

FERN SOCIETY OF VICTORIA NEWSLETTER

Volume 36, Number 1

January/February 2014

In this issue:

- A Tree of ferns
- Activities commence for 2014



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	
Spore Bank Manager	Barry White	9740 2724	barry_white1@msn.com.au
Librarian	Mirini Lang	9886 6109	
Editor	Robin Wilson	9597 0742	rwilson@museum.vic.gov.au
Committee members	Mirini Lang 9886 6109, Gay Stagoll 9844 1558, Brenda Girdlestone 9390 7073, Warren Simpson 0419 594 524,		

Subscriptions

Single	\$17.00
Pensioner/student	\$14.00
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

Hope everyone had an enjoyable Christmas/New Year season.

I'll start my page by offering members apologies for late publication of the FSV Newsletter. Both Robin & I have had some difficulties getting things organised for this issue with other things also requiring our attention.

At home, Gay & I have also had a bit of a time of it tending to the garden and keeping our fire preparedness in order, because of the very hot and windy weather we've all been experiencing this summer.

Our ferns, both those in the outdoors and those in the fernery and shadehouses, have been taking a beating, and even those in the conservatory – where conditions are more readily moderated – are not as happy as usual. It's interesting to note that in the outdoors the Osmundas beside our 'Top pond' look as green and healthy as ever (even those that don't have roots reaching down as far as the water level). But we've lost a good number of treeferns, and other ferns, established many years ago in our "rainforest plants" area, despite lots of time attending to them, along with some mortalities of trees and shrubs. At least it's been possible to water without having to observe severe restrictions this season. But hand-watering

large areas consumes lots of time, restricting opportunities to provide other sorts of care to the plants.

We hope that other members are having success at assisting their ferns to cope with the summer, and look forward to the next occasion on which we can get into ferny environments in the wild, hoping that we'll find plenty to enjoy seeing there.

Please keep the photos and articles flowing to the Editor in 2014 so we can continue to share them with fellow members.

Looking forward to seeing you at Society activities during the year.

Barry Stagoll

Cover image: *Blechnum spicant*. (I am sorry to say I cannot acknowledge the source, since this image came from a web site without attribution. But it is clearly from an early northern European publication and long out of copyright. If anyone can enlighten me, please send an email and I will put a note in a future Newsletter.)

Editor's Note

Happy New Year all for 2014. As I assemble the Newsletter, the ferocious spell of four 40 degrees-plus days in Melbourne is still a very fresh memory, as no doubt it is with all. Many fern fronds in our garden that could not be protected are now crispy. On the other hand, new planting in our front garden of half a dozen prostrate Banksias, Grevilleas and other natives from the hot dry parts of Western Australia are, of course, positively thriving! It helps to diversify.

After fielding a telephone call from a somewhat distracted Ron Robbins late last year on the subject of changes in the taxonomy of his beloved tassel ferns, I thought I would attempt an article for the Newsletter with the half-formed title in my head "In defense of taxonomists!". Taxonomists often seem to be their own worst enemy (remember the upheaval when nurseries and native plant books changed the name of the Western Australian "flowering gum" from

Eucalyptus ficifolia to *Corymbia ficifolia*? I have run out of time to do that for the present issue, but I will give it my best shot for the March/April issue. But, as usual, if I get better content (in other words, any content!) from other members, that will take priority.

I also promised to follow up on the tassel fern taxonomy paper that I mentioned in the last issue. But I thought there is enough of that stuff in this issue already now so I will keep that on hold. I hope some members can help me out with something more horticultural for the next issue. It is my aim to keep a pleasing balance of subject matter.

I have left the membership renewal notice in this Newsletter (below), just in case there are some of you who didn't get around to doing that before Christmas.

Robin Wilson

Membership Renewals Now due

Membership subscription renewals for the year 2013-4 are now due and prompt payment would be appreciated as our financial year commenced on July 1st.

Please use the renewal form included with the July-August newsletter. If you have prepaid a note to that effect would have been enclosed in the July-August newsletter.

Members may also renew their memberships online if they have a Paypal account; instructions are provided on the Society membership web page <http://home.vicnet.net.au/~fernsvic/Member.html>

Fern Society of Victoria meetings — 2014

7:30 pm Thursday 20 February 2014

Kevin Heinze Centre

Barry White: *Blechnums*

Fern competition: *Blechnum* species.

