

ASSOCIATION of

S.G.A.P. Fern Study Group

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TREASURER: Joan Moore, 2 Gannet Street, Gladesville, 2111
SPORE BANK: Dulcie Buddee, 4 Leigh Street, Merrylands, 2160

Wedding Bells!

"Congratulations" is the order of the day! Our redoubtable Leader finally entered the bonds of matrimony, marrying Margaret Mitchell on 3 April. Congratulations to you both. Members generally would surely wish Peter and Margaret much happiness in their life together.

When Do Ferns Spore

Way back in 1990 it was decided to collect information about the period of the year when spore of our native ferns are mature. If you have any data, even if of only one or two species, or for some particular months when ripe spore has been noted, now is the time to forward that information to our Secretary so it can be collated. Desirably, the following particulars should be supplied:

- 1) Botanical name of fern
- 2) Month in which ripe spore was observed
- 3) How cultivated, i.e., is fern growing in (a) a pot / basket, (b) in ground - cultivated in garden, (c) in natural bush area
- (4) Location, i.e., name of city, suburb, town or district.

If you haven't been recording this data, please give it a go. The more recordings the more reliable the conclusions. Thank you to those few members who have already contributed to the project. A few members, notably Betty Rymer, have commented about the difficulty of determining the time when spore are ripe. Some comments by our Leader together with an extract from David Jones explaining "how to do it", were published in our June 1991 Newsletter. Briefly, the message given was that you learn by doing. When looking for ripe spore and you are in doubt about its condition on a particular occasion, skip that one and examine it later, or try another fern. The more you do the better you become and with experience you will be able to quickly judge whether the spore are immature, ripe or already shed.

EVERY FOURLEAF ISN'T CLOVER.

By Calder Chaffey.

If you are travelling around the country don't ignore what at first sight you may think is clover. Especially if it is in a wet or swampy place or even in a river. It may be Nardoo, a fern superficially resembling clover- a fourleaf clover. Nardoo belongs to the genus *Marsilea*. There are seven species occurring in Australia and about sixty world wide. Most of the species are not rare but are often overlooked because of their resemblance to clover. The commonest occurrence is in areas of temporary flooding in the warmer parts of the continent. Hence *Marsilea* species can be found in inland parts of Australia when rain causes temporary filling of water holes. Other common sites are along flooded rivers, billabongs and amongst soggy grass.

This summer was a particularly good time to search for the fern "out back". There was particularly good rain in areas of the central west of NSW extending to Adelaide and causing 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 while driving past at 100 K/H. Thick patches were present in many places from 40 Klm past Cobar to 43 Klm west of Wilcannia.

Marsilea belongs to an interesting family- *Marsileaceae*. The only other Genus of this family occurring in Australia is *Pilularia*. All members of the family root in mud or wet soil. *Marsilea* can grow in up to a metre of water when the leaflets float on the surface. If shallow the fronds stand rigid and hold the leaflets above the water.

