FERN SOCIETY OF VICTORIA **NEWSLETTER** Volume 33, Number 3

May/June 2011



Fern Society of Victoria Inc.

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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

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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

Next Meetings

Thursday 19 May 2011, 7:30 pm Kevin Heinz Centre Forum: 'Growing fabulous ferns' Fern competition: Fabulous fern

Our main meeting for May will take the form of a presentation and general discussion on growing fabulous ferns. It will cover aspects of growing, caring for and grooming your ferns. Members are urged to bring in their special or fabulous ferns and be prepared to discuss them. If you have any special tips, procedures or implements and wish to share them with us it would add to the evening.

Thursday 16 June 2011, 7:30 pm Kevin Heinz Centre Ken Harris: Madagascar Fern competition: An African fern (bonus points for a Madagascar fern!)



Above: Asplenium surrogatum. Photo: Barry White.

Cover image: Cyathea cooperi at the fern gully, Royal Botanic Gardens, Melbourne. Photo: Barry Stagoll.

President's Note

The visits to the rainforest atrium at Esso's Southbank building and the Fern Gully at Royal Botanic Gardens Melbourne proved interesting, although there were only a very small number of attendees. They will be reported in the following issue.

At our place, we've been getting on with some of the planting we intended, although time available was limited by attending to other responsibilities. We hope all members are enjoying the pleasant autumn weather and its benefits for their fern collections – although we have also noticed the revival of pests such as scale along with the good growth on our plants!

The Society lost long-time member, past Committee member and valued worker at many FSV events, Jack Barrett, who passed away last month. We extend our sincere commiserations to his family. Bernadette Thomson, also a past Committee member who has been doing service as the Society's auditor in recent years, suffered the bereavement of her mother last month. We also offer Bernadette (and her sister Pauline who many of us have had the pleasure of meeting) sincere commiserations at this time.

Over the next four months we plan to meet on the evening of the third Thursday at Kevin Heinz Centre, as we usually do. Then in spring we intend to schedule another excursion, this time to the Kinglake area. Details of the meetings are listed in the Activities calendar – some recent meetings have been poorly attended, and we look forward to seeing more members at those coming up.

Barry Stagoll

Editor's Note

I am in the pleasant position of having more than sufficient material for this issue and have decided to hold several items over so as to continue (and conclude) the Lord Howe Island theme that commenced in the previous newsletter. Another consideration was the desire for timely inclusion of the notice on the following page of the life of Jack Barrett, of whose sad passing we just learned. As a consequence, several submissions are again held for the next issue and I apologise to those patient authors.

Recently I have had several phone calls from a foundation member of the FSV, Ian Forte. Ian is understandably keen to share a photograph of a maidenhair fern grown by his wife Dorothy, and I have reproduced the photograph on page 13 of this newsletter — a truly spectacular specimen. Sadly, Dorothy can no longer live independently at home but her wonderful maidenhair fern clearly thrives still, under Ian's careful attention. It was a pleasure to hear something of Ian's early memories of the FSV, and to publish the photograph. I learned that Ian and Dorothy were present at the first meetings of the Society, and that sometimes there would be 200 or more present when meetings used to be held in the Burnley Horticultural College. It would be nice to think that the FSV, and horticultural and natural history societies in general might once again attain such popularity.

Robin Wilson

Jack Barrett (1924-2011)

The Fern Society lost a much loved member when Jack Barrett passed away on the 5th April.

Jack has been a member of the Fern Society since 1985, and was a very active member until three years ago when a stroke prevented him from attending meetings. Jack was also active on the committee for five years, participating in most excursions, and was always on hand to help out in shows and garden events.

Jack has had an interesting life, born at 9 Charles St Ascot Vale in the home where he spent most of his life and grew his collection of conifers, ferns and a range of other plants. The Society had the pleasure of a visit to his garden on one of our garden tours. At 16 Jack commenced as an apprentice cooper at Carlton Breweries. He was a fourth-generation cooper, his great-grandfather William Barrett worked as a cooper in London, his grandfather, also a William migrated to Australia and set up a cooperage in Rutherglen, and Jack's father continued the tradition. Jack's apprenticeship was interrupted by the war. With his cooperage skills Jack joined the Royal Australian Engineers and put his skills to work initially in Queensland and the Northern Territory, and then for more than two years in New Guinea. During this time he took great interest in the plants.



