TRILEPIDEA

NEWSLETTER OF THE NEW ZEALAND PLANT CONSERVATION NETWORK

Please send news items or events to events@nzpcn.org.nz
Postal address: P.O. Box 16-102, Wellington, New Zealand

E-NEWSLETTER: NO 77. APRIL 2010 Deadline for next issue: Friday 14 May 2010

Guest message from the Treasurer

It was with mixed emotions I attended the launch of the outstanding new publication "Threatened Plants of New Zealand" at the Department of Conservation national office a couple of weeks ago. Pride that the Network with its partners had supported and facilitated such a publication was tinged with sadness that the book showed that we are not making progress in the management of New Zealand's biodiversity. This at the same time that funding for biodiversity management in general, and threatened species in particular, is under pressure both nationally and regionally. The irony is not lost in this the International Year of Biodiversity.

What can we do about it? There are no easy answers but it has to start with each and every one of us and with the organisations we support and belong to. The work of the Network, and its achievements over the past 6 years, has been beyond what any of us could have imagined. Yet we need to do more. This work needs to be managed in a coordinated and professional manner. For that, we need resources and funding.

Minister of Conservation The Hon. Kate Wilkinson speaks at the launch of Threatened Plants of New Zealand.
Photo: Nadine Bott, Department of Conservation.

One area of work that the Network supports is research into the conservation, protection and recovery of New Zealand's threatened plant species and communities. The David Given Threatened Plant Scholarship was launched in 2008 with the first recipients being Drs Peter Heenan and Rob Smissen for their research into the conservation genetics and taxonomy of *Convolvulus* "glabrous". This scholarship, named in honour of one of our pre eminent plant conservation scientists, has the ability to make a difference and fund some of the research so vital to understanding why plants are threatened and to develop strategies for their recovery. The Network is committed to building up this fund to ensure that in years to come it can provide a substantial annual scholarship.

The Council is looking at options to increase this fund and develop a capital base of at least $100,000. We need your help to do this. This can be in several ways: identifying possible donors who would support such an initiative including commercial companies, identifying fund raising projects as well as receiving individual donations and bequests.

Wouldn't it be great if we could achieve at least one positive milestone in this the International Year of Biodiversity and achieve if not exceed this target.

Mike Oates
Wellington City Council

PLANT OF THE MONTH – *ERYNGIUM VESICULOSUM*

Eryngium vesiculosum. Photo: Jeremy Rolfe.

Plant of the Month for April is *Eryngium vesiculosum* (sea holly). This small rhizomatous perennial of the Family Apiaceae is found in coastal sands, river gravels and lake shores in the North and South Islands from the Manawatu and Eastern Wairarapa coastline south. In the South Island, it is found mainly east of the main divide. Its status as an endemic is undetermined because a similar plant is found in south eastern Australia and the relationship between the two is currently unresolved.

Sea holly is heterophyllus, which means it has leaves of different forms on the same plant. In summer, leaves are tougher, broader and prickly; in winter, they are softer, linear and fistular (tubular; pipe-like). The change in leaf form is cued by differing day length between the seasons and is likely a response to the seasonal availability of water in the places they inhabit. Flowers appear in dense heads and are pale-blue.

Sea holly is declining; major threats include weeds and trampling by stock where they are let to graze along river and lake shores. The Network fact sheet for *Eryngium vesiculosum* may be found at: www.nzpcn.org.nz/flora_details.asp?PlantID=1868

Official launch of *Threatened Plants of New Zealand*

On Thursday 25 March, the long awaited publication *Threatened Plants of New Zealand* was officially launched in the foyer of the Department of Conservation headquarters in Wellington. The formal part of the evening contained speeches by the Minister of Conservation, the Vice-Chancellor of Canterbury University (representing the publishers) and the CEOs of the Department of Conservation and MWH, the sponsors of the publication. Peter de Lange, on behalf of the authors, concluded the speeches and, in his speech, he made the often-heard plea for the training of more taxonomists. After the formal part, those attending, who represented many groups with an interest in conservation were able to purchase copies of the book and have them signed by the authors.

The Hon. Kate Wilkinson, Minister of Conservation; Andrew Caseley, Director, MWH - NZ ; Dr Rod Carr, Vice Chancellor of the University of Canterbury.

