

A.N.P.S.A. Fern Study Group

Newsletter Number 128

ISSN 1837-008X DATE: June, 2013

LEADER: Peter Bostock,

Qld 4069. Tel. a/h: 07 32026983,

email: pbostock@ozemail.com.au

TREASURER: Dan Johnston,

Qld 4556. Tel 07 5445 6069,

email: dan.b.johnston@bigpond.com

NEWSLETTER EDITOR: Dan Johnston, contact as above.

SPORE BANK: Barry White,

From the Editor

Dan Johnston

Once again, we have had a great start to the year for ferns, if not for a lot else, in South-East Queensland. At Buderim, we had over 500mm in each of January and February. While it has eased up a bit since then, we're still clearly in line for our 4th year in a row of above average rainfall. One of the casualties of the wet weather was the first 2 meetings of the year for the SE Qld group, which were both cancelled because of damage at the venues.

This is probably one reason for the lack of newsletter material, which has delayed this edition of the newsletter – along with my absence for most of May. Sorry about the delay.

I'd like to encourage you to assist Kylie in her bid to raise the profile of ferns in ANPSA by producing an edition of Australian Plants devoted to ferns.

Request for Articles/Article Suggestions

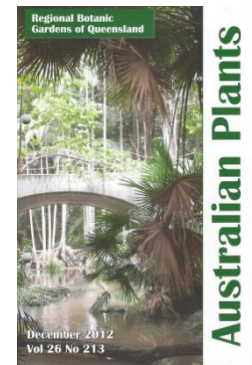
Kylie Stocks

We have been given our own edition of Australian Plants!

For those of you who keenly await the arrival of this volume, only to be disappointed by the lack of fern content, now is your chance to make a difference.

The editors of Australian Plants have recognised that our particular group of plants is under-represented in the magazine, and have decided to dedicate the Spring 2014 volume to ferns. We have been provided with a template, and articles need not be supplied until June 2014.

If you are interested in contributing, or have suggestions as to what might make worthwhile ferny content, please contact Kylie Stocks at verdigrisferns@gmail.com, or phone 02 4478 1311. All ideas and suggestions welcome!



Program for South-east Queensland Region

Dan Johnston

Sunday 7th July, 2013: Excursion to Booloumba Creek. Meet at the Little Yabba Creek picnic area on the Maleny-Kenilworth Road at 9:30am.

Sunday, 4th August, 2013: Meeting at 9:30am at the home of Ray and Noreen Baxter.
Slide viewing.

Friday, 30th August, 2013 to Sunday, 1st September, 2013: Instead of meeting in September, we will participate in the SGAP (Qld) Flower Show on Saturday, 31st August and Sunday, 1st September. Set up on Friday, 30th August.

Monday, 14th October to Friday, 18th October, 2013: Excursion to Bunya Mountains. Please let Peter Bostock know if you are planning to attend this excursion.

Program for the Sydney Region

Peter Hind

Saturday, 15th June, 2013. Meet about 10.30am at The Mt Tomah Botanic Garden Visitor Centre. Entry is free. We plan to look around the natural and some of the planted areas of ferns and other native plants. Wear warm clothing and sensible footwear. Bring packed lunch. The Restaurant does serve meals, but probably requires booking for groups to eat there and it's usually not convenient to our variable walking finishing times.

Saturday 20th July 2013. Meet at 11am at the home of Liz and John Aitken,

(John is

President of the A.N.P.S.A.)

John and Liz's garden faces south overlooking the Woronora River. Having a southerly aspect, their garden mainly features shade-loving plants. On the sloping block John and Liz have created a delightful garden which includes a large variety of rainforest trees and ferns. Please be aware that the house and garden are accessible only via steps. We plan to do an easy study on the growing of *Platyserium* species.

Saturday 17th Aug 2013. Meet from about 10.00am at Pierces Pass (if late just follow the walking track downhill to the "Fairy Grotto" from the car park area). Travelling from Sydney along the Bells Line of Road (Richmond to Lithgow), turn left at the sign to Pierces Pass (West of Mt Tomah) and drive to the car park and picnic area furthest from the Highway (or leave your car at the top & walk down, it's a fair way and relatively steep). The walk involves a short but steep descent to the creek, where *Leptopteris fraseri* is abundant and forming free standing trunks. Bring lunch and water if required (eat back at cars or snack enroute). There is a water tank near the cars, fed by weeping rocks from above. Toilets are also provided here by National Parks. Our last FSG trip here was November 1998. The BPS and some of us visited here in April 2009. About 25 fern species were seen here on our last visit.