Also while in the army Jack learnt Morse-code, a skill of which he made good use later on as an enthusiastic ham radio operator. After tea was not a good time to ring Jack as he would be on the radio to his mates.

When an injury prevented Jack from working as a cooper he moved into the accounts section. Many of the workers were Greek so Jack learnt Greek to better communicate with them. Jack also completed a number of courses in horticulture. Jack had a big thirst for knowledge, accompanied by a ton of common sense, a very generous nature, and above all a great sense of humour.

The photo was taken on an excursion in the Otways. Jack while fern hunting came across a collection of marijuana plants in pots and emerged with pretend staggers and carrying a pot. We will remember him as the man in this photo with a big smile.

Barry White

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The Geological History of Lord Howe Island Robin Wilson

Since this and the previous issue of the FSV Newsletter have a strong Lord Howe Island theme I thought it might be of interest to contribute something on the geological origins of Lord Howe Island, since therein lies the explanation for the large numbers of endemic species found there today. A few years ago I became interested in Lord Howe Island through a marine research project I was involved with in the Tasman Sea, and at that time I did some reading on the subject. Although I haven't had time to research the more recent research on the subject, I hope this summary is still largely accurate.

Lord Howe Island is an extinct shield volcano, which erupted for up to about 500,000 years, starting 6.9 million years ago. Shield volcanoes usually don't erupt explosively and instead steadily accumulate lava, often forming a shieldshape. They can reach a large size – the Lord Howe volcano was likely about 60 by 30 km in size judging by the remnants just below sea level around Lord Howe today. The Lord Howe volcano would have been quite a sight, emerging from the sea floor that is now nearly 2 km deep not far



Below: *Blechnum fullagarii*. Photo: Dwayne Stocks.

away from the Island (but of course there were no humans to enjoy the sight since that was long before ou species appeared). Lord Howe is now much eroded and the basalts that now form Mount Lidgbird were generated by the last lava flows before the volcano became inactive, about 6.4 million years ago. About 25 km distant, the imposing spire of Balls Pyramid is the remnant of another volcano. Geologists think that the Balls Pyramid volcano was probably a little older, maybe 7 million years old.

Lord Howe Island and Balls Pyramid are part of a chain of submerged extinct vocanoes (called seamounts) that stretches north through the Tasman Sea. Some are truly spectacular, arising from sea floor over 4 km deep and coming to within a few hundred metres of the surface. Some, like Elizabeth and Middleton Reefs off Queensland (and like Lord Howe Island too, of course), do reach the surface. There is another chain of seamounts called the Tasmantid seamounts, also running north through the Tasman Sea but much closer to the Australian coast. None of the Tasmantid seamounts reach the surface. The Tasmantid and Lord Howe seamount chains show similar variations in age, with the oldest seamounts, over 20 million years old, in the north and the youngest (including Lord Howe) being the most southerly. From this geologists deduce that the plates that form the Earth's crust are slowly moving north (about 6 cm per year), moving over a "hot spot" much deeper in the Earth's mantle. "Hot spots" are probably either plumes of hot material rising from the mantle, or else they are points of weakness allowing the mantle to rise close to the crust. Either way, movement of the plates has carried the older volcanoes, long since extinct, far north. If the "hot spot" that formed Lord Howe Island were to become active again today, geologists predict a new volcano would

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The Geological History of Lord Howe Island (continued)

form about 400 km south of Lord Howe Island (close enough that if a new island were formed, some fern spore from Lord Howe would probably reach there).