Three of the anuthors, Drs Peter De Lange, David Norton, Peter Heenan.
Photos: Nadine Bott, Department of Conservation.

A great servant of New Zealand native plants has died

Tony Silbery, Department of Conservation (tsilbery@doc.govt.nz)

"I don't go that fast these days, especially on hills, I just drop into low gear and plod along" said Helen, who promptly shouldered her pack and set off at a steady pace that had (much) younger folk regretting a large lunch. It wasn't a light pack either, nor a fancy modern one; a full Mountain Mule is a brute to haul. She then kept up the same pace for the next five hours, navigated back to camp, got the fire going, made the most amazing meal and mused on the antics of other members of the party who had decided to take a three or four hour detour for a look at some small buttercups and wouldn't be back until well after dark. "They're mad," was her conclusion, reinforced when hours later they arrived, not having even got close to the swamp where the buttercups grew.

Helen Druce at Corner Creek, Palliser Bay, with *Pseudopanax ferox.* Photo: Jeremy Rolfe.

We were in the upper Moawhango valley in the middle of January with 30 plus degree days and camp was a few tents in a little patch of beech forest miles from anywhere. Helen and Tony were well into their 60s and could manage a day that made the most of a rare visit into one of New Zealand's botanical treasures, while the rest of us straggled in their wake, trying to take in the grandeur of the setting, the intimate details of the plants and the sweep of history that saw a small group of South Island species make their home in the centre of the North Island. Somehow, it seemed to me, Helen just understood and felt this landscape and these plants in a way that was beyond mere science, it was alive, joyous and wonderful as well as being a botanical gem and her delight at being there was palpable and infectious.

This was just one of many trips that Tony and Helen undertook in a shared life that led them into some of the most amazing parts of our country and endowed them with a deep love for New Zealand plants that they were only too happy to share. Their Easter and Christmas trips with the Wellington Botanical Society became legendary, the ground often prepared by a few "recce" visits as they made sure that no potential source of interest would be left out.

Though she would hardly admit to it, Helen was a formidable botanist in her own right, with a great eye in the field, spotting many species long before others had even thought to look, and a memory for detail that would allow her to describe critical differences in an easily understood manner. Her "copper pipe stems" guide to recognising *Coprosma rigida* has served well on more than one occasion.

In the garden at Pinehaven, she would describe in great detail the trip which gave rise to this or that plant, who was there, what debate was had about its identity, but most of all what a wonderful part of the country it was, how amazing the plants were and how great the company was. Whether Central Otago or the Far North, Helen could tell you a tale that made you remember vividly if you were there and, if you weren't, then you wished fervently that you had been, so good were her descriptions.

One of the great servants of New Zealand's flora has left us, at the age of 88, but she managed to share her love of plants with many people, spanning many generations, and, with the generosity that typified both Helen and Tony, they gifted many of their most special plants to Percy Reserve, where they continue to grow, testament to both the wonderful flora that we are privileged to live alongside and the equally wonderful couple who have done so much to explore and explain it.

Joint effort to protect and restore rare Tararua 'treeland'

Loralee Hyde, QEII National Trust (lhyde@openspace.org.nz)

In October 2009, South of Takapau, the 0.85 ha Bram Bush QEII covenant was put in place by the Poulton family on their sheep and beef farm. Funding is now being sought for a three-year revegetation programme to reinstate this severely degraded 'treeland' that contains one of only five mature rata trees remaining in the northern Puketoi Ecological District. A restoration plan developed with support from ecologists Gerry Kessels and Britta Deichmann and the Biodiversity Advice Fund recommends replanting areas dominated by rank grass with 3,800 plants, establishing locally sourced rata trees, maintaining long-term pest and weed control programmes and ongoing monitoring of the restoration plan.

The significant rata in Bram Bush is at the northern limit of the distribution range of rata in lowland Tararua-Hawke's Bay. This tree may be locally adapted to the dry environment conditions.

The covenant was part of the densely forested tract known as 'Seventy Mile Bush' that once extended from Masterton to Norsewood but was largely cleared in the late 19th century for farming. This is now the only piece of bush left on the Poultons' farm. The joint effort between the landowners, Horizons Regional Council, Government Biodiversity Contestable Funds and QEII will help to preserve this rare 'treeland'.