7:30 pm Thursday 21 March 2014

Kevin Heinze Centre

Don Fuller: *Nephrolepis*

Fern competition: *Nephrolepis* species.

April

Excursion to Kinglake

Date and details to be advised in the next Newsletter

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A Tree of Ferns

Samuli Lehtonen

University of Turku, Turku, Finland

This article is extracted from a much longer scientific paper published by Samuli Lehtonen in the open access journal PLOS One. PLOS One publishes under a Creative Commons Attribution license which means that content can be freely reproduced without permission as long as the original source is cited. In this case the original source is Lehtonen S (2011) Towards Resolving the Complete Fern Tree of Life. PLoS ONE 6(10): e24851. doi:10.1371/journal.pone.0024851 and the full article can be found online at <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0024851>

Here I have just reproduced the abstract and some images which I thought might be of interest to some readers, especially those who ponder "which fern is related to which?".

The Editor

Abstract

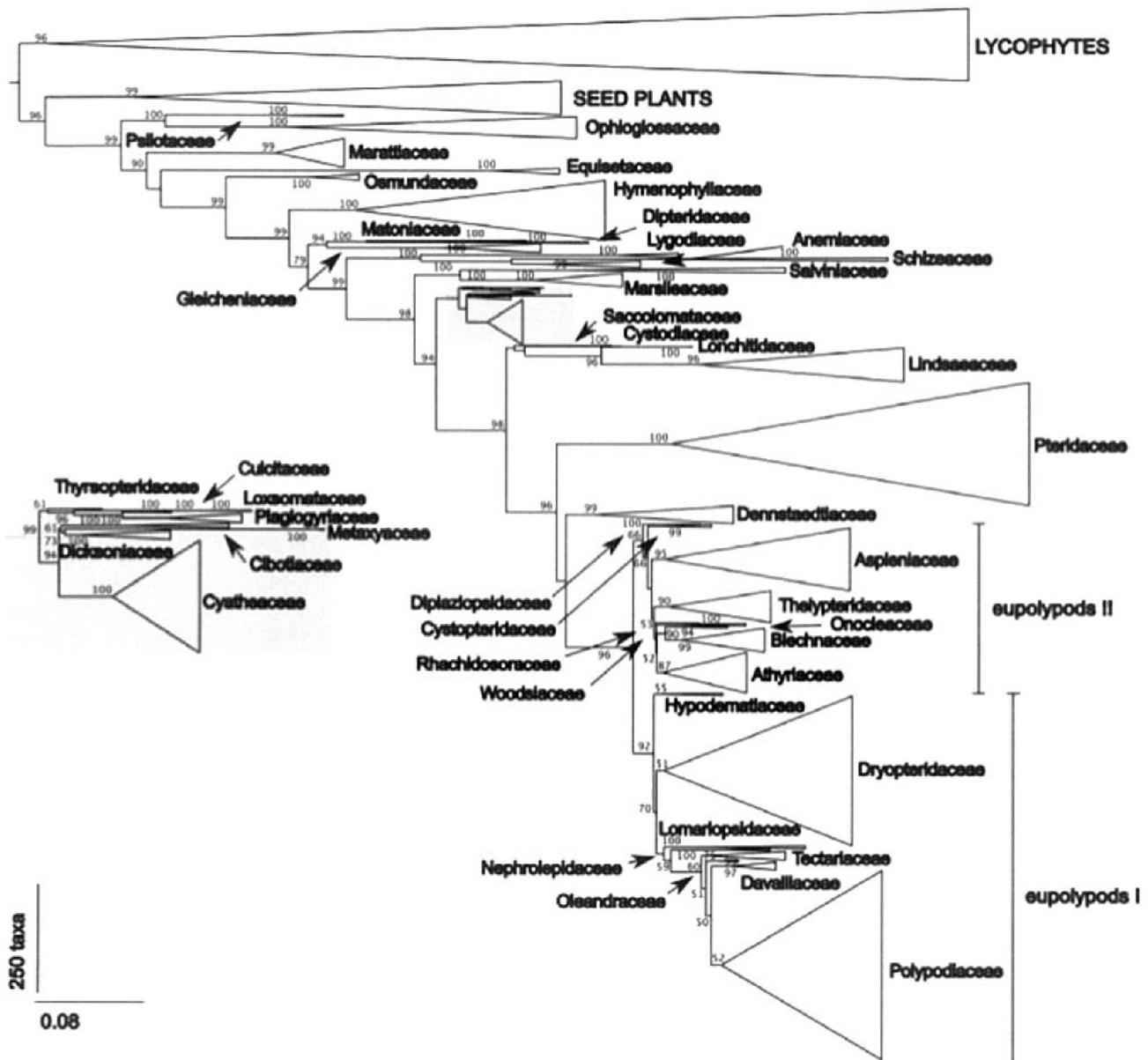
In the past two decades, molecular systematic studies have revolutionized our understanding of the evolutionary history of ferns. The availability of large molecular data sets together with efficient computer algorithms, now enables us to reconstruct evolutionary histories with previously unseen completeness. Here, the most comprehensive fern phylogeny to date, representing over one-fifth of the extant global fern diversity, is inferred based on four plastid genes. Parsimony and maximum-likelihood analyses provided a mostly congruent results and in general supported the prevailing view on the higher-level fern systematics. At a deep phylogenetic level, the position of horsetails depended on the optimality criteria chosen, with horsetails positioned as the sister group either of Marattiopsida-Polypodiopsida clade or of the Polypodiopsida. The analyses demonstrate the power of using a 'supermatrix' approach to resolve large-scale phylogenies and reveal questionable taxonomies. These results provide a valuable background for future research on fern systematics, ecology, biogeography and other evolutionary studies.

