



TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

No. 146

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Deadline for next issue:
Monday 15 February 2016

SUBMIT AN ARTICLE TO THE NEWSLETTER

Contributions are welcome to the newsletter at any time. The closing date for articles for each issue is approximately the 15th of each month.

Articles may be edited and used in the newsletter and/or on the website news page.

The Network will publish almost any article about plants and plant conservation with a particular focus on the plant life of New Zealand and Oceania.

Please send news items or event information to events@nzpcn.org.nz

Postal address:

P.O. Box 16102,
Wellington 6242,
NEW ZEALAND

PLANT OF THE MONTH, p. 2



Leptinella nana.

Otago herbarium goes digital



Durvillaea poha paratype in the Otago Regional Herbarium

The Botany Department of the University of Otago recently published high-quality images of the type specimens held in the Otago Regional Herbarium - Te māra Otaota o Otago (OTA). The life-size images include the types of 148 vascular plants, lichens and seaweeds, including from important collections such as the David Galloway, J. S. Thomson and J. Murray Collections. Very high resolution versions (120MB) are also available from the University's Botany Department. Using studio equipment, the photographs were taken by NZPCN member Mike Thorsen, whose images frequently appear on the NZPCN website. The images can be found in the "Type Specimens at Otago Regional Herbarium" section [here](#).

New Zealand Indigenous Flora Seed Bank (NZIFSB) – Auckland Seed Collector workshop 2016

Jessica Schnell (J.L.Schnell@massey.ac.nz) and Craig McGill (C.R.McGill@massey.ac.nz)

The first seed collecting workshop for 2016 was held on 12 January at the Auckland Botanic Gardens. The workshop was attended by seven people including three

Park Rangers from the Auckland Council. The workshop was a very productive day with, in addition to the prepared lectures, much discussion, enthusiasm and questions about the seed bank and seed bank practices including seed processing. The three days following the formal lectures were an opportunity to collect seeds for the seed bank as well as completing the training of workshop participants by putting the theoretical



knowledge from day one into practice at regional parks around Auckland. The first day of seed collecting was in the Hunua Ranges and resulted in the collection of *Carex*

PLANT OF THE MONTH – *LEPTINELLA NANA*



Leptinella nana. Photo: Jeremy Rolfe.

Plant of the Month

Plant of the month for February is *Leptinella nana*. This small, creeping, endemic daisy is found in both North and South Islands and is considered Threatened—Nationally Critical.

In the North Island, it is known from only one coastal site near Titahi Bay. In the South Island, it has been found at two sites, one at the Rai Valley and the other near Mount Pleasant, Port Hills, Christchurch.

Its tiny 1–2 mm diameter capitula are green/yellow and appear in spring and autumn above the pinnatifid leaves, which reach only 4–20 × 0.2–0.4 mm in size. It is easily rooted from pieces and often self-sows and establishes in gardens. As it is very small it is easily lost by being over topped by taller plants. It does best in permanently open ground and seems to prefer a damp soil to do its best.

Its tiny 1–2 mm diameter capitula are green/yellow and appear in spring and autumn above

You can see more about *L. nana* at the Network website factsheet:

http://www.nzpcn.org.nz/flora_details.aspx?ID=72

banksiana (fine-leaved bastard grass). The second day was at Mahurangi Regional Park and resulted in the collection of *Carex lambertiana* (forest sedge). The third and final day's seed collecting was in the Waitakere Ranges and included the collection of *Pseudopanax arboreus* (five finger).

The Auckland training is the first of the three workshops planned thus far for 2016. The Auckland workshop has got the 2016 training season off to a great start thanks to the enthusiastic group of people who attended. We look forward to the upcoming training in Whanganui and Cromwell. There are still spaces available in both the Whanganui and Cromwell workshops. The Whanganui workshop will be held at Bushy Park, 9-10 February. The Cromwell workshop will be held at Otago Polytechnic 14–16 March and will include two seed collecting trips to Old Man Range and Rock and Pillar Range. If you are interested in registering for one of these workshops, please contact Jessica Schnell on (06)3569099 ext 83236 or email: J.L.Schnell@massey.ac.nz



Seed collecting in Hunua Ranges with Janeen Collings, Jess Schnell, Wayne Bennett, Brian Otto, Craig McGill.