David Poulton and his sons at the 'treeland'. The fence protecting the vegetation from stock browsing was constructed with contributions from QEII, Horizons Regional Council and the landowners. Photos: Bill Wallace.

A new name and genus for pīngao

Pīngao, one of the key sand binders of the New Zealand sandy beaches and dune systems, has long been known in New Zealand as the sole representative of the endemic genus *Desmoschoenus*. *Desmoschoenus* was proposed by Joseph Hooker in 1853 to accommodate the species that had previously been known as *Isolepis spiralis*. Pīngao was first drawn to the attention of western botanists when it was collected by Joseph Banks and Daniel Solander from several locations in the eastern North Island. They proposed to call this distinctive sedge "*Scirpus frondosus*" but as with most of their Endeavour voyage discoveries, they did not formally publish the name. It was the French, under the command of Dumont d'Urville, who officially "recognised" the species when the renowned French botany professor Achille Richard described pīngao as *Isolepis spiralis* in 1832 based on specimens forwarded him by d'Urville (Richard 1832).

Pīngao at Parengarenga Harbour. Photo: John Sawyer.

However, Hooker appreciated that the species was misplaced in that genus and, on the basis of the distinctive paniculate, globose, interrupted, multi-flowered and densely whorled leafy spicate inflorescences, proposed the genus *Desmoschoenus* (Hooker 1853). Two years later, in apparent ignorance of Hooker's move, Ernst Steudel proposed a new genus *Anthophyllum*, and the name *A. urvillei* for the same species, using the same material collected by the French. *Desmoschoenus*, the older name by some two years, had priority, and by and large, pīngao has been known by that name ever since.

Although *Desmoschoenus* has been in almost constant use for the last 150 or so years, there has not been universal support for the genus. For example, in 1878 Johann Boeckeler legitimised the Banks and Solander manuscript name *Scirpus frondosus*, and, in 1916, George Druce proposed *Scirpus spiralis* for pīngao. Interestingly, in 1996, two South African botanists published a paper in the *New Zealand Journal of Botany*, the significance of which seems to have been completely overlooked in this country. Browning and Gordon-Gray (1996) noticed that the ovules of pīngao were held within a gynophore, a small cup-like structure. Gynophores are the defining character of a largely South African genus, *Ficinia*. They also noted that pīngao was not really that different from other South African species of *Ficinia*. Perhaps New Zealanders didn't fully appreciate the importance of this paper because our only species of *Ficinia*, *F. nodosa*, has little resemblance to pīngao. Anyway, for whatever reason, New Zealanders seem to have ignored what this paper was driving at and *Desmoschoenus* remained intact.

In 2003, I made a chromosome count of pīngao, noting that it had $2n = 30$ chromosomes but, because there are no other species in that genus and the relationship of *Desmoschoenus* to other members of the Cyperaceae was "seemingly" unclear, there was little I could say about it. At about the same, time I provided material to the University of Auckland for sequencing as part of their nrDNA ITS study into the New Zealand Cyperaceae. The initial results showed that pīngao consistently sat with *Ficinia nodosa*, albeit that both sat on a clade and both species occupied very long branches. We assumed that this result was caused by what is known as "long branch detraction syndrome". Also, because there were no further ITS sequences available for *Ficinia*, and because *Desmoschoenus* and *Ficinia nodosa* are unusual singletons in the New Zealand flora we didn't explore the matter further. Alas, like so many well intentioned DNA studies, those results were never published but our sequences were loaded on GenBank (the international, publically available database of DNA sequences) so that they could be used by other people worldwide.

As a result, in 2007 Dr Muthama Muasya of the University of Cape Town, South Africa, and world expert on *Isolepis* got in touch. It transpired that during his doctoral research on *Isolepis* he had studied *Desmoschoenus*, and his molecular work showed that it was consistently nested within *Ficinia* (see Muasya et al. 2001, 2009a,b). He had wanted to reduce *Desmoschoenus* to *Ficinia* but his then Northern Hemisphere supervisor told him he shouldn't do this because "*New Zealand people would be upset*". At this stage, having just seen what had been done to *Chionohebe*, *Hebe*, *Heliohebe*, *Leonohebe* and *Parahebe* at the urging of mostly Northern Hemisphere botanists, I couldn't help but see the irony of this and said so. As a result, Muthama and I agreed to merge *Desmoschoenus* with *Ficinia*, but I stressed this needed to be done properly, with all the lines of reasoning published in one place, and in New Zealand literature. After all, *Desmoschoenus* is a popular and important New Zealand taonga, so our people need to see why changes like these happen, not have to hear about it second hand, or be reduced to fossicking around in overseas journals (many of which are difficult to access).

