



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 31. JUNE 2006

Deadline for next issue: Friday 16 July 2006

Message from the President

Here is a mid-winter quiz for you. Every time I come to write these monthly notes, I think of the 16 targets of the Global Strategy for Plant Conservation. All of the following items contribute to that Strategy or at least one of the 16 Targets. Have a go at identifying the targets for each of the following:

1. If you have any information about the Genus *Aciphylla*, then do please respond as soon as possible to David Glenny's request. He started making collections of material for the revision back in 1998 and has since made great progress. However there is still some analysis to be undertaken. If you have specimens or require information then do please contact David at the Allan Herbarium, Landcare Research, at Lincoln.
2. I think the most encouraging piece of news in this month's Newsletter is the historic re-discovery of a species of mistletoe that was previously thought to be extinct in the Wellington Region. Thanks to the keen eye of Harvey Phillips (Greater Wellington Biosecurity officer), *Alepis flavida* has been discovered after almost 60 years on the banks of the Kaiwhata River in Eastern Wairarapa. There is now an urgent need for a management plan to ensure it survives.
3. The Network Pilot Marae-based training course that was undertaken earlier this year was a great success by any standards. It is so exciting to see that the Network has now commissioned Northland Polytechnic to help develop three additional modules.
4. The information and images that are now available on line, thanks to Network members, is indeed impressive and not surprisingly the use of the Network web page has reached about 650,000 hits per month. Many thanks to all those who have contributed.

The 16 targets can easily be found on the internet—go on, have a go.

Professor Ian Spellerberg, Lincoln University

Plant of the Month

Plant of the month for June is the Nationally Endangered shrub *Carmichaelia williamsii*, also known as Williams's broom or giant-flowered broom. This shrub grows up to 2–4 × 2–4 m and is endemic, found in North Island only. It is known mainly from northern offshore islands (Poor Knights and Alderman Islands) to East Cape. On the mainland it is known from two small remnant populations near East Cape. It is strictly a coastal species of open forest, scrub, cliff faces and talus slopes. It is threatened because flowers, fruits and seed are palatable to rats. Some populations are at risk from coastal erosion. Plants tend to be short-lived, and are often inflicted with lemon tree borer (*Oeomona hirta*). Because the species is principally bird-pollinated, by New Zealand honeyeaters, the loss of these pollinators may affect reproductive effort. The Network fact sheet may be found at: www.nzpcn.org.nz/vascular_plants/detail.asp?PlantID=61



Carmichaelia williamsii.
Photo: Peter de Lange.

Network website changes

The Network website has just passed 10 million hits in 32 months. Some recent changes include:

Synonyms

We have now added plant synonyms to the website so that when you carry out a search for a plant the website will search the synonyms and the current Latin name. For example, if you type in *Paratrophis banksii* the website will still find the fact sheet for *Streblus banksii*.

Plant checklists on-line

The Network has now added over 1500 plant lists for areas throughout New Zealand to the website. This database includes all 335 of A.P. (Tony) Druce's plant lists. These can be found under the heading Publications and go to "Search for a publication". If you have plant lists to add to this database please e-mail them to the Network at info@nzpcn.org.nz or post them as hard copies to the Network address above.

More than 7000 images on-line

Thanks to Network members and photographers throughout the world we now have more than 7000 plant and fungi images on the Network website. There are still gaps so please e-mail us images if you can plug any of these. Also, if you have better images than those currently on display please send them to us. We are also keen to obtain images for each plant species of flowers, fruit, bark, foliage habitat and seedlings so send them to us if you can help (info@nzpcn.org.nz).

Email this page to a friend

At the bottom of each plant fact sheet there is now a button that allows you to e-mail the page link to a friend. This is useful if you want to pass on information to other colleagues or friends.

Coming soon

Additions in the next two months include an animal pest database providing information about each of New Zealand's animal pests that have a detrimental effect on indigenous plant life. Also to be added is a threatened moss, liverwort and lichen database. A tool will also be added that allows you to download a list of threatened plants in each region of New Zealand. Finally we will be adding an area that will allow you to nominate New Zealand's most Important Plant Areas using our criteria.

David Given memorial projects

Two projects have now been established in memory of David Given. These are as follows:

1. Annual prize

This is awarded to a student who has completed BIOS 211 at Lincoln University. It is awarded to the student who has displayed original thinking in relation to Biological Diversity.

2. David Given New Zealand Threatened Plant Research Award

This Award is administered by the New Zealand Plant Conservation Network. A Trust Fund has been established by way of a very generous contribution from the Network. When sufficient funds have been established, the interest will be used for the Awards. The details of the Awards will be announced at a later date. Meanwhile, anyone may contribute to this Trust Fund. Please contact either John Sawyer or Mike Oates at the New Zealand Plant Conservation Network.

