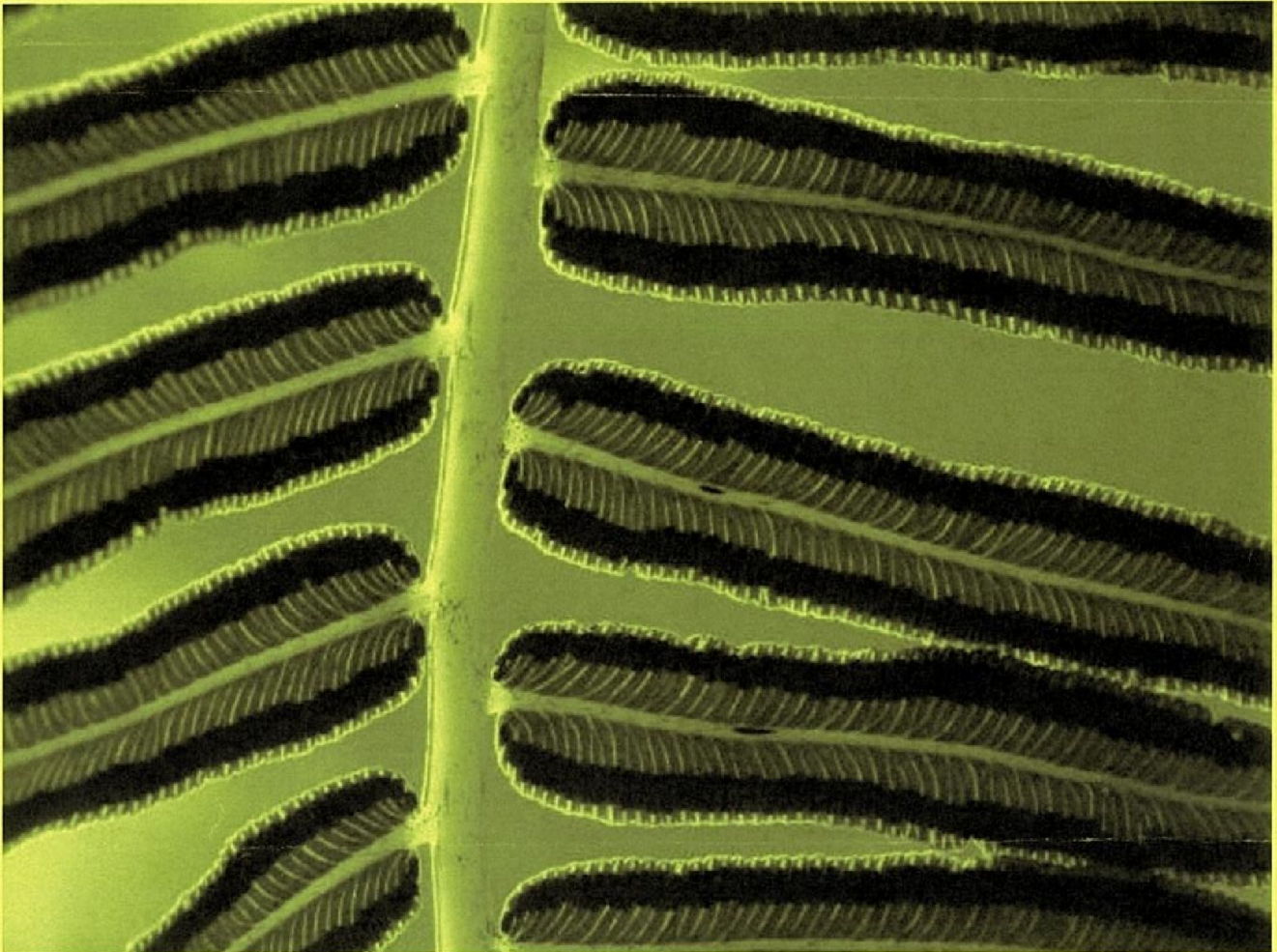


FERN SOCIETY OF VICTORIA

NEWSLETTER

Volume 36, Number 4

July/August 2014



In this issue:

- Our President discusses the future of the Society
- Flora of Madagascar

Fern Society of Victoria Inc.