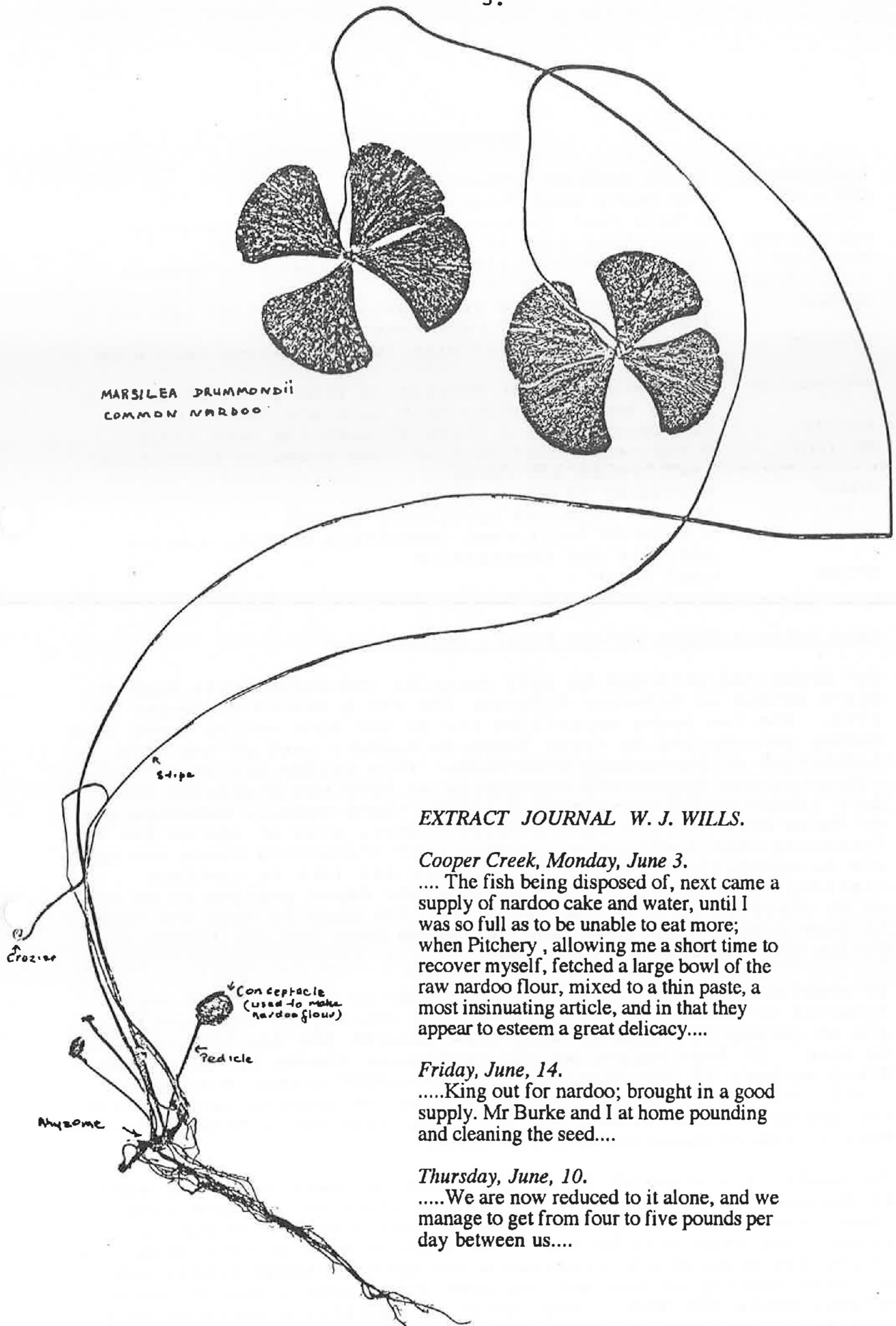
Rhizomes grow through the mud and occasionally on the surface. They are branched and at the nodes send adventitious roots into the mud. Stipes are arranged in two rows on the upper surface of the rhizomes and are sometimes clustered. At the top of the fronds are the four sterile leaflets arranged in two pairs and giving the appearance of a fourleaf-clover. 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 fiddle-stick.

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. Leaflet size varies greatly tending to be bigger growing in water. They also cluster more when growing out of water. Leaflets growing out of water also exhibit "sleep movement". This interesting 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.

However perhaps the most interesting thing is that these ferns of the family *Marsileaceae* grouped with family *Azollaceae* are all aquatic and both families produce sporocarps. This structure contains microspores which produce sperms and megaspores which produce egg cells. David Jones states "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". Here David Jones refers to *Marsilea* specifically. The sporocarp is a modified pinnate leaf and represents the fertile leaf of the plant. Sporocarps arise at the base of the leaves and have short pedicles. They are single or in groups. It is infolded and fused containing pinnately arranged sori. Each sori is composed of rows of sporangia. The hard and woody conceptacle with the pedicle is called the sproocarp. Sporocarp formation 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 in the inland areas of the continent and in areas of uncertain rain. The advent of rain commences an interesting series of events. The sporocarp contains cells packed with starchy material which absorbs water and swells into a gelatinous material. This is the useful part of the sporocarp for food. On swelling it forces the sporocarp open and extrudes carrying the sori. The sperm and egg cells develop and fertilisation takes place. The new plant becomes obvious with the development of a root and leaf within a week.