Saturday 21st Sept 2013. Meet from about 10.00am at The Avoca Reserve entrance on Cabbage Tree Road, Grose Vale, via Grose Vale Road from North Richmond. We plan to walk down and back up Cabbage Tree Creek. There is no formal track for this walk; there are many trail bike tracks which do not lead down to the creek. The descent to the creek is moderate but in places steepish, through open *Eucalypt* and *Allocasuarina* forest with mostly grassland and scattered shrubs. The creek is small at first then gradually becoming rocky before finally opening out past the rainforest to a bouldery but shallow bed at the confluence of Burralow creek, before it empties into the Grose River.

A good lunch spot and turnaround place is at the Burralow Creek junction, where we can sit on rocks in the stream amongst *Lomandra fluviatile* and *Austromyrtus tenuifolia*. *Blechnum nudum* is abundant here also. The rainforest has *Livistona australis* and *Toona ciliata* as well as the abundant *Backhousia myrtifolia* which is a favourite host for epiphytes, including ferns. Bring water and lunch, also wear sensible footwear for light rock scrambling – nothing very difficult to scale. The creek head is parallel to the road in and is bordered by private farms. I have listed about 40 fern species for the Avoca Reserve.

All outings are subject to weather conditions being favourable.

Sydney Area Meeting Reports

Sydney Meeting at Oakdale

Margaret Olde

The final meeting of the Sydney group for 2012 was held at Margaret and Peter Olde's

Members wandered through the expanding fern collection and commented on the growth of the plants since the last visit. *Blechnum* in particular seem to thrive in the area. The *Blechnum minus* with their undulating fronds look very attractive and the *Blechnum nudum* along the pathway have grown so large that they need to be given a new home elsewhere!!



Margaret's fernery is now home to a magnificent 30 year old *Angiopteris evecta*, which had outgrown its previous home in member Kyrill Taylor's fernery! Several years ago, Queensland member Graeme Nosworthy also donated his *Angiopteris evecta*, as it was too large to take with him to his new premises. Two very large *Platycterium superbums*, originally collected by a forester in the Coffs Harbour area in the 1930's and lovingly cared for by his daughter Pat Maroney, till they also outgrew their home, have recently moved in. All seem to have settled in happily as has another *Platycterium superbum* donated by Pam Pitkeathly!



The ferns were originally planted in an area shaded by a number of *Pittosporum undulatum*. Wind was a problem, so in 2005 a fernery was built around them! A stream was incorporated which provided humidity and a rainforest was planted in the surrounding area. These trees are now towering over the fernery, so the next project is to transplant a lot of the hardier species and spontaneous tree ferns from inside to outside to make way for exciting new acquisitions. Many of these come from Verdigris Fern Nursery, owned and operated by Fern Study Group members Kylie and Dwayne Stocks which has an outstanding range of Australian and other ferns, including many rare species.



www.verdigris.com.au (Email verdigrisferns@gmail.com)
 Verdigris Nursery, Currowan Creek NSW 2536
 Ph. 02 4478 1311

Saturday 20th April, 2013 Kylie & Dwayne Stocks

Dot Camp

Thanks to Kylie & Dwayne for species names & photos

The day began with wet, windy weather, however, it cleared up by our meeting time. Things have changed quite a bit since the last visit. A new deck has been added with a large fern area underneath, housing *Ptisana howeana* and *P. salicina*, as well as many of the *Polystichum* and *Dryopteris* species in the collection. Also established there are *Dicranopteris linearis* and *Diplazium queenslandicum*. The picture at right shows the new, higher roof on the garden at the rear of the house, which houses (among other things) *Cyathea robertsiana*, *Angiopteris evecta*, *Sticherus flabellatus* and *S. lobatus*, *Cyathea rebecca* and *C. kermadesensis*.



Dwayne has worked very hard adding more display gardens & Kylie has plenty of interesting ferns to fill them! The display garden below the house was newly planted just prior to the last visit, and the plants have grown substantially since then. This garden contains plants such as *Cyathea dealbata*, *Platycerium veitchii*, *Blechnum tabulare*, *Tectaria confluens*, *Blechnum nudum* (crested) and a crested *Cyathea cooperi*.

