



S.G.A.P. Fern Study Group

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SPORE BANK: Jenny Thompson, 2A Albion Place, Engadine 2233

Dear Members,

This is the first Newsletter since becoming Leader of our Study Group and I would like to pay a tribute to the service and dedication of my predecessor Phyll Brown. Phyll was a popular leader and her collection has inspired many others to grow more of our native ferns. Well done Phyll and I am delighted to know that you intend continuing as an active member.

When asked to take on the position of Leader, I did so with some reluctance and only after much discussion and some coercion. I could not hope to devote as much time as Phyll Brown did particularly the production and writing of the Newsletter. Thankfully several members of Sutherland Group have agreed to assist in the task of producing the Newsletter.

I look forward to this year being a fruitful one for the study and growing of ferns and to the continuance of our support for Burrendong.

Membership of the Fern Study Group

Owing to our Constitution actual membership of the Fern Study Group is restricted to only those who are financial members of the Society for Growing Australian Plants (S.G.A.P.).

The fee which you paid to our Group makes you a subscriber to our Newsletter and we are happy to maintain a relationship on that basis. However it is reiterated that other benefits of Fern Study Group membership only apply to those who are in S.G.A.P.

If you are not already a member of S.G.A.P. and wish to join or know more about its activities and want assistance in that regard please feel free to contact our Secretary.

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NEW DOODIA CULTIVAR

A bipinnatifid form of Doodia aspera

This beautiful cultivar was recently discovered in South East Queensland by Rod Pattison, a member of the Queensland Fern Study Group. The cultivar is sterile and can only be propagated by division. Accordingly plants will be scarce for sometime. A specimen plant is shortly to be submitted to the Sydney Herbarium for study and confirmation of the presently tentative name attributed to the cultivar. See photocopy of pressing on page 8.

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VIABILITY OF SPORE

Contributed by Ray Best

Periods of viability vary with spores; those that are green in colour have a very short life in some cases a few days to a few weeks. Such as *Osmunda*, *Todea*, *Leptopteris*, *Onoclea*, *Grammitis*, *Filmy Ferns* *Hymenophyllms* and (Related types).

It may be of interest that in my propagation experience the fresher the spores are at the time of sowing the better the germination. However many spores (not green) can be viable from one to forty eight years with an isolated record of seventy years with *Plagiogyria*. Most spore banks indicate on their lists the collection date; any shrivelled or badly shaped or uneven spores are generally infertile (hybrids).

Spores should only be collected when the sporangia are plump and ripe. This should be checked with a microscope or an effective magnifying glass. The best period for collection being at times of vigorous growth it is understood that spores last considerably longer if refrigerated at 39 to 40 degrees farenheight (approximately 4 degrees Celcius) for most species.

The outer casing of most spores known as the exospore is very hard and durable, while the inner coating or perispore is also very firm. The electron scanning microscope with magnification of X 3000 shows details of these layers in projections of prepared spores. Such details are now used in classification studies (Spore architecture). See Tryon & Tryon "Ferns and Allied Plants".