ABN 85 086 216 704

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email: barry_white1@msn.com.au

web: <http://home.vicnet.net.au/~fernsvic/>

Objectives of the Fern Society of Victoria

To bring together persons interested in ferns and allied plants

To promote the gathering and dissemination of information about ferns

To stimulate public interest in ferns

To promote the conservation of ferns and their habitats

Office bearers

President	Barry Stagoll	9844 1558	mirra@iimetro.com.au
Vice President	Don Fuller	9306 5570	
Secretary	Barry White	9740 2724	barry_white1@msn.com.au
Treasurer	Don Fuller	9306 5570	
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Committee members	Mirini Lang 9886 6109, Gay Stagoll 9844 1558, Brenda Girdlestone 9390 7073, Warren Simpson 0419 594 524,		

Subscriptions

Single	\$17.00
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Family	\$19.00
Pensioner family	\$16.00
Overseas	\$25.00 (overseas subscription payments by international bank cheque in \$Aus, by airmail please)

Subscriptions fall due on 1 July each year

Meeting venues

The Kevin Heinze Garden Centre, 39 Wetherby Road, Doncaster [Melway 47 H1]

Other meetings as advertised in this Newsletter

Timetable for evening general meetings

7:30 Pre-meeting activities – sale of ferns, spore, books, merchandise and special effort tickets. Also library loans and lots of conversation.

8:00 General meeting

8:15 Workshops and demonstrations

9:15 Fern identification and pathology, special effort draw

9:45 Workshops and demonstrations

10:00 Close

Opinions expressed in this Newsletter are the personal views of the authors and are not necessarily endorsed by the Society, nor does mention of a product constitute endorsement.

President's Note

After the proposed Otways excursion in May was cancelled, I'm sorry to report that there was a very small attendance (only seven members, including four Committee members) for the visit to the Royal Botanic Gardens last Sunday, June 22 – despite fine weather for winter-time. However, it was pleasing to observe that the Fern Gully was looking well – relatively clear of competition from ground-level plants other than ferns after the rehabilitation work undertaken over the last few years.

Although we have had somewhat larger groups for other recent FSV outdoor activities, the number this time was very disappointing, and the same has been generally true of meetings held over recent times, to the point where consideration of the future of the Society will need to be addressed by the Committee. Aside from other considerations, it's now been a long time since we could invite outsiders to speak at meetings without concerns that they would encounter only an embarrassingly small audience.

Because of the low level of member participation, we have arrived at the point where Committee needs to assess the practicality of the Fern Society continuing as a registered association which conducts regular meetings, organises excursions, offers access to fern spore, operates a members' library, and publishes on ferns. Individual members of Committee, many of whom have served for long periods, routinely spend considerable time on FSV affairs – but with increasingly less satisfaction from the results.

If the Society was not to continue in existence, individuals interested in ferns could continue to consort in informal contact groups and, for instance, pursue their common interests by, *inter alia*, meeting informally at private homes (in my

experience, some other groups of fern enthusiasts elsewhere, including in UK, have operated in this way).

If the Fern Society of Victoria was not to continue as a registered association, it would require to go through a procedure of voluntary winding-up. This would involve members adopting a Special Resolution, which would require 75% of members' votes cast on the motion to support the resolution. Without seeking to pre-empt a Committee decision on a formal proposal, if and when such a decision ensues the earliest time when such a resolution might be expected to be proposed would be at the forthcoming 2014 Annual General Meeting (the terms of the resolution would be advised to members in advance of the meeting date). All financial members would be entitled (and encouraged) to vote, either in person or by submitting a proxy vote.

I regret the need to raise this matter informally in this way, but the Newsletter is the obvious place to inform members on it in the first instance. I stand ready to receive any initial feedback which members would care to express.

FOOTNOTE Notice

Membership Renewals

We apologise for the inclusion of a renewals notice in the last issue of the Newsletter – this was inadvertently carried forward from a mid-2013 issue, and no doubt members would have realised this was the case.

Cover image: *Angiopteris evecta*. Pinnae undersides with sori Credit: Forest and Kim Starr; licensed under a Creative Commons Attribution 3.0 License.

