ASSOCIATION OF

S.G.A.P. Fern Study Group

Newsletter Number 76

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"Growing Native Australian Ferns"

This Newsletter contains an insert requesting members to help Calder Chaffey in compiling information for the book which he is writing for the Study Group. A list of ferns is attached to Calder's note. Calder wants answers from a wide spread of members and anyone growing ferns. This information would help in giving some idea of how and where ferns may be grown and under what conditions.

Calder has written as follows.
"I have made a final decision that the book should only cover ferns which are growable by people without any special equipment. Those for the specialist may make a second volume later. This leaves about 100 or more about which there is no information on cultivation, or have never been tried, or which have been found to be impossible to grow on in the present state of our knowledge. Limitation of space and price dictates this approach. However, it will fill a need and I hope spread the word about growing ferns. I see nothing else on the market which covers this aspect so well. Commercially this should be a good approach making it saleable pricewise. There seems little point in producing another technical book with keys, etc. There are several good books of this type covering most States and the Fern Volume of Flora Australia is almost ready for publication.

Part 1 is finished and Part 11, covering the ferns in the enclosed list, is about one quarter written. The writing should be easily finished this year. But the photos! I need one of each fern on the list. Blechnum seems to be covered by the photos in the manuscript. Can you locate any of those on the rest of the list?

At Calder's request, we gave him a list of members, in States other than NSW and Queensland, who have indicated support in the past. Calder may contact you direct if he is able to visit your area. If you think it would be an advantage to be able to show Calder a range of ferns that are on his list, please contact Calder and tell him. An excellent start would be to complete and return his "A Request for Help". He would think you wonderful if you are also able to send any slides of the ferns listed. Where the expense of the slides and postage is a concern, please drop a note to the Secretary listing expenses incurred so that arrangements can be made to refund the amount involved. Although all members are not photographers, all of us should be able play a part for the Group by completing the "A Request for Help" form and posting it to Calder.

WHAT ARE THE REASONS FOR DIEBACK OF FRONDS IN HOT WEATHER?

A recent spell of several days of temperatures in the 30-36oC range resulted in the dieback of some ferns . The word dieback is used because there were varying proportions still green. Maiden hair ferns with some protection from shade cloth and C. cooperii were minimally affected. Ferns severely scorched were Culcita dubia and D. antarctica. Sunburn also occurred P.superbum and P. bifurcatum v, Hillii

Among the reasons for this effect may be wind causing loss of cell moisture, radiation e.g. ultra violet,high temperatures disrupting cells, lack of moisture getting to the cells leading to dehydration or a combination of two or more of such factors. Some observations may be relevant. Two staghorns about the same age (40 cms or so across) exhibited sunburn on the curvature of sterile fronds - one was unshaded facing south and the other was in a shadehouse facing north. As the sun is almost overhead the direction doesn't seem significant. The shade and possible greater moisture in the shadehouse may suggest that temperature or UV rays may be the critical factors.

The small Dicksonias were protected by shadecloth but were otherwise open grown. Possibly heat, wind and suns rays were all involved. The plants were not killed as a small amount of green tissue remains in the centre. The temptation to tidy up by cutting off the dead fronds is apparent but can be resisted by reasoning that they acts as shields for the viable part of the fern. Perhaps a member who is acquainted with the natural growth of treeferns or other ferns may comment on the protective value of the dead fronds.

If the green house effect is real, maybe we should be working out means of how to preserve the greenery of fern fronds as a long term exercise as well as looking at the problem in the short term for advising fern growers on how to protect their ferns.

Contributed by G.C. Simmons

FERNS IN GARDEN DESIGN

Continuing on from the December 1996 Newsletter, the following are further ferns considered valuable in garden design.

Hypolepis glandulifera

A very easily grown large fern that is invasive and can turn into a weed if not confined within a separate garden or enclosure around its quick growing rhizome. Suitable to large, rough, unkempt areas. The soft textured fronds are covered by conspicuous pale coloured hairs. Found in Queensland, NSW, Victoria & South Australia.