Marsilea has a wide occurrence in Australia and most species are found in all states except Tasmania. The formation and resistance of the sporocarp to desiccation and its abundance in good years has made it a good aboriginal food. There are many notes on the use of this food by aborigines in the journals of the early explorers of Australia. But perhaps the most graphic and famous are the notes recorded by Wills towards the end of the fatal Burke and Wills Exploring Expedition of 1860. They were fed nardoo by the aborigines and collected their own to try to overcome starvation. I reproduce three extracts from the journal of W. J. Wills found after his death on Cooper Creek.

MARSILEA DRUMMONDII
COMMON NARDOO



EXTRACT JOURNAL W. J. WILLS.

Cooper Creek, Monday, June 3.

.... 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....

Friday, June, 14.

.....King out for nardoo; brought in a good supply. Mr Burke and I at home pounding and cleaning the seed....

Thursday, June, 10.

.....We are now reduced to it alone, and we manage to get from four to five pounds per day between us....

GLOSSARY

CONCEPTACLE	Fruit case of a sporocarp
CROZIER	The young uncoiling frond of a fern
FROND	A fern leaf including the leaf blade and stipe
MACROSPORE	Very large type of spore (or megaspore)
MARSILEA	Named after the Italian naturalist L.F.Marsigli
MICROSPORE	Very small type of spore
NARDOO	Name used for the sporocarps of Marsilea species by the aborigines of Lake Eyre district
PINNATE	Leaf divided simply with leaflets along each side of rachis
PROTHALLUS	Rudimentary plant developing from germination of a spore and containing both male and female organs
RACHIS	Continuation of a stipe through the leaf blade
RHIZOME	A thickened root more or less creeping supporting leaf fronds and roots
SORUS	A cluster of sporangia
SPORANGIA	Stalked capsules containing spores
SPOROCARP	A stalked fruit case containing spores, i.e., a pedicile and conceptacle
STIPE	Leaf stalk

Fern Sales - Great Garden Show - North Rocks

Our Group has arranged to sell ferns at the North Rocks Deaf & Blind School on Saturday & Sunday the 4th & 5th of September 1993. The two prong objectives are to get more native ferns into Sydney gardens and to raise funds to support care of the fern collection at Burrendong Arboretum. This latter aim is in recognition of the increasing difficulty we have had providing voluntary labour up at Burrendong - a trip there usually occupies two or three days for one days effective work, plus of course the not inconsiderable expenses associated with travelling there and back and accommodation. Naturally we would all like to continue visiting Burrendong as often as able and maybe putting in an hour or so there tending to the ferns, but its good to have the time to look around too, something we seldom have had the luxury of during an organized working bee.

In readiness for our sales day, a number of members have been involved in the chores associated with potting on the fernlings and in caring for them as they grow towards the day that they can be sold. In this regard we owe particular thanks to Fern Study Group members of the Parramatta & Hills-SGAP Group, and especially Ted Newman who has not only been the driving force behind the project's conception, but has also, with Pat's help, taken on most of the responsibilities and work.

Parramatta & Hills-SGAP Group are mounting their own plant stall at the North Rocks Garden Show and therefore we are appealing to other Sydney metropolitan members to lend a hand with our Fern Sales. The Show will be open from 9.30 to 4.30 on both days, and if you can provide any assistance for part of those times, and or, with setting up and pulling down the display, please contact Moreen, phone 528 4881. Your offer of assistance would be very gratefully received as there are few names on the roster at present.

A Member's Fern - Drynaria rigidula

Presented by Pat Kenyon.

At our March 1993 meeting, Pat as an aside, first showed us a pot of Blechnum penna-marina which indeed had fertile fronds - she had been told at a previous meeting that this fern only produced fertile fronds where the weather was much colder than Sydney's. One up for you Pat! Although we did notice that the fern and its fertile bits were not quite up to the super quality of most plants seen in the Kenyon / Newman garden.

Pat's Drynaria rigidula with tall, arching fronds, and many nest leaves, filled a large basket. The fern had been bought in September 1988 in 2" pot at the time of our Study Group's fern sales. Shortly after purchase, Pat said that she transferred it to its present wire basket lined with coconut fibre and, as far as Pat could recall, an ordinary commercial potting mixture. The fern had thrived.

Occasionally over the years the fern had been attacked by sap sucking insects. Pat said that her solution has been to cut off the affected fronds and burn them. The basket was sited partly under the eaves on the southern side of their Dural home and partly under 70% shade cloth, and has survived storms without any apparent harm.

