

ASSOCIATION of

S. G. A. P. Fern Study Group



Newsletter Number 98

ISSN 0811-5311

DATE - SEPTEMBER, 2002

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**APOLOGY FOR ERRORS IN E. MAIL ADDRESSES FOR TREASURER & EDITOR
THEY ARE NOW CORRECT.**

CONCERNS RE THE FLORA FOR FAUNA WEBSITE

Contributed by Lorna Murray SGAP Qld Region.

I have recently been looking at the new website for the **Flora for Fauna** promotion, funded from the National Heritage Trust and set up by the Nursery & Garden Industry. I believe that there was some approach to ASGAP, but don't think that we have had any input into the information provided.

I was appalled when looking at the list given for ferns, as only 3 items are listed and 2 of these are cycads. Also I noted that the same 3 items are given for Brisbane, Sydney and Melbourne.

At present we are asking all Qld Region branches to look at the list for their area, and to give Regional Council feedback on species included which are not very suitable for the area, and a list of more desirable plants that they think should be included.

However as the fern listing is so poor, at least for some areas, I would like to suggest that members of the Fern Study Group with internet access should have a look and provide feed back to the site on ferns suitable for their area. The address is www.floraforfauna.com.au

Lorna asked if a note could be put in the next Newsletter, suggesting that members look at this website, and make suggestions to the organisers? [Editor: We checked for Ballarat region & found the same problems plus locations of nurseries incorrect]

FERN STUDY GROUP LEADER, PETER HIND, RECUPERATING.

For those members who are not aware, Peter underwent surgery on his hip on August 6th. From reports the Editor has received prior to the operation Peter's hip was both painful and incapacitating. Most recent correspondence from Ron Wilkins indicates Joan Moore has advised that Peter is progressing well.

I'm sure all members would join with me in wishing him a speedy recovery!



S.G.A.P. FERN-STUDY, GROUP
STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR 2001

Due to unforeseen circumstances this report which is usually printed annually in the March Newsletter has been printed in this edition.

RECEIPTS	2001	2000
Members' subscriptions (some in advance)	\$460.00	\$420.00
Donations		
from A.S.G.A.P. and Regions	90.00	90.00
from Sydney raffles	36.00	30.00
Interest on bank account (includes interest paid at close of account)	3.49	2.27
Donation from Dr. Chaffey - royalties from the sale of his book	1683.57	
Sale of a (different) book		45.00
<u>TOTAL RECEIPTS</u>	<u>\$2273.06</u>	<u>617.27</u>
 PAYMENTS		
Postage: Newsletters	202.49	222.45
:Correspondence		5.10
Newsletters,paper & printing	361.18	494.40
Money orders	10.00	10.00
Bank charges	13.44	11.00
FID		0.27
<u>TOTAL PAYMENTS</u>	<u>\$587.11</u>	<u>741.47</u>

Cash at bank December 2000 \$2069.12
Cash at bank December 2001 \$3749.99

Transferred to new Treasurer, 27th December 2001 per bank cheque. Less cost of cheque \$5.40 = \$3744.59.

Joan Moore



GROWING STAGHORN FERNS FROM SPORE – TRIAL & ERROR

Contributed by Nev. Deeth

I have been attempting for three years to grow *Platyserium superbum* from spore provided each November by a well-grown specimen in our Fernery. I believe I triggered Irene Cullen's query of 'which way is up for *Platyserium* sporelings'?

The spore was sown fresh on a piece of brick covered 6 mm deep with a mix of peatmoss and coco peat previously zapped in the microwave. Thousands developed over 6 to 12 months – Error No. 1 – too thickly sown with the result that they are too crowded to develop past one-frond size (2-3mm long.) The transfer of these sporelings on to trays of 'sterilised' compost was a bit like microsurgery, but with 'humidicrib' protection, many survived and were moved on to larger trays.

At about the size of a 1 cent piece each sporeling was transferred with it own quarter-inch square of compost. This is the point where the 'which way up' problem begins to make itself felt. A few begin to show a definite pattern but many do not. Some trays have been placed at 45 degrees to horizontal to see if gravity plays a part. (This also assists drainage). In nature, all those we see are up the right way and so high in the trees that we cannot see any tiny ones. What I don't know is whether up-side down sporelings gradually correct themselves (through the effects of gravity) or simply expire. The fact is that in the wild very minute numbers survive at all, compared with the numbers of sporelings released.