Form: Erect with large, soft pale green lamina often with a sticky feel. Spreads quickly by thick underground rhizome to form extensive colonies.
Size: Up to 2.5 cm tall.
Soil Type: Will grow in any reasonable soil and tolerates root competition.
Aspect: Hardy but best with some protection from strong sun and wind.
Watering: Favours moist conditions but is a real survivor and watering is seldom needed when grown in a sheltered position.

Lastreopsis acuminata

One of the most common ferns of rainforests and well sheltered places in Eastern Australia. Sometimes found growing on moss covered rocks. Not a feature plant but hardy and reliable in protected positions. Found in Queensland, NSW, Victoria, Tasmania & South Australia.

Form: Erect tufted fern with short stipes and shiny, little divided lamina.
Size: Up to 75 cm tall.
Soil Type: Adaptable to most soils.
Aspect: Grow in well shaded, protected position.
Watering: Hardy, seldom necessary when mulched and grown in a protected position.

Lastreopsis decomposita

An important component of many coastal rainforests in warmer parts of Eastern Australia. Spreads by means of short to medium creeping rhizome.

Form: Medium green erect fronds, forms slowly spreading colonies.
Size: Up to 1 m. tall..
Soil Type: Adapts to most well drained soils..
Aspect: Likes a semi-shaded position protected from wind.
Watering: In shaded well mulched positions watering is seldom necessary.

Lastreopsis microsora

Grows commonly in the Eastern Australian mainland where it is often the most noticeable plant on the rainforest floor and along streams in more open forest. Found growing in nature in Queensland, NSW & Victoria.

Form: Erect with rather large, lacy, pale green fronds. Bears distinctive whitish hairs on stipes and rachises. Spreads by long creeping rhizome but is easily controlled.
Size: Fronds up to 80 cm. tall.
Soil Type: Will grow in most light, friable soils.
Aspect: Requires position that is shaded or having only morning and late afternoon sun.
Water: In suitable protected area only requires watering in the driest of periods.

"Ferns of Tasmania" by Michael Garrett

This just published book of 220 pages, replete with high quality photos is the most complete and informative book on the 101 species of ferns and fern allies found in Tasmania and off shore islands - mainland Australia is not included!. This is the book needed to readily locate the district where each particular fern species has been recorded. The distribution of species has been plotted using the 10 x 10 km Australian Map Grid. The book's standard retail price is $49.95. There are a limited number of copies on offer for $45 each post free to members. Please contact Moreen (02) 9528 4881 quickly, if you wish to avail yourself of this price.

Audio Visual - *"Native Ferns for the Home Garden"*

Fred Johnston is making remarkable progress towards completing the audio visual that he is compiling for our Group. We are extremely appreciative of Fred' virtually lone hand effort. He has lugged his camera up and down the State attempting to obtain quality slides. He now has good shots of the majority of the ferns that he has targeted. To help Fred complete the project, can you provide slides of any of the following ferns still to be photographed:
Adiantum silvaticum, Arachniodes aristata, Asplenium polyodon, Blechnum indicum, Diplaxium assimile, D. queenslandicum, Drynaria rigidula var. 'Whitii', Hypolepis distans, Lastreopsis acuminata, L.marginans, L.munita, Lygodium microphyllum, Microsorum punctatum, Pellaea paradoxa, Polystichum australiense, Psilotum nudum, Pteris tremula & Schellolepis subauriculata.

Any contributions will be acknowledged. If required, the Group will meet any reasonable out of pocket expenses incurred in assisting the project. If you don't have a suitable slide, but do have a good specimen of any of these ferns, please inform Fred, 18 Taylors Road, Dural, 2158 - phone (02) 9651 11144, or contact Moreen (02) 9528 4881 and we may be able to arrange for the fern to be photographed.

SPORE COLLECTING FROM *TODEA BARBARA*

Contributed by Keith Rogers

I would like to share with you my experience with collecting Todea barbara spore, which is really one of the easiest of ferns to collect from, if you understand the visible colouration of the sporangia and are quick enough to harvest them.

Spore collecting can be very frustrating at times, but when successful and seeing the prothallus evolve then the growth of the new sporlings, can be very satisfying.

In my dry temperate climate at Mannum, South Australia, I have found both my bedded and potted Todea barbara fully develop new fertile and sterile fronds during October. On the fertile fronds the developing sporangia are the same coloured green as the new fronds at first, then from the base of the frond upwards change from yellow, then brown, all over a few weeks.