Pat offered as one of the secrets for success, the need to grow Drynaria rigidula in a situation where it gets plenty of light.

Thank You to Some Generous People

Firstly to those who sent money! Our Treasurer reported donations received from the following members when renewing subscriptions: Beryl Geekie, Faye Lowe, Nan Nicholson, Mr & Mrs L. O'Connor, John Seebeck and SGAP-New England Group. Your contributions towards meeting the Group's expenses are greatly appreciated, thank you sincerely.

The subscription of \$4 per year for the 1993 calendar year fell due on 1 January 1993. If according to our records, your fees have not been paid, a red cross appears opposite here.

When paying, please remit to our Treasurer, Joan Moore, 2 Gannet Street, Gladesville, 2111. The subscription for overseas membership is \$8 in order to cover the cost of additional postage.

And secondly, thank you to those who have sent spore which of course is vital for the Spore Bank to fulfill its role. After taking over the Spore Bank at the beginning of this year, Dulcie has reorganized and is ready to handle requests from members who want to grow their own ferns. Simply forward a list of the fern species that you are seeking together with a stamped self addressed envelope, to 4 Leigh Street, Merrylands, 2160. The success of the system depends on Dulcie receiving ample donations of spore, and we wish to thank the following recent donors: Rose Bach, Phyll Brown and Michael Healy. The current Spore List is shown elsewhere in this Newsletter.

SPORE LIST

The following spore are currently available from our Spore Bank. Where known the date of collection is shown. Although some spore is old it is said to be in good condition and may be worth trying, even if only to prove something about fern viability. Dulcie is trying some and we would be interested in getting reports of success or failure from any others who have used old spore. Requests for spore should be accompanied by a stamped, addressed envelope. The standard size envelope and postage of 45 cents, is usually sufficient for orders of up to 6 species.

Acrostichum speciosum, Adiantum sp.(Comboyne) 4/86, Arachniodes aristata 2/91, 4/90, Asplenium nidus 1/86, Blechnum camfieldii 5/90, B.cartilagineum 4/90, B. fluviatile 4/90, B. minus 6/90, B. nudum 11/82, B. wattsi 4/90, B.wattsi (Mt.Dromedary) 4/90, B.wurunuran 9/86, Cyathea australis 11/83, 4/90, C.australis (blue tinge) /87, C. cooperii (rusty) 1/87, C.cooperii (robust) 1/88, C.cunninghamii /86, C.leichhardtiana 5/90, C. rebecca 11/82, C.woollsiana 6/90, Christella dentata 7/90, C. subpubescens 8/83, Cystopteris filix-fragilis 1/87, C.cyclosorus interruptus 1/83, Diplazium assimile /90, D.australe, Dicksonia antarctica 12/82 /87, D.youngiae (Broken Head) /90, Lastreopsis decomposita 11/83, Platycerium superbum 6/90, Polystichum formosum 4/90, Psilotum nudum, Pteridoblechnum neglectum 12/84, Pteris comans 11/92, Pteris umbrosa, P. tremula, Rhumora adiantiformis.

A Member's Fern - Arthropteris tenella

Presented by Rose Bach

At our May meeting Rose admitted to being some reluctant to present this segment. Then having decided to do so, had great difficulty making up her mind about which fern!

Arthropteris tenella was in her fernery before Rose joined the Study Group, but at that time Rose said she thought it was another Microsorium scandens. After becoming a member of SGAP and seeing the fine specimen that Jan Fairley had growing in a basket, Rose said that she took off pieces and planted them in a basket - they didn't grow. Transferred to a glass tank they have done very well. The tank has also been used to grow A.beckleri and Leptopteris fraseri with great success.

Rose builds the glass tanks using bus windows 31" by 22" fixing four together on a wooden frame, with the front one in a slide for ease of opening and closing. A deep layer of charcoal is placed in the bottom of the tank, gravel on top of that, then a layer of good compost. She puts a bowl of water in the tank which helps raise the level of humidity and apart from lightly misting any filmy ferns, she does not need to water. Occasionally, Rose clears a corner of the tank and uses a cloth to sop up any excess water.