Our results, published in the *New Zealand Journal of Botany 48* show why we believe *Desmoschoenus* is better treated as *Ficinia*, and we provide the necessary combination in that genus for the species: *F. spiralis* (A.Rich.) Muasya et de Lange. In that paper (Muasya & de Lange 2010) we use data pooled from two molecular markers and a sampling of 18 *Ficinia*, 20 *Isolepis*, one *Hellmuthia* and one *Scirpoides*. Interestingly, *Scirpoides* (as *Holoschoenus*) was the one genus Hooker felt *Desmoschoenus* was closest too. The paper also illustrates the diversity of *Ficinia*, and we include those species

to which *Desmoschoenus* is closely allied. We further argue that, aside from the all important gynophore, the presence of a condensed and spirally arranged paniculate inflorescence is another key feature shared by the two genera. What about *Ficinia nodosa*? It occupies a very distant position toward the base of *Ficinia* but, if you look at the back of its inflorescence critically and compare it to the back of a pīngao inflorescence, you will see a remarkable resemblance between the two.

The unusual position of *Ficinia spiralis* as the sole endemic of the genus to be found outside South Africa, may seem remarkable. However, in the New Zealand flora there is one other parallel, *Bulbinella*, which is a genus shared by both countries but not found in between (although *Bulbinopsis* comes pretty close to it).

Far left: *Ficinia spiralis* inflorescence.
Photo: Vivienne McGlynn.
Left: *Ficinia nodosa* inflorescence.
Photo: Jeremy Rolfe.

Postscript

Dr Brian Murray (*pers. comm.*) kindly counted the chromosomes of *Ficinia nodosa* New Zealand's only other species in the genus, finding that it too had $2n = 30$. Though I'd like to draw some nice conclusions about that result, alas I can't because to date only that species and *F. spiralis* have been chromosomally investigated. It would be interesting indeed to see the chromosome numbers of the other endemic South African species.

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Network website news

Prize for the 20,000th image

It was reported last month that there were over 18,000 images loaded on the Network's website. That total has now passed 19,000. There will be a prize of a free copy of *Threatened Plants of New Zealand* for the person who submits the 20,000th image.

CURRENT FORUM TOPICS

- Will *Pimelea ignota* continue to exist and is it a good species?
- What is known about epiphytes in New Zealand?
- Have you often observed *Rytidosperma buchananii* in alpine bogs?

Additions to the website

National weed distribution maps have now been added to more than 1,600 exotic plant species pages on the Network website. These maps have been derived from the Department of Conservation's national BIOWEB weed database. To read more about weeds go to the exotic plants section of the website (http://www.nzpcn.org.nz/page.asp?threats_naturalised_plants) or use the flora search engine to search for a weed.

In addition, a slide show button has been added below the individual images on species pages to allow you to view the images. This button, in the shape of a screen, allows you to see a slide show of all the images of the particular plant; after pressing this button, placing the cursor on the enlarged image activates the button "Next".

Online shop now open

Further to last month's story about the online shop, the shop items are selling fast (the native plant checklist is sold out). Enter via the button on the left hand side of the home page (www.nzpcn.org.nz) or follow the link: Network on-line shop

Products for sale include the new Threatened Plant book, the Network's threatened plant poster, plant lists and plant training courses.

Threatened Plants of New Zealand by Peter de Lange, Peter Heenan, David Norton, Jeremy Rolfe and John Sawyer (Canterbury University Press)

To order copies of *Threatened Plants of New Zealand* at the members-only discount price of $80 (plus postage; full retail price is $99.95) you may log in to the Network website and fill out the order form at online shop. This beautifully illustrated book combines precise botanical description with lavish illustrations in describing the 189 species defined by conservation scientists as Extinct or Threatened, using the New Zealand Threat Classification System. Each description contains information on how to identify the plant in question, the specific threats it faces, and its current distribution. Buy your copy from the Network through the online shop; the net proceeds go to plant conservation.