The new fronds may have yellowing sporangia on the lower pinnules even before completely unfurling.

With the South Australian Fern Society's Spore Bank Officer, Val Slater, we viewed through a 40x microscope, the sporangia look like paper thin balls and when opened they are perfectly halved. The dehiscence (release) of the spore, appears to occur just as the sporangia is changing to a pale yellow and by the time it is a deep yellow, the sporangia are completely empty and almost closed up again.

Sample pinnules were collected when sporangia were both green and pale yellow, they were placed in separate envelopes and stored overnight. Dehiscence was almost 100% by next morning and sieving was unnecessary. The only visible difference between the two samples, was the spore taken from the yellow sporangia was a slightly darker green.

In the past I have collected spore from only green sporangia and have grown on satisfactory sporelings and following this recent exercise I have now sown spore from both green and pale yellow sporangia as an experiment of viability.

It appears to me, the most optimum time to collect Todea barbara spore is when the lowest sporangia on the frond have just begun to turn a pale yellow and taking the entire frond and placing between two folded pages of newspaper, will ensure a viable sample has been collected.

Available literature informs us, that all green spore has a limited viability time and therefore should be sown almost immediately.

(Our sincere thanks to Keith Rogers for providing the above article. Keith is a long-time member of the Fern Society of South Australia Inc and is the Editor of their Newsletter. He is also well and favourably known to several of our members).

Fern Show 22-23 March 1997

The Fern Society of Victoria Inc. is holding its annual Fern Show in the National Herbarium, Royal Botanic Gardens, Birdwood Avenue, South Yarra, on the week end just prior to Easter. Native and exotic ferns featured. If you are down Melbourne-way its a Show not to miss. Entry Adults $3, Concession $2. Enquires (03) 9306 5570.

THE MID NORTH COAST GROUP'S OUTING TO NEW ENGLAND NATIONAL PARK

by Steve Clemesha

Our visit to this area was from 5th to 8th December, 1996. Point Lookout, the highest area we visited, is 1,569 metres elevation. Winter temperatures of -10C have been recorded and I have seen the area covered with over a metre of snow.

Near the lookout itself, along a short track, we found 7 different ferns. Among these were Phymatosaurus pustulatum and Pyrrosia rupestris. Both are members of the Polypod family. Most species of this are intolerant of freezing.

Polystichum proliferum grew in this area and also in a number of other parts of the park. One of the points that separates this species from P. australiense is the scales of the stipe. In P. proliferum they are usually dark brown with a pale border while those of P. australiense are dark brown with no pale border. The scales of the plants in this area were all brown but otherwise the plants were typical P. proliferum.

Dicksonia antarctica was the only plentiful tree fern. Only a few Cyathea australis were seen.

The best walk for ferns is the Cascade Walk. This descends through a beech forest to a creek and then follows it for a while before going uphill to the starting point. We saw one small Asplenium australasicum in forest near the creek. In the lower part of the gully Phymatosorus scandens takes over from P. pustulatum and on some trees and rocks we saw both species growing together.

Asplenium bulbiferum grows low on tree trunks and on rocks. Only the largest plants had plantlets on the fronds. This form is much less generous with them than is the commonly cultivated form.

Asplenium flaccidum was scattered throughout moister forests of the park but was nowhere common. It hung from tree branches while one plant was growing on a Dicksonia. A. flabellifolium was fairly widespread including near the lookout.

Filmy ferns were present in the area. Polyphlebium venosum grew on Dicksonias and Todeas while Hymenophyllum bivalve grew on trees. H. cupressiforme grew mainly on rocks. H. flabellatum was present in a number of areas also.

Blechnum penna-marina was not seen although we have found it about 3 km away at Styx River.

We did not see any Adiantum spp, Doodia spp or even Caloclaenia dubia. Lastreopsis decomposita was common and L. acuminata grew near creeks but L. microsora was not present though it normally is the commonest species.

Todea barbara was fairly common near creeks and it is a good host for filmy ferns.

