



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 28. MARCH 2006

Deadline for next issue: Friday 14 April 2006

Message from the President

November may seem a long way away but I do urge everyone to make a note in their diary about the Network Conference 2006 to be held in Auckland. Please see the details below. The Annual Conference is well worth attending and I can assure everyone that this year there is a very exciting programme.

Not infrequently there are requests for information and comments via the Newsletter. Your input is very much appreciated and that input also helps the Network to achieve its mission. Do please respond and send your suggestions and comments about Important Plant Areas, Network Awards and images for the website.

It is very gratifying to learn that another species has been brought back from the brink of extinction. The story about the coastal herb *Sebaea ovata* is indeed so typical of the demise of so many of our native plant species in the lowland habitats. Now, thanks to dedicated effort from Department of Conservation staff, the future for this species looks much better.

The demand for native plants is increasing and I learnt the other day that more and more resource consents require that native plants be used. Such is the demand for native plants that sometimes the demand outstrips supply. There appears to be an increasing demand for native plants in bulk. I wonder how these increasing demands will be met in the future. It seems to me that part of the solution will be to know more about the seeds of our native plants. It is surely an area that is not well studied? I would like to see more discussion about the possibility of a seed bank for our native flora. I would also like to see more research on the germination requirements of native seeds. I leave you with that thought and look forward to hearing from you all.

Professor Ian Spellerberg, Lincoln University

Plant of the Month

Plant of the month for March is the shrubby tororaro or *Muehlenbeckia astonii*. This Nationally Vulnerable deciduous, gynodioecious shrub forms dense, interwoven masses up to 4 x 4 m. It is found in coastal to lowland sites and is often associated with "grey" scrub communities, largely confined to drier lowland parts of eastern New Zealand. The survival in the wild of *Muehlenbeckia astonii* is threatened by lack of



Muehlenbeckia astonii. Photo: Jeremy Rolfe.

regeneration due to competition from exotic grasses, browsing animals and trampling. It is also threatened by loss of its original habitat through disturbance, fragmentation and fire. The Network fact sheet may be found at: http://www.nzpcn.org.nz/vascular_plants/detail.asp?PlantID=117

Important Plant Areas – criteria for comment

A workshop on Important Plant Areas was held at our Christchurch conference in 2005. The purpose of an IPA programme is to identify a network of sites within each biogeographic zone in New Zealand and throughout Oceania, that are critical for the long-term viability of naturally occurring wild plant populations. These sites are defined such that they can be managed as contiguous areas. It is not intended for IPAs to cover large tracts of New Zealand. The identification of Important Plant Areas is valuable so that conservation efforts for wild plant species and their habitats may be appropriately targeted to these sites. Discussions were held during the workshop about how to identify Important Plant Areas and so contribute to implementation of Target 5 of the Global Strategy for Plant Conservation (“Protection of 50 per cent of the most important areas for plant diversity assured”). A draft set of criteria is provided here for comment:

A. The site holds significant populations of one or more species which are of global or Oceanic conservation concern. This includes populations of New Zealand’s acutely threatened plant species (Critical, Endangered and Vulnerable) and ‘At Risk’ species (Range Restricted and Sparse) – based on de Lange et al 2004. Species of global conservation concern are those threatened species that are New Zealand endemics or whose distribution is largely (over 75%) within New Zealand. In terms of significance IPAs should be selected only for populations which are viable or for which ameliorative measures can be taken to ensure a return to viability. Consideration should be given to the geographical spread of the species, so that both core and edge of range populations are included in the New Zealand IPA network.

B. The site has an exceptionally rich flora in an Oceanic context in relation to its biogeographical zone. The co-occurrence of a large number of species and the existence of a high diversity of habitats are both expressions of floristic richness. Assessments of floristic richness should be based on comparative data that can be related to the national resource, rather than on subjective judgements or local opinion. Areas that support more than a given percentage (e.g., 25%) of the plant species native to a country may be considered to be exceptionally rich.

C. The site is an outstanding example of a habitat or plant community type of global or Oceanic conservation and botanical importance. This will itself have to be measured by criteria to evaluate the size, quality and distinctiveness of the plant community. It will include New Zealand’s naturally rare and nationally threatened plant communities. A useful listing of exceptionally diverse sites is to be found in the three volumes Centres of Plant Diversity (WWF and IUCN, 1994).

D. The site supports species or vegetation that is regarded of national cultural importance. An example might be the sites where kopi trees support dendroglyphs on the Chatham Islands.

E. The site holds significant populations of one or more species or habitats or plant communities of regional conservation concern within New Zealand. These plant species or communities may be common nationally but within a region maybe extremely scarce.