When the sporelings on a tray reach about 100mm diameter and are starting to overlap one another, I have attempted to place them on wood scraps, drilled for wires on all four corners to allow them to be rotated.

Growing Staghorn Ferns From Spore – Trial & Error (Cont.)

Error No.2. – placing them further apart on trays would allow them to grow larger without overlapping, before being disturbed.

Here I have observed (perhaps coincidentally) that those placed on reasonably smooth wood seem to be happier than those on rough or grooved timber. It seems that if the wood is rough it allows water to run behind the medium rather than into it.

In time sporelings develop scalloped or ‘toothed’ edges which show what is to be ‘top’. A change in vein pattern appears at the same time. The whole growing process is slow as each plant appears to produce no more than two fronds per year – one on the left and one on the right. (mature staghorns in our climate in SE Qld., produce only two fertile fronds (antlers) per year – one left and one right).

I have included three colour photographs showing seven sporelings (numbered), with some explanation, hoping they can be seen clearly in black & white. I welcome constructive criticism.

No.1 – Diameter 90mm and no scalloping or toothed edges yet, but wider portion of right frond at top

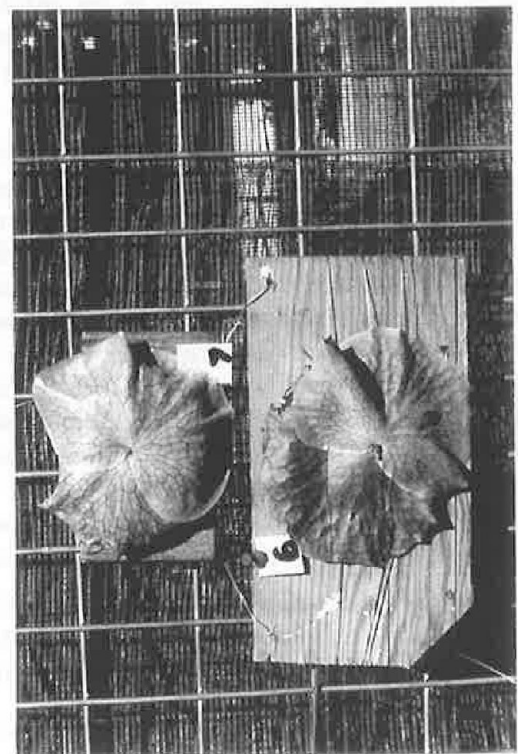
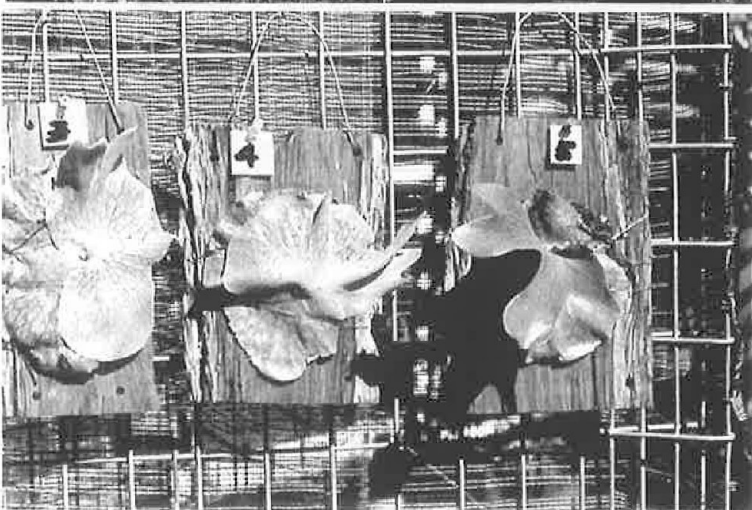
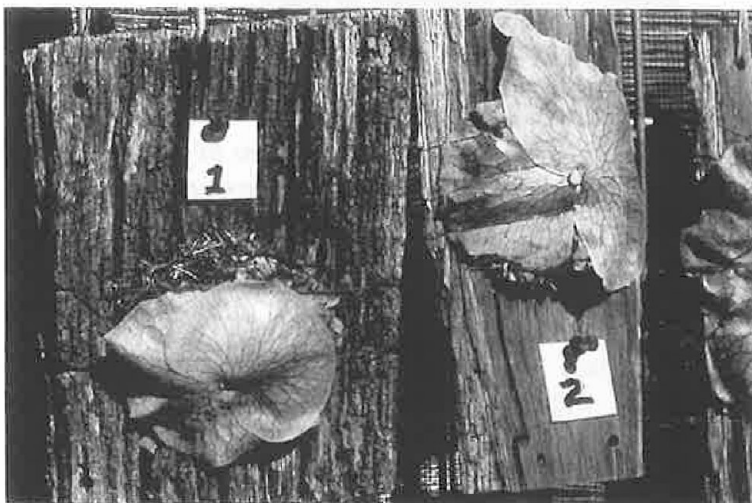
Nos. 2,3,4 &5 All showing which is the top.

