A.S.G.A.P. Fern Study Group

Newsletter Number 110

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From the Leader...

Once again, I have missed the production of a newsletter; my good intentions sometimes waver under the weight of work and other commitments. This year, Prof. Robert J. (Bob) Johns stayed with us for about 4 weeks in March/April, while he examined fern specimens at the Queensland Herbarium. Bob retired recently from Royal Botanic Gardens, Kew. He began his career in New Guinea, where he spent nearly 25 years, much of it at the University of Lae as Prof. of Botany. Bob has an encyclopaedic knowledge of PNG plants, particularly the ferns and is passionate about documenting the flora of New Guinea.

Peter Bostock

PROGRAM FOR THE SYDNEY REGION

Peter Hind

Saturday 17th June. Meet about 10 am at Somersby Falls. If travelling from Sydney, leave the Freeway at the Gosford exit. Meet in car park nearest the Falls. The walk to the bottom of the Falls covers only a short distance but is full of ferns. A late lunch back at our cars should enable us to be ahead of most traffic returning to Sydney. If weather is doubtful or for other enquiries contact Peter on 9625 8705 Our last visit here was in March 1999. A prior visit in 1990 revealed 32 fern species in a walk of less than 500 m.

Saturday 15th July. Arrive from about 11 am at the home of Peter and Margret Hind, 41 Miller Street Mt Druitt. What do you grow your ferns in or on – discussion re potting composts, containers or in the ground or on trees or artificial mounts for epiphytes.

Saturday 19th August. Arrive from about 11 am at the home of Kyrill Taylor, 16 Elizabeth Crescent Yagoona. Subject "Ferns of Australia's Pacific Islands", which ones are in cultivation and where do you get them from? – this last question may be the hardest to answer.

Saturday 16th September. Meet about 11 am at the home of Graham and Dot Camp, (RMB 6154) Toomeys Road, Mt. Elliot – **see map (at end of newsletter)** – if lost, phone (02) 4367 6368.

No study – just a good day out and easy walking around the property. The fern plantings looked good last time we where here in September 2004. It will be interesting to see how well they fared through the drought – perhaps we will all have had good rains by this time.

Saturday 21st October. Arrive from about 11 am at the home of Peter and Margret Hind, 41 Miller Street Mt Druitt. Subject to be decided. Please make suggestions at previous meetings.

PROGRAM FOR THE SOUTH-EAST QUEENSLAND REGION

Peter Bostock

Sunday 2nd July. Queen Mary Falls, c. 10km east of Killarney; approach from Boonah via Croftby–Teviot Brook Rd. Meet at National Park car park at 9:30 am. See newsletter #97 for a fern list from our last visit in May 2002.

No meeting in August—Fern study group members will be setting up display at the Flower Show at Mt Coot-tha Botanic Gardens Auditorium on Friday 18th.

Sunday 3rd September. Ravensbourne National Park, between Esk and Hampton. Meet at 9:30 am in the National Park car-park. Bring your winter woollies!

Sunday 1st October. Mt Mee State Forest and Forest Reserve—meet near the old sawmill at the Gantry Picnic area at 9:30 am.

Sunday 5th November. Meet at Rod Pattison's home, 447 Miles Platting Rd, Rochedale, at 9:30 am. Discussion topic: *Asplenium*. Rod has an extensive collection of *Asplenium* species and hybrids for us to examine.

Sunday 3rd December. Meet 9:30 am at Graham Nosworthy's home, Unit 72, The Terraces, 34 Tewantin Way, Forest Lake. This is the Christmas meeting so bring a fern or two for the fern swap, and make sure you bring chairs. Also bring along a batch of ideas for meeting topics and outings in 2007! Car-parking at Graham's place is minimal (3 cars in his driveway, 1 or 2 in a parking area just beyond his house, the remainder in the public car park just along from his shared access road). Travel south along Forest Lake Boulevard for approx. 2km from the main Entrance, then turn right into Tewantin Way (it is not signposted - should be next right after Oakview Way). Contact Peter Bostock if you need more information.