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SPORE BANK LIST

Provided by Jenny Thompson

<i>Acrostichum speciosum</i>	11/85	<i>Lastreopsis decomposita</i>	11/83
<i>Allantoida australis</i>		<i>Lastreopsis hispida</i>	4/84
<i>Amphineuron opulentum</i>	9/85	<i>Lastreopsis marginans</i>	10/84
<i>Arachniodes aristata</i>	9/85	<i>Lastreopsis microsora</i>	6/
<i>Asplenium nidus</i>	1/86	<i>Lygodium reticulatum</i>	
<i>Blechnum camfieldii</i>		<i>Macrothelypteris polypodioides</i>	3/85
<i>Blechnum fluviatile</i>		<i>Macrothelypteris torresiana</i>	4/87
<i>Blechnum minus</i>		<i>Microlepia speluncae</i>	6/82
<i>Blechnum nudum</i>	4/86	<i>Microsorium scandens</i>	12/83
<i>Blechnum patersonii</i>		<i>Microsorium superficiale-punctatum</i>	
<i>Blechnum watsii</i> (Burrendong)	11/82	<i>Ophioglossum pendulum</i>	4/84
<i>Blechnum wurunuran</i>	9/86	<i>Pellaea viridis</i>	
<i>Christella subpubescens</i>	8/83	<i>Platycterium bifurcatum</i>	11/84
<i>Christella dentata</i>		<i>Platycterium superbum</i>	9/83
<i>Cyathea australis</i>	11/83	<i>Polystichum australiense</i>	11/84
<i>Cyathea cooperi</i>	5/86	<i>Polystichum formosum</i>	
<i>Cyathea cooperi</i> (robust form)	1/86	<i>Pronephrium asperum</i>	
<i>Cyathea cunninghamii</i>	3/86	<i>Psilotum nudum</i>	
<i>Cyathea leichhardtiana</i>		<i>Pteridoblechnum negletum</i>	10/84
<i>Cyathea rebecca</i>	11/82	<i>Pteris comans</i>	4/84
<i>Cyathea woollisiana</i>	1986	<i>Pteris tremula</i>	10/84
<i>Cyclosorus interruptus</i>	1/83	<i>Pteris</i> (large fern Terania Creek)	
<i>Dicksonia antartica</i>	12/82	<i>Pteris tripartita</i>	
<i>Dicksonia youngiae</i>		<i>Pteris umbrosa</i>	
<i>Diplazium solida</i>	12/85	<i>Pteris vittata</i>	
<i>Davallia solida</i>	12/85	<i>Rumohra adiantiformis</i>	2/83
<i>Taenitis pinnata</i>	9/85	<i>Rumohra cape form</i>	
<i>Todea barbara</i>	1/87	<i>Sphaerostephanos unitus</i>	
		<i>Sticheris flabellatus</i>	

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Thank you to the following who donated spore since last Newsletter:

Mrs. M. Wood, N.S.W.
Mr. C. Mace, W.A.
Mr. T. Usher, N.S.W.

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OUR BOOK ON FERNS

It was announced in our December 1985 Newsletter that the Fern Study Group planned to publish a series of books on ferns. Production is being arranged by the Publications Section of S.G.A.P. (NSW) Limited and there was an appeal for articles and slides relating to the growing and care of our native ferns particularly those of the Genera Blechnum, Cheilanthes, Drynaria and Platycerium which are planned for inclusion in the first book.

Circumstances have caused the project to be delayed but progress is being made and most articles are in hand. There is still the need for good slides. For the cover we would like an excellent upright slide of Platycerium superbum. Good slides of all Drynaria species would also be welcomed. We have some good slides of most of the Blechnums but of course it is always possible for these to be bettered.

If you are able to forward slides for consideration for inclusion in our book please despatch direct to Bill Payne, 860 Henry Lawson Drive, Picnic Point NSW 2213, or alternatively contact our Secretary.

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WE MISS YOU SYLVIA

There are so many valuable members who undertake extra tasks for the Group that it is always dangerous to publically praise someone without risking offence to others who perform good works without recognition.

However our ex-Spore Bank Curator Sylvia Garlick who recently moved from her Sydney home at Engadine to West Aust. was so exceptional that it would be remiss not to acknowledge the amount of work she has done for the Group and most importantly the cheerful manner in which she performed her many good deeds.

Members who meet regularly in Sydney know of the great contribution Sylvia made to our activities. She was always first to volunteer for any working bee or project. With husband David's support at the Annual Wildflower Exhibitions Sylvia did the work of ten and her happy disposition and attitude inspired all around her. The plants that she donated and the help she freely gave to develop new gardens and to rejuvenate old gardens for friends and acquaintances, is something of a legend around Sutherland.

Thank you Sylvia, we are proud to have been associated with you. Those of us meeting in Sydney miss you very much but we wish you health and happiness in your life in the West.

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REPORT ON OUTING TO WATAGAN FOREST

29 March 1987

Contributed by Beatrice Duncan

Three Sydney members, Phyll Brown, Rosina Bach and Lorraine Boulter joined Roy and myself for a walk at the Gap Creek Reserve in the Watagan Forests which are located west of Tuggerah Lakes and Lake Macquarie, with easy access from Cessnock, Newcastle and Sydney.

We travelled along Freemans Drive to the Mt. Falk turnoff then along a gravel road to the Bangalow Road which passes under the Monkey Face Lookout and terminates at the Gap Creek Reserve picnic and parking area. In the picnic area a good specimen of Platycterium bifurcatum was observed growing on a small tree and on rocks Pyrrosia rupestris and Dictymia brownii.