Other projects under discussion include:

- An annual or occasional public lecture in the area of Botany and Natural History. The Isaac Centre for Nature Conservation together with other organisations could host this Public Lecture.
- The David Given Grove of trees. This and other projects are being discussed with reference to the Christchurch Botanical Gardens.

Anyone is invited to comment on the above—please contact:

Kerry-Jayne Wilson (Wilsok@lincoln.ac.nz)

Ian Spellerberg (Spelleri@lincoln.ac.nz)

Marae-based plant training courses—can you help

The Network has commissioned Northland Polytechnic to develop three modules to be part of its marae-based plant training programme. These modules will be completed by the end of November 2006. The “Introduction to native plant course” has already been written and piloted in Northland in February and March 2006. The new modules are:

- How to run a plant nursery and cultivate native plants
- How to manage a Nga Whenua Rahui covenant
- How to protect and restore a streamside or wetland

If you have information (written resources, photographs or illustrations, or know of other similar training courses) that will help in the development of these modules please will you send it to John Finlayson at Northland Polytechnic (email: jfinlayson@northland.ac.nz).

New site for water brome (*Amphibromus fluitans*) in the South Island

Until recently water brome (*Amphibromus fluitans*) had been known from the South Island from only two gatherings. The first of these was made by H.H. Allan in 1935 from the shores of Lake Tekapo, and the last in August 1991, when a few sterile scraps of an unidentified grass collected by Peter de Lange from Mahers Swamp, north Westland, were identified as this species when they finally flowered in cultivation a few months later. At Mahers Swamp, further surveys in 1992 and 1998 failed to find water brome and, while no one has specifically searched for water brome around Lake Tekapo, botanical surveys of that lake’s admittedly extensive shoreline have so far failed to rediscover the elusive grass. Therefore, while no one was openly saying it, the general view was that water brome may well have gone extinct from the South Island.

That situation changed when, over the last summer, staff and contract workers of the Department of Conservation’s Canterbury Conservancy began surveying the vegetation of kettleholes, and other wetlands for threatened plants. In one kettlehole surveyed near Lake Heron in late December 2005, Markus Davis discovered water brome. The grass was found growing on muddy ground within the dried up centre of the kettlehole, and also, though much less frequently, in the marginal turf. Mr Davis estimated a percentage cover of 5% on the muddy ground where plants grew intermingled with *Myriophyllum pedunculatum* and *Neopaxia linearifolia*. Water brome was not recorded from any of the other kettleholes/wetlands surveyed in the area. Nevertheless its discovery strongly suggests that South Island botanists should now be keeping an extra vigilant eye out for this elusive, cryptic species.



Amphibromus fluitans at Arohaki Lagoon, Whirinaki Forest. Photo: John Hobbs.

Historic rediscovery of mistletoe thought to be extinct



Harvey Phillips inspects *Alepis flavida* at the Kaiwhata River, eastern Wairarapa. Photo: Rob Suisted.

Ecologists and conservationists are amongst those brimming with excitement following an historic rediscovery of a native mistletoe thought to be extinct in the Wellington region. The yellow mistletoe, *Alepis flavida* was recently found on the banks of the Kaiwhata River in eastern Wairarapa, the same area where it was last seen in 1947.

The discovery was made by Greater Wellington biosecurity officer Harvey Phillips during a routine pest plant inspection on a 16 hectare property in the isolated Ngahape Valley. Over the years Harvey has found hundreds of mistletoe

throughout the region, but none are as important as this.

“Yellow mistletoe, rare in the North Island, and up until now believed to be extinct in the Wellington region, is still quite common in areas of the South Island,” says Harvey. “It uses host trees for support, nutrients and water and can grow up to two metres across, mostly on mountain or black beech trees, and is dispersed by the bellbird.” “The mistletoes provide native birds with much needed nectar and food that is often scarce in forests.”

“It is thought that constant browsing from possums has seen the plant go from being relatively common to almost extinct. This discovery just goes to show what can be achieved by intensive possum control. I very much hope that we find more of these plants in the future.”

Property owners, Emily Friedlander and Bernard West, are equally excited about the find.

“We’re privileged to be guardians of such a rare plant,” says Emily. “We’re passionate about our environment, having farmed organically here for over ten years. This is our nature reserve where we run an English Language homestay and a private walk. We grow natives, fruit, trees, firewood trees, nuts and now yellow mistletoe! We’re delighted.”

Department of Conservation botanist John Sawyer, who confirmed the discovery, says, “This is significant. It’s almost sixty years since *Alepis flavida* was found in the region and our goal now is to ensure that it continues to survive and become self-sustaining.”