No 2 was recently rotated 180 degrees. The compost medium which was at the top can now be seen at the bottom.

No.4 has recently been rotated anti-clockwise

Nos. 6 & 7 – when placed, the left frond in each one appeared to show which way was up. But newer fronds on right hand side appear to contradict this. There is not yet any sign of scalloped edges so I will have to wait and see and rotate if necessary.

Others in our shade-house are gradually showing which way they would like to grow. Finally, one small sporeling attached to a tree and currently with one frond up and one down, may be sacrificed if necessary to see if its growth is affected by gravity.



A FERN WHICH CHANGED AUSTRALIAN HISTORY

Calder Chaffey

from **Australian Plants online - June 2002** which cites its source as the October-December 2000 issue of the Newsletter of the Far North Coast Group of the Australian Plants Society (NSW).

Over a large area of inland eastern Australia the semi-aquatic fern, *Marsilea drummondii* may be found. It grows in swamps and bogs, billabongs, slow-flowing streams and in areas of temporary flooding. It grows in hot and dry inland areas when rain causes temporary filling of water holes and road-side puddles.

At first sight it may be mistaken for clover. Its common name is Nardoo, and is a fern superficially resembling clover - a four-leaf clover. Nardoo belongs to the genus *Marsilea*. There are seven species of *Marsilea* occurring in Australia and about sixty world wide. Most are not rare but are often overlooked because of their resemblance to clover. *M. drummondii* is the most common species in eastern Australia.

The genus is named after Count Luigi Ferdinando Marsigli (1656-1730), an Italian botanist, and the specific name is for James Drummond (1784-1863), first Government Botanist of Western Australia.

A few years ago, following particularly good rain in areas of central western New South Wales, there was much flooding. On two trips to Adelaide, in November and February, I found water lying in many places beside the Barrier Highway. *Marsilea* was not scarce and in places could be observed in massive patches in the water even while driving past at 100 km/h. Thick patches were present in many places from 40 km past Cobar to 43 km west of Wilcannia.

CHARACTERISTICS OF MARSILEA

These are aquatic or sub-aquatic ferns and consist of two pairs of opposite leaves forming a circular blade, each leaf widely or narrowly wedge-shaped and capable of floating on the surface of water. They may be mistaken for four-leaved clovers because of the pattern of the four leaf blades. A clue to these being ferns is seen in the unfolding of the, new fronds. Careful examination shows the young leaves to be coiled and these unfurl like a typical fern crozier or fiddlehead.

On water edges the leaves often form a tangled mass and are held semi-vertically out of the water. In deep water they either float on the surface or are held erect above the surface. Leaflets are generally covered with fine hairs. These are more abundant in specimens growing out of water. The hairs resist drying in the atmosphere and probably assist flotation. Leaflets growing out of water also exhibit "sleep movement". This interesting *Marsilea mutica* phenomenon is the furling of leaflets when the intensity of light becomes low. Hence they tend to "close up" in the evening and on very dull days.

Nut-like structures on stalks develop from the rhizome, which grows in the mud. These "nuts" develop from modified leaves and it is

within them that spores develop. They also contain a starchy structure which, on maturity, expands by the absorption of water.