Many of the seamounts in the Tasman Sea that are now submerged once reached the surface. We know this since they are have eroded flat tops just as most of the Lord Howe volcano has eroded away. I can say that it is guite a thrill to watch the computer screen on an oceanic research vessel which is undertaking a survey of a submerged extinct volcano hundreds of metres below the ship. As the ship, using multibeam sonar, tracks back and forth like a mower covering a lawn, a picture emerges as the computer recreates the shape of the seamount: often it is a mountain with a flat top just as if it was carved off with a knife. However the "knife" is in fact the force of erosion of the waves, and the flat top was once at sea level. Subsequently the crust has sunk or the sealevel rose (or a bit of both), submerging the eroded seamount.

Probably you are wondering what this long diatribe has got to do with the ferns of Lord Howe Island, but the geology is the stage on which the plants evolved. Lord Howe, as fern society members will be well aware from the talks and articles by Chris Goudey and others, is special because of the numbers of species found nowhere else. Something like 30% of the flora of Lord Howe are species endemic to the island. Many animals are also endemic to Lord Howe, including the famous Lord Howe Woodhen (which is actually a rail, related to our Buff-Banded Rail), and the Lord Howe Stick Insect recently rediscovered by a rock climber on Balls Pyramid. Levels of endemism like that don't happen overnight. Long periods of isolation are the usual recipe for the evolution of new species. Not only has Lord Howe Island been there for 6.9 million years, but Balls Pyramid was there even earlier and before that there was an archipelago of volcanoes slowly being created, then going

(continued next page)



Above: *Blechnum howeanum*. Photo: Barry White.

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The Geological History of Lord Howe Island (continued)

extinct, eroding and submerging. There must have been opportunities over a period of tens of millions of years for animals and plants to island hop from one seamount to the next. Many animals and plants must have gone extinct along the way, but enough have been lucky enough to survive and remain on Lord Howe Island for us to admire and enjoy today. I think of Lord Howe as a time capsule, preserving a remarkable slice of the long history of the Tasman region.

These chains of islands in the Tasman Sea are significant for another reason: they would have provided "stepping-stones" between Australia and New Zealand, allowing some animals and plants to cross the Tasman, which was then a narrower sea than it is today. But that is another story ...

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Cyathea howeana. Photo: Barry White.



Cyathea brevipinna. Photo: Barry White.

The Ferns of Lord Howe Island Barry White

Psilotacea

Psilotum nudum - common. *Tmesipteris truncata* - common.

Lycopodiaceae



Above: *Ophioglossum pendulum*. Photo: Barry White.

Huperzia varia - rare, upper slopes of Mt Gower.

Ophioglossiaceae

Ophioglossum pendulum - rare, in plants of *Platycerium bifurcatum*, on Boat Harbour track

Ophioglossum reticulatum - rare, found on the saddle. Sterile lamina broadly ovate, clearly reticulate venation, plant 3 - 7 cm tall, spike 1.2 - 4 cm long.

Ophioglossum petiolatum - rare, found on North Beach. Sterile lamina lanceolate, thick, with obvious venation, plant 5 - 20 cm tall, spike 5 - 14 cm long.

Ophioglossum coriaceum - scattered occurrence, found in Johnson's Farm, Mt Eliza and Erskine valley. Sterile lamina lanceolate, somewhat thick with venation \pm obscure, plant 5 – 15 cm tall, spike 4 – 8 cm long.



Above: *Ophioglossum petiolatum*. Photo: Barry White.

Marattiaceae

Marattia howeana - Eddies Cave, Big Creek, N. side of Erskine Creek.

Osmundaceae

Leptopteris moorei - Mt Gower.

Hymenophyllaceae

Hymenophyllum howense - Mts Gower & Lidgbird. Rhizome wiry, creeping; Involucre cup (continued next page)

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The Ferns of Lord Howe Island (continued)

shaped with entire margin, fronds 5-12 cm long,

Hymenophyllum moorei - Mts Gower & Lidgbird. Rhizome wiry, short creeping; Involucre cup shaped with dentate margin, fronds 2-6 cm long.