Editor's Note

Having read Barry's Presidential Note, and having had some further communication with him and other committee members on the future of our society, there is nothing much to be said beyond what Barry has already put before the membership. Except to comment that if the Fern Society of Victoria does come to a close, it will be a sad end to an era. Many other special interest societies also struggle for members, competing as they do against a vastly wider range of activities than were available when the Fern Society of Victoria was formed. Like Barry, I would not want to pre-empt any recommendation of the Committee, nor to anticipate the views of the members. There are several possible courses of action and there will be further news after the next Committee meeting. Please, as Barry has requested, provide your thoughts either directly to a member of the Committee or by making your views known at one of the next meetings.

I have taken it upon myself to write a very brief summary of the flora of Madagascar. Probably this was unwise, since I've never had the opportunity to go there, but I have many friends and colleagues who have been there and I've always been interested in the exotic flora and fauna of the big continental island off Africa. I

had some images donated from Bob Rowlands to publish (see Presidential Note from the March/April issue) so some sort of general introduction seemed called for. I hope those of you who are more knowledgeable on the subject and have perhaps been there yourselves, will forgive my omissions and will perhaps amplify my comments in future contributions.

Members will probably guess that I have struggled for content this issue. Hence the list of recent fern literature (taxonomic revisions and the like) which occupies the final pages of this issue. I realise this may be of limited interest, but some of you may find something you want to know more about. Generally an internet search with a few key words will retrieve the abstract, at least, along with an email address from one of the authors. They are usually only too pleased to send pdf copies of their work for those who are interested.

Robin Wilson

Fern Society of Victoria meetings — 2014

7:30 pm Thursday 17 July

Kevin Heinze Centre

General discussion: “ My Favourite Ferns”

Members are requested to note the plural and bring along more than one fern.

7:30 pm Thursday 21 August

Kevin Heinze Centre

Barry White “Dryopteridaceae (Shield Ferns)”

The competition category will be *Polystichum*, *Lastreopsis*, *Cyrtomium*, *Arachniodes*, *Dryopteris* and *Rumohra* etc.

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Some notes on the botany of Madagascar

Robin Wilson

The following notes are a summary taken from two recently published articles: "Has Vicariance or Dispersal Been the Predominant Biogeographic Force in Madagascar? Only Time Will Tell" by Anne D. Yoder and Michael D. Nowak and published in the The Annual Review of Ecology, Evolution, and Systematics, online at <http://ecolsys.annualreviews.org> and "Diversity and distribution of ferns in sub-Saharan Africa, Madagascar and some islands of the South Atlantic" by J. J. Aldasoro, F. Cabezas and C. Aedo and published in the Journal of Biogeography 2004 Volume 31.

Madagascar is now an island separated from its closest neighbour, the continent of Africa, by about 400 km. Other continental masses, India, Antarctica and Australia are much further away, yet there is abundant evidence that Madagascar was once connected to all these continents. Unravelling such Gondwanan relationships among the southern continents is a continuing research topic for geologists, botanists and zoologists.

The climate of Madagascar varies dramatically from east to west. The east coast, where most of the evergreen rainforest is found, enjoys the greatest rainfall. The south and west coasts are dry and have arid spiny bush and dry deciduous forest. The other major vegetation types, in the centre of Madagascar, are Montane Ericoid thicket, Sambirano rainforest and central highlands flora.

Madagascar is remarkable for the richness of the flora and fauna, as well as the endemism: Madagascar is estimated to have about 12,000 plant species, of which 10,000 are endemic (occur nowhere else). (As an aside, Madagascar is very poorly served by botanical field guides. At last count there were only 6 titles available, fewer than for virtually all other comparable tropical regions.) Endemism is also rampant among the fauna: 95% of the reptile species, 99% of amphibian species, and 100% of the island's land mammals (excluding bats) are also unique to Madagascar. Botanists and zoologists are busily trying to explain how these high levels of species richness and endemism arose.

Endemism is not so great among ferns as it is in the seed plants, due to the fact that fern spores disperse more readily. Even so, Madagascar has about 557 fern species, of which about 42% are found nowhere else. For example, the staghorns (genus *Platyserium*) includes 3 species that only occur in Madagascar: *P. ellisii*, *P. madagascariense*, and *P. quadridichotomum*. Quite significant given that the genus comprises only about 12 species world-wide.