David Jones states, when describing this family, Marsileaceae and a related family, Azollaceae,

"These are the only true ferns to produce separate male and female prothalli. It is this degree of specialisation that makes the genus the most advanced of living ferns".

Prothalli are the structures which develop from fern spores and produce eggs and sperm which ultimately produce the new generation fernlings. In all other ferns the individual prothallus produces both eggs and sperm but here a prothallus will produce only one or the other.

Formation of these nut-like structures chiefly takes place as the ponds dry up and rarely occurs in wet conditions. Maturation is slow and takes up to three years. This mechanism ensures that the spores can resist desiccation and is particularly suitable to inland areas of the continent and in areas of uncertain rain.

Nardoo as Food

The advent of rain commences an interesting series of events. The starchy material absorbs water and swells into a gelatinous material which ultimately bursts the structure liberating the spores. This is the useful part of the sporocarp for food and the nut-like sporocarps were gathered by Aborigines for this

A FERN WHICH CHANGED AUSTRALIAN HISTORY (CONT.)

purpose. The formation and resistance of the sporocarp to desiccation and its abundance in good years has made it a good Aboriginal food.

The sporocarps were ground to a flour-like substance and mixed with copious amounts of water to form a thin paste. This was eaten raw or cooked into thin cakes.

The sporocarps contain the enzyme thiaminase which destroys vitamin B1 and if taken continuously results in beri-beri. The preparation with water washes away or dilutes the enzyme, minimising its effect. The sporocarps are quite small, 4-9 mm in length and about 3 mm in width so that it must take a full day to collect enough to make a meagre meal.

Thiaminase is found in a couple of other fern genera, *Cheilanthes* (the Resurrection Ferns) and *Pteridium* (the Brackens). Strangely enough it is also found in the flesh of raw carp fish. It has been found that cholinesterase levels are raised in the tissues of people with low thiamine. Cholinesterase acts in the nerve synapses and the raised levels may account for the interference to the peripheral nervous system in sufferers from beri-beri.

Thiamine or, vitamin B1, is essential in the body for the metabolism of carbohydrates (sugars) and the normal function of nervous and heart tissue. But is necessary only in a very small amount. The daily requirement is 1-1.5 mg daily or about an amount the size of the head of a pin. Normally it is obtained from food being high in yeast, whole grains, nuts legumes, potatoes, egg yoke and meat. In grains and seeds it occurs in the germ or embryonic tissue and is stable to cooking unless an alkali is added.

The addition of baking powder, which is alkaline, therefore destroys the vitamin in cakes and wholemeal bread. It is not present in polished rice or white flour. In the process of making white flour for cooking and bread the traditional method removes the wheat germ and consequently the thiamine. Wheat germ also contains a fat which is liable to rancidity and attracts weevils. Its removal therefore makes the flour last longer.

In the fermentation of alcohol from glucose yeast causes a chain reaction of many stages. In one stage vitamin B1 combines with a chemical supplied by the yeast, pyrophosphate which acts like a catalyst. This substance also occurs in the brain of humans. In vitamin B1 deficiency the lactic acid level in the brain rises and interferes with its normal function.

Lactic acid normally results from muscle activity and is eliminated in the kidney. It is the cause of pain in the legs when you run too far too fast. Too much lactic acid is then produced for the blood vessels to convey to the kidneys fast enough to maintain the normal level in the blood. Faster removal occurs after training to increase exercise tolerance such as in athletes.

Beri-beri was a common disease in the East where a large proportion of the population subsisted upon rice as the predominant food. Most of these people refused to eat any but polished rice where, unfortunately, thiamine was removed with the natural rice dust and grain germ.

Other foods containing thiamine were not eaten in large enough quantities being either unobtainable or unaffordable. Even after the cause of beri-beri was discovered, there was great resistance to eating unpolished rice.

NARDOO AND THE BURKE AND WILLS TRAGEDY

There are many notes on the use of nardoo as food by Aborigines in the journals of the early explorers of Australia. But perhaps the most graphic and famous are those recorded by Wills towards the end of the fatal Burke and Wills Exploring Expedition of 1860.