The seed collecting team at Mahurangi Regional Park; from left: Brendan Mackie (trained collector for the seedbank), Janeen Collings, Beckie Trigg, Olivia Henwood, Jess Schnell.

DNA profiling helping to save endangered tree

Peter de Lange, Principal Science Advisor, [Department of Conservation](mailto:pdelange@doc.govt.nz) (pdelange@doc.govt.nz)

Rātā moehau is now New Zealand's most threatened tree, but DNA data are providing a glimmer of hope for the species' survival.

The late John Bartlett discovered rātā moehau/Bartlett's rātā in 1975 at [Te Paki](#), a biodiversity hotspot perched at the tip of the North Island. Bartlett was looking for liverworts but instead found a completely new species of [rātā](#).

By 1990, 10 trees had been found across two Te Paki sites – Radar Bush and Kohuronaki. A year later, a number of colleagues and I stumbled upon another population in the Muriwhenua Incorporation's Unuwahao Forest near Spirits Bay.

By 1992, 34 wild trees were documented, which still isn't many, but it was much better than the 10 we previously believed existed. Sadly, in 2007, DOC staff found that seven trees at Unuwahao had died from [possum browse](#) and several more were seriously defoliated. New Zealand's tree rātā are self-



Rātā moehau is the only tree rata species that has white flowers. Photo: Peter de Lange.

incompatible (individuals that breed with close genetic relatives will not produce good seed), and there were fears for the loss of genetic diversity. Genetic variation was already very limited; therefore it was crucial that any losses were avoided. To manage the species effectively, we needed to understand the genetics of all living rātā moehau, including plants that had been propagated and grown in cultivation from those early discoveries.



Rātā moehau grows to be a large tree. Photo: Jeremy Rolfe.

Following consultation with Ngāti Kuri, Te Aupouri and the Muriwhenua Trust, DOC staff undertook a field survey and DNA sampling of rātā moehau in April 2015. Our purpose was to determine the status of the species in the wild, collect material for DNA analysis, and collect seed for the [New Zealand Indigenous Flora Seed Bank](#). The DNA profiles of wild plants would be compared with the DNA of cultivated specimens.

DNA samples were obtained from helicopter by human sling operator Brad Lett. Aside from the known trees at Radar Bush and Kohuronaki, our survey found only one tree in the original Unuwahao Forest stand of 16, but we discovered three more in a nearby catchment.

Samples were sent to Landcare Research, where Dr Gary Houlston and his team profiled them using two DNA fingerprinting techniques. The DNA results are alarming. Of the 14 trees in the wild, there are only five distinct genotypes and three of them are known only from Unuwahao. Further, there is no Unuwahao stock in cultivation; all cultivated plants derive from two trees: one from Radar Bush and the other from Kohuronaki. Rātā moehau is now one of the most threatened plants in the world.



Left: human sling Brad Lett soars above Unuwahao in search of the next rātā moehau; right: helicopter pilot, Remco Coenra, deftly lowers Brad Lett into the canopy of a rātā moehau to collect samples for DNA analysis

Although the results are far worse than we'd anticipated, the DNA data provide some hope for saving the species. We now know where the immediate priorities are and we are working closely with iwi, Muriwhenua Incorporation and Ngā Whenua Rāhui to protect the trees at Unuwahao.

Saving the species will involve other partners initially (such as botanic gardens and [Project Crimson](#)) to raise genetically viable plants in cultivation. The process will involve bringing together the five lineages and hand pollinating these to produce more genetically fit plants to restore to the wild.

(This item was first published on the Department of Conservation website on 12 January 2016; published here with permission.)

Lucy Cranwell student grant for botanical research: call for applications for 2016

Applications are invited for the Lucy Cranwell Grant of \$2,500 from the Auckland Botanical Society to assist a student studying for the degree of PhD, MSc, BSc (Hons) or B. Appl. Sci. in any tertiary institution in New Zealand whose thesis project deals with some aspect of New Zealand's flora and vegetation. Priority will be given to projects relevant to the northern half of the North Island. The research project to be supported will be chosen on the basis of appropriateness to the objects of the Society, namely to encourage the study of botany, and to stimulate public interest in the plant life of New Zealand and its preservation, conservation and cultivation. The grant will be administered by the student's supervisor as a contribution to expenses associated with the project. Closing date for applications: **5.00 p.m. Friday 26 February 2016**