Comments on these draft criteria may be sent to the Network at info@nzpcn.org.nz

Network Awards – what plant should we use?

The Network successfully launched its award scheme in 2005. For 2006 the Network is commissioning a painting from botanical artist Sue Wikison to be used as the Award for the individual making the greatest contribution to plant conservation for 2006. Council has yet to decide which plant should be used as subject of the painting and members are invited to suggest native plant species that would be suitable. Please email ideas to info@nzpcn.org.nz

Network Conference 2006 – registration form now available

When: Monday 20 –Wednesday 22 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. See the Network website (under Conservation info>Events>Conference) for more details and to download the registration form.

Can you help provide images for the website?

There are still gaps that we wish to plug on the website plant fact sheets. Can you help provide images of any of the following?

If so, please send them through to the Network (info@nzpcn.org.nz) or to John Sawyer (jsawyer@doc.govt.nz).

The list of plants for which images are required:

Gymnosperm Trees & Shrubs

Podocarpus totara var. *waihoensis*

Dicotyledonous Lianes and Related Trailing Plants

Alternanthera denticulate

Alternanthera sessilis

Canavalia rosea

Clematis marmoraria

Clematis petriei

Convolvulus fracto-saxosa

Ipomoea pes-caprae subsp. *brasiliensis*

Rubus schmidelioides var. *subpauperatus*

Ferns

Asplenium trichomanes subsp. *quadrivalens*

Cyathea kermadecensis

Cyathea milnei

Grammitis gunnii

Grammitis magellanica subsp. *magellanica*

Plant checklists – now on-line

By Katrina Spencer, Department of Conservation.

We have now uploaded more than 350 vascular plant lists onto the Network website. These can be found in the publications area of the site as PDF files. If you would like to contribute plant lists to this database please send a Word document or preferably a PDF of the plant list/s to Katrina Spencer (kspencer@doc.govt.nz). Please make sure that each plant list has a detailed description of the location, names of those who compiled the list, date of preparation and finally the size of the PDF file.

Back from the brink of extinction – *Sebaea ovata*

Department of Conservation, Mahaanui Area Office, Christchurch

A tiny plant, thought extinct in the South Island since it was last recorded in the late 1800s is making a remarkable comeback on the shores of Ashworth's Ponds near the mouth of Saltwater Creek, south of Amberley. The native coastal herb *Sebaea ovata* was thought to be naturally present at only two sites near Wanganui. Once common in coastal lowlands and swampy ground around New Zealand, it has suffered a dramatic decline in its range over the past 150 years, to the extent that its conservation status is now nationally critical, the highest threat category for native species. The tiny native herb, from the gentian family, is an annual that springs up from moist ground in early summer. Small glossy green leaves gather energy for its comparatively large yellow flower to emerge during December and January. *Sebaea* flowers are pollinated with help from our native insects, and it seeds before the plant dies away as winter approaches.



Sebaea ovata. Photo: Andrew Townsend.

The native *Sebaea* decline is typical of the demise of many New Zealand lowland habitats. Since human colonisation, our country has lost about 98% of its original lowland vegetation cover. The remaining fragments are often small, isolated and highly vulnerable. Land development, weed invasion, off-road vehicle disturbance and changes in soil fertility and hydrology caused by surrounding land use activities, as well as the natural events of flooding and drought are some of the battles our coastal plants and animals have to endure. Ashworth's Ponds is a unique area containing a relatively intact dune flat and pond ecosystem with high conservation values. Here the conservation efforts of Department of Conservation (DOC) ranger Anita Spencer have given the threatened gentian a little more hope of long-term survival. Ashworth Ponds was thought to be a near-perfect place to translocate some of the tiny *Sebaea*. Seed was collected from the populations near Wanganui and in October 2004 about 80 seedlings were planted in small areas near the shores of one of Ashworth's ponds. It was *Sebaea*'s first re-colonisation of South Island shores in perhaps 100 years.

At first all went well. The plants looked healthy and were flowering prolifically, but a regular check revealed caterpillars were attacking the seeds. This was devastating for an annual plant species whose survival depends on the seeds. When the plants died off over winter it was an anxious wait for DOC staff to see if any seeds would germinate in the summer. In December 2005, just over a year after the translocation, a resurvey of the area found that many new seedlings were growing up from the moist ground. In one year, the population had grown from 80 to over 250.