SOUTH-EAST QUEENSLAND CHAPTER REPORTS

Report of SEQ chapter long-weekend outing to northern NSW *Clare Shackel*

For the May long weekend, thirteen members of the Queensland branch of the Fern study group met up at the Alstonville Settlers Motel on Friday night. Later that evening, we met Calder Chaffey for a meal at Wollongbar.

Saturday morning Calder guided the convey of cars through macadamia farms to Minyon Grass for a 2km walk to the base of Minyon Falls. Nan Nicholson joined the party for the day. Calder supplied members with an extensive list of ferns known to be in the area.

The track started in open forest and *Lindsaea microphylla* was quite common while several patches of *Corybas* were beginning to flower. *Schizaea dichotoma* was a new fern for the list. As the track descended into the valley rainforest species became dominant. The track crossed several gullies where *Helmholtzia glaberrima* filled the area showing it must be very wet for long periods. The species added to Calder's list were *Arachniodes aristata, Arthropteris tenella, Asplenium polyodon, Cephalomanes obscurum, Diplazium dilatatum, Lastreopsis smithiana, Lindsaea brachypoda* and *Psilotum nudum*.

As the track neared the base of the falls, the valley became filled with large boulders and not all the members were able to complete the rock scramble to the base of the falls. On these exposed rocks *Crepidomanes saxifragoides* and *Asplenium flabellifolium* were growing on the protected side, as well as some small clumps of *Grammitis*. The slog back up to the Minyon Grass took longer than expected and it was a very late lunch. The top of the falls was a quick visit and only a few ferns were seen in the under-story of open forest, most notably *Sticherus lobatus*.

On Sunday the party visited Terania Creek where Nan and Hugh Nicholson joined the group for a walk up the creek to Protestors Falls. The walk was through moist rainforest where a large number of ferns were seen (see list). A number of patches of the dark green filmy fern *Cephalomanes obscurum* were present on earthen banks alongside the track. Lunch was eaten on the Nicholson's verandah. The heavens opened up and we sat in comfort as the rain poured down and watched a flock of white cockatoos doing their ablutions in the pouring rain. As the clouds lifted a substantial waterfall was visible on the other side of the valley. We all marvelled at the life style of the Nicholsons and realised how much of modern society is unnecessary.

On Monday we packed up our bags and headed for Rous Water Rainforest Reserve and Rocky creek dam. Under the revegetation patches beside the dam several ferns were seen but it was impossible to detect if these were planted or natural colonisers. *Platycerium bifurcatum, P. superbum* and *Pyrrosia* decorated mature trees in the area. The party walked across the earth fill dam wall and cement spillway. A little water was flowing down one edge of the spillway showing the dam was full. The track led up through regrowth forest which was dominated by *Polyscias murrayi* and a few remnant old trees with epiphytes There was very little understory except beside the road where *Rubus, Pteris tremula* and *Calochlaena dubia* were dominant.

On reaching the Big Scrub the demarcation between it and the regrowth was obvious. *Lastreopsis microsora* was scattered under the mixed canopy. Once Peter Bostock had found *Crepidomanes vitiense* (dark green moss-like patches on tree trunks) it was observed to be quite common!!!
There were thirteen ferns on Calder's list which were not seen on this very restricted survey, but another sixteen were added.

Report of SEQ mid-week outing to Heaton's Fern Nursery – 6 April, 2006 *Peter Bostock*

A small(ish) group met at Heaton's Wholesale Ferns on the outskirts of Nambour. We were shown around the nursery by Gavin Potter, Heaton's chief propagator. This nursery grew out of a fern collection by Don and Daphne Heaton and is now run by the next generation (Peter and Maree Heaton). I think all members were much impressed by the scale of the operation, and by the obvious skill and enthusiasm of the staff. Heaton's Ferns produce a significant number of the Tassel ferns sold in eastern Australia—these are vegetatively produced in a nursery in north Queensland; they also supply the bulk of *Angiopteris evecta* in Australia (propagated from spore). We were also impressed by the number of tree frogs—these were perched everywhere, and apparently often make the trip with fern shipments!