There is more than a little scientific jargon in the authors abstract on the left. Which is fair enough, it was written with a scientific audience in mind. But I have taken it upon myself to try and create a (nearly) jargon-free version here:

In the past two decades, studies using DNA sequences (the language of our genes) has made our knowledge of the evolutionary history of ferns much more robust. Vast amounts of DNA data and efficient new computer programs have been the key. In this study, 4 genes from plastids (separate organelles within plants which have their own DNA) were used to construct the most comprehensive fern evolutionary tree so far. At least the one with the most species - almost one-fifth of all known fern species are included. Two different mathematical methods for estimating evolutionary relationships both gave similar results. The evolutionary position of the horsetails is still uncertain although this study confirms that they are the most ancient of the ferns and fern allies.

The "tree of ferns" (opposite) confirms many of the prevailing views of fern relationships. For example, Marattias, horsetails and Osmundaceaea are located at the basal branches of the tree, confirming that these are among the most ancient of ferns. (Assuming we have the base of the tree in the correct position, but that is another story!) The tree also confirms the close relationship between Cyatheas and Dicksonias. Other close relationships can be explored by seeing which branches are closest to each other.

A Tree of Ferns (continued)



Generalised evolutionary tree of the major groups of ferns, from Lehtonen (2011) Towards Resolving the Complete Fern Tree of Life. PLoS ONE 6(10): e24851.