See a review of *Threatened Plants of New Zealand* next page.

Exciting New Zealand news!

As we go to press, it has been reported that Cam Kilgour has rediscovered the Nationally Critical *Leptinella rotundata* in the Waitakere Ranges (its type locality) c.110 years after it was last seen there! Now that *is* good news. More to come, hopefully, in a future issue.

Exciting Australian news!

Wendy Potts (Wendy.Potts@dpipwe.tas.gov.au)

Phil Collier and Robin Garnett have found *Cassinia rugata* (wrinkled dollybush) on their land at Rubicon Sanctuary near Port Sorell, which is covenanted under the *Nature Conservation Act 2002* (which was purchased from the Tasmanian Land Conservancy that bought the land to protect a number of other threatened species, mostly orchids). *Cassinia rugata* was previously thought to be endemic to Victoria and is listed on the EPBC Act as Vulnerable. It was known only from the Portland area in very low numbers (only 42 had been seen in recent years with the populations obviously struggling, unreserved and threatened; see the Recovery Plan at: www.environment.gov.au/biodiversity/threatened/publications/pubs/c-rugata.pdf).

Phil and Robin have counted about 280 plants on their property, making it a very significant find (the records are now in the Natural Values Atlas). The Tasmanian plants are healthy and resprout after fire. They show a large degree of variation with Tony Orchard (who revised the genus in 2004) determining that the plants fit a slightly expanded concept of *C. rugata* better than being assigned to a new taxon. The ephemeral habitat and late flowering (compared with *C. aculeata*) are characteristic of the *C. rugosa* group. Phil and Robin have not noticed this plant elsewhere in their wanderings though extension surveys are warranted because the species may have been overlooked given that it was not previously known from Tasmania. Please keep an eye out for it.

We've also added an observation for *Amphibromus fluitans* (floating swampgrass) to NVA. This species is also listed as Vulnerable on the EPBC Act though there is doubt as to whether the only Tasmanian record (from Lake Crescent) is native or introduced.

A review of *Threatened Plants of New Zealand* by Peter de Lange, Peter Heenan, David Norton, Jeremy Rolfe, John Sawyer. Canterbury University Press

John Barkla, Department of Conservation (jbarkla@doc.govt.nz)

It seems a long time since this book was first mooted but the wait has certainly been worth it. Weighing in at 1.79 kg and with 471 pages, it's a substantial tome in a class of its own. The attractive cover, showcasing one of our most recognisable threatened plants, sets the standard that is maintained throughout. With over 600 photos taken by 70 photographers this book is a visual delight backed up by up-to-date text prepared by authors with an intimate knowledge of their subject.

The introduction deals briefly with the New Zealand flora before discussing the nature of rarity, why we have threatened plants, how they are classified, and the current and future context for their management. The bulk of the book, though, is dedicated to methodically addressing the 190 plants it features (those listed as Extinct or Threatened).

Taxa are arranged alphabetically within each threat category. Each taxon has been allocated two facing pages with sections dedicated to description, distribution, habitat and threats. Some might find the descriptions overly technical but others will appreciate that many descriptions have been updated from those in the New Zealand Flora series Volumes 1–V. A recognition section, strategically highlighted in a text box, gives key points to helps distinguish the taxon from other likely candidates. Colour photos, often showing close-ups of diagnostic features, bring the text to life. For some taxa, these may well be the first published photos. A small map provides a general guide to the taxon's distribution. The layout is stylish, uncluttered and effective.

There is a list of references for those wanting to delve deeper. The Appendix makes several new combinations for taxa treated in the book whose conservation management is of concern. A comprehensive glossary explains the technical terms used in the descriptions. Notes about the authors are followed by a user-friendly index that allows readers to quickly locate their chosen taxa. The inclusion of extinct taxa is especially relevant. It's both a poignant reminder of why we should be concerned about the plants in the book and also provides the tools for astute observers to continue searching.