Gavin showed us the techniques used to separate spore after collection from stock plants (they also grow ferns from supplied spore, e.g. for Rod Pattison), and the sterilizing and sowing methods. He indicated that fungal infections were best treated by excising affected patches, as supplementary fungicide treatment could set back the tight growing schedule considerably. Here are a couple of images of the nursery (*Angiopteris evecta* sporelings c. 1 year old on the left, tree frog on the right)...

Thanks to Peter Heaton for allowing us to visit and to Gavin for guiding us around. Heaton's web-pages are also well worth a visit. See www.heatonsferns.com.au — I was particularly interested in their stereoscopic pictures!

SYDNEY CHAPTER REPORT

Report of Sydney Group Meeting – February 2006 *Peter Hind*

Our first meeting of the year took place at the home of Peter and Margret Hind at Mt Druitt on Sunday 19th February (wrong date in newsletter of 14th February—apologies to those who turned up on Saturday 18th).

There was much discussion about participation in plant sales at Mt Annan in April. We decided to purchase a modest number of plants to resell and to also to request surplus native species plugs from Michael Garratt of Tasmania.

The study of how to tell *Arthropteris*, *Microsorum* and *Colysis* apart followed. We did a similar study involving *Colysis* and *Microsorum* sometime within the last two years. The simplest way to separate *Arthropteris* from the other two genera is to look at the frond architecture: each pinnule is stalked in *Arthropteris*, whereas in *Colysis* and *Microsorum* the lamina is continuous, it may be deeply dissected as in *Microsorum howense*, *M. scandens* and *Colysis sayeri* but never with stalked pinnules. The venation of *Arthropteris* is free – each side vein reaching the margin, except for those ending in a sorus, in *Microsorum* the veins form areoles – like beehive cells. An easy field character to separate *Colysis* from *Microsorum* is the more prominent darker veins of the former being easily seen without a magnifying glass on the upper surface of the fronds. *Microsorum* venation is hardly noticeable on the upper surface.

M. scandens is the most likely species to confuse with *Colysis sayeri*, they are both present in north Queensland. The primary vein angle from the midrib is also different, *Colysis* having a more acute and upward tending angle, whereas in *M. scandens* the primary veins are at right angles to the midrib. The sori of course if present are very different, *Colysis* having long sori following the veins. *Microsorum* has rounded sori at the ends of veins.

After the study we braved the heat outside to have a look around my garden, most ferns had survived the midsummer heatwave. Tree ferns such as *Dicksonia* species and *Cyathea medullaris* plus *Blechnum wurunuran* and *Lastreopsis nephrodioides* were the most affected. I will probably lose these last two.

Ferns of a Central Queensland Sandstone Country Trip

Dan and Wendy Johnston

Ka Ka Mundi section of Carnarvon National Park

We camped at the camping area near Bunbuncundoo Springs. The springs were flowing quite strongly, and the creek ran for about 200m before disappearing back into the ground. We believe there had been quite good rain fairly recently in this area, in contrast to areas such as Carnarvon Gorge which were very dry. However, the strong growth of ferns in the spring area suggests that water here is permanent, at least close to the surface if not actually running. In this area we believe we identified: *Histiopteris incisa, Adiantum atroviride, Calochlaena dubia, Cyathea cooperi, Adiantum hispidulum* and *Pteridium esculentum*. The only fern identified anywhere else in the park was *Cheilanthes sieberi*, occasional specimens of which were found at widely separated areas in the park.

Boolimba Bluff track at Carnarvon Gorge

The only significant walk we did at Carnarvon Gorge was the climb to Boolimba Bluff overlooking the gorge on the northern side and beyond that off-track to the Ogre's Thumb (behind the Devils Signpost). The Carnarvon Gorge area was very dry although the creek was still running well.