The production nursery contains many stock plants waiting to be planted, including a wide range of both ferns and native rainforest species.

The tree fern house contains a dazzling display of tree ferns, which are nearly touching the roof (5m high) in some places, despite being planted for only two years. This garden contains a range of *Cyathea cooperi* variants, including 'cinnamonii', 'Highland Lace', 'White Knight', 'Marleyi' and the new dwarf cross, 'Aussie Larrikin'. Other interesting species in this garden include *Osmunda regalis* 'atropurpurea', *Onoclea sensibilis*, *Blechnum orientale*, *Cyathea cunninghamii*, *Dicksonia youngiae*, *Dicksonia berteriana* and *Matteuccia struthiopteris*. Many of the damp-loving ferns are in this garden, as it receives run-off from the nursery.

The last display garden was in the process of being renovated, as some of the tree ferns were getting too tall, and the roof had to be raised. The *Cyathea robusta* is now putting on some good growth, as are the *Platycerium bifurcatum* and *Asplenium polyodon*. Inside the house, the filmy fern enclosures are showing good progress, although the larger one is proving tricky to establish.

Viewing the ferns & munching into Kylie's cooking feats left us no time to view the 'acreage', which the Stocks' are planning on returning to rainforest with extensive ferny understorey..... next time!!

Meeting report 18th May, 2013

Dot Camp

For our May meeting we met at the home of Natalie & John

We were all very impressed by Natalie & John's lovely collection of interesting ferns. There were beautiful baskets of *Huperzia* growing under the eaves at the back of the house and John has an impressive collection of *Platyceriums*. Peter Hind guided our study of *Drynaria*.

These attractive ferns have sterile base leaves to about 30cm that will brown, but persist for years to collect humus and protect the roots. The fertile foliage fronds are 50-100cm in length.

Drynaria quercifolia is deeply lobed & can be recognised by its regular rows of sori. It is difficult to grow in Sydney.



Drynaria sparsisora is deeply lobed with a scattered spore pattern and it is also difficult to grow in Sydney.

Drynaria rigidula can be grown in Sydney. Unlike *D. quercifolia* and *D. sparsisora* the leaves [pinnae] have stalks, with a single row of sori either side of the midribs. It is mainly epiphytic in the north of Queensland & becomes more lithophytic towards its southern range in northern NSW. *D. rigidula* has lots of cultivars with *D. rigidula* cv. *Whitei* being the most commonly grown.

Drynaria × *dumicola* is presumed to be a hybrid between *D. rigidula* and *D. sparsisora*.

I have attached a photo of my *Drynaria rigidula*, which has been sitting out on my patio in quite a sunny spot for the past 3 years.



South East Queensland Meeting Reports

Ferns of Maiala section of D'Aguilar National Park

Claire Shackel

After two SE Qld meetings had to be cancelled because of the weather, an enthusiastic group travelled to Mount Glorious for the April meeting. Even this meeting was at an alternate venue as Shirley and Neville Deeth had already moved from their Samford property. We had hoped to say a final farewell to a garden where we have had many happy meetings.

As the weather in Brisbane had been showery for days, Maiala did not seem to be a very promising place to visit. But it did remain fine if overcast for the morning and we all had a pleasant but muddy walk up to and around the Cypress Grove.

Near the main entrance to the track was a patch of *Hypolepis glandulifera* and *Christella dentata*. Inside the rainforest the destruction caused by the mini cyclone in January was everywhere to be seen. There were a large number of uprooted big rainforest trees that left holes in the canopy. The clean up job so that the tracks could be reopened was a major one and explains why some areas are still closed.

As we moved along the lower path, patches of *Lastreopsis marginans* and *L. microsora* were common and *Arthropteris tenella* and *Microsorium scandens* scrambled up the trees. In the wetter areas *Arthropteris beckleri* made a dainty ground cover over the rocks, but when it climbs, it can become quite robust as we saw from an elevated viewpoint on a bridge over a deep gully. As it has been so wet for the last few years, small *Cyathea leichhardtiana* were crowded along the side of the track as well as many mature specimens in the wetter areas of the forest. As this track crosses a number of gullies feeding into Maiala Creek there were many wet areas suitable for plants of *Adiantum diaphanum*, *Lastreopsis smithiana* and *Diplazium assimile*.