The time estimated by the Forestry Commission for the walk was approx. one hour return so we decided to leave our lunch in the car. Guided by Roy we set off and our enthusiasm on rediscovering ferns and plants that had been observed on a previous outing, resulted in the time extending to 2 1/2 hours. A number of ferns were studied on the walk to the creek then we scrambled down to the creek bed where we found Arthropteris beckleri growing and near it another fern which, after a serious discussion, was established as Arthropteris tenella x beckleri.

A very pleasant half hour was spent amongst the rocks looking for ferns and also looking upwards at the Asplenium polyodons growing profusely. Much to our regret we started on the return trip. Phyll drew attention to a particular fern that we had missed on the way in and to her disgust we could not identify it as Arachniodes aristata which had been studied at our previous meeting. (This indicates that our study of ferns could be improved). Approximately 50 feet up on a tall Acacia (could be maidenii) we noticed Platycterium bifurcatum, Pyrrosia and other orchids and ferns that we could not identify. From the size and appearance of the elk it had been growing there for many years, giving a lie to the myth that Acacias are short lived.

The following is a list of ferns observed growing along the walk:

Adiantum aethiopicum, A. formosum, A. hispidulum, A. silvaticum, Arthropteris beckleri, A. tenella, A. tenella x beckleri, Asplenium australasicum, A. flabellifolium, A. polyodon, Blechnum cartilagineum, B. nudum, B. patersonii, B. wattsii, Culcita dubia, Cyathea australis, C. leichhardtiana, Davallia pyxidata, Dictymia brownii, Doodia aspera, Hymenophyllum sp., Grammitis sp., Lastreopsis decomposita, L. microsora, L. munita, Microsorium scandens, Pellaea falcata, P. falcata var. nana, P. paradoxa, Platycterium bifurcatum, Polystichum australiense, P. proliferum, Pteris tremula, P. umbrosa, P. confluens, P. rupestris.

After a very late lunch, we drove to Boarding House Dam where we found growing on the moss wall Vittaria elongata, Asplenium flabellifolium, and Grammitis. Additional ferns sighted along the creek below the dam were Todea barbera and Sticherus flabellatus.

We were very disappointed that more members did not join us for this very enjoyable outing.

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REPORT ON MEETING: 26 APRIL 1987

It was a perfect Autumn day for our meeting at the home of Betty and Eric Rymer in the suburb of Kenthurst. Sixteen members and two visitors attended. Prior to and at the conclusion of the formal proceedings our hosts showed us part of their very large property which featured many beautiful trees and shrubs. The vigorous growth and appearance of most ferns in the huge shade area was exceptional and reflected great credit on their owners.

Our thanks too to our members Ray and Marie Best for bringing two large pots of Adiantum whitei and A. capillus-veneris to the meeting as a donation to our fund raising.

Our Leader conducted the study session which dealt mainly with the genus Arthropteris, the name derived from the Greek arthron - a joint and pteris - a fern, obviously a reference to the jointed fronds of this fern.

Apparently there is doubt as to the rightful position of Arthropteris in the fern family. It is placed in Davalliaceae in Beadle, Evans and Carolin (Dr. Tindale), in Nephrolepidiaceae in Jones, & Clemesha and Oleandraceae in Clifford & Constantine (Tindale 1961). Ray Best drew attention to Tyron & Tyron's view that it is more closely allied to Dryopteroid ferns than the Davalloid ones.

Arthropteris are generally small epiphytic climbing ferns which form creeping mats on trees and rocks. The pinnule is articulated to the main rhachis and the rhizome is slender and covered with peltate scales. The rounded sorus is either exindusiate or covered by a kidney-shaped indusium.

It was indicated that there are about 20 species in the genus of which four are in Australia. Arthropteris tenella and A. beckleri are fairly abundant in and around Sydney but some records of A. palisotii south of the area close to the NSW/Queensland boarder are considered dubious. A number of members present reported growing these three ferns. All are notoriously slow to start growing and collection from the bush should be strongly discouraged.

An outstanding specimen of A. tenella in a large hanging basket was brought to the meeting by Jan Fairly. This greatly assisted our study and although it did not have any fertile fronds, it was much admired by all.