Platycerium veitchii was observed growing on the *Macrozamia moorei* in the car park, on boulders near the track below the cliffs, on the side walls where the track goes up steeply through a gap in the cliffs and one specimen in a gap in the eastern cliffs. Other ferns observed in the track area were *Adiantum hispidulum, Calochlaena dubia, Pteridium esculentum* and a minute form of *Doodia caudata.* Very desiccated specimens of *Cheilanthes sieberi* and *Cheilanthes distans* were also observed. We were surprised to find a healthy patch of *Lindsaea microphylla* very high up, on the side of the saddle just behind the Ogre's Thumb.

Robinson Gorge area of Expedition Range National Park

We did two walks in this area, one following the trail from the Starkvale Creek campsite over Shepherds Peak and back via the Cattle Dip and Starkvale Creek, and the other into the main gorge and up Waterfall Creek as far as the waterfall (not running but moist). *Platycerium veitchii* was observed on both walks, being quite plentiful on the western cliffs of Shepherds Peak, particularly at the southern end, and it was also observed on rocks in the main gorge just above the "get down" and beside Waterfall Creek.

Other ferns observed on the Shepherds Peak circuit, mostly where the trail is down a creek bed just before the Cattle Dip viewing point, included *Adiantum atroviride, Adiantum hispidulum, Cheilanthes distans, Cheilanthes sieberi, Christella dentata* and *Psilotum nudum*.

On the walk into the gorge, ferns were observed at two main points. In the moist area below the waterfall (notable for fossils in the rocks), we observed *Adiantum atroviride, Adiantum diaphanum, Adiantum hispidulum, Arachniodes aristata, Christella dentata, Doodia caudata* and *Pteris tremula*.

On the cliffs almost opposite the "get down" point, there was water leaking at a rock junction in the cliffs and here we believed we observed *Dicranopteris linearis* var. *linearis, Histiopteris incisa, Gleichenia dicarpa* and *Lycopodiella cernua*. Also seen on this walk were *Cheilanthes sieberi* and *Pteridium esculentum*.

We also briefly visited Lake Nuga Nuga, the Lonesome and Beilba sections of Expedition Range National Park (both very dry), and Isla Gorge National Park but did not observe any ferns at any of these.

Update on Growing Ferns from Spore

Claire Shackel

The article published in the December 2002 newsletter was in gestation for a considerable period and was updated as I learnt from my mistakes.

August 2004 Notes

In autumn 2003, I tried a different method of potting up. All sizes of plantlets were taken individually or in small groups and planted back into seed punnets using potting mix and returned to juice bottle hot houses. The plants were not disturbed until the weather warmed up in Spring and they had out-grown their hot houses. Some had deformed leaves but a good root system, and this seems to be one of the critical factors in transplanting. Using this method the failure rate has been reduced. Some of the smaller plants will not be moved till Spring 2004. Regular fertilising was necessary to keep the plants growing.

Belvisia mucronata. The first spore tried was supplied by Merle Gynther in May 1997 and planted immediately. Since then spore from the spore bank and more from Merle have been tried, i.e. five batches. There has been good prothallial growth but only a few little threads of plantlets that have defied any attempt to transplant. The 1997 planting produced heavy prothallial growth but no plants and was disposed of in Oct. 2001.

In February 2004 I purchased a *Belvisia* that is proving to be quite a rapid grower—Murphy's law—there are now hundreds of plantlets that are transplanting easily and doing very well in their bottles. The tray that has produced the plantlets was planted in Dec. 2000 (Merle) but the one planted in April 2001 (Merle) has heavy prothallial growth but few plantlets as yet. Has time of year or density of prothalli influenced the production of plants?

August 2005 Notes

Todea barbara. There was a similar story with *Todea barbara*. The parent plant produced fertile fronds in Spring 2002 and as the spore matured it was collected and planted within 48 hours. There were five plantings over a two months period. All produced heavy prothallial growth but it was only the first two that produced plantlets that could be transplanted in Spring 2003. There was some plant growth in the remaining trays by May 2004 but very poor in comparison to the early trays.