Deadline for Copy

The Newsletter is only as good as the contributions received for inclusion. You can make it more interesting by sending articles of the type that appeal to you. Closing date for copy for our next Newsletter is 15 August 1993.

NOTES FROM MID NORTH COAST

Contributed by Charlie Charters

Report on Outing to Dorrigo, 20-21 March 1993

Once again the Group had a very enjoyable and successful week end.

Dorrigo as usual put on the rain as a few of our members who decided to arrive on Friday discovered. But fortunately the weather cleared at lunch time allowing us to set up camp and complete a couple of walks in the afternoon. Saturday dawned clear and fine and the Group - Steve, Pauline, Jean, Phill, Julie, Rose, Patsy, Judy and Charlie, met at the National Parks Centre for an early lunch before setting out on the Wonga Walk. The walk took approximately 3 hours and during that time we were able to find 40 different fern species. Due to the heavy rain, the waterfalls were very spectacular making the walk most enjoyable.

The Group then headed into the New England National Park where we camped for the night. Sunday morning saw us heading off to do the Cascades Walk where we were able to find 29 different species of ferns. This turned out to be a delightful walk and thoroughly enjoyed by everyone, though at one stage the track along the creek disappeared under water and it required a certain amount of scrambling over rocks until we found the track again. But the walks were still worth the struggle.

The ferns identified at the three sites, Dorrigo National Park Wonga Walk, New England National Park Cascades Walk and the Campsite for Caravans (just outside the latter Park) follow.

<u>Fern species</u>	<u>Wonga</u>	<u>Cascades</u>	<u>Campsite</u>
Adiantum diaphanum	yes		
" formosum	yes		
" hispidulum	yes		
" silvaticum	yes		
Arthropteris beckleri	yes	yes	
" tenella	yes		
Asplenium australasicum	yes		
" bulbiferum		yes	
" flabellifolium	yes	yes	
" flaccidum		yes	
" polyodon	yes		
Blechnum cartilagineum	yes		
" minus		yes	yes
" nudum	kiosk	yes	yes
Blechnum patersonii	yes	yes	
" penna-marina			yes
" wattsii		yes	
Cyathea australis	yes	yes	yes
" leichhardtiana	yes		
Davallia pyxidata	yes		
Dicksonia antarctica	yes	yes	
Dictymia brownii	yes	yes	
Diplazium assimile	yes		
" australe	yes	yes	
" dilatatum	yes		
Doodia aspera	yes		
" caudata	yes		
" squarrosa	yes		

	Wonga	Cascades	Campsite
<i>Gleichenia dicarpa</i>		yes	
<i>Grammitis billardieri</i>		yes	
<i>Histiopteris incisa</i>	yes	yes	
<i>Hymenophyllum bivalve</i>		yes	
" <i>cupressiforme</i>		yes	
" <i>flabellatum</i>		yes	
<i>Hypolepis glandulifera</i>	yes		
<i>Lastreopsis acuminata</i>	yes	yes	
" <i>decomposita</i>	yes	yes	
" <i>microsora</i>	yes		
" <i>munita</i>	yes		
<i>Lunathyrium petersenii</i>	yes	yes	
<i>Microsorium scandens</i>	yes		
" <i>diversifolium</i>		yes	
<i>Pellaea falcata</i>	yes	yes	
" <i>paradoxa</i>	yes		
<i>Platycterium bifurcatum</i>	yes		
<i>Polyphlebium venosum</i>		yes	
<i>Polystichum proliferum</i>		yes	
<i>Pteridium esculentum</i>	yes	yes	yes
<i>Pteris tremula</i>	yes		
" <i>umbrosa</i>	yes		
" <i>vittata</i>	roadside		
<i>Pyrrosia confluens</i>	yes		
" <i>rupestris</i>	yes	yes	
<i>Sticherus lobatus</i>		yes	
<i>Todea barbara</i>		yes	
<i>Vittaria elongata</i>	yes		

NOTES FROM SOUTH EAST QUEENSLAND

Contributed by Irene Cullen

Report on Outing to Mt Tambourine, 20 March 1993

Our outing to the Fern Farm now known as Tassledon was most enjoyable. Tassledon has had a new frontage and a new display area for ferns. The ferns are now housed in a huge dome. We were promised to be the first visitors to view it. Unfortunately it was not quite ready to be opened and when advised of the fact before hand we decided not to alter our date. Our hosts went out of their way to make our visit well worth while. They specialise in "tassell" ferns. The well grown tassells left us in no doubt that these ferns will grow in cooler areas. There were plenty of small potted ferns for sale at a very reasonable price.