“It’s great to be able to say once again that we have eight indigenous species of mistletoe in the region, seven of which are endemic to New Zealand, meaning that they are found nowhere else in the world.” A specimen of the yellow mistletoe will soon be stored at the Te Papa herbarium in Wellington so interested people will be able to see it for themselves.

Aciphylla research at the Allan Herbarium, – a progress report

David Glenny, Landcare Research, Lincoln



Aciphylla ferox, Mount Patriarch. Photo: John Smith-Dodsworth.

Aciphylla (Apiaceae) is a genus of c. 27 species, found mainly in New Zealand but with two species in Australia. It was last revised completely by Oliver (1956). *Aciphylla* is an example of a recent species radiation, and as with other such radiations, taxonomically difficult mainly because of geographical variation. Oliver’s revision is inadequate. While Oliver described a number of common species (e.g. *Aciphylla aurea*) the revision failed to take account of geographic variation; everything was described as a species, whereas in fact a number of widespread species show a lot of variation and are neither sympatric nor separated by any geographical barriers.

John Dawson started to revise the genus in the 1970s, publishing an overview of the genus (Dawson and Lecomte 1978), and a revision of the small pinnate species that include *Aciphylla monroi* (Dawson 1979). John Dawson, now retired, was happy to hand further revision of the genus to me.

The revision of the genus currently underway will be based almost entirely on morphology, but used the results of a DNA-based phylogeny presented by Radcliffe et al. (2001).

I started making collections for the revision in 1998. Progress so far has been:

- New, more adequate collections made, as *Aciphylla* was not a well-collected group and specimens were often incomplete.
- Data from these fresh specimens has been compiled for analysis and incorporated into descriptions. At least vegetative descriptions for most species are completed.
- Two keys, to fresh and dried material, are done.
- Nearly all types have been examined and the synonymy done, completion pending resolving species complexes.
- Statistical analysis done of the *Aciphylla aurea* and *Aciphylla monroi* species complexes.

What remains to be done is analysis of the various species complexes to decide on how best to deal with geographic variation in these. The species complexes that need this kind of analysis are:

- *Aciphylla ferox* – *aurea*;
- *Aciphylla colensoi* – *scott-thomsonii*;
- *Aciphylla hectorii* – *kirkii* – *poppelwellii*;
- *Aciphylla lyallii* – *montana* – *monroi* – *gracilis* – *similis* – *lecomtei*;
- *Aciphylla multisecta* – *divisa* – *polita* – *dissecta*;
- *Aciphylla squarrosa* in the wide sense (including *A. glaucescens*).



Aciphylla multisecta.
Photo: David Glenny.

Other species do not need this kind of analysis, only adequate keys and descriptions and up to date distribution and habitat information. Time on this revision for the next 5 years is quite limited as I am involved in co-authoring a New Zealand liverwort flora with John Engel of Field Museum, Chicago, which is being done to a very tight schedule. I intend to publish first a revision of the *Aciphylla aurea* group of species and of the *Aciphylla monroi* – *multisecta* group of species, probably as two papers. For these two groups, what remains to do is preparation of figures from the statistical analyses already done, and illustrations showing variation in leaf morphology. Should you have specimens or require further information we would be interested to know and can be contacted at Allan Herbarium, Landcare Research, Lincoln, P.O. Box 69, ph 03 3256700, e-mail: David Glenny glennyd@landcareresearch.co.nz.

I have provided a number of Department of Conservation staff with provisional keys to species and descriptions of species, and could provide these to others who need it for their work.

References:

- Dawson, J. W. 1979: *Aciphylla montana* Armstrong, *A. lecomtei* sp. nov. and related species. *New Zealand Journal of Botany* 22: 403–411.
- Dawson, J. W.; Le Comte, J. R. 1978: Research on *Aciphylla* – a progress report. *Tuatara* 23: 49–67.
- Oliver, W. R. B. 1956: The genus *Aciphylla*. *Transactions of the Royal Society of New Zealand* 84: 1–18.
- Radcliffe, E. A.; Watson, M. F.; Preston, J. 2001: Phylogenetic relationships of species of *Aciphylla* (Apiaceae, subfamily Apioideae) and related genera using molecular, morphological, and combined data sets. *New Zealand Journal of Botany* 39: 183–208.

Register now for the Network Conference 2006

See the Network website (under Conservation info>Events>Conference) for more details and to download the registration form.

When: Monday 20th –Wednesday 22nd November 2006 (including field trip)

Where: Conference Centre, University of Auckland

This year's Network conference will be the Cheeseman Symposium 2006 – to celebrate the centenary of the publication of the first full flora treatment to be published by a resident New Zealand botanist, Thomas F. Cheeseman's *Manual of the New Zealand Flora* (1906). This will be held in conjunction with the New Zealand Botanical Society, Auckland Museum, Auckland Botanical Society, Landcare Research and the University of Auckland.