Cephalomanes atrovirens - rare, Soldiers or Deep Creek. Rhizome erect, robust; involucre cup shaped, receptacle exerted by 1-6 mm, lamina \pm erect 7-20 cm long.

Cephalomanes bauerianum - Mt Gower. Rhizome erect , robust; involucre conoid, lamina \pm erect 10-30 cm long.



Cephalomanes bauerianum. Photo: Patrick Acock.

Adiantaceae

Adiantum atrovirens - Mt Eliza, N. Head.

cf. Adiantum aethiopicum

Adiantum pubescens - common on track sides, and open areas.Lamina covered with numerous longish, pale flexuous hairs, frond strictly pedate, stipe \pm rough.

Adiantum hispidulum - uncertain. Lamina below has short rigid hairs less than 0.5 mm long; not strictly pedate, stipe consistently rough.

Cheilanthes sieberi - rare, dry rocky habitats, Malabar Hill. Stipe and rachis glabrous with few hairs and scales near base.

Cheilanthes distans - frequent in dry rocky habitats. Stipe and rachis densely scaley throughout.

Pellaea falcata - rocky places in N. hills. 10-35 pinnae pairs, 5-10 mm broad, rachis manifestly scaly.

Pellaea paradoxa - rare, S. side of Malabar. 2-8 pinnae pairs, 12-30 mm broad, rachis slightly rough, almost naked.

Pteris tremula - widespread. Veins free.

Pteris microptera - widespread. Veins netted, segments of lamina 8-10 mm broad.

Gleicheniaceae

Sticherus lobatus - S. end of Mt Gower summit.

Polypodiaceae

Platycerium bifurcatum - epiphyte, sometimes lithophyte.

Pyrrosia confluens - Mt Eliza, Malabar.

Microsorum pustulatum subsp. *howense* - common. Sori submarginal, deeply sunken, scales 1.5-3.3 mm broad.

Microsorum scandens - upper Erskine Valley, summit Mt Gower. Rhizome 2-7 mm diameter, base of lamina long decurrent onto stipe, lobes of lamina 0.4 - 1 cm broad.

Grammitidaceae

Grammitis diminuta - upper parts Mts Gower & Lidgbird. Fronds glabrous, sori \pm confined to upper part of frond.

Grammitis nudicarpa - rare, top of Mts Gower & Lidgbird. Fronds bristly, hairs 0.5-2 mm long, fronds 3-8 cm long, sori usually the length of the frond.

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The Ferns of Lord Howe Island (continued)

Grammitis wattsii - tops of Mts Gower & Lidgbird. Fronds bristly, hairs 2-4 mm long, fronds 6-25 cm long, sori usually the length of frond.

Cyatheaceae

Cyathea macarthurii - widespread. Pinnules on central part of lamina 7-14 cm long, fertile pinnules deeply pinnatisect joined along the costa by 0.5 - 1 mm of lamina.

Cyathea robusta - widespread. Pinnules 5-6 mm broad, fertile pinnules completely pinnatifid, base of fronds has whitish scales with dark brown setiferous margins.

Cyathea howeana - frequent on slopes of Mts Gower & Lidgbird. Pinnules 3-7 cm long, deeply toothed; stipe base green with has few caducous brown scales.

Cyathea brevipinna - top of Mt Gower & Lidgbird? Pinnules 3-5 cm long, entire except fertile pinnules deeply toothed.

Thelypteridaceae

Christella dentata - fairly common.

Dennstaedtiaceae

Histiopteris incisa - widespread.

Hypolepis elegans - common.

Aspleniaceae

Asplenium goudeyi - common. More erect habit, thicker, more obtuse, glaucous fronds.

Asplenium milnei - common. Pinnate, pinnae 5-15 cm long with acute serrations.

Asplenium surrogatum - in high forests, rare at lower elevations. Pinnate-pinnatifid, rachis and lamina glabrous.

Asplenium polyodon - occasional, Intermediate Hill, N. Hummock, Mt Gower. Bipinnate, pinnae lanceolate with long tapering apex.