The fight for this hardy little gentian's survival is looking more promising. Research is being conducted on *Sebaea*'s soil nutrient requirements, it was recently successfully reintroduced onto Poutu Peninsula near Dargaville, and several more translocations are proposed by DOC staff around the country. With a bit more work, some co-operation from the off-road-driving public and some derris dust for those caterpillars, this highly threatened species and the coastal environments it inhabits will have a chance to recover.

Liverwort specialist John Bartlett's wish fulfilled!

One day in 1975 the late John Bartlett (often called "Hurricane Bartlett" for his ability to zip through places collecting plants) was looking for new liverworts and mosses in Radar Bush, Te Pahi, in the far north of New Zealand, when he stumbled upon a new tree species of *Metrosideros*. What drew John's attention to this tree was that he had found some unusual liverworts on it, and being puzzled by the white, tissue-paper like bark, looked up to see what kind of tree it was. The liverworts he found turned out to be nothing special, but the tree is now known as Bartlett's rata



Metrosideros bartlettii. Photo: Peter de Lange.

(*Metrosideros bartlettii* J.W.Dawson). Tragically John died in 1986 but had he lived he would have been delighted to hear that his tree does support a very unusual and apparently highly threatened liverwort, not on the bark though, but on the canopy twigs. This liverwort, a new species of *Frullania* has just been formally described...

Te Pahi, the northern most outpost of the North Island, from the road to Cape Reinga looks a derelict place. Both sides of the road are seemingly acres of manuka (*Kunzea ericoides* var. *linearis* (Kirk) W. Harris) and kahikatoa (*Leptospermum scoparium* var. *incanum* Cockayne) dominated

shrub land. However in some valley heads small pockets of remnant forest survive, and in one of these the late John Bartlett (1945-1986) discovered the first example of the Nationally Critical Bartlett's rata (*Metrosideros bartlettii*). That tree, so Bartlett maintained (in litt.) was only discovered because he had found some unusual liverworts on its bark, and being puzzled by the strange, white, tissue-paper like bark, wondered what the tree was.

We now know of 36 Bartlett's rata. Thirty of these were AFLP DNA finger printed in a landmark study started by University of Auckland student Revel Drummond, Dr Shane Wright and Professor Richard Gardner in 1996. The study, undertaken to ascertain levels of genetic variation, fundamental to the preparation of a recovery plan for the species, required long hours sampling trees discovered by Department of Conservation staff Tim Shaw, Peter de Lange, and Mike Avis, and volunteers Gillian Crowcroft and Tony Silbery during April 1991 and January 1992. Accompanying Drummond on his field work was then PhD student Matt von Konrat, who was in the initial stages of his field work on the liverwort genus *Frullania* (Jubulaceae). At Radar Bush, on fallen canopy twigs of the very first Bartlett's rata to be recognised by John in 1975, Matt discovered a totally new species of *Frullania*. That species has just been named *F. wairua* von Konrat et Braggins in the December issue of the *New Zealand Journal of Botany* (Volume 43(4): 885–893 (2005)).

John Bartlett had he lived, would have been stunned, delighted and probably quite jealous. Despite intensive searches, in admittedly difficult country, von Konrat & Braggins (2005) report that they only ever found *Frullania wairua*, on dead, fallen canopy branchlets of Bartlett's rata. The new species, of tropical affiliation, has yet to be found elsewhere, and whilst the authors admit that surveying for a tiny, thread-like plant is fraught with problems, on available evidence, regard the new species as Nationally Critical, qualified of course, as "Data Poor". The species epithet "wairua" is based on the Maori word for spirit, and refers to the liverwort's presence in bush that was traditionally part of the spiritual pathway taken by the dead on their journal to Cape Reinga, from which they departed Aotearoa (New Zealand) for the spiritual underworld. The epithet has special meaning to von Konrat, who dedicates the paper to his sister, Tina Parsons, who died earlier this year.

Reference

Von Konrat, M.J.; Braggins, J.E. 2005. *Frullania wairua*, a new and seemingly rare liverwort species from Northland, New Zealand. *New Zealand Journal of Botany* 43: 885-893.

Chief Executive of Plantlife International appointed

The Board of Plantlife International is delighted to announce the appointment of Victoria Chester as the charity's new Chief Executive. Victoria will join Plantlife at their headquarters in Salisbury on Monday 20th March. Plantlife is Britain's leading wild plant conservation charity with national offices in England, Scotland and Wales and a dynamic international programme. Announcing the appointment, Plantlife's Chairman, Philip Mould OBE, said 'We are thrilled to welcome Victoria to Plantlife. Her environmental experience, combined with her manifest drive, intelligence and intuitive grasp of the challenges we face, ideally equip her to lead this ambitious organisation.' Victoria Chester said 'I am very pleased to be joining Plantlife International and to have the opportunity to lead such an effective organisation in saving our wild plants. Plantlife's exceptional record of achievement speaks for itself and I am looking forward to building on this success.'