The losses were still considerable from the Spring/Summer 2004 transplantings. Rod Pattison repots in winter so the ferns develop a good root system before the hot weather arrives. At present I am doing more work on my plantlets in winter than I would have dared in the past, with the hope it will increase the survival rate.

Some observations during transplanting:

Microsorum scandens. Spores were scraped from the back of fresh leaves in November '02, and there was good prothallial growth by May '04. By July '05 there was a number of simple stalked leaves protruding above the mat of prothalli. On transplanting, it was found that one plant had already produced a creeping rhizome to which four of the leaves were attached so it is probably the right plant.

Asplenium simplicifrons. Spores did not appear to be shed when wrapped in paper so the back of the leaf was scraped on the tray in November '02 and there was good prothalli growth by May '04. In December '04 the simple leaflets that were evident were scalloped edged—not what was expected from a straight-edged simple leafed fern. By July '05 there were longer fine straight edged leaves appearing from the tiny crowns. Some have been transplanted so I am hoping they survive and are really *A. simplicifrons*, as it is one of my favourite ferns.

Dictymia brownii. Spores were treated as for *A. simplicifrons* in October '02 and there was good growth of prothalli by July '03. Some plantlets were appearing by May '04. Transplanting started in Nov '04 and the plantlets are doing well in their bottles. Some are now in the real world.

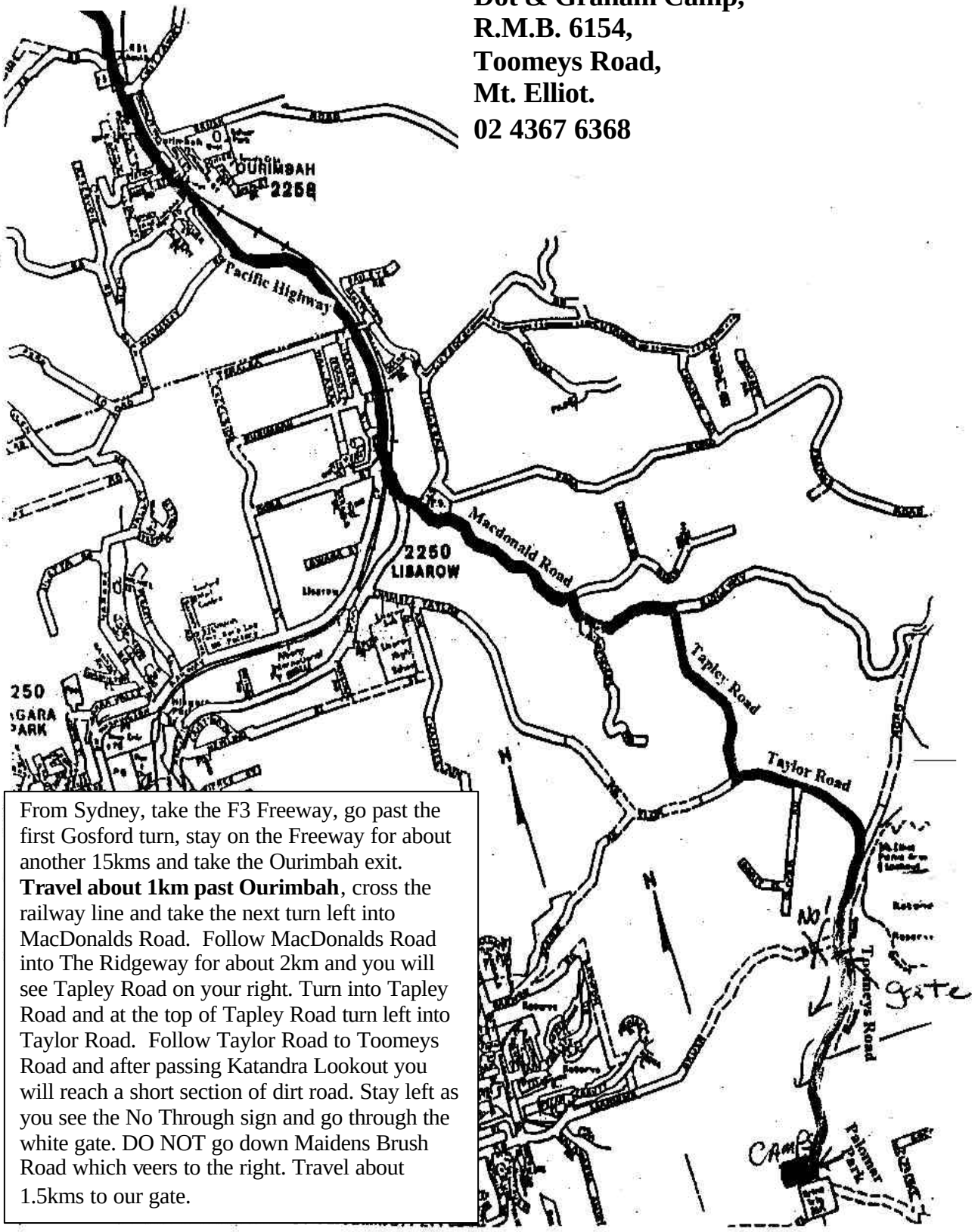
Revwattsia fragile. The spore was planted in April 2004 and by June 2005 there were plantlets needing transplanting. These lifted out with their large prothalli still attached. There is many more developing in the trays.