SUBSCRIPTIONS OVERDUE

[redacted] The 1997 subscription to the Fern Study Group was due and payable in January. Full membership of the Study Group is only given to persons who are financial members of the Society for Growing Australian Plants. Otherwise payment of the subscription gives an entitlement to the Newsletter only. Please remit direct to our Treasurer, Joan Moore - address shown at the head of the Newsletter.

SYDNEY REGION REPORT

Report of End of Year Function, 1 December 1996
A good time was had by all 24 members who attended a happy get-together at the home of Tamara and Ian Cox. In addition to the normal festivities it was pleasing to renew acquaintance with several long term members, dear friends not seen in recent months. Our grateful thanks to Tamara and Ian for making their home available for the function and letting us enjoy their wonderful garden.

Report on Meeting at Morisset, 15 February 1997
Thirteen attended this out of town meeting, most making the two hour trip from Sydney. Those in the Leader's van probably made the journey in nearer one hour! All were amply rewarded by our generous hosts Bea and Roy Duncan. Their outstanding fern collection was the major talking point of the day. Large, splendid Cyathea Cunninghamii and Angiopteris evecta were just two of the many ferns that were the envy of all.

The day's topic was Doodia species. Peter explained that these ferns had been studied by our Group in 1994 and members could refer to details reported in Volumes 66 and 67. Most texts say there are six species in Australia. As explained in Volume 67 (December 1994) Newsletter, adding the fern, which we call Doodia hindii, collected by Peter in the Kyogle district of Northern NSW, makes seven species. This is about one half of the world's Doodia species. The exact number is unclear, the variability of some species complicating identification.

Representatives of all but one of the Australian Doodia species were brought to the meeting thanks to Roy Duncan and Peter. Peter showed us two Doodia hindii. Both had been in pots for several years. One had developed a significant trunk and the other was suckering. Members speculated why ferns such as these and notably, Blechnum nudum, sometimes do and sometimes don't develop trunks. Peter offered a number of theories. Possibilities included differences in genetics, nutrient, moisture and light levels. Peter told of having noticed that suckering was suppressed in Blechnum nudum when, within the plants tolerance, it was subject to prolonged deep shade and copious water. In those conditions, these ferns usually develop trunks. Conversely, in drier situations and higher light levels, he had observed suckering was more likely.

Roy had what appeared to be two distinct forms of Doodia maxima. This is the largest of the Australian species and is believed to be a natural hybrid. Peter told us that dna testing (an expensive process) could determine whether Doodia maxima was a true species, or if a hybrid, give a pointer to its parents. They were popularly thought to be Doodia aspera and Blechnum nudum. Both of these ferns were plentiful in the Sydney Region. Doodia maxima had never been recorded here. Doodia maxima occurs in South East Queensland where it is often found around Mt Tamborine, and in Northern N.S.W. Doodia media is widespread in these areas, but is rare in the Sydney area, where it does not like the sandstone. On the other hand, Doodia caudata, Peter said, would grow in almost any soil. This was a very variable fern with several attractive forms including two which Peter brought to the meeting. The lamina on this species is comparatively soft and the fronds are distinctly dimorphic.

Roy Duncan began his presentation of "A (actually two) Favourite Fern" with a message - don't pull out a weed until you are sure it is a weed! About two years ago, he noticed what looked like a weed emerging from one of the drainage holes in a pot of Drynaria rigidula. Later he identified it as Psilotum complanatum. It continued to grow and when the drainage holes appeared in danger of being clogged with more Psilotum stems, he drilled several more holes of about 2 cm diameter in the side and bottom of the pot. Very healthy looking stems of Psilotum complanatum were now growing from seven holes. Roy has not found any evidence of growth from sporelings. This is in contrast to his experience with Psilotum nudum which regularly volunteers in fern baskets or in Bea's Hoyas. Roy said he doesn't give his Psilotum complanatum any special treatment and it has not been damaged by grubs which sometimes attack the Drynaria.