Call for papers

If you would like to present a paper at this conference please send abstracts to Peter Heenan (HeenanP@landcareresearch.co.nz) and Peter de Lange (pdelange@doc.govt.nz).

Upcoming events

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

Wellington Botanical Society Field trip – Jubilee Park / Percy Scenic Reserve.

Saturday 1 July

(i) Botanise a small area of mixed original and regenerating bush as well as areas planted out after a fire in the 1960s. MEET: 9.00 a.m. Jubilee Park, across Normandale Overbridge. LEADER: Stan Butcher 567 7271. (ii) Botanise coastal forest up past Percy Reserve's waterfall and down via the endangered species garden and collections area. LEADER: Jill Broome 528 4378.

Waikato Botanical Society – Evening meeting - Talk and slides by Bruce Clarkson: Botany of some European mountains: Pyrennes (Spain), Gran Sasso (Italy), Vesuvius (Italy) & Mont Blanc (France). Wednesday 5 July.

An illustrated talk featuring some of the highlights of a recent visit to Europe focussing mainly on mountain plants and landscapes ranging from recent volcanics to karst country but with a little bit of culture and history also included. **Contact:** Shirley Nichols ph. 07 855 5061 (hm) or shirley.nichols@agresearch.co.nz **Meet:** 7pm, McMeekan Centre, AgResearch, Ruakura.

Auckland Botanical Society. Evening talk by Leon Perrie: The demise of *Polystichum richardii*, and hen & chicken ferns galore. 5 July 2006

Evening meetings – 7.30 pm, Unitec School of Natural Sciences, Pt Chevalier. Contact: Maureen Young, youngmaureen@xtra.co.nz (09) 4257162.

Auckland Botanical Society. Field trip to Rangitoto Island. 15 July 2006

For more information: e-mail youngmaureen@xtra.co.nz. Phone: (09) 425 7162.

Botanical Society of Otago. Field trip to Ross Creek-Woodhaugh Garden Track Network. Sunday 16th July, 2006

Start time: 10.00 a.m. This half day trip in the heart of Dunedin will explore the network of tracks that begin at Woodhaugh Gardens and wind their way up the Water of Leith and into the Ross Creek Reservoir area. There is a range of natural vegetation passed on the walk including kahikatea-kowhai-ribbonwood-lacebark forest through to more recent kanuka dominated successional communities. Be prepared for a couple of hours walking on well maintained tracks. The trip will start and finish at Woodhaugh Gardens. Meet at 10 am at the George Street entrance to Woodhaugh Gardens. Back about midday. Contact [John Barkla](mailto:John.Barkla@xtra.co.nz), phone: (03) 476 3686.

Wellington Botanical Society – Evening meeting – The genus *Aciphylla*.

Monday 17 July

Speaker: David Glenny, Landcare Research. A brief overview of the genus, including new evidence on the moa-browsing hypothesis. Then discussion of the taxonomic problems within the *A. monroi* group of eight species, relating to geographic variation, particularly north-south and east-west clines. Victoria University, Wellington, Lecturer Theatre M101, ground floor Murphy Building, west side of Kelburn Parade. Enter building off Kelburn Parade about 20m below pedestrian over bridge.

Botanical Society of Otago. Evening talk Native biodiversity on farms and other privately owned land in Otago. Wednesday 19 July, 2006

Start time: 5.20 p.m. A talk by Aalbert Rebergen, Biodiversity Officer, Otago Regional Council on “The voluntary protection of native biodiversity in general and botanical values in particular, on farms and other privately owned land in Otago”. At the 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 [Allison Knight](#), phone: (03) 479 7577.

Auckland Botanical Society. Evening talk by Peter Johnston: Subantarctic islands - sea lions, rata forests and fungi. 2 August 2006

Evening meetings - 7.30 pm, Unitec School of Natural Sciences, Pt Chevalier. Contact: Maureen Young, youngmaureen@xtra.co.nz (09) 4257162.

8th International Mycological Congress (IMC8)

Mycological Congresses are held in different parts of the world every 4 years, but never before in the Southern Hemisphere. Next year is our opportunity for several New Zealanders to participate in IMC8 at Cairns, Queensland, on 20-25 August 2006. For details of the programme, registration, associated workshops, etc, please see their website <https://www.sapmea.asn.au/imc8>

New Zealand mycology symposium

Following soon after IMC8 there will be a 2-day conference in Auckland to take stock of our knowledge of New Zealand fungi. This is still being planned and notification of its timing, programme, and location will be advised early 2006.