Past Newsletters	6	41
Sales of Books	-	971
Overseas Subscription & for N.S.W. Region	-	26
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Total Receipts	906	1918
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 <u>Payments</u>		
Postage of Newsletters & Correspondence	300	377
Expenses re Book being Prepared	71	8
Leader, Conference on Ex situ Plant Conservation	65	-
Floral Tribute for Peter Althofer Funeral	50	-
Stationery	36	103
Bank Charges & Money Orders	11	34
Donation to Burrendong Arboretum Association	-	3000
Purchase of Books	-	958
Overseas Subscription & for N.S.W. Region	-	23
Advertisements, Mid North Coast Group	-	20
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Total Payments	533	4523
Surplus (Deficit) for Year	373	(2605)
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Summary

Cash at Bank 1 December 1990	\$1,453.39
Add Surplus for Year	\$ 373.21

Cash at Bank at 30 November 1991	\$1,826.60

The above financial report was prepared by Treasurer Joan Moore.
Thank you Joan for handling our finances so competently.

Subscriptions Due

The subscription of \$4 for the 1992 calendar year fell due on 1 January 1992. If not already paid please remit or give to our Treasurer, Joan Moore, 2 Gannet Street, Gladesville, 2111. Overseas membership is \$8 which covers additional postage.

Deadline for Copy

Copy for June 1992 Newsletter should be forwarded to reach the Secretary by no later than 15 May 1992.

FORTHCOMING EVENTS

In the Mid North Coast of N.S.W.

Week end 4-5 April 1992, Outing

To Grandis Tree and Tallwood Park, being arranged by Phyllis McCarthy. For further information phone her on (065) 544 158.

In the Sydney Region

Saturday 21st March 1992, Outing to Pierces Pass

Meet at the Fruit Bowl, Bilpin at 9.15 to leave at 9.45 sharp by car convoy to the beginning of the walk to the ferny area. Lunch at cars, enquiries to Peter 625 8705.

Weekend 4-5 April 1992, Working Bee at Burrendong

It is proposed to have a working bee in the Shade Area at the Arboretum on Saturday and for part of Sunday. Bring hand-tools for weeding, secateurs, etc. Van accommodation may be booked or if preferred you maybe able to join the Bert Bolton Coach Camping Catering package being considered by Sutherland-SGAP. For further information phone Moreen 528 4881.

Sunday 17 May 1992, Meeting at West Pymble

Meet at the home of Nola and Bill Jones, 105 Wallalong Crescent, West Pymble. Arrive from 11 o'clock, study session continued from February meeting, Aspleniums of Northern Queensland. Hot water supplied, bring lunch and a plate for afternoon tea.

Saturday 20 June 1992, Outing to the Watagans

This is the trip we didn't make last year. Meet at the home of Bea and Roy Duncan ready to leave for Heaton Lookout by no later than 10 am. Lunch at cars after circular walk of almost 4 km. From Hornsby it takes one hour to the Morisset turn off the Expressway, follow Freemans Road past the two caravan parks, over bridge, No. 167 is the second driveway on the left.

In South Eastern Queensland

Sunday 22 March 1992, Meeting at Jindalee

Meet at 9.30 am at the home of Allen and Lorna Murray, 18 Pantheon Street, Jindalee. Discussion subject "What Fern Is This?" Members to bring specimens for identification.

Sunday 24 May 1992, Outing to Canungra

Meet at 9.30 am at "Glen Witheren", Canungra for an excursion. Directions may be obtained by ringing Irene Cullen (07) 341 4272.

Spore Bank

Jenny Thompson reminds members that fern spore are available from the Spore Bank, just send a stamped addressed envelope to Jenny with a request for the ferns that you are interested in propagating. The corollary to this reminder is that Jenny is always keen to receive donations of fresh spore. When forwarding donations of spore please include date collected and species name, or a frond if unsure. Jenny has asked that we say thank you to recent contributors of spore, including Rod Pattinson for his donation of spore of Cyathea celebica.