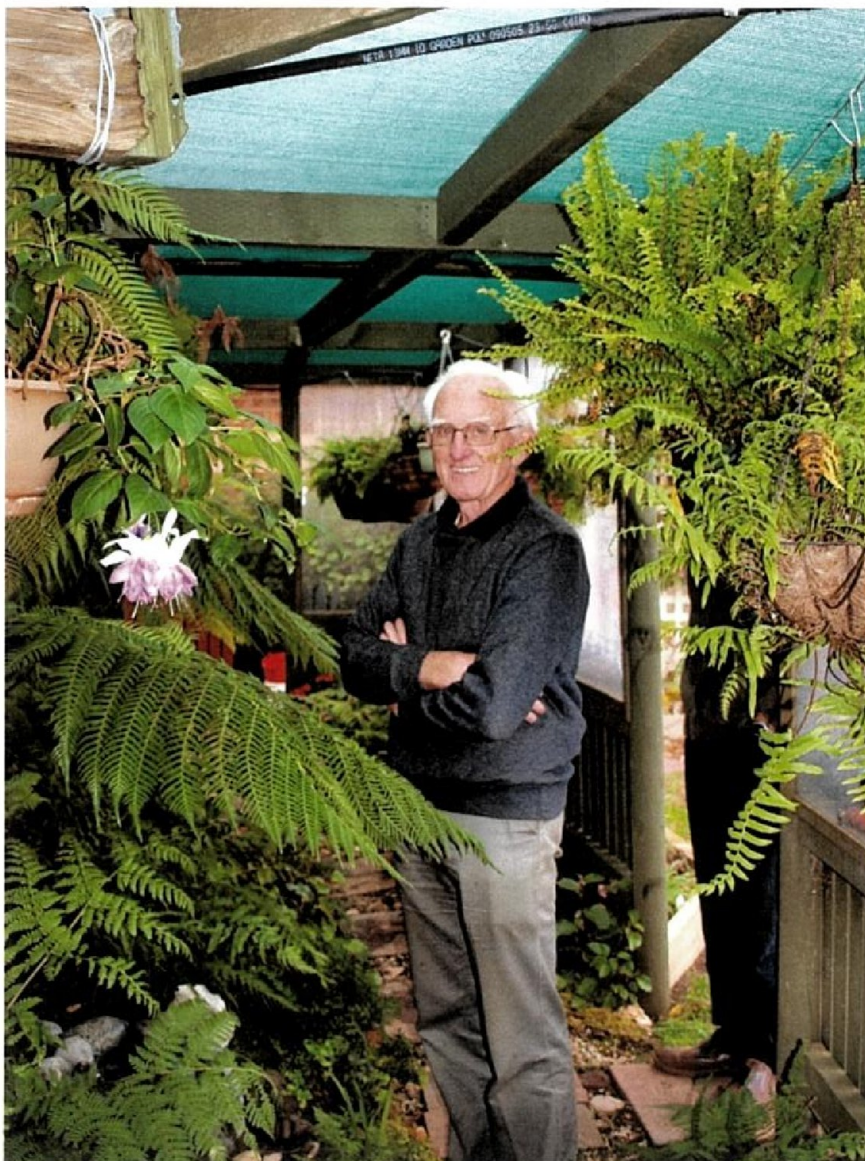
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Photo gallery



Barry White. Barry will be presenting on *Blechnum* species at the first FSV meeting for 2014. See page 5 for details.

Photo: Don Fuller (I think)

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Two views of the George Pentland Botanic Garden fern gully. Photos: Barry Stagoll.



Photo gallery (continued)

Ferns online

The Fern Society of Victoria's own website lists links to other fern societies and similar web pages. Here are a few more that I visit regularly.

The Editor

The plant research pages at the Australian National Botanic Gardens.

<http://www.anbg.gov.au/gardens/research/index.html> has heaps of great information.

Our own Royal Melbourne Botanic Gardens

<http://www.rbg.vic.gov.au/> Includes plenty of details of both Melbourne and Cranbourne gardens, as well as the various plant science projects underway.

Kew - the Royal Botanic Gardens.

<http://www.kew.org/> Fabulous web site and the next best thing if you cannot make a real visit.

Still in the UK: the Royal Horticultural Society <http://www.rhs.org.uk/> for a myriad of horticultural tips, including many on ferns (and not just European species).

Australian Native Plant Society

<http://asgap.org.au/> for a host of downloadable documents and other resources.



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Report for the Financial Year ended 30 June 2013

Bernadette Thompson

1.

THE FERN SOCIETY OF VICTORIA INC.

Statement of Income and Expenditure For Year ended 30 June 2013.

2012 \$	SUMMARY	2013 ² \$
3,454.01	Income – General Account	2,324.98
<u>2,779.52</u>	- Less – Expenditure	<u>2,403.70</u>
674.47	Operating Surplus/ deficit for year	- 78.72

2.

THE FERN SOCIETY OF VICTORIA INC.