All along the track, canopy trees were hosts to *Platyserium superbum* and *Asplenium australasicum* with a few *Davallia pyxidata* and *Asplenium polyodon*. At ground level *Pyrrosia rupestris* and *P. confluens* could be seen climbing trees and the trunks of fallen giants. *Adiantum hispidulum* var. *hypoglaucum* and *Doodia caudata* were on the track edge.

Crepidomanes vitiense was the mission of the day and George Cornwell found some patches on a tree buttress (*Sloanea woollsii*) just off the track. The previously recorded site (also on a buttress) was not located but was possibly on one of the fallen trees.

As the rainforest gives way to drier forest at the top of the ridge, *Blechnum cartilagineum*, *Calochlaena dubia*, *Doodia aspera* and *Pteris tremula* were seen. On crossing over Browns Road into the Cypress Grove, *Pellaea paradoxa* was seen in the open box forest. The party took the high track back to the entry for lunch.

There was only a small group at the May meeting : After the usual morning tea, Peter talked about recent name changes in ferns and his thought about their validity.

It was then my turn for show and tell. One of the juice bottle “hot houses” that had been in the propagation shade house for a number of years with two *Platycerium veitchii* (very slow growing) inside had been invaded by plants of *Asplenium attenuatum*, *A. flabellifolium*, *A. surrogatum*, *Cyathea cooperi* and a clump of *Vittaria elongata*—this all in a 14x8cm seeding tray. When I plant spore, the lids are left on the bottle and these are only rarely watered, but when ferns are transplanted the lids are left off and the fernlets watered occasionally with dilute Aquasol, hence the likelihood of contamination in trays containing slow growing ferns.

Some years ago there was a hanging basket of *Asplenium polyodon* in the propagation bush house and it was a common contaminant. The spore made me itchy so it was banished to the other bush house and so no more little *A. polyodon*. Hanging baskets of the two *Vittarias* were left in the shade house and now a lot of little *Vittarias* are appearing in many of the trays. They have not proved to be easy to transplant and have sulked for a long period. No attempt has been made to deliberately grow this fern.

I was asked to grow *Cyathea leichhardtiana* and given the spore. There was a wonderful germination to the fine ‘moss’ stage covering the whole tray. As no prothalli developed, small plugs of ‘moss’ were shifted to new trays and treated as if spore. There was development into tiny prothalli with some tiny ferns emerging. Considering the size of prothalli of *Cyathea cooperi*, *C. leichhardtiana* were minute. Peter confirmed that some ferns produce inhibitors that prevent spores developing past the germinating spore stage if they are too thickly planted.

Another interesting take on this germination of crowded spore was with spore collected on Cape York three years ago. There was a fine covering of ‘moss’ that did not develop at all and lost its chlorophyll in winter. In summer it went green again but still no prothalli development even around the edges and fawn again through winter. This summer plugs were transplanted and prothalli grew around the edge of the plugs and there are now nice little fernlets as well. Time will tell if they are the right fern, *Taenitis pinnata*.

The group then went for a walk around the garden where there were a number of ferns growing and with the good rains in recent years there were also volunteers. Numerous attempts to grow *Cheilanthes* have always failed but *C. sieberi* are now self sown in a number of spots—not always in the garden. *Microsorium maximum* was showing its true form. After a number of years as a neat clump like *M. punctatum*, it is now showing the characteristics of its other parent *M. grossum* and is spreading rapidly. A number of *M. punctatum* have found homes on a rock wall and baby *Platycerium bifurcatum* are also growing in the area. *Pteris vittata* has come up beside the cement walls and paths at both 19 and 17 Arafura Street. Another volunteer that has come up all over Brisbane this year, judged by the plants at the recent plant sale, is *Macrothelypteris torresiana*.