Victoria joins Plantlife International from her current role as Chief Executive of the Yorkshire Wildlife Trust Ltd, a position she has held since May 2003. During her time as Chief Executive, Yorkshire Wildlife Trust successfully delivered a £2m visitor attraction and wetland creation scheme, as part of an international wetland habitat initiative, and increased membership recruitment by over 10%. Prior to her role at the Yorkshire Wildlife Trust, Victoria was Joint Acting Chief Executive of the Hampshire and Isle of Wight Wildlife Trust. Her move to the conservation arena was preceded by a successful career in Law, which she practised in both the UK and the US. Victoria Chester's Executive PA at Plantlife International will be Mary Gould: 01722 342745 / mary.gould@plantlife.org.uk.

Some names changes for New Zealand "*Cyathodes r.br.*" (Ericaceae)

It would now seem that New Zealand has no *Cyathodes* s.s. left. In fact the genus is apparently endemic to Tasmania. Over the last decade New Zealanders have seen the reinstatement of the endemic, monotypic genus *Androstoma* Hook.f. for the plant treated by Allan (1961) as *Cyathodes empetrifolia* (Hook.f.) Hook.f., removal of *Cyathodes juniperina* (G.Forst.) Druce and Chatham Island endemic *C. robusta* Hook.f. to the new genus *Leptecophylla* C.M.Weiller, and the return of *C. fraseri* (A.Cunn.) Allan, *C. fasciculata* (G.Forst.) Allan and *C. parviflora* (Andrews) Allan to *Leucopogon* R.Br. Only *Cyathodes pumila* Hook.f. remained though many here treat it as conspecific with the Australian *C. dealbata* R.Br. The generic placement of recently named (2003) *Leucopogon xerampelinus* de Lange, Heenan et M.I.Dawson remains unchallenged.

There have been criticisms of *Leptecophylla* and the reinstatement of *Androstoma*. However, Quinn et al (2005), provide unequivocal morphological and molecular evidence to support the recognition of *Androstoma* and *Leptecophylla* as separate monophyletic groups. Furthermore they resolve the status of the New Zealand endemic *Leucopogon colensoi* Hook.f. (also known here as *Cyathodes colensoi* (Hook.f.) Hook.f. and *Leucopogon suaveolens* Hook.f.).

In their paper they place *Leucopogon colensoi* within a new genus *Acrothamnus* C.J.Quinn, as *A. colensoi* (Hook.f.) C.J.Quinn. They treat the New Zealand plant as endemic and distinct from *A. (Leucopogon) suaveolens* (Hook.f.) C.J. Quinn of New Guinea and Borneo. *Acrothamnus* is a small genus of six species found mainly in Australia. As well as accepting *Androstoma*, Quinn et al. (2005) recognise a further species from Australia, *A. verticillata* (Hook.f.) C.J.Quinn. Previously this species had been placed within *Pentachondra* R.Br., *Trochocarpa* R.Br., *Styphelia* Sm. and *Leucopogon*. *Androstoma* had been a New Zealand endemic, monotypic genus. The situation for *Cyathodes pumila* remains unresolved, though it is not a *Cyathodes* (M. Heslewood pers. comm.). Whether it is the same as *C. dealbata* has not been decided. Similarly *Leucopogon fraseri* A.Cunn. and *L. nanum* M.I.Dawson et Heenan do not belong in *Leucopogon* but as yet a suitable placement for them in another genus has yet to be found (D. Crayn pers. comm.).

Reference

Quinn, C.J.; Brown, E.A.; Heslewood, M.M.; Crayn, D.M. 2005: Generic concepts in Styphelieae (Ericaceae): the *Cyathodes* group. *Australian Systematic Botany* 18: 439-454.

Plants as Infrastructure - Royal New Zealand Institute of Horticulture Conference, 24-25 March, 2006

You are invited to attend a conference at Unitec, Mt Albert, Auckland, 24–25 March, 2006. ‘Unitec, Auckland local government, the Royal New Zealand Institute of Horticulture and the New Zealand Institute of Landscape Architecture are coming together to consider the vital topic of plants as infrastructure in our cities. The conference will showcase several green infrastructure projects, with a focus on matching theory with innovative best practice. Topics will include: water, weeds, trees, teams, planning, design and management.