When they had no food left they were fed nardoo by the Aborigines and collected their own to try to overcome starvation. They made use of this food but did not prepare it properly, developed beri-beri and died from the combined effects of this disease and starvation.

At Cooper Creek on June 3, 1861 Wills wrote... *"The fish being disposed of, next came a supply of nardoo cake and water, until I was so full as to be unable to eat more; when Pitchery, allowing me a short time to recover myself, fetched a large bowl of the raw nardoo flour, mixed to a thin paste, a most insinuating article, and in that they appear to esteem a great delicacy..."*

This fish and nardoo was given to them by the Aborigines. Wills actually describes here how the Aborigines prepared the flour in a thin paste but unfortunately did not follow the recipe. The following

extracts are from the journal of W.J. Wills, found after his death on Cooper Creek. The comments in this journal graphically describe the symptoms in the final few days of a man dying from beri-beri.

**Wills actually describes here how the
Aborigines prepared the flour in a thin paste but
unfortunately did not follow the recipe.**

On Wednesday, June 12, 1861 he wrote.... *"King out collecting nardoo. Mr Bourke and I at home, pounding and cleaning. I still feel myself, if anything, weaker in the legs, although the nardoo appears to be more thoroughly digested."*

June 14.... *"I feel weaker than ever, and both Mr. B. and King are beginning to feel very unsteady in the legs."*

June 15.... *"I have determined to chew tobacco and eat less nardoo, in hopes that it may induce some change in the system. I have never yet recovered from constipation, the effect of which is exceedingly painful."*

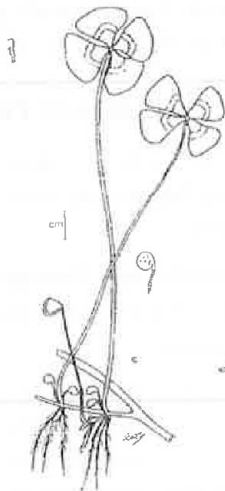
June 20..... *Finding the sun come out pretty warm towards noon, I took a spongeing all over, but it seemed to do little good beyond the cleaning effects, for my weakness is so great that I could not do it with proper expedition. I cannot understand this nardoo at all; it certainly will not agree with me in any form. We are now reduced to it alone, and we manage to get four to five pounds per day between us."*

June 23.... *"All hands at home. I am so weak as to be incapable of crawling out of the Mia Mia."*

June 28, the last entry in his journal *Nothing now but the greatest good luck can save any of us; and as for myself, I may live four or five days if the weather continues warm. My pulse is at forty-eight, and very weak, and my legs and arms are nearly skin and bone. I can only look out, like Mr. Micawber, for something to turn up. Starvation on nardoo is by no means very unpleasant, but the weakness one feels, and the utter inability to move oneself, for as far as the appetite is concerned, it gives me the greatest satisfaction. Certainly fat and sugar would be more to one's taste, in fact, those seem to me to be the great stand-by for one in this, extraordinary continent, not that I mean to depreciate the farinaceous food, but the want of sugar and fat in all substances obtainable here is so great that they become almost valueless to us as articles of food, without the addition of something else. "*

He died within the next four days and Bourke died on June 26/7. In spite of starvation the fern was primarily the killer!

Why does this fern contains this toxic chemical? Does it benefit the plant or is it purely a fortuitous metabolise?



Jones & Clemesha describe *M. nutans* as a large attractive species with glossy smooth leaflets with attractive brown or light green band across the middle; pedicels of sporocarps usually branched 1-3 times. Occurs all states except Tas.

SOUTH EAST QUEENSLAND OUTING TO CUNNINGHAM'S GAP
SUNDAY 3 MARCH, 2002 [M.M.G.1][M.M.G.2]

Contributed by Merle Gynter

Saturday in Brisbane was a very welcome rainy day. Early Sunday was showery, so some of the about 12 members who participated had misgivings about the weather as we headed West toward the range. However, the day continued to improve as we travelled, and we had fine, pleasant weather for our outing.