Explanations of the high levels of diversity and endemism revolve around two possibilities: either the animals and plants could have evolved and new species arose from ancestors present on Madagascar before the breakup of Gondwana, or else African species could have dispersed to Madagascar much more recently and subsequently evolved into new species. To cut a long story short, although both explanations apply depending on which element of the fauna and flora is examined, the evidence seems to favour the second explanation in more cases, especially where ferns are concerned. For ferns, refuge areas have probably been important and have allowed re-colonisation of wider areas after local extinctions during dry periods.

Ferns from Madagascar



Above: *Marattia fraxinea* at Montagne d'Ambre National Park, Madagascar

Below: detail of underside of frond, *Marattia fraxinea*

photos: the late Joan Rowlands (donated by her husband Bob)



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Ferns from Madagascar (continued)



Above: *Thelypteris* aff. *interrupta* at Pitcher Plant Reserve, Fort Dauphin, Madagascar

Below: *Thelypteris* sp. at Montagne d'Ambre National Park, Madagascar



Ferns from Madagascar (continued)



Above: *Cyathea dregei* from South Africa and Madagascar, photographed by Abu Shawka and distributed under a Creative Commons share alike license.

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Recent taxonomic literature on ferns

Some members may be interested in recent taxonomic work in the fern world. This is a very incomplete list. Generally a web search and a request addressed to the email address of the corresponding author is all it takes to get hold of a pdf copy for those who are interested. (And apologies to the librarians amongst you for the slightly imperfect alphabetic sorting! I also ran out of time to italicise all scientific names but I trust you can all recognise them anyway.)

The editor.

Christenhusz, M. 2009. New combinations and an overview of *Cyathea* subg. *Hymenophyllopsis* (Cyatheaceae). *Phytotaxa* 1: 37-42.

Conant, D.S. 1983. A revision of the genus *Alsophila* (Cyatheaceae) in the Americas. *J. Arnold Arbor.* 64: 333-382. [available on BHL; includes transfers for species of *Nephelea* treated by Gastony.]

Gastony, G. 1973. A revision of the fern genus *Nephelea* *Contr. Gray Herb.* 203: 81-148. [available in BHL]

Holttum, R.E. & P. J. Edwards, 1983. The tree-ferns of Mount Roraima and neighbouring areas of the Guayana Highlands with comments on the family Cyatheaceae. *Kew Bull.* 38: 155-188.

Lehnert, M. 2003. Six new species of tree ferns from the Andes. *Amer. Fern Journ.* 93(4): 169-183.

Lehnert, M. 2006. The Cyatheaceae and Dicksoniaceae (Pteridophyta) of Bolivia. *Brittonia* 58(3): 229-244.

Lehnert, M. 2006A. New species and records of tree ferns (Cyatheaceae, Pteridophyta) from the Northern Andes. *Org. Divers. Evol.* 6, *Electr. Suppl.* 13: 1-11.

Lehnert, M. 2006B. Two new tree ferns (Cyatheaceae) from southern Ecuador. *Brittonia* 58: 4-9.

Lehnert, M. 2008. On the identification of *Cyathea pallescens* (Sodirol) Domin (Cyatheaceae): typifications, reinstatements and new descriptions of common Neotropical tree ferns. *Bot. Journ. Linn. Soc.* 158: 621-649.

Lehnert, M. 2009. Resolving the *Cyathea caracasana* complex (Polypodiopsida: Cyatheaceae). *Stuttg. Beitr. Naturk. A, N.S.* 2: 409-445.

Lehnert, M. 2009A. Three new species of scaly tree ferns (Cyatheaceae) from the northern Andes. *Phytotaxa* 1: 43-56.

Lehnert, M. 2011. The Cyatheaceae (Polypodiopsida) of Peru. *Brittonia* 63(1): 11-45.

Lehnert, M. 2011A. Species of *Cyathea* in America related to the western Pacific species *C. decurrens*. *Phytotaxa* 26: 39-59. [Synopsis of 8 paleotropical and 32 neotropical species.]