Changes to Australian Fern taxonomy

Peter Bostock

Two recent papers have resulted in name changes for Australian ferns and lycophytes (tassel ferns). In February this year, Ashley Field and I had a paper published in PhytoKeys, an online journal. Titled ‘New and existing combinations in Palaeotropical *Phlegmariurus* (Lycopodiaceae) and lectotypification of the type species *Phlegmariurus phlegmaria* (L.) T.Sen & U.Sen.’, it proposes new names for the Old-World (Palaeotropical) lycophytes (family Lycopodiaceae), in particular the tassel ferns currently placed in the genus *Huperzia*. Morphological and genetic studies have increasingly supported the separation of *Huperzia* into two distinct groups (‘clades’) and due to the vagaries of botanical nomenclature, acceptance of this view of the tassel ferns requires the true epiphytic tassel ferns to be placed into the genus *Phlegmariurus*. The following table details the name changes involved for Australian species. Note that *Huperzia serrata*, once recorded in Queensland, and now considered presumed extinct, is a true *Huperzia* and does not change its name. PhytoKeys is a publicly and freely available journal, published under the Creative Commons licence.

Former name	Current Name
<i>Huperzia carinata</i>	<i>Phlegmariurus carinatus</i>
<i>Huperzia dalhousieana</i>	<i>Phlegmariurus dalhousieanus</i>
<i>Huperzia filiformis</i>	<i>Phlegmariurus filiformis</i>
<i>Huperzia lockyeri</i>	<i>Phlegmariurus lockyeri</i>
<i>Huperzia marsupiiiformis</i>	<i>Phlegmariurus marsupiiiformis</i>
<i>Huperzia phlegmaria</i>	<i>Phlegmariurus phlegmaria</i>
<i>Huperzia phlegmarioides</i>	<i>Phlegmariurus phlegmarioides</i>
<i>Huperzia squarrosa</i>	<i>Phlegmariurus squarrosus</i>
<i>Huperzia tetrastichoides</i>	<i>Phlegmariurus tetrastichoides</i>
<i>Huperzia varia</i>	<i>Phlegmariurus varius</i>

The second paper published recently is by Leon Perrie and Barbara Parris, and is titled ‘Chloroplast DNA sequences indicate the grammitid ferns (Polypodiaceae) in New Zealand belong to a single clade, *Notogrammitis* gen. nov.’. It was published in the New Zealand Journal of Botany in 2012.

Former name	Current Name	Distribution (after Perrie & Parris)
<i>Grammitis billardierei</i> (also includes <i>G. meridionalis</i>)	<i>Notogrammitis billardierei</i>	Australia, New Zealand, South America & South Africa
<i>Grammitis poeppigiana</i>	<i>Notogrammitis crassior</i>	Australia, New Zealand, South America, & circum-Antarctic islands
<i>Grammitis garrettii</i>	<i>Notogrammitis garrettii</i>	Australian endemic
<i>Grammitis gunnii</i>	<i>Notogrammitis gunnii</i>	Australia, New Zealand
<i>Ctenopteris heterophylla</i>	<i>Notogrammitis heterophylla</i>	Australia, New Zealand
<i>Grammitis pseudociliata</i>	<i>Notogrammitis pseudociliata</i>	Australia, New Zealand

Field, A.R. & Bostock, P.D. (2013). New and existing combinations in Palaeotropical *Phlegmariurus* (Lycopodiaceae) and lectotypification of the type species *Phlegmariurus phlegmaria* (L.) T.Sen & U.Sen. *PhytoKeys* 20: 33–51. <http://www.pensoft.net/journals/phytokeys/issue/20/>

Perrie, L.R. & Parris, B.S. (2012). Chloroplast DNA sequences indicate the grammitid ferns (Polypodiaceae) in New Zealand belong to a single clade, *Notogrammitis* gen. nov.’. *New Zealand Journal of Botany* 50(4): 457–472. <http://www.tandfonline.com/toc/tznb20/50/4>

Fern Study Group members may also be interested in two other articles in *New Zealand Journal of Botany* vol. 50, viz.

Brownsey, P.J. & Parris, B.S. (2012). Taxonomic notes on the New Zealand flora: selection of a lectotype for *Acrostichum barbarum* L. (Osmundaceae). *New Zealand Journal of Botany* 50(4): 389–390. [*A. barbarum* L. is the base name for *Todea barbara* (L.) T.Moore]

Perrie, L.R., Shepherd, L.D. & Brownsey, P.J. (2012). *Gleichenia inclusisora*, a new and uncommon tangle fern from New Zealand. *New Zealand Journal of Botany* 50(4): 401–410. [Abstract: *Gleichenia inclusisora* is described here as a new and uncommon fern endemic to New Zealand. Several morphological features readily distinguish *G. inclusisora* from other *Gleichenia* species, and in the context of New Zealand species these features include: sori embedded in the lamina & abaxially white ultimate segments.]