I had to work hard to find shortcomings. A few species whose distribution extends to the Chatham Islands have not been mapped as such (e.g., *Daucus glochidiatus* and *Rorippa divaricata*). A key plant site in the Waitaki Valley is variously described as being in South Canterbury (as for *Carmichaelia hollowayi*) and in North Otago (as for *Pachycladon exile*). Bartlett's rata is not the only white-flowered New Zealand rata as the photo caption on page 155 suggests. There are transposed photo captions for *Lepidium banksii* on page 135. Rangitoto is misspelt on page 387. However, these are relatively minor blemishes in an otherwise outstanding book.
Threatened Plants of New Zealand is a giant leap forward from the field guide of the same name by Catherine Wilson and the late David Given. It reflects the huge increase in knowledge about the plight of our threatened plants and the increasing sophistication with threat classification over the 20 years that have elapsed since that field guide was published. The book will have wide appeal to those who care about New Zealand's unique flora.

Call for papers: special issue of the *Australasian Journal of Environmental Management*

The Editors of the *Australasian Journal of Environmental Management* invite offers of papers on Biological Diversity for a special issue of the journal in December 2010. This year, 2010, is the United Nations designated International Year for Biological Diversity. In one statement, the United Nations Environment Programme said "The importance of biological diversity to human society is hard to overstate. An estimated 40 percent of the global economy is based on biological products and processes. The effective use of biological diversity at all levels—(including) genes, species and ecosystems—is therefore a precondition for sustainable development."

Recognising the importance of biological diversity, the Editors have agreed that the 2010 December issue of the *Australasian Journal of Environmental Management* will be a special issue devoted to papers on biological diversity. Papers submitted for possible publication in this special issue must follow the 'guidelines for contributors' including length limit of 6000 words (see www.eianz.org/publications/australasian-journal-of-environmental-management). The emphasis will be on 'diversity' or 'variety' in nature at any level of biological or ecological organisation. The topics may be wide ranging and could include accounts of management and conservation of diversity as well as the benefits and functions of diversity in nature. Those benefits could be environmental, ecological, social, cultural or economic. Papers that use the term 'biological diversity' in a general sense and without qualification will not be accepted.

Papers to be presented at the Environment Institute of Australia and New Zealand annual conference are welcome, subject to the timelines below. Please submit abstracts or expressions of interest to the Editors at ajem@uq.edu.au as soon as possible. Full manuscripts: 18 June. (This is to allow sufficient time for reviewing, revisions and production). Earlier submissions are welcome. Enquiries: ajem@uq.edu.au, or Prof. Helen Ross on 0061 0408 195324 (please allow time to respond as the e-mail account is staffed part time).

Network conference 2010

The 2010 conference is to be held in Christchurch with the theme "Plants in a human landscape – conservation outside nature reserves" is scheduled for 8–10 October. Please mark it in your diary now and make a resolution to attend. You are invited to send in your ideas for papers and spread the word by circulating the flyer (http://nzpcn.org.nz/publications/Conference10-flyer-100326.pdf) around your networks.

Collection manager botany – Te Papa

The Museum of New Zealand Te Papa Tongarewa is seeking to appoint a Collection Manager Botany within its Natural Environment team. The appointee will work closely with Botany curatorial staff and one other Collection Manager Botany. To view a copy of the job description and to apply online please visit the Te Papa website (www.tepapa.govt.nz/jobs). For further information please contact recruitment@tepapa.govt.nz and quote reference TP1057. This is a full-time permanent appointment. Applications close at 10am on Monday 10 May 2010.

UPCOMING EVENTS

If you have important events or news that you would like publicised via this newsletter please e-mail the Network (events@nzpcn.org.nz):

Auckland Botanical Society

Meeting: Wednesday 5 May at 7.30 p.m. a talk on conifers by Mike Wilcox. **Venue**: Unitec School of Natural Sciences Gate 3, Building 023, Room 1018.	**Contact:** Maureen Young (e-mail: youngmaureen@xtra.co.nz).
Field trip: Saturday 19 June to Mt Pleasant bush, Pine Valley Road, Silverdale, property of Bob and Molly Crawford. **Leader:** Lisa Clapperton.	**Contact:** Maureen Young (e-mail: youngmaureen@xtra.co.nz).