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PROGRAMME - SYDNEY AREA

MEETING: SUNDAY 21 JUNE 1987

At the home of Rosina Bach, 33 Third Avenue, Epping (Cnr. Audine Avenue). Study will be on the Family Athryriaceae complemented by discussion on spore structure - Ray Best has models which illustrate this and has kindly offered to bring them to the meeting. Meet from 10 a.m. with formal proceedings to commence sharp at 11. Bring lunch and afternoon tea. Any enquires for directions phone Rosina 869.1692

OUTING: SUNDAY 26 JULY 1987

At Waratah Park, Blue Mountains. Meet at 9.30 a.m. at the Fruit Bowl, Bilpin. There is easy access to this attractive fern area. S.G.A.P. had an early association with the Park and although our visit will be a little early to see the Waratahs in bloom there is likely to be many Pea flowers to add interest on the short walk to the ferns. Lunch at cars. Enquiries to Peter 625.8705.

MEETING: SUNDAY 30 AUGUST 1987

At the home of Moreen and Allan Woollett, 3 Currawang Place, Como West. (Go to Como Railway Station on Western side - you are in Como Parade, continue down hill 100m. road turns left into Binya Place then into Currawang Place). The Genus Polystichum will be studied. Meet from 10 a.m., formal proceedings commence sharp at 11. Bring lunch and afternoon tea. Enquiries to 528.4881.

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DEADLINE FOR COPY

We would welcome articles from our members for our Newsletter. If you have hints or have been a successful fern grower and propagator, share your knowledge with us by sending your ideas and methods, or you may have been on an outing to a fern glade that would be of interest. Any inquiries connected with the next issue can be made to the Secretary phone 528 4881.

Deadline for copy for the September Newsletter is 15th August 1987.

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TASMANIAN TOUR WITH THE FERN SOCIETY OF VICTORIA

Contributed by Ray Best

Recently my wife and myself were fortunate enough to join the members of "The Fern Society of Victoria" on a tour of Tasmania. Christopher Goudey and his wife Lorraine arranged this outing and Chris came with us for portion of the journey, regretting that he had to leave us due to business commitments. We were pleased to have the expertise of the President of "The Fern Society of Tasmania" Mr. Michael Garrett to serve as a guide and arrange our transport over the island and to share with us his extensive knowledge of his native country's ferns. Another traveller with our group was Betty Duncan co-author with Golda Isaac of "Ferns and Fern Allies of Victoria Tasmania and South Australia", who became our consultant when decisions were required. Here also we must not overlook our mercedes bus driver Mr. Rob Standaloft, who added to his good looks, careful driving; to say nothing of a profound knowledge and love of his native Tasmania. He proved both a credit to his company "Camping Connection", and endeared himself to all his travellers. Also with us were two charming visitors from the United States both members of the "Los Angeles International Fern Society" Marie Van Etten and Susan Yamins who soon endeared themselves to all the company.

We crossed the Tasman Sea on "The Abel Tasman" a large ocean going liner passenger and vehicle carrier. Named of course after Abel Tasman the Dutch explorer and navigator who discovered Tasmania in 1642; and luckily never claimed it for Holland; but named it Van Dieman's Land after the Governor of The East Indies, Anthony Van Dieman. Later to be called Tasmania as an island state of Australia.

Arriving in Devonport on the north coast of Tasmania on the morning of Saturday the seventh March; we met up with Michael Garrett and our coach driver. Proceeding to Turner's Beach our base for a few nights. Leaving our luggage while we visited the famous Cradle Mountain National Park; enjoying the beautiful and different scenery both on the way and at Cradle Valley. Ferns in this area were mostly alpine; so rather than make a recorded list at every location, as much repetition would occur, better to list most of the species with locations at the conclusion of this narrative to create less monotony and greater interest for the reader.

To most mainland members it became immediately obvious that Tasmanian forests were much denser and greener than their Australian mainland counterparts, dissected by many river systems, rugged mountains and gorges. The early explorers and surveyors certainly faced almost impossible tasks to make progress in such a complex terrain. All of which has combined to produce a most attractive and scenically beautiful countryside. Our twisting and climbing road carried us along the Forth River through the town of Wilmot, The Promised Land, to the Wilmot Dam, to the Iris River and on to Cradle Valley. Overshadowed by the massive Cradle Mountain whose peaked structure revealed the reason for its title. Returning later to Turner's Beach. Leaving the beach on the second day we moved along the North Coast through Somerset to Wynyard, Boat Harbour and Rocky Cape to Stanley. This north coast is the warmest section of Tasmania and features a number of beaches and unusual coastal scenery. Leaving most of our luggage at The Peoples Park campsite on Detention River, we moved on to Forest then somewhere between Forest and South Forest; under the direction of Michael Garrett the coach driver pulled over to the side of the Highway to the corner fence of a private property. After negotiating two barbed wire fences we followed an old rail track with many fern types on either side. Drizzling rain and a muddy sloppy track beset with blackberrys made the going difficult.