Contamination. I now have a nice weed, *Asplenium polyodon*, which regularly comes up in my propagation trays and has to be removed but not discarded. Attempts to grow *Colysis sayeri* from spore have resulted in trays of pure *A. polyodon* –they are beside each other in the bush house. There is always an element of doubt with any fern that develops. An exotic Polyodon came up in trays of some special *Cyathea* spore I was given. The plants were removed, potted up and sold through a nursery as well developed hanging baskets in two years. The tree ferns are still in their bottle hot houses.

Directions for Sydney Chapter excursion Saturday 16th September:

from F3

Dot & Graham Camp,
R.M.B. 6154,
Toomeys Road,
Mt. Elliot.
02 4367 6368



From Sydney, take the F3 Freeway, go past the first Gosford turn, stay on the Freeway for about another 15kms and take the Ourimbah exit. **Travel about 1km past Ourimbah**, cross the railway line and take the next turn left into MacDonalds Road. Follow MacDonalds Road into The Ridgeway for about 2km and you will see Tapley Road on your right. Turn into Tapley Road and at the top of Tapley Road turn left into Taylor Road. Follow Taylor Road to Toomeys Road and after passing Katandra Lookout you will reach a short section of dirt road. Stay left as you see the No Through sign and go through the white gate. DO NOT go down Maidens Brush Road which veers to the right. Travel about 1.5kms to our gate.

Ferns Recorded during SEQ Chapter May 2006 long-weekend excursion:

NAME	A	B	C	D
Adiantum atroviride		X		
Adiantum diaphanum		X	X	
Adiantum formosum				
Adiantum hispidulum var. *hispidulum*		X	X	X
Adiantum hispidulum var. *hypoglaucum*				X
Adiantum silvaticum		X	X	
Arachniodes aristata		X		
Arthropteris beckleri		X	X	
Arthropteris tenella		X	X	X
Asplenium australasicum		X	X	X
Asplenium attenuatum var. *attenuatum*			X	
Asplenium flabellifolium		X		
Asplenium polyodon		X	X	
Blechnum cartilagineum	X	X	X	X
Blechnum nudum		X	X	
Blechnum patersonii subsp. *patersonii*		X	X	
Blechnum wattsii			X	
Calochlaena dubia		X		X
Cephalomanes caudatum		X	X	
Cephalomanes obscurum		X	X	
Cheilanthes sieberi subsp. *sieberi*	X			X
Christella dentata			X	X
Crepidomanes saxifragoides		X		
Crepidomanes vitiense				X
Cyathea australis	X	X	X	X
Cyathea cooperi			X	X
Cyathea leichhardtiana		X	X	
Davallia solida var. *pyxidata*		X	X	X
Deparia petersenii subsp. *congrua*		X	X	
Dicksonia youngiae		X		
Dictymia brownii			X	
Diplazium assimile		X		
Diplazium australe		X	X	X
Diplazium dilatatum		X	X	
Doodia aspera		X		