We met at the picnic area on the Western side of the gap, in an area at the start of the Eucalypt forest. Our leisurely walk started back in the rain forest, at the Gap itself, an area rich in epiphytes. Firstly the group walked to the lookout to admire the view over the country to the East. Weather conditions appeared to have been somewhat different from those which preceded our last visit, some years ago. This time, there was little colourful new growth on the *Blechnum* sp. and *Doodia* sp. Also, the *Lastreopsis* sp. seemed to extend somewhat further downhill towards the Brush Box forest than some remembered from the last visit.

The fern list with 29 species is as follows:

<i>Adiantum atroviride</i>	<i>Calochlaena dubia</i>	<i>Lastreopsis munita</i>
<i>Adiantum diaphanum</i>	<i>Christella dentata</i>	<i>Microsorium scandens</i>
<i>Adiantum formosum</i>	<i>Davallia pyxidata</i>	<i>Pellaea nana</i>
<i>Adiantum hispidulum</i>	<i>Dictymia brownii</i>	<i>Platycterium bifurcatum</i>
<i>Arachniodes aristata</i>	<i>Diplazium assimile</i>	<i>Platycterium superbum</i>
<i>Arthropteris tenella</i>	<i>Doodia aspera</i>	<i>Pteris tremula</i>
<i>Asplenium attenuatum</i>	<i>Doodia caudata</i>	<i>Pteris umbrosa</i>
<i>Asplenium australasicum</i>	<i>Hypolepsis glandulifera</i>	<i>Pyrrhosia concurrens</i>
<i>Asplenium polyodon</i>	<i>Lastreopsis decomposita</i>	<i>Pyrrhosia rupestris</i>
<i>Blechnum cartilagineum</i>	<i>Lastreopsis microsora</i>	



EXCURSION TO D'AGUILAR RANGE NATIONAL PARK

Contributed by Irene Cullen

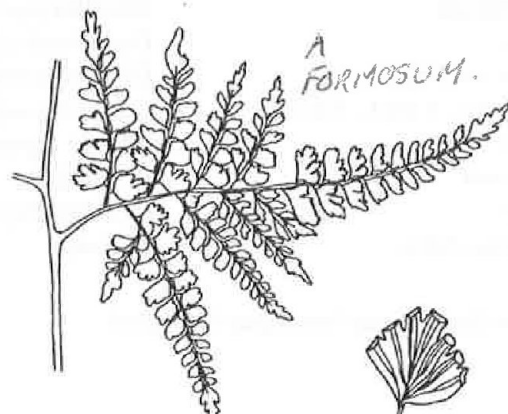
The two areas we visited - Jollies Lookout and Boonban National Park are also part of the Brisbane Forest Park. At Jollies Lookout, the wind was icy. But when we started on the 1.7km circuit out of the wind, it was a perfect day for walking. This gully walk was a pleasant surprise. On the way to the Park the country side was very dry. We doubted that many ferns would be found. Twenty-one species were recorded. Both *Doodia aspera* and *Doodia caudata* were prolific. Another distinct *Doodia* was seen. We recorded it as a *Doodia* Hybrid - most likely a cross between *D. aspera* and *D. caudata*.

As it was almost lunch time when we arrived back, it was decided to drive the 5km to Boonban. However three intrepid members walked the connecting trail between the two Parks and were rewarded by recording twenty-six species. *Blechnum cartilagineum* was wide spread, they said. It was seen on neither of the other walks. The 1.1 k walk around the Boonban Rest Area produced nineteen species - once again we came across the *Doodia* hybrid. However this time the spore pattern was quite different. It favoured *D. aspera*'s pattern. Could this have been a reverse parentage? The specimens of *Adiantum hispidula* var. *hypoglauca* were really beautiful.

Another very interesting feature of the walk was the board walk built around an immense Strangler Fig.

The following list compiled by Claire Shackel is of the fern species recorded on each of the three walks.