Waikato Botanical Society

Working bee: Saturday 15 May at the Threatened Plant Collection. Please bring gloves, old clothes and boots for weeding, planting and propagating activities. Meet: 11.00 a.m. at Waikato University Gate 9, Hillcrest Rd, or down the hill at the glasshouses compound.	**Contact:** Liz Overdyck, ph: 846 0965, e-mail: eg3@waikato.ac.nz

Rotorua Botanical Society

Field trip: Saturday 1 May to Athenree Bowenton Dunes. Meet: The car park at 8.00 a.m. or Bethlehem at 9.00 a.m. Grade: Easy.	**Leader:** Sarah Beadel, ph: 07 345 5912, e-mail: Sarah@wildlands.co.nz.
Saturday 29 May –Thornton Dunes, Rangitaiki Plains. Meet: The car park at 8.00 a.m. or Rangitaiki River Mouth (western side) at 9.00 a.m. Grade: easy.	**Leaders:** Jo Bonner, ph: 07 308 0411 and Sarah Beadel, ph: 07 345 5912, e-mail: Sarah@wildlands.co.nz.

Wanganui Museum Botanical Group

Field trip: Saturday 1 or Sunday 2 May to Higgies' Bush 'Woodburn'. **Meet:** at the car park at 'Paloma'at Higgies, Fordell 9.30 a.m.	**Contact:** Robyn Ogle, ph: 347 8547, e-mail: robcol.ogle@xtra.co.nz.
Meeting: Tuesday 4 May at 7.30 p./m. a talk by Les Rowlands titled 'Travels in Kalimantan, Borneo'.	**Contact:** Robyn Ogle, ph: 347 8547, e-mail: robcol.ogle@xtra.co.nz.
Field trip: Sunday 30 May to Ashhurst Domain jointly with the Manawatu Botanical Society. **Meet:** at Wanganui Police Station 9.00 a.m. or the domain at 10.00 a.m.	**Leader:** Colin Ogle, ph: 347 8547, e-mail: robcol.ogle@xtra.co.nz.

Wellington Botanical Society

Field trip: Saturday 1 May to Solomon Knob spur, Wainuiomata Catchment. Bookings essential so that we can advise the Greater Wellington ranger. Maximum: 18 people. **Meet:** 9.00 a.m. SHARP at main gate, Reservoir Road, off Whitcher Grove, Moores Valley Road, Wainuiomata.	**Co-leaders:** Barbara Mitcalfe, ph: 04 475 7149, Chris Horne, ph: 04 475 7025.

Nelson Botanical Society

Field trip: Sunday 16 May a fungal foray at Pelorus Bridge.	**Contact:** Lawrie Metcalf, ph: 03 540 2295, e-mail: landlmetcalf@xnet.co.nz

Canterbury Botanical Society

Meeting: Friday 7 May at 7.30 p.m., a 'Show & Tell' plus Sally Tripp's photos of New Zealand ferns.	**Venue:** Room A5 University of Canterbury.
Field trip: Sunday 15 May to Orton Bradley.	**Contact:** Gillian Giller, ph: 03 313 5315.

Botanical Society of Otago

Field trip: Saturday 27 March to The Fernery (home of Associate Professor Brian Cox). **Meet:** Botany Department car park at 8.50 a.m.	**Contact:** Abe Gray, ph: 03 479 7577.
Meeting: Wednesday 21 April at 5.20 p.m., the AGM and Photographic Competition. **Venue:** Zoology Benham Building, 346 Great King Street, behind the Zoology car park by the Captain Cook Hotel. Use the main entrance of the Benham Building to get in and go to the Benham Seminar Room, Rm. 215, 2nd floor. Please be prompt as we have to hold the door open.	**Contact:** David Lyttle, ph: 03 454 5470.
Field trip: Saturday 24 to Sunday 25 April to Silverpeaks. **Accommodation:** the new Jubilee Hut.	**Contacts:** John Barkla, ph: 03 476 3686 or Allison Knight, ph: 487 8265.
Workshop: Wednesday 12 May at 7.30 at the Macandrew Bay Hall on plant biodiversity and identification jointly with the Otago Peninsula Biodiversity group and will be open to the public.	**Contact:** David Lyttle, ph: 03 454 5470 for further details.
Field trip: Saturday 15 May to a locality on the Otago Peninsula following the workshop.	**Contact:** David Lyttle, ph: 03 454 5470 for further details.

Environment Institute of Australia and New Zealand

Annual Conference: Tuesday 26 October to Friday 29 October at Te Papa, Wellington. The title of the conference is "From Discovery to Delivery: Science, Policy, Leadership and Action". These are the four elements that, together, are essential for sound environmental management.	**For information see:** www.confer.co.nz/eianz2010.