NAME	A	B	C	D
Doodia caudata		X	X	
Gleichenia dicarpa	X			
Gleichenia rupestris	X			
*Grammitis (*probably *G. billardierei)*		X	X	
Histiopteris incisa				X
Hypolepis glandulifera				X
Hypolepis muelleri				X
Lastreopsis marginans		X		X
Lastreopsis microsora subsp. *microsora*		X		X
Lastreopsis munita		X		
Lastreopsis smithiana		X	X	
Lindsaea brachypoda		X		
Lindsaea microphylla		X		
Microsorum scandens		X	X	
Nephrolepis cordifolia		X		X
Ophioglossum pendulum		X	X	
Pellaea nana		X	X	
Platycerium bifurcatum			X	X
Platycerium superbum		X	X	X
Pneumatopteris sogerensis		X		
Pteridium esculentum	X	X		X
Pteris tremula				X
Psilotum nudum		X	X	
Pyrrosia confluens var. *confluens*				X
Pyrrosia rupestris				
Schizaea dichotoma		X		
Sticherus flabellatus var. *flabellatus*			X	
Sticherus lobatus	X			
Tmesipteris parva		X		
Todea barbara			X	
Vittaria ensiformis		X	X	

A	Top of Minyon Falls
B	Minyon Grass to bottom of falls
C	Terania Creek
D	Rous Water Rainforest Reserve

Deadline for copy for the next newsletter (send to Peter Bostock by email or post): August 22nd, 2006

SPORE BANK

Barry White

All types of spores are welcome including fresher samples of ones already on the list. There is no necessity to separate the sporangia from the spores. The whole, or part, frond may also be sent in, all is acceptable. Please include date of collection and, if collected from the bush, the area. In the list, the month and year of collection is shown. The area of collection is available on request.

Order spore from the address shown on page 1 of the newsletter. Please include a stamped, self-addressed envelope when you request spore from the bank.

Acrostichum sp. 6/04
Adiantum formosum 6/05
Amphineuron opulentum 2/05
Angiopteris evecta 7/05
Arachniodes aristata 12/05
Asplenium aethiopicum 6/05
Blechnum cartilagineum 2/06
Blechnum chambersii 4/06
Blechnum fluviatile 4/06
Blechnum minus 5/05
Blechnum wattsii 4/06
Christella dentata 3/06
Cyathea australis 4/05
Cyathea brownii 2/04
Cyathea cooperi 1/04
Cyathea cooperi (blue stipe) 12/05
Cyathea robusta 3/06
Dennstaedtia davallioides 2/04
Dicksonia antarctica 2/04
Diplazium australe 4/06
Doodia australis 12/04
Doodia dissecta 6/05
Histiopteris incisa 12/05
Hypolepis amaurorachis 4/06
Hypolepis glandulifera 1/05
Lastreopsis acuminata 4/06
Lastreopsis hispida 4/06
Platycerium superbum 8/04
Polystichum australiense 12/05
Polystichum proliferum 4/05
Pteris tremula 1/05
Pteris umbrosa 3/04
Pteris vittata 6/05
Rumohra adiantiformis (native) 4/06

Thanks to spore donors Don Fuller, Wendy Johnstone and Brenda Girdlestone

The address label on your envelope containing this newsletter will show one of the following codes:

2004	You are in arrears and this will be your last newsletter.
June 2006	Subscription due for period July 2006 to June 2007
June 2007	You are 1 year in credit—that is, you are paid up until June 30, 2007.

Form for renewal of subscription and change of address or other details:

<cut here>

Current Address:

Address correction:

_____

_____ State:_____ Postcode: _____

Optional **Email**: _____

Telephone: Work: _____ Home: _____

Please enclose your payment of $5.00. Make cheques payable to 'ASGAP Fern Study Group'.