Our keynote speaker is Joan Nassauer, Professor in Landscape Architecture at Michigan University. Joan’s expertise in water management is at a wide variety of scales, including peri-urban, suburban and fully urban areas. The programme will consist of invited papers, oral papers, poster presentations and fieldtrips. Enquiries to: pcliffin@unitec.ac.nz. There will be a range of fieldtrips available to visit initiatives around greater Auckland, with a possible post conference tour to Tiri Tiri Matangi Island. This conference will be of interest to greenspace managers, landcare groups, planners, landscape professionals, horticulturists, ecologists, students, educators and local body politicians.

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):

Waikato Botanical Society Field trip: March - Saturday/Sunday 24–26 March. Kawhia Harbour, Te Maika: Maori traditional plant uses and threatened plants.

Meet: Outside Mokai Kainga marae at 5.30pm Friday 24th March for the powhiri. This will be followed by a potluck dinner and some informal talks by local kaumatua. We will take a boat from Kawhia to Te Maika on Saturday morning, returning Saturday afternoon for a potluck BBQ at the marae before heading off home again. A small fee will apply for the boat trip (~\$20) and accommodation will be \$10 members and \$15 non-members for the night (mattresses, pillows and linen supplied, BYO blankets, full use of kitchen and bathroom facilities). It is a comfortable marae, smallish, with modern toilets and showers, and very welcoming whānau who will help you feel at home. We will spend Saturday at Te Maika, and Saturday night again at the marae. Contact: Cilla McAllum mcallump@waikato.ac.nz

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Botanical Society of Otago, AGM and talk by Peter Bannister – Wednesday 5 April, 2006

Start time: 5:20 PM. A short AGM will be followed by an introductory talk by Emeritus Professor Peter Bannister on mistletoes. Then we’ll see a special screening of a DVD entitled Exhuming Adams: a forensic investigation into the mysterious disappearance of a native mistletoe, by Brant Backlund and Thassilo Franke from last year’s Natural History Film Making Course. 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](mailto:Allison.Knight), phone: (03) 479 7577.

Wellington Botanical Society Easter Field trip – South Wairarapa: Fri 14 – Mon 17 April

A variety of locations are available for botanising in the vicinity of Ocean Beach and coastline, Palliser Bay and Wairongomai. Choices will be made depending on weather conditions at the time. Accommodation at Sunita's bach: 4 bunks, 4 tent sites, 2 floor/couch spaces. Unlimited tent sites in sheltered camping area three minutes away; use bach facilities. Pot luck dinner. Meet 9 a.m. at Dorset Square Native Reserve, cnr SH2 and Moore St, Featherston. Co-leaders Sunita Singh and Gavin Dench: 04 387 9955.

Botanical Society of Otago, Field trip to Nenthorn, inland from Palmerston: Sat 29 April

Start time: 8:30 AM. The DOC reserve at Nenthorn/Macraes is best known as a site for rare skink conservation but there is also great botanical diversity, including over 25 threatened plants. It's a landscape of rolling tussockland dotted with lichen encrusted schist rock outcrops, shallow ephemeral wetlands, and the odd deep gully with shrubby remnants. We'll seek out some of the less familiar species and should encounter coral broom, wetland herbs such as *Gratiola nana* and *Tetrachondra hamiltonii*, and the rare grass *Simplicia laxa*. Leave Botany carpark at 8.30 am Saturday and return late afternoon. Bring lunch and be prepared for cool changeable weather conditions. Contact [John Barkla](mailto:John.Barkla@doc.govt.nz), phone: (03) 476 3686.

20th New Zealand Fungal Foray - Westport, West Coast, South Island 7–13 May 2006

The 20th New Zealand Fungal Foray, and the inaugural meeting of the Fungal Network of New Zealand will be held at the Westport Field Station 7–13 May 2006. The Field Station is run by the University of Canterbury. We will have access to the teaching laboratory (with lecture room) and associated accommodation for 36 people in 9 bunkrooms. In addition we have booked the research laboratory with a suitable workroom and 3 additional double bedrooms. See www.ffc.canterbury.ac.nz/westport.shtml. Please complete the registration form (copies of this form are available from <http://www.funnz.org.nz>) and mail by 31 March 2006 to: Paula Wilkie, Landcare Research, Private Bag 92170, Auckland, New Zealand. For New Zealand participants please provide a deposit of NZ\$50 per person: Cheques payable to 'Fungal Network of New Zealand', or by Direct Payment of NZ\$50 to the FUNNZ account: ASB acc. no. 12-3086-0214758-00. If paying by direct transfer, please ensure that your name and "Foray2006 registration" appears on the Payee's (recipient's) statement.

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.