Lehnert, M. 2012. A synopsis of the species of *Cyathea* (Cyatheaceae-Polypodiopsida) with pinnate to pinnate-pinnatifid fronds. *Phytotaxa* 61: 17-36. [Keys and synopsis of 57 species and 8 varieties; many new combinations and names based on former *Cnemidaria* spp.]

Lehnert, M. 2014. Do you know *Cyathea divergens* (Cyatheaceae-Polypodiopsida)? *Phytotaxa* 161: 1-42. [Added Feb 2014; not represented in above discussion.]

Recent taxonomic literature on ferns (continued)

Lehtonen, S., H. Tuomisto, G. Rouhan, and M. J. M. Christenhusz. 2010. Phylogenetics and classification of the Pantropical fern family Lindsaeaceae. *Botanical journal of the Linnean Society* 163: 305–359.

Lehtonen, S., N. Wahlberg, and M. J. M. Christenhusz. 2012. Diversification of lindsaeoid ferns and phylogenetic uncertainty of early polypod relationships. *Botanical journal of the Linnean Society* 170: 489–503.

Lellinger, D. 1987. The disposition of *Trichopteris* (Cyatheaceae). *Amer. Fern. J.* 77: 90–94.

Murdock, Andrew G. 2008. A taxonomic revision of the eusporangiate fern family Marattiaceae, with description of a new genus *Ptisana*. *Taxon* 57 (3): 737–755.

Murdock, Andrew G. 2008. Phylogeny of marattioid ferns (Marattiaceae) inferring a root in the absence of a closely related outgroup. *American Journal of Botany* 95 (5): 626–641

Murillo-A, J. & M.T. Murillo. 2003. Pteridófitos de Colombia IV. Novedades in *Cyathea* (Cyatheaceae). *Rev. Acad. Colomb. Cienc.* 27(102): 45–51. [open access] [Includes checklist of Colombian species, 55 spp and 5 var's. *Cnemidaria* spp not included.]

Perrie, L.R., Wilson, R.K., Shepherd, L.D., Ohlsen, D.J., Batty, E.L., Brownsey, P.J., Bayly, M.J. (in press). Molecular phylogenetics and generic taxonomy of *Blechnaceae* ferns. *Taxon*.

Ohlsen D.J., Field A.R. (2013). A new fern species for Queensland: *Diplazium squamuligerum* (Rosenst.) Parris (Woodsiaceae). *Austrobaileya* 9, 114–125.

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Recent taxonomic literature on ferns (continued)

Perrie LR, Shepherd LD, de Lange PJ, Brownsey PJ (2010) Parallel polyploid speciation: distinct sympatric gene-pools of recurrently derived allo-octoploid *Asplenium* ferns. *Molecular Ecology* 19: 2916-2932.

Perrie L.R., Shepherd, L.D., de Lange, P.J., Batty, E.L., Ohlsen, D.J., Bayly, M.J., Brownsey, P.J. (2013). *Hymenophyllum pluviatile*, a new and uncommon fern from New Zealand. *New Zealand Journal of Botany* 51, 308–320.

Perrie L.R., Ohlsen, D., Shepherd, L., Brownsey, P.J., Bayly, M.J. (2010). Tasmanian and Victorian populations of the fern *Asplenium hookerianum* result from independent dispersals from New Zealand. *Australian Systematic Botany* 23, 387–392.

Perrie, L.R., Bayly, M.J., Lehenbach, C.A., and Brownsey, P.J. (2007). Molecular phylogenetics and molecular dating of the New Zealand Gleicheniaceae. *Brittonia* 59, 129–141.

Shepherd LD, Holland BR, Perrie LR (2008) Conflict amongst chloroplast DNA sequences obscures the phylogeny of a group of *Asplenium* ferns. *Molecular Phylogenetics and Evolution* 48, 176-187.

Shepherd LD, Perrie LR, Brownsey PJ (2007) Fire and ice: volcanic and glacial impacts on the phylogeography of the New Zealand forest fern *Asplenium hookerianum*. *Molecular Ecology* 16, 4536-4549.

Smith, A.R. et al. 2006. A classification for extant ferns. *Taxon* 55(3): 705-731. [Open Access]

Stolze, R. 1974. A taxonomic revision of the genus *Cnemidaria* (Cyatheaceae). *Fieldiana, Bot.* 37: 1-98.