Asplenium pteridioides - rare, S. mountains. Fronds 2-3 pinnate, pinnae & upper part of rachis narrowly winged.

Athyriaceae

Diplazium melanochlamys - occasional in S. part of the Island. Narrow dark brown scales 1-2 cm long, indusia almost black.

Dryopteridaceae

Cyrtomium falcatum - garden escapee.

Arachniodes aristata - rare, E. side of Intermediate Hill. Margins of pinnules sharply aristate.

Polystichum moorei - rare, E. side of Mt Lidgbird, W. side of Mt Gower. Lamina lanceolate7-14 cm broad, without arachnoid hairs; pinnules ovate, obtuse; indusia dome shaped.

Polystichum whiteleggei - locally common Mts Lidgbird & Gower. Lamina deltoid 25-40 cm broad, with arachnoid hairs; pinnules lanceolate, acute or deltoid; indusia \pm funnel shaped.

Lastreopsis nephrodioides - Mts Gower & Lidgbird. Stipe base with dense very dark brown scales to 2 cm long, margins of pinnules crenate, sori medial to marginal often on a tip of a projection.

Davalliacaea

Nephrolepis cordifolia? - common. Lacking tubers? Similar to NZ which has shorter narrower laminae with almost smooth margins.

Arthropteris tenella - common in N. part of the Island. Climbing rhizome, stipe articulate to rhizome.

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The Ferns of Lord Howe Island (continued)

Blechnaceae

Blechnum patersonii - rare, upper parts of Mt Gower. Sterile fronds simple.

Blechnum geniculatum - rare, on summit of Gower & Lidgbird. Basal pinnae abruptly reduced in length, with 1 or 2 distant pairs 0.5 - 2 mm long; rachis geniculate at base of lamina.

Blechnm contiguum - frequent on tops of Gower & Lidgbird. Climbing fern, Basal pinnae gradually reducing in length, lower pinnae at an angle of 45 - 60 degrees to rachis, apices acute.

Blechnum howeanum - Mts Gower & Lidgbird. Fronds pinnate, rachis without setae; pinnae to 20 cm long, often contiguous, \pm auriculate in lower half of frond.

Blechnum fullagarii - Top of Mt Gower. Fronds pinnate, rachis with dense dark brown setae, pinnae to 7 cm long.

Doodia media - common in low forest. Fertile & sterile fronds similar, pinnae in middle third of the frond partly or completely adnate to rachis, transition from stalked to adnate occurs relatively abruptly but near base of frond.

Doodia caudata - rock crevices in S. mountain forests. Markedly dimorphic; pinnae in middle third of frond stalked.



Blechnum oceanicum. Photo: Barry White.



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Ian Forte proudly displaying a splendid maidenhair fern (*Adiantum* sp.) originally grown by his wife Dorothy. Ian reports that the fern is many years old and has been reported several times but "has never looked better". Photo supplied by Ian Forte.

COMING UP IN THE NEXT NEWSLETTER ...

Next issue we can look forward to two articles recounting excursions with the Fern Society of Victoria: **Doug Western** has written a very pleasing article on his experiences at the Badger Creek escursion (once again apologies Doug that I have had to hold onto this now for a second issue - but it *will* appear in the July/August Newsletter!); and **Barry Stagoll** has contributed a story about the double excursion in April, to the rainforest atrium at the Esso building followed by a visit to the fern gully at the Royal Botanic Gardens, Melbourne. There is room for more, so please keep written and photographic submissions coming in to the Editor (contact details on the inside cover).

Calendar of activities — Fern Society of Victoria

7:30 pm, Thursday 19 May 2011

Kevin Heinz Centre Forum 'Growing fabulous ferns' Fern competition: fabulous fern *see page 3 for further details*

7:30 pm, Thursday 16 June 2011

Kevin Heinz Centre

Ken Harris: Madagascar

Fern competition: An African fern (or Madagascar if you can)

7:30 pm, Thursday 21 July 2011

Kevin Heinz Centre

Barry Stagoll: Deciduous ferns

Fern competition: any miniature fern (up to about 150 mm when fully grown)

7:30 pm, Thursday 18 August 2011

Kevin Heinz Centre

Terry Turney [topic to be advised]

Details of events for September and beyond will be provided in coming issues.