<i>Adiantum atroviride</i>	J	C	
<i>Adiantum formosum</i>	J	C	B
<i>A. hispidulum</i> v. <i>hypoglaucum</i>	J	C	B
<i>A. hispidulum</i> v. <i>hispidulum</i>	J	C	B
<i>Arachniodes aristata</i>		C	B
<i>Arthropteris tenella</i>		C	B
<i>Asplenium australasicum</i>	J	C	B



Blechnum cartilagineum		C	
Calochlaena dubia	J	C	
Cheilanthes sp.	J		
Christella dentata	J	C	
Davallia pyxidata	J	C	
Doodia aspera	J	C	B
Doodia caudata	J	C	B
Doodia hybrid	J		
Drynaria rigidula	J	C	B
Lastreopsis decomposita	J	C	B
Lastreopsis marginans	J	C	B
Microsorium scandens		C	B
Nephrolepis cordifolia		C	
Pellaea nana		C	
Pellaea parodoxa	J	C	B
Platycerium bifurcatum	J	C	B
Platycerium superbum	J	C	B
Pteridium esculentum	J	C	B
Pteris tremula		C	B
Pryossia confluens	J	C	B
Pyrossia rupestra	J	C	B

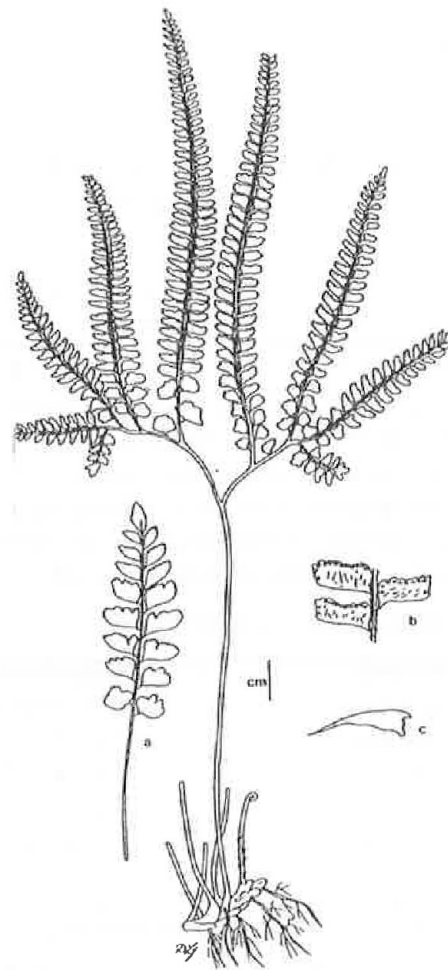


 Fig 48 ADIANTUM HISPIDULUM X½

SYDNEY FERN NURSERIES

Contributed by Ron Wilkins

At a Sydney ASGAP Fern Study Group meeting late last year, Kyrill Taylor introduced a discussion on the status of fern nurseries in the greater Sydney area.

It is truly an extraordinary state of affairs where no specialist fern nurseries exist to service a population of four million people, especially with our climate in which so many ferns grow comfortably. There must be a great opportunity for a young horticulturist in Sydney to develop a thriving business in Australian ferns.

Meanwhile, I have been nosing around Sydney nurseries, picking up new ferns here and there for a couple of years. The best nursery for ferns that I have found is Palmland, which includes Sydney Wildflower Nursery North, 327 Mona Vale Road, Terry Hills. The nursery contains a good selection of palms, cycads and Australian rainforest trees. Its well worth a visit from time to time. The ferns are presented in excellent condition and include a basic selection of Australian ferns in addition to well-known exotics. The ferns are popular and sell really well. This is a list of Australian ferns or near relatives which can usually be found there. Occasionally others appear.

Adiantum aethiopicum	Cyathaea australis	Hyperzia phlegmaria
A. hispidulum	C. brownii (Norfolk Is.)	Microlepis speluncae
Angiopteris evecta	C. cooperi	Nephrolepis cordifolia
Asplenium attenuatum	C. robusta	Pellaea falcata
A. australasicum	C. tomentosissima (N.G)	P. nana
A. bulbiferum	Davallia pyxidata	P. rotundifolia (N.Z.)
A. nidus	Demnstaedtia davallioides	Platycerium bifurcatum
Blechnum cartilagineum	Dicksonia antarctica	P. superbum
B. gibbum (N. Caled., Fiji)	Dicksonia squarrosa (N.Z.)	Polystichum proliferum
B. nudum	Doodia aspera	Pteris tremula
B. pattersonii	D. caudata	P. umbrosa
B. wattsi	D. heterophylla	Todea barbara
Calochlaena dubia	D. media	*****

FERN FIELD ID GUIDE BY BETTY RYMER

Earlier in the year Betty presented a paper on fern ID in the field at the Sydney Fern Study Meeting. In a note received she says:

"So often someone says 'That fern is ...' When you say why, they do not know. This is how I first tried to sort ferns out in my mind. I made a book for identification that I could take on walks. However I only considered NSW ferns."