A copy of the Application Form and the Rules of the award may be downloaded from the Auckland Botanical Society website: <https://sites.google.com/site/aucklandbotanicalsociety/>

Contact for enquiries: Vijay Soma, email: aucklandbotanicalsociety@gmail.com

Australian Network for Plant Conservation

The network is now seeking articles for the March - May 2016 issue of Australasian Plant Conservation. The theme for the next issue will be a *commemoration of the work of Roger Good*, a founding member and long term supporter of the ANPC, and an active researcher on a range of issues related to *alpine and upland habitats*, including fire, swamps and restoration ecology. A number of his colleagues will be submitting articles, but additional contributions are welcome. So, if you are following in Roger's footsteps and able to write an article, then please [email APC Editor](mailto:Paul.Adam@apc.org.au) Paul Adam.

In addition, articles and reports relevant to plant conservation in general are, as always, welcome. Articles generally should not exceed 1200 words and authors are encouraged to submit two or three high resolution images to illustrate their article, at as high a resolution as possible (but at least 300 dpi), and as separate files - not embedded in the text.

We also welcome:

- book reviews
- titles of interesting recent publications or resources, and where they can be found
- conference, workshop, course and fieldwork announcements
- details of relevant publications, information resources and websites.

The **deadline for submissions** for the March–May 2016 issue is **Friday 12 February 2016**. If you are intending to submit an article or wish to discuss possibilities, please [email the Editor](mailto:Paul.Adam@apc.org.au), Paul Adam. Please also [email your article to Paul](mailto:Paul.Adam@apc.org.au) and note that there are [guidelines for authors](#) regarding APC style and scope.

New Zealand Plant Conservation Network Newsletter

We are also seeking articles for future editions of this newsletter. With all the summer botanising activity there must be something to tell other botanists about. For those who are not used to writing for publication, we are happy to help 'polish the prose' so there is no need to be afraid of submitting your efforts. Articles should generally be less than 1000 words plus any relevant images. Send articles to info@nzpcn.org.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):

7th National Wetland Restoration Symposium 2016: Call for Presentations

10–12 February 2016: Wetlands for Life Nelson Marlborough Institute of Technology. **Keynote Speaker:** Ruud Kleinpaste, the highly engaging and entertaining "Bug Man". National Wetland Restoration symposia are run every two years to bring together community groups, landowners, iwi, scientists, wetland managers and students who are interested in sharing and learning about wetland restoration.

The theme highlights the vital role of wetlands in providing life-supporting ecosystem services, and opportunities to engage our young people in a life-time relationship with one of our most valuable, yet depleted ecosystem types.

Session themes to be announced.

Registration and information:

www.wetlandtrust.org.nz

Thanks to our sponsors: DOC Arawai Kakariki Programme, DOC/ Fonterra Living Water programme, Wildland Consultants, Landcare Research.

Australian National Seed Science Forum

14–16 March 2016: The Forum will be held at the Australian PlantBank hosted by the Australian Botanic Garden, Mount Annan, in collaboration with the Australian Network for Plant Conservation and the Australian Grains Genebank. Monday 14 March: evening event; 15–16 March : main science programme. An opportunity for botanical and agricultural institutions, seed scientists and conservation and restoration experts to share ideas that showcase the importance of seed science to the future of plant conservation and food security in Australia.

Information: www.seedpartnership.org.au. Please email: info@seedpartnership.org.au to register for Forum announcements. Details will be provided in the near future. Invited keynotes and a call for presentations will be announced soon.

Botanical painting: *Mediterranean plants from the hills and shores of South Pelion*

13–20 May 2016, 9–16 Sep 2016: Residential teaching course for beginners and intermediates. All drawing and painting materials will be supplied unless participants wish to bring their own.

Since antiquity, Pelion has been considered the mountain of flowers and medical herbs, the Garden of the Gods. Homer praised its fabulous flora and medicinal plants in his works. The Pelion region is one of the most verdant places on earth. The vegetation is luxuriant, dense, occasionally impenetrable, and totally captivating in its variety and richness in native trees, plants, herbs and flowers. Only now are some of the rare orchids being discovered and their DNA analysed. Pelion has inspired our course tutor, Maggie Niagassas DipAD DipSBA, who lived in Greece for 35 years before settling back in London, UK, where she practises as a botanical artist. Maggie is a member of the Mediterranean Garden Society based in Athens and has branches throughout the world.