Our outing to Glen Witheren, Canungra has had to be cancelled. South Eastern Queensland is suffering the same drought as the rest of the State. In place we will meet at Ethel Baxter's home where we will be able to see a good variety of ferns. Our discussion will be Blechnums.

A member, Ross Scott from Kenilworth, graciously posted a clump of *Asplenium hartmanii* to me for our Group. It was decided to leave them in the capable hands of Cliff Ritchie to grow on for the time being.

NOTES FROM SYDNEY AREAReport on Meeting at Turramurra, 21 March 1992

On a day punctuated by sudden showers, 20 members gathered at the home of Pam & Max Hill, and were enthralled again at our Leader's knowledge. "Collecting in North Queensland" came to life for us thanks to Peter's slides and incisive commentary on the many ferns and other plants he showed. For most of us it revealed how much we don't know - thanks Peter for giving us a glimpse of a wonderful part of our country. Thanks also Pam and Max for your hospitality, we were sorry not to have seen more of your large collection of ferns. Noteworthy was a huge Platycterium superbum, several outstanding Pteris species and a wide selection of very tidily maintained ferns, inside the fern house and throughout the grounds.

Report on Outing to Kareela, 24 April 1993

Contributed by Joan Moore

Members were very impressed by Joseph Banks Native Plant Reserve. The water arrangements, pools and waterfalls must have cost the Council plenty. The Council also has been responsible for most of the planting although Sutherland SGAP has had a significant input. Our Study Group was responsible for providing many of the ferns. A list of the ferns seen there follows.

Adiantum hispidulum A. formosum Asplenium australasicum
A. bulbiferum Blechnum minus B. patersonii B. wattsii Christella
dentata Culcia dubidenta Cyathea cooperi C. woolfsiana Davallia
pyxidata Dicksonia antarctica Doodia aspera D. caudata D. media
Gleichenia dicarpa Histiopteris incisa Lastreopsis microsora
Nephrolepis cordifolia Pteris tremula P. umbrosa Todea barbara.

Report on Meeting at Kenthurst, 16 May 1993

This was the coldest May week end for 100 years and from the outset all 21 members present sought refuge in our hosts, Betty and Eric Rymers' warm living room. Peter with the aid of photo copied enlargements from the S.B. Andrews book, "Ferns of Queensland", informed us about the genus Christella, one of 24 genera in the family Thelypteridaceae. Australia has 10 members of the family and all of these are found in Queensland, two extend to N.S.W., namely Christella and Cyclosorus.

There are 5 Christella species in Australia, all somewhat similar and to Peter's eyes, the slightly yellowish appearance of this genus, makes it easily recognised in the wild. They have bipinnatifid pinnae, the lower pairs gradually reducing in size; the sori is round with a kidney shaped indusium, and all are hairy. Peter took us through the key shown in "Ferns of Queensland" making use where possible of the many fronds of C. dentata brought to the meeting and the frond of C. hispidula which Peter brought from the specimen which he has growing in his garden. Apart from those two ferns, the only other species being grown by members present at the meeting is the C. subpubescens cultivar "Keffordii".

According to the literature, all five *Christella* species are hardy and easy to grow in cultivation. Having frond specimens at the meeting made us realize the difficulty of positive identification using the diagnostic features shown in the key. Peter pointed out that the neat lobing of the pinnae depicted in the Book's illustrations, in reality on the fronds examined, varied markedly in depth. Separation of *C.dentata* and *C.subpubescens* - the final pairing in the key, seemed to boil down to the presence of capitate (i.e., with an enlarged often almost round tip) hairs between the veins on the lower surface of pinnae (makes it *C.subpubescens*).

A brief description of each of the *Christella* species follows.

C.arida North East Qld (& S.E. Asia), to 120 cm tall, long creeping rhizome, gradual reduction of lower pinnae.

C.dentata Qld NSW Vic SA (& New Zealand), to 1 m tall, short creeping rhizome, narrow sparsely hairy pinnae, basal 2 to 4 pairs of pinnae gradually reduced in size lobes of pinnae divided 1/2 to 2/3 of way to midrib. This fern spores so prolifically that, as Peter said, it must be close to being declared a weed!