Finally we came to an old collapsed rail bridge. Rather than attempt to cross this structure most of the members decided to return. Michael and the rest continued, to finally return with a few spring fronds of Asplenium terrestre x bulbiferum. This is quite a rare fern and our botanist Betty Duncan had some doubts concerning its identity. If the actual location is possibly a trifle inaccurate this should help in its preservation.

Later we crossed Dolly Creek and the upper reaches of the Arthur River to Milkshake Hills Forest Reserve to enjoy an excellent salad lunch prepared by our cook Judith. We returned through Edith Creek and Irish Town to Detention River Camp.

Our next coach journey was through Smithton down to Britton's Swamp and along to Marrawah turning south down the west coast to the mouth of the Arthur River. This west coast area is continually belted by severe winds; blowing as was explained over the sea from Africa, producing possibly the worlds cleanest air stream. So we all breathed deeply. All the growth along this west coast was bent inland and twisted. We continued to the Arthur River Bridge. Here we embarked on a pleasant boat cruise (Motor launch) up the Arthur River. Observing the ferns on either bank until we came to the junction of the Franklin River. Here we landed to eat an excellent lunch at a most pleasant picnic spot, where treeferns flourished along with many other species of ferns. Embarking again to return to the Arthur River Bridge, for our coach back to camp. Fishing is the industry here both cray fishing and deep sea fishing on the amateur and sport fishing side both brown and rainbow trout can be caught in the Arthur River system.

Next day found us on our way to Queenstown through Wynyard and down to Yolla, over the Hellyer River Bridge. Stopping for a close inspection of this lovely gorge and to dine and do some fern searching. Amongst the many tree ferns ("Man Ferns") Dicksonia antarctica, and huge myrtle beech trees. Henry Hellyer an explorer surveyor for the Van Diemen's Land Company, made the first ascent of Cradle Mountain in 1831. The Hellyer River is the major tributary of the Arthur River the most important waterway of north western Tasmania and the source of most of the hydro electric power for Tasmania. After covering a couple of fern smothered trails in this magnificent gorge, we moved on crossing the Mackintosh River to Tullah through Rosebery to Queenstown and our evening quarters.

The massive and spectacular mountains in Tasmania are mostly of dolerite or aged basalt of early volcanic action and obviously contain many minerals: zinc, gold, copper, iron, etc. Here in Queenstown is the famous Mt. Lyell copper mine, as with past mining operations its fortunes have fluctuated many times; from the current news I understand it is about to receive another transfusion from the government to boost employment in the area. Mining here started with gold then silver and iron and finally copper. The sulphur fumes from the copper treatment among other causes has succeeded in killing all the trees, shrubs, etc. on the surrounding mountains. Speaking from an artistic point of view, the unique colours reflected in the denuding dolerite added contrast and beauty to the overall effect.

We were invited to visit the mining museum by the manager to view some colour slides of the mining operation and scenery, those that attended really enjoyed the show. He offered to guide us on the following morning to a fern rich track on a local farm a few kilometres from town. So our coach driver followed his car to the location. Here we found many of the lush local ferns that abound in Tasmania; including a few fern allies such as Lycopodium deuterodensum and Lycopodium laterale.

The very successful period of copper extraction from Mt. Lyell is credited to Robert Carl Sticht a brilliant American metallurgist who designed the Mt. Lyell smelters. Sticht's pyritic smelting process was copied in many countries. He became general manager until his death in 1922.

From here we made our way to Zeehan another important mining town, to visit a large museum featuring many attractive mineral samples. There appeared to be little mining activity at the time of our visit. However in the early years it apparently flourished. Next to the museum in what appeared to be a large locomotive shed were housed several large steam engines one of American design, an English engine and a German locomotive. Possibly brought to Zeehan in pieces in the early years and assembled there.

Returning to Queenstown we made our way to Strahan on Macquarie Harbour, the site of an early penal settlement in 1821. Functioning now as a fishing port; it also caters in a big way for tourists, with regular trips to the Gordon River and the many beauty spots around the harbour. Returning again to Queenstown for an overnight stay.