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Recent taxonomic literature on ferns (continued)

Tryon, R.M. 1970. The classification of the Cyatheaceae. *Contr. Gray Herb.* 200: 3-50.

Tryon, R.M. 1971. The American tree ferns allied to *Sphaeropteris horrida*. *Rhodora* 73: 1-19. [available on BHL]

Tryon, R.M. 1976. A revision of the genus *Cyathea*. *Contr. Gray Herb.* 206: 19-98.

Tryon, R.M. & R. G. Stolze. 1989. Pteridophyta of Peru. Part I. 1. Ophioglossaceae-12. Cyatheaceae. *Fieldiana Bot.*, n.s. 20: 1-145. Christenhusz, M. J. M., Z.-C. Zhang, and H. Schneider. 2011. A linear sequence of extant families and genera of lycophytes and ferns. *Phytotaxa* 19:5-52.

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Details of meetings September and beyond will be placed in the next Newsletter

Fern Society of Victoria Spore Bank

Fern spore is free to members of the Fern Society of Victoria who donate spore. Otherwise the cost is members 50 cents per sample, non-members \$1, plus \$1.00 to cover postage and handling. Available at meetings or by mail from Barry White, 34 Noble Way, Sunbury, Vic. 3429 Australia, Ph. (03) 9740 2724. There is no charge for spore for overseas members, however to cover postage two International Reply Coupons would be appreciated; or alternatively spore may be exchanged. International Reply Coupons are being phased out in favour of PayPal via the FSV website. Overseas non-members may purchase spore at three packets for each International Reply Coupon, plus two coupons per order to cover postage and handling. There is a limit of 20 packets per order. Some spores are in short supply please include alternatives. Queries can be emailed to: Barry White barry_white1@msn.com.au. The following list is current as of December 2012, but consult the web page at <http://home.vicnet.net.au/~fernsvic/Sporlist.html> for updates and for details of payment options for spore purchases. Thank you to the spore donors who are listed on the web page.