C.hispidula North East Qld NSW (& Borneo & Malayasia), to 60 cm tall, tufted rhizome, very narrow pinnae with narrow lobes, and markedly reduced lower pinnae.

C.parasitica Qld NSW SA (& pantropic), to 50 cm tall, short creeping rhizome, pale green fronds, deeply lobed pinnae, long lower pinnae, basal pinnae not or only slightly reduced. The fronds have a distinct smell of cummin (Cummin cyminium).

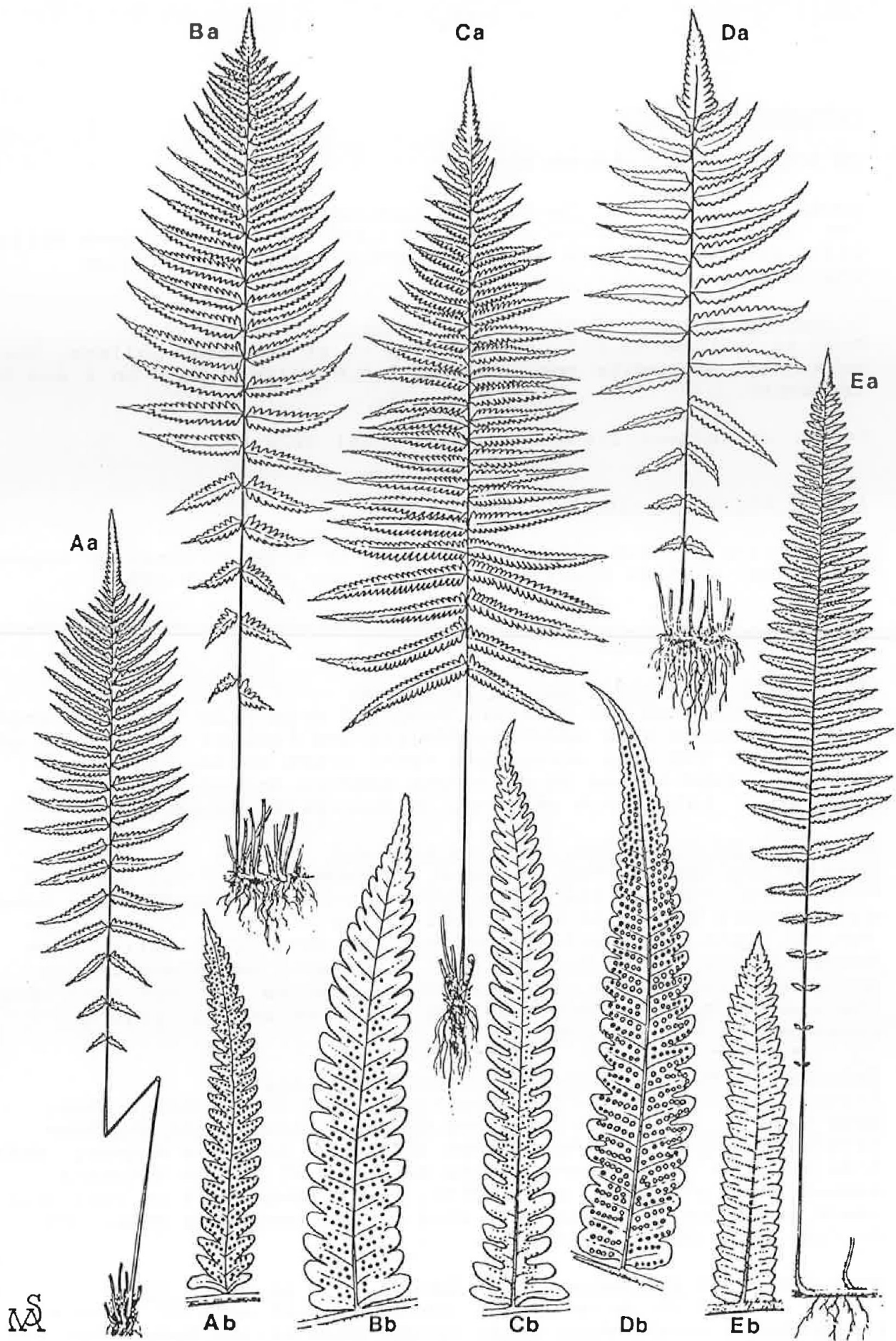
C.subpubescens North East Qld (& Pacific Islands to Malayasia), 1 m tall, tufted rhizome, broad hairy pinnae, lobed 2/3 or 3/4 to the midrib, basal pinnae only slightly reduced.