Statement of Income and Expenditure for Year ended 30th June 2013

BALANCE SHEET

2012 \$		2013 \$
	<u>MEMBERS' FUNDS</u>	
22,087.78	Brought forward from previous balance	22,762.25
<u>674.47</u>	Surplus / Deficit from General Account	<u>-78.72</u>
22,762.25		22,683.53
	<u>REPRESENTED BY CURRENT ASSETS</u>	
	Cash at Bank	
2,230.54	General Account	1,643.96
	Stock	
55.60	Mugs	55.60
	Investments	
<u>20,767.11</u>	Term Deposits	<u>21,136.97</u>
23,053.25	TOTAL ASSETS	22,836.53
	<u>CURRENT LIABILITIES</u>	
229.00	Pre-paid memberships	91.00
<u>62.00</u>	Unpresented cheques	<u>62.00</u>
22,762.25	BALANCE TOTAL	22,683.53

Report for the Financial Year ended 30 June 2013

Bernadette Thompson

3.

THE FERN SOCIETY OF VICTORIA INC

Statement of Income and Expenditure
for Year ended 30th June 2013.

GENERAL ACCOUNT

INCOME

2012		2013
\$	<u>SUBSCRIPTIONS</u>	\$
1,245.00	Renewals	1,035.00
117.00	New Members	50.00
189.00	Pre-paid past	229.00
<u>- 210.00</u>	less pre-paid future	<u>-91.00</u>
1,341.00		1,223.00
	<u>SALES & COMMISSIONS</u>	
30.00	Spore Bank	67.00
308.50	Fern Sales Night & Open Garden	44.00
90.20	Miscellaneous sales to members	48.00
<u>10.00</u>	Sale of J. Boucher's ferns	<u>--</u>
438.70		159.00
	<u>SPECIAL EFFORT</u>	
175.00	General	67.00
	<u>OTHER INCOMES</u>	
126.00	Advertising	129.00
89.00	Christmas Auction	--
6.00	Donation	24.00
<u>62.00</u>	Excess Subscription	<u>--</u>
283.00		153.00
2,237.70	TOTAL OPERATING INCOME	1,602.00
	<u>NON OPERATING INCOME</u>	
.11	Bank Interest – General Account	--
456.88	Interest from Term Deposit transferred to General Account	353.12
<u>759.32</u>	Interest from Investment Account reinvested	<u>369.86</u>
1,216.31		722.98
3,454.01	TOTAL INCOME	2,324.98

Report for the Financial Year ended 30 June 2013

Bernadette Thompson

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THE FERN SOCIETY OF VICTORIA INC

Statement of Income and Expenditure
for Year ended 30th June 2013.

GENERAL ACCOUNT

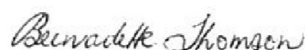
2012	EXPENDITURE	2013
\$		\$
	<u>NEWSLETTERS</u>	
\$1,059.09	Printing	\$1,288.26
<u>\$427.32</u>	Postage	<u>\$443.14</u>
\$1,486.41		\$1,731.40
	<u>ADMINISTRATION</u>	
\$72.80	Registrations / Subscriptions	\$73.90
\$35.88	Administration / Secretary	\$33.90
\$140.00	Supper / Meals	\$50.00
\$315.00	Rent K. Heinze Venue	\$225.00
\$93.00	Post Office Box rental	\$99.00
\$45.00	Donation to K. Heinze Centre (1/2 Christmas Auction)	-- --
\$192.50	Insurance	\$190.50
\$15.00	Bank cheque stop fee	-- --
\$62.00	Refund of overpayment of subscription	-- --
-- --	Speaker Expenses	-- --
<u>\$226.95</u>	Checks to members from Fern Sales Night	-- --
\$1,293.13		\$672.30
\$2,779.54	TOTAL EXPENDITURE	\$2,403.70

To: The Committee and Members of The Fern Society of Victoria Inc.

From: Bernadette Thomson.

Date 10th October 2013.

I have examined the Account books, Bank statements and receipts of The Fern Society of Victoria Inc. and consider these accounts to be a true record of the finances for the operation of business for the year ending 30th June 2013..



Bernadette Thomson.

Fern Society of Victoria meetings — 2014

7:30 pm Thursday 20 February 2014

Kevin Heinze Centre

Barry White: *Blechnums*

Fern competition: *Blechnum* species.

7:30 pm Thursday 21 March 2014

Kevin Heinze Centre

Don Fuller: *Nephrolepis*

Fern competition: *Nephrolepis* species.

April

Excursion to Kinglake

Date and details of the April excursion, and meetings for May and beyond, to be advised 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.

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

NEWSLETTER

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