A new Queensland location for the vulnerable fern

Thelypteris confluens

Peter Bostock

A recent survey by Queensland Herbarium Cairns staff has unearthed a new location for this rarely seen fern. It was found in a swamp on the Atherton Tablelands, in a situation quite similar to one of its known locations on North Stradbroke Island. This fern is sporadically distributed around the southern Hemisphere, with records from Victoria and Queensland, as well as Africa, Madagascar, India, SE Asia, New Guinea and New Zealand. In Queensland, it has been recorded from mound springs in the Taroom area and as mentioned above, on North Stradbroke Island.

Spore List June 2013

Barry White

<i>Adiantum formosum</i> 1/12	<i>Diplazium dilatatum</i> 12/10
<i>Adiantum hispidulum</i> 6/12	<i>Diplazium dilatatum</i> × <i>Deparia</i>
<i>Amphineuron opulentum</i> 7/11	<i>petersenii</i> subsp. <i>congrua</i> 3/11
<i>Amphineuron queenslandicum</i> 4/12	<i>Doodia australis</i> 2/12
<i>Arachniodes aristata</i> 4/12	<i>Dryopteris sparsa</i> 11/12
<i>Asplenium aethiopicum</i> 10/12	<i>Dryopteris wattsi</i> 9/11
<i>Asplenium milnei</i> 10/10	<i>Histiopteris incisa</i> 12/11
<i>Asplenium pellucidum</i> 3/11	<i>Hypolepis glandulifera</i> 2/13
<i>Blechnum chambersii</i> 4/12	<i>Hypolepis muelleri</i> 3/12
<i>Blechnum fluviatile</i> 9/11	<i>Lastreopsis acuminata</i> 10/12
<i>Blechnum minus</i> 3/12	<i>Lastreopsis decomposita</i> 1/12
<i>Blechnum patersonii</i> 4/11	<i>Lastreopsis marginans</i> 3/12
<i>Blechnum wattsi</i> 3/13	<i>Lastreopsis microsora</i> 11/12
<i>Chingia australis</i> 11/12	<i>Lastreopsis nephrodioides</i> 4/12
<i>Christella dentata</i> 3/12	<i>Lastreopsis rufescens</i> 3/11
<i>Christella parasitica</i> 5/11	<i>Lastreopsis tenera</i> 3/11
<i>Christella subpubescens</i> 4/12	<i>Macrothelypteris torresiana</i> 4/12
<i>Cyathea australis</i> 1/12	<i>Pellaea falcata</i> 1/11
<i>Cyathea baileyana</i> 11/12	<i>Plesioneuron tuberculatum</i> 1/11
<i>Cyathea brownii</i> 10/12	<i>Pneumatopteris sogerensis</i> 7/11
<i>Cyathea cooperi</i> (Blue Stipe) 1/11	<i>Pneumatopteris costata</i> 6/11
<i>Cyathea cooperi</i> 'Cinnamon' 2/13	<i>Polystichum australiense</i> 10/12
<i>Cyathea exilis</i> 12/12	<i>Polystichum formosum</i> 11/12
<i>Cyathea leichhardtiana</i> 8/12	<i>Polystichum proliferum</i> 12/10
<i>Cyathea macarthuri</i> 10/10	<i>Pronephrium asperum</i> 1/11
<i>Cyathea rebecca</i> 8/12	<i>Pteris pacifica</i> 12/12
<i>Cyathea robusta</i> 9/10	<i>Pteris tremula</i> 11/10
<i>Dicksonia antarctica</i> 8/12	<i>Pteris umbrosa</i> 8/12
<i>Diplazium australe</i> 1/12	<i>Rumohra adiantiformis</i> (native) 4/12
<i>Diplazium assimile</i> 7/12	<i>Sphaerostephanos heterocarpus</i> 7/11

Thanks to spore donors, Warren Simpson, Nada Sankowsky, Kylie Stocks, Neville Crawford, Wendy Johnston, Claire Shackel, Dot Camp, and Crosby Chase.