Two final Lord Howe Island ferns to conclude this issue. Above is *Cyathea macarthuri* and below *Pteris microptera*. Both photos by Barry White.



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 20 cents per sample, non-members 50 cents, 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 can be purchased at most Post Offices. 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 <u>barry_white1@msn.com.au</u>. The following list is current as of January 2011.

Acrostichum speciosum 4/09 Aleuritopteris kuhnii 6/10 Amphineuron opulentum 4/10 Anemia phyllitides 6/09 Anemia tomentosa 8/08 Angiopteris evecta 11/09 Arachniodes simplicior 1/09 Arachniodes aristata 11/10 Arachniodes mutica 10/08 Arachniodes standishii 6/10 Asplenium milnei 10/10 Asplenium nidus 5/08 Asplenium nidus cv.5/08 Asplenium pellucidum 12/10 Athyrium filix-femina (red stipe) 12/10 Athyrium niponicum 'Pictum' 5/10 Athyrium otophorum 12/10 Blechnum ambiguum 1/08 Blechnum braziliense 5/10 Blechnum chambersii 9/10 Blechnum spicant 12/10 Blechnum sp. (New Caledonia) 6/10 Blechnum patersonii 9/10 Blechnum wattsii 12/08 Chingia australis 6/10 Christella hispidula /09 Christella subpubescens12/08 Cyathea australis 9/10 Cyathea baileyana 12/08

Cyathea cooperi 1/09 Cyathea cooperi 'Brentwood' 3/08 Cyathea felina 10/08 Cyathea howeana 10/10 Cyathea macarthuri 10/10 Cvathea medullaris 11/08 Cvathea robusta9/10 Cyathea rebeccae (crested) 9/10 Cyrtomium caryotideum 8/10 Cyrtomium falcatum 'Butterfieldii' 3/08 Cyrtomium fortunei 6/10 Dicksonia antarctica 12/10 Diplazium australe 5/10 Diplazium assimile 6/09 Diplazium dilatatum 12/10 Doodia australis 6/10 Dryopteris affinis 'Cristata' /08 Dryopteris dilata "Crispa Whiteside" 11/10 Dryopteris erythrosora 10/10 Dryopteris guanchica 12/10 Dryopteris sparsa 8/10 Dryopteris wallichiana 1/09 Hypolepis glandulifera 12/08 Lastreopsis acuminata 12/10 Lastreopsis decomposita 6/09 Lastreopsis microsora 6/10 Lastreopsis nephrodioides 10/10 Lygodium japonicum 2/10 Macrothelypteris torresiana 6/10

Microsorum punctatum 1/09 Ophioglossum pendulum 7/08 Pellaea cordata 7/09 Pellaea falcata 1/11 Pellaea hastata 5/10 Pellaea viridis 1/08 Platvcerium superbum 4/08 Pleisioneuron tuberculatus 12/08 Pneumatopteris sogerensis 12/08 Pneumatopteris costata 12/08 Polystichum aculeatum 7/09 Polystichum australiense 5/10 Polystichum formosum 6/09 Polystichum proliferum 12/10 Polystichum retroso-paleacum 10/10 Polystichum whiteleggei 10/10 Polystichum xiphophyllum 3/08 Pteris aspericaulis 8/10 Pteris dentata 12/10 Pteris hendersonii 12/10 Pteris pacifica 6/10 Pteris tremula 11/10 Pteris umbrosa 6/10 Revwattsii fragile 12/10 Rumohra adiantiformis(Cape form) 2/08 Sphaerostephanos heterocarpus 7/08 Thelypteris patens 9/09

Thank you to the spore donors who are listed on the web page at http://home.vicnet.net.au/~fernsvic/Sporlist.html (updates to the spore list can also be found at that page).

NEWSLETTER	
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