The other fern Roy showed to the meeting was Ophioglossum pendulum. Roy described it as a pup off the big one. Earlier we had admired the "big one" growing out of a large Platycerium under shade cloth at the side of the Duncan's home. Roy explained how he had simply cut a loaf sized piece off the Platycerium containing a small frond of the Ophioglossum and planted it in a basket filled with pieces of elk frond - no soil. The Ophioglossum was thriving. Incidentally, emphasising earlier advice about weeds, the original Ophioglossum was growing from a Platycerium which Roy purchased - the vendor not having recognised that the tiny Ophioglossum emerging from it was not a weed! Roy said that since his chance acquisition of his first Cphioglossum pendulum , he always closely examines any Platyceriums on sale at markets (and so will we!)

SOUTH EAST QUEENSLAND REPORT

Contributed by Irene Cullen

Report of Christmas Break-up, 1 December 1996

Only 9 members braved the sweltering heat to attend. Nevertheless, it was an enjoyable meeting. We managed to fill our programme for 1997 and even to spill over to '98 We discussed the list of ferns in the Newsletter and chuckled over the Mexicans Report. After lunch we made for the cool of Graham's Rainforest.

Report on Special Meeting, 19 January 1997

It was our privilege to welcome Calder Chaffey to a hastily arranged meeting at Algester. Fourteen members were able to attend. Calder outlined his progress with the Book to date, going through what he has done with Part 1. Then there was a discussion on his Fern List. He assured us that he was pleased with the outcome of our meeting. He knows he has our full co-operation. After lunch we visited two ferneries with him. Firstly, to Cliff Ritchies. Great to know Cliff has been able to bring his collection back to almost its former standard. Next was Rod Patterson's . Rod's ferns were lush under the canopy of rainforest. His many forms of Drynarias were at their peak.

Report Outing to Love Creek, Maiala National Park, Mt Glorious, 9 February 1997

Contributed by Merle Gynther (Goadby)

This was a combined outing with members of the Samford Branch of SGAP, with 15 participants. It was a beautiful fine day. Later, after we had walked back uphill from the shady creek gullies, it was clear that it was a very hot day as well.

The highlight of the trip was finding the group of Dicksonia youngiae. These ferns had first been sighted by Helen Moriarty about eight years ago. There was a tree fern almost 2 metres high plus a number of others of varying sizes nearby. A dead trunk lying on the ground had probably been standing eight years ago. Some of the smaller ferns may have been suckers from the bases of older fallen ferns.

Other ferns in the gullies included Adiantum diaphanum, A. hispidulum, Arthropteris beckleri, A. tenella, Asplenium attenuatum, A australasicum, A. polyodon, Blechnum cartilagineum, B. patersonii, Cyathea australis, C. cooperi, C. leichhardtiana, Diplazium assimile, D. australe, Doodia aspera, Lastreopsis margins, L. microsora, L. smithiana, Microsorum scandens, Pellaea falcata var. nana, Platycerium bifurcatum, P. superbum and Pyrrosia rupestris. There were forests of D. australe in some creek areas where there were large gaps in the canopy. No filmy ferns could be found. Maybe the gully is too open, or the creeks are too prone to dry up in dry times.

Later uphill at Helen's place, we saw Hypolepis muelleri and lots of H. glandulifera growing in open sunny conditions. On an unhappy note, it was disturbing to see evidence of the activity of feral pigs in the creek gullies.

A Correction

The article in Newsletter No. 75 headed "Cheilanthes nudiuscula" contained an error. It was Irene Champion not Irene Cullen who collected the photocopied specimen. A number of members found smaller specimens in a drier part of the gully. A Rockhampton Scapper, Ann McHugh kindly brought a living specimen to Brisbane for Peter Bostock.

FORTHCOMING EVENTS : IN THE MID NORTH COAST, NSW.

For details of the above events contact Charlie Charters, phone (065) 86 1088.

FORTHCOMING EVENTS : IN SOUTH EAST QUEENSLAND

Saturday 8 March 1997, Excursion to Mt Mee.
Excursion with Rainforest Study Group. Meet 9.30 am. at Park opposite the Dayboro Swimming Pool. NOTE - Saturday is correct!

Sunday 6 April 1997, Visit to Nambour District
Meet 9.30 am. at Gerry Kortekaas's home, 163 Panomara Drive, Nambour. Phone (07) 5441 7236.

Sunday 4 May 1997, Meeting at Elimbah
Meet 9.30 am. Study at Geoff Simmons home, Lot 19 Old Gympie Road, Elimbah. Subject to be decided by Geoff.