Further information: http://www.lagouraxi.com/LRCH_BotanicalPainting_EN_2016_01.pdf

11th Australasian Plant Conservation Conference

15–18 November 2016: Melbourne in collaboration with La Trobe University and Royal Botanic Gardens Victoria.

Information: www.anpc.asn.au/conferences/2016

Auckland Botanical Society

Field trip: Saturday 20 February to Puriri Ridge Track, Waitakere Ranges, jointly with the Auckland Branch of the Entomological Society of NZ.

Leader: Sandra Jones, ph: 09 817 2788, mobile: 021 027 73067, email: kemsdale@ihug.co.nz.

Waikato Botanical Society

Field trip: 30 January - 1 February, to Marakopa and Mt Whareorino. Meeting place: to be confirmed.

Leader: Thomas Emmitt, email: temmitt@doc.govt.nz, ph: 07 878 1059.

Field trip: Saturday 20 February to Whakamarama wetlands, Kaimai Mamaku Forest Park (combined with Rotorua Botanical Society).

See below for details.

Rotorua Botanical Society

Field trip: Saturday 20 February to Whakamarama wetlands, Kaimai Mamaku Forest Park (combined with Waikato Botanical Society). **Meet:** Whakamarama Hall at 9.30 a.m. (opposite the school). **Grade:** medium.

Host: Anne Mackersey.
Leader: Kerry Jones,
ph: 07 855 9700,
mobile: 027 747 0733,
email: km8j1s@gmail.com

Field trip: Saturday 5 March to Military Track, Waiaua Scenic Reserve, Opotiki. **Meet:** the car park, Rotorua at 7.45 a.m. or Opotik i-site/DOC office at 9.30 a.m. **Grade:** easy.

Leader: Tim Senior,
ph: 0800 884 881, ext 6010 (wk) or
07 315 7371 (hm),
email: tim.senior@boprc.govt.nz.

Wellington Botanical Society

Meeting: Monday 22 February at 7.0 p.m. for two talks. The first by Jessica Schnell and/or Craig McGill is titled 'The New Zealand Indigenous Flora Seed Bank'. The second talk is by Kirsty Yule and is titled 'The puriri moth's incredible quest: finding a tree in a forest'.

Venue: Victoria University Lecture Theatre M101, ground floor Murphy Building, west side of Kelburn Parade; enter building off Kelburn Parade about 20 m below pedestrian overbridge.

Field trip: Saturday 13 February for plant propagation and botanising at Otari-Wilton's Bush. **Meet:** 9.15 a.m. at Information Centre/Te Marae o Tane, 160 Wilton Rd, Wilton.

Leaders: Chris Horne, ph: 04 475 7025, mobile: 027 474 9300 and Barbara Mitcalfe, ph: 04 475 7149.

Nelson Botanical Society

Field trip: Sunday 21 February for a moonwort survey at Mt Arthur. **Meet:** at Church steps at 8.00 a.m.; participants must register with leader by Friday 19 February for our emergency protocol and in case of cancellation.

Leader: Chris Ecroyd,
ph: 03 544 7038.

Canterbury Botanical Society

Meeting: Monday 1 February at 7.30 p.m. for a talk by Ines Schoenberger, Manager of the Allan Herbarium titled 'The herbarium—a Hortus siccus?'. **Venue:** Upper Riccarton Library, 71 Main South Road.

Contact: Gillian Giller,
email: ggillerma1@actrix.gen.nz.

Field trip: 13–18 February to our summer camp on Arapawa Island. **Accommodation:** for 5 nights at \$15/person/night; there is no electricity but gas and solar power provide hot showers, cookers, fridge and lighting. Access: by water taxi from Picton; coordinated travel on the afternoon of Saturday 13 February, returning on Thursday 18 February.

Contact: Gillian Giller if you are interested in coming to the camp or have any questions;
ph: 03 313 5315, or
email: ggillerma1@actrix.gen.nz.

Otago Botanical Society

Field trip: Friday 12 to Sunday 14 February to Borland.
Accommodation: Borland Lodge. **Bring:** a hand lens, camera and sense of adventure.

Register: with Gretchen Brownstein by 15 January, email: brownsteing@landcare.research.co.nz.