<i>Acrostichum speciosum</i> 4/09	<i>Cyathea cooperi</i> 1/09	<i>Microsorium punctatum</i> 1/09
<i>Adiantum concinnum</i> 4/11	<i>Cyathea cooperi</i> (Blue Stipe) 1/11	<i>Oenotrichia pinnata</i> 7/11
<i>Adiantum formosum</i> 1/12	<i>Cyathea cooperi</i> 'Brentwood' 3/08	<i>Ophioglossum pendulum</i> 7/08
<i>Adiantum hispidulum</i> 6/12	<i>Cyathea cooperi</i> 'Cinnamon' 4/11	<i>Pellaea cordata</i> 7/09
<i>Adiantum raddianum</i> 'Le Grand Morgan' 6/12	<i>Cyathea exilis</i> 12/12	<i>Pellaea falcata</i> 1/11
<i>Adiantum raddianum</i> 'Triumph' 6/12	<i>Cyathea leichhardtiana</i> 8/12	<i>Pellaea hastata</i> 5/10
<i>Aleuritopteris kuhnii</i> 6/10	<i>Cyathea macarthuri</i> 10/10	<i>Pellaea viridis</i> 5/12
<i>Amphineuron opulentum</i> 7/11	<i>Cyathea medullaris</i> 10/12	<i>Phegopteris decursive-pinnata</i> 3/12
<i>Amphineuron queenslandicum</i> 4/12	<i>Cyathea rebecca</i> 8/12	<i>Pityrogramma calomelanos</i> 8/11
<i>Anemia phyllitides</i> 4/12	<i>Cyathea robusta</i> 9/10	<i>Platyserium bifurcatum</i> 'Venusum' Mt Lewis 10/07
<i>Anemia tomentosa</i> 8/11	<i>Cyrtomium caryotideum</i> 8/10	<i>Platyserium superbum</i> 4/08
<i>Angiopteris evecta</i> 11/09	<i>Cyrtomium fortunei</i> 6/10	<i>Pleisoneuron tuberculatus</i> 1/11
<i>Arachniodes aristata</i> 4/12	<i>Cyrtomium juglandifolium</i> 6/12	<i>Pneumatopteris sogerensis</i> 7/11
<i>Arachniodes mutica</i> 10/08	<i>Dicksonia antarctica</i> 8/12	<i>Pneumatopteris costata</i> 6/11
<i>Arachniodes standishii</i> 10/12	<i>Diplazium australe</i> 1/12	<i>Polypodium formosanum</i> 10/12
<i>Asplenium aethiopicum</i> 10/12	<i>Diplazium assimile</i> 7/12	<i>Polystichum aculeatum</i> 7/09
<i>Asplenium milnei</i> 10/10	<i>Diplazium dilatatum</i> 12/10	<i>Polystichum australiense</i> 10/12
<i>Asplenium nidus</i> 5/08	<i>Diplazium dilatatum</i> x <i>Deparia petersenii</i> v. <i>congrua</i> 3/11	<i>Polystichum formosum</i> 11/12
<i>Asplenium nidus</i> cv. 5/08	<i>Doodia australis</i> 2/12	<i>Polystichum proliferum</i> 12/10
<i>Asplenium pellucidum</i> 3/11	<i>Dryopteris affinis</i> 'Cristata' 1/12	<i>Polystichum retroso-paleacum</i> 10/12
<i>Athyrium filix-femina</i> (red stipe) 12/10	<i>Dryopteris cycadina</i> 11/12	<i>Polystichum tsus-simense</i> 11/11
<i>Athyrium otophorum</i> 1/12	<i>Dryopteris erythrosora</i> 1/12	<i>Polystichum whiteleggei</i> 10/10
<i>Blechnum ambiguum</i> 1/08	<i>Dryopteris guanchica</i> 11/12	<i>Pronephrium asperum</i> 1/11
<i>Blechnum braziliense</i> 1/12	<i>Dryopteris sieboldii</i> 3/11	<i>Pteris aspericaulis</i> 8/10
<i>Blechnum chambersii</i> 4/12	<i>Dryopteris sparsa</i> 11/12	<i>Pteris biaurita</i> 3/12
<i>Blechnum discolor</i> 8/12	<i>Dryopteris watsii</i> 11/12	<i>Pteris dentata</i> 12/10
<i>Blechnum fluviatile</i> 9/11	<i>Histiopteris incisa</i> 12/11	<i>Pteris hendersonii</i> 12/10
<i>Blechnum minus</i> 3/12	<i>Hypolepis glandulifera</i> 1/12	<i>Pteris pacifica</i> 12/12
<i>Blechnum patersonii</i> 4/11	<i>Hypolepis muelleri</i> 3/12	<i>Pteris stenophylla</i> 4/11
<i>Blechnum spicant</i> 1/12	<i>Lastreopsis acuminata</i> 10/12	<i>Pteris tremula</i> 11/10
<i>Blechnum watsii</i> 9/11	<i>Lastreopsis decomposita</i> 1/12	<i>Pteris umbrosa</i> 8/12
<i>Cheilanthes myriophylla</i> 3/12	<i>Lastreopsis marginans</i> 3/12	<i>Revwatsii fragile</i> 3/11
<i>Chingia australis</i> 11/12	<i>Lastreopsis microsora</i> 11/12	<i>Rumohra adiantiformis</i> (Cape form) 2/12
<i>Christella dentata</i> 3/12	<i>Lastreopsis nephrodioides</i> 4/12	<i>Rumohra adiantiformis</i> (native) 4/12
<i>Christella hispidula</i> 10/9	<i>Lastreopsis rufescens</i> 3/11	<i>Sphaerostephanos heterocarpus</i> 7/11
<i>Christella parasitica</i> 5/11	<i>Lastreopsis tenera</i> 3/11	<i>Teratophyllum brightiae</i> 8/11
<i>Christella subpubescens</i> 4/12	<i>Lygodium japonicum</i> 2/10	<i>Thelypteris patens</i> 9/09
<i>Cyathea australis</i> 1/12	<i>Lygodium reticulatum</i> 11/12	
<i>Cyathea baileyana</i> 11/12	<i>Macrothelypteris torresiana</i> 4/12	
<i>Cyathea brownii</i> 10/12	<i>Microlepis firma</i> 1/12	

NEWSLETTER

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