Sunday 1 June 1997, Excursion to Mt Tamborine
Met 9.30 am. at Cedar Ck Car park.

Sunday 6 July 1997, Excursion into Ugly Gully
Meet 9.30 am. at the convenience store Mt Crosby Road.

Sunday 3 August 1997, Meeting at Algester
Meet 9.30 am. at Irene Cullen's home. Make arrangements for Fern Display at Flower Show and discuss Lastreopsis.

Friday 12 September 1997.
Set up Fern Display at Queensland Region Flower Show. Venue to be advised.

Sunday 19 October 1997, Excursion to Ravensbourne National Park
Meet 9.30 am. at the top Carpark.

Sunday 7 December 1997, End of Year Break-up
Meet at 9.30 am. at Joyce Ward's home, Fahey Road, Mt Glorious. Bring fern or appropriate small gift for exchange and ideas for 1998's programme.

For information regarding activities or meetings, please contact Peter Bostock phone (07) 3202 6983 or Irene Cullen on (07) 3273 1055.

FORTHCOMING EVENTS : IN THE SYDNEY REGION

Saturday 15 March 1997, Outing to Picnic Point
A visit to Sylvan Grove Native Plant Reserve at 7 Sylvan Grove, Picnic Point. The Reserve holds an outstanding range of ferns growing amid what Curator, Robert Miller, has referred to as an Australian bush garden setting. Meet from around 10 for a 10.30 start on the tour of inspection. Enquires to Peter (02) 9625 8705.

Sunday 20 April 1997, Meeting at Mt Druitt

Arrive from 11 o'clock at our hosts' Margaret and Peter Hind's home, 41 Miller Street, Mt Druitt, for meeting and study commencing at 11.30. The day's Study subject will be Nephrolepis species. The item "A Favourite Fern" will be given by Jim Lundie. Enquires to Peter (02) 9625 8705.