The Passing of a Gentle Man - Vale John Green Fairley

After a long illness, John Fairley, former Major 22nd Infantry Brigade died late last year aged 90. Those of us who knew John as a member of our Group, would never believe that he was anything less than 10 years younger such was his alertness and erect bearing. He was passed medically fit to hold his drivers licence on his 90th birthday and up to the last year, he and wife Jan, still participated in our treks in the bush in search of ferns.

In February 1942, the Company of which he was Commander, bore the brunt of the Japanese invasion of Singapore Island suffering 50% of their number killed in action and there he was taken a P.O.W. He told us little of those fearful years, rather talking quietly of other subjects. SGAP members since its inception, and outstanding workers and supporters of the Warringah District Group, he and Jan developed a fine large garden and even after the subdivision of their land, they, still maintained a large garden of native plants including a splendid collection of ferns many of which are housed in their shade houses in immaculate conditions.

Thank you John Fairley for letting us share a part of your life, we greatly miss the warmth of your friendly nature and your gentlemanly conduct. May you rest in peace.



(Extract from "Ferns of Queensland" by S.B. Andrews)

Fig. 36.3. A. *Christella hispidula*. B. *Christella dentata*. C. *Christella parasitica*. D. *Christella subpubescens*. E. *Christella arida*. a. fronds and rhizome $\times 2/15$. b. pinnae $\times 2/3$.

FORTHCOMING EVENTSIN SOUTH EASTERN QUEENSLANDSunday 11 July 1993, Meeting at Sunnybank Hills

The venue Cliff Ritchie's home, 85 Lang Street, Sunnybank Hills. Cliff will show us his method of growing ferns to Display Standard.

Friday 3 September 1993, Fern Display, Rochedale

Meet at 3.30 pm to set up Fern Display at Redeemer College, Rochdale Road, Rochedale for annual S.G.A.P. Flower Show on 4 and 5 September.

Enquiries contact Irene Cullen (07) 341 4272.

IN THE MID NORTH COAST OF N.S.W.

For details of next outing, or anyone wanting information regarding Group, contact Charlie Charters phone (065) 85 6296.

IN THE SYDNEY REGIONSaturday 5 June 1993, Outing to Lawson

Meet at Lawson at the Soldiers Memorial from 9.30 for 10 am sharp start for short walk visiting Adelina and Federal Falls - one of the best of the more accessible ferny areas in the Mountains. Expect to find around 30 different species including Blechnum gregsonii. Late lunch at cars. Enquiries to Peter 625 8705.

Saturday 24 July 1993, Meeting at Dural

Meet at the home of Pat Kenyon & Ted Newman, 1057 Old Northern Road, Dural. Enter the property from private road on right hand side exactly 2 km past Dural Post Office. Arrive from 12 noon for 1pm sharp start with Study Session, this time dealing with Macrothelypteris and Cyclosorus. Study will be helped if you bring with you fronds of any of these species and your hand lens. The item "A Members Fern" will be presented by Les Taylor. Enquiries to Pat 651 2765.

Saturday 21 August 1993, Outing to Mount Katandra

Travelling towards Gosford turn right into The Entrance Road, pass sign to The Ferneries, into Carlton Road, right and then left into Wattle Tree Road, then left into Katandra Avenue. Meet from 9.30 for 10 am start at the car park at end of Katandra Avenue. Walk of medium difficulty, carry lunch. It is just four years since our last visit to this very interesting area. Enquiries to Peter 625 8705.

Week End 4 - 5 September 1993, Garden Show at North Rocks

From 9 am to 4.30 pm both days assisting with sale of ferns at the Graham & Sandra Ross Great Garden Show at the School for the Deaf & Blind, North Rocks. A few more volunteers would lighten the load for all - phone Moreen 528 4881 if you are not already on the roster and can help.