This was originally done in the early '80's, so Betty has just done a check using '*NSW Flora Vol.*' before suggesting that people may like to use her model. Betty has found some discrepancies between what some people believe particular plants to be, and '*N.S.W. Flora*'.

I will endeavour to include a copy of Betty's guide for inclusion in the December Newsletter. Making your own guide It might be a good holiday project for interested members.

FORTH COMING EVENTS

PROGRAMME FOR SYDNEY MEETINGS 2002 SEPTEMBER/OCT.

SATURDAY 21 SEPTEMBER: EXCURSION TO BALLS HEAD. Meet in the car park at 12 noon. Bring a folding chair. This is a delightful picnic spot with superb views over the water to the Sydney CBD and some good patches of ferns. Objective - to make a list of the native ferns for presentation to the Park Authority which is carrying out improvements to amenities and bush regeneration in the park.

OCTOBER MEETING. Please telephone Joan Moore. Phone 9817 5487

PROGRAMME FOR STH EAST QLD GROUP -

Sunday 1st. September - Excursion to Browns Creek Road - Yandina. Meet 9.30a.m. at Wanga Park. Turn left opposite Service Station at Yandina. Take Old Bruce Park Rd. to Rest Area just before Lees Road.

Fri 13th Sept. 2p.m. Set up Fern Display at S.G.A.P. Flower Show Evan Deakin Building, Mt. Gravatt Show Grounds Sat 14th & Sun 15th as rostered.

October - Fern Study . Instead of our usual 1st Sunday meeting - we will join with the Samford and Pine Rivers branches for their outing to the Maroochy Regional Botanic Gardens.at Palm Creek - Tanawha U.B.D. Map 77. M17. Meet at the gardens at 9.30am. Bring your own morning tea. A sausage sizzle will be provided for lunch. Directions Watch for Ettamogah Pub, 21/2 km on, exit left to the Sunshine Motorway then take first exit left into Tanawaha Tourist Drive - then left at the windmill into Ilkley Rd, Foleys Rd then Palm Creek Road

Sun 3rd. Nov. Meet 9.30a.m. at **Kerry Rathies Home** 5 Salston Road Green Bank. Talk by Peter Bostock - his own choice

Sun 1st December. Meet Rod Patersons Fern Garden for our end of the year Break-up and Fern Swap.

SPORE BANK

ORDERING SPORE: Spore is available free of charge from Barry White, 24 Ruby St., West Essendon. Vic. 3040 **When ordering please include a stamped self-addressed envelope.**

All types of spore are welcome including fresher samples of ones already on the list. There is no necessity to separate the sporangia from the spore.

The whole, or part, frond may also be sent in, all is acceptable. Please include date of collection and, if collected in the bush, the area. In the list, the month and year of collection is shown. The letter B indicates collected in the bush. The area of collection is available on request.

CURRENT SPORE LIST 12/8/02

Contributed by Barry White

Acrostichum speciosum 12/01
 Arachniodes aristata 5/00
 Asplenium australasicum 2/02
 Asplenium milnei 1/02
 Blechnum articulatum 1/02
 Blechnum camfieldii 5/00
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 Pteris tremula 2/01
 Pteris umbrosa 1/02
 Pteris vittata 4/02
 Sticherus urceolatus 5/02

NEWSLETTER CONTRIBUTIONS SOUGHT – Thanks to those who sent articles this quarter. However, I would still like to appeal to individuals or groups to send articles, questions on their favourite plant, an interesting spot they may have visited, a tip on how to grow, or propagate plants, or problems you might be experiencing with growing. Questions have generated a deal of interest in the past.

DEADLINE FOR COPY:

Closing date for material to be included in the DECEMBER 2002 Newsletter is NOV. 15th, 2002..



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