Saturday 17 May 1997, Outing to Green Scrub

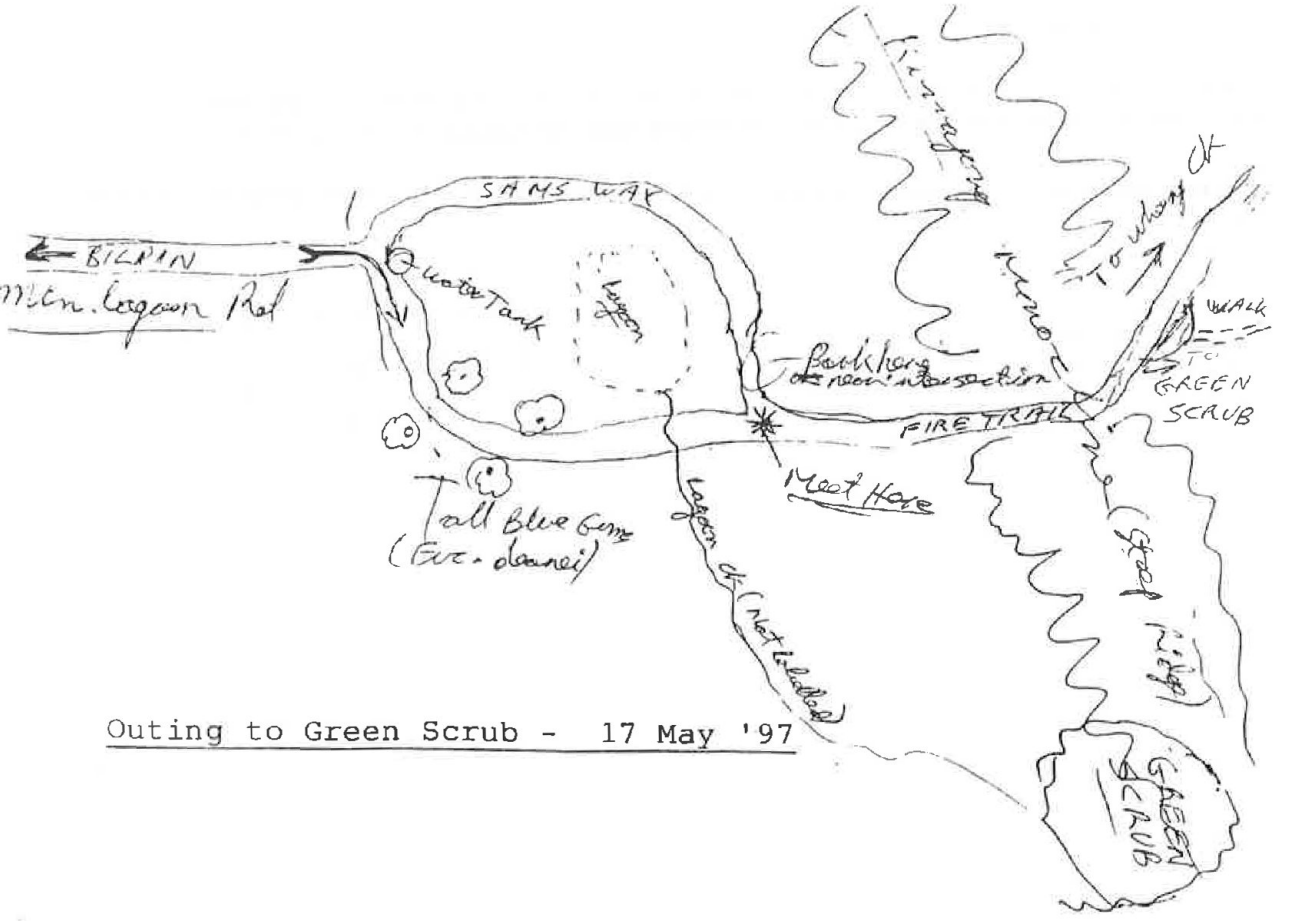
If travelling from Sydney along the Bells Line of Road, turn right into Mountain Lagoon Road, just before reaching Bilpin. Proceed all the way to Mountain Lagoon (take right hand turn opposite water tank) cross Lagoon Creek and meet at corner where Road joins Fire Trail. A walk of moderate distance but easy. Meet from 9.30 am ready for start sharp at 10 o'clock. See sketch at the bottom of this page. Enquires to Peter (02) 9625 8705.

Sunday 15 June 1997, Outing / Planting Day at Bulli

A day to help Ray Brown and his small band of enthusiasts with the development of the already splendid Illawarra Grevillea Park. We are to donate and plant ferns in the rainforest area. Ian Cox has been collecting ferns but many more are needed. Any Australian fern species will be accepted, other than Cyathea cooperi. (Peter does not favour planting C. cooperi close to the bushland). We hope all members will bring ferns and tools for the planting. Meet from 10 am.. Bring lunch including hot water if required. After lunch there will be an opportunity to see the exciting Grevillea collection and a few ferns already there. Enquires to Ian Cox (02) 9654 2533

Sunday 20 July 1997, Meeting at Como

Meet from 11 am at the home of Moreen & Allan Woollett, 3 Currawang Place, Como West. Study topic "Fern Identification Made Easier" to commence at 11.30. Enquires to Moreen (02) 9528 4881.



Outing to Green Scrub - 17 May '97

ASGAP FERN STUDY GROUP

STATEMENT OF RECEIPTS & PAYMENTS

RECEIPTS:	1996	(Previous Year)
Members Subscriptions	444	504
Donations (SGAP Regions $48. Members $13)	61	122
Raffles - Sydney Meetings	116	55
Interest Received	37	36
Sale of Booklets	5	-
Total Receipts	663	717
PAYMENTS:		
Newsletter Expenses - Paper & Printing	285	238
- Postage	254	252
Postage - Correspondence	47	17
Stationery	15	6
Bank Charges & Money Orders	11	9
Photos - Display Material	-	25
Total Payments	612	547
Surplus for Year	51	170
	663	717

SUMMARY

Cash at Bank at beginning of year	$2,865.76
Surplus for year	$51.25
Cash at Bank at end of year	$2,917.01

Copy for Newsletter

Contributions to the Newsletter are always gratefully received. Our thanks to all who contributed to this issue. Articles for the next issue should be forwarded to reach the Secretary by 15 May 1997.

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