



TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

No. 177

August 2018

Deadline for next issue:
Monday 17 September 2018

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:
c/- 160 Wilton Road
Wilton
Wellington 6012
NEW ZEALAND

PLANT OF THE MONTH, p. 2



Astelia nivicola var. *moriceae*.
Photo: Rowan Hindmarsh-Walls

New Zealand Indigenous Flora Seed Bank (NZIFSB)

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

Activity in the seed bank for 2018 has, as for the last half of 2017, continued to focus on the myrtle rust response and banking of Myrtaceae collections collected through the Department of Conservation-led Myrtaceae collecting programme. At the time of writing, the seedbank has received 165 seed collections of Myrtaceae. Collections of all indigenous Myrtaceae found in New Zealand have been made with the exception of *Syzygium maire*, which is not being collected because it is recalcitrant and cannot be banked under standard seed bank conditions. The 2018 collections include seed (*Metrosideros umbellata*) collected for the first time from the Auckland Islands and two species of Myrtaceae (*Kunzea sinclairii* and *Metrosideros parkinsonii*) that were not able to be collected in 2017. A particular focus for the collecting programme this year has been ramarama (*Lophomyrtus bullata*) because this species appears to be very susceptible to infection by myrtle rust. The *L. bullata* seed is borne in a fleshy red to black fruit. There can be up to eight seeds per fruit. Extracting the seed from the fruits is time-consuming but, once extracted, the seeds are relatively easy to handle. Most importantly, *L. bullata* seed is large enough to be x-rayed to determine whether the seed contains an embryo. This is unlike the *Metrosideros*, *Kunzea* and *Leptospermum* species whose small seeds are difficult to x-ray and require sorting under a dissecting microscope to determine the number of viable (full) seed in the collections received.



Left: *Lophomyrtus bullata* fruits. Right: X-ray image of *L. bullata* seeds showing the embryo.

The collections received have been keeping the seed bank staff, Cris Winkworth, Gina Aubia, Vivienne McGlynn and Jessica Schnell, very busy but the task has been made a little easier thanks to the incredible effort by the Department of Conservation in organising, collecting and dispatching Myrtaceae seeds, herbarium vouchers and accompanying data to the seed bank. Thanks go to everyone from department who are involved in the collecting but, in particular, to Jacqui Bond and Maddy Thacker who are the daily “go-to” people for the seed bank for the collecting programme.

PLANT OF THE MONTH – *ASTELIA NIVICOLA* VAR. *MORICEAE*



Astelia nivicola var. *moriceae*. Right: underside of leaf showing brown indumentum. Photos: Rowan Hindmarsh-Walls.

The plant of the month for August is *Astelia nivicola* var. *moriceae*, one of the two varieties of *Astelia nivicola*. There are at least 15 *Astelia* species native to the New Zealand region. *Astelia nivicola* var. *moriceae* is found on the western side of the South Island from North-West Nelson to Fiordland. It is generally found in montane forest, up to the bush line, especially under beech forest, and can form dense patches covering the forest floor in some areas. It is a large *Astelia*, forming clumps reaching 1 metre high, with drooping bright green leaves. The leaves are bright green on the upper surface with little indumentum (fluff); the leaf undersides are covered in buff brown felted indumentum. The small, almost sessile, flowers and orange red fruit are borne on many branched inflorescences with up to 70 racemes.

The variety is quite distinct from *Astelia nivicola* var. *nivicola*, which is much smaller, generally up to 50 cm tall, and is almost exclusively alpine in distribution. *Astelia. nivicola* var. *moriceae* is large and is found primarily below the bush line. It is superficially similar to both *A. nervosa* and *A. fragrans*, but is distinguished from both by the buff brown felted indumentum on the underside of the leaves. It is also distinguished from *A. nervosa*, with which it is often sympatric, by having leaves that are less acute towards the tip, and generally having only two prominent lateral veins visible on the underside of the leaves; *A. nervosa* can have at least eight.

The variety is endemic to New Zealand and is currently listed as Not Threatened, because it is widespread and doesn't have any specific threats. The taxonomy of the two varieties of *Astelia nivicola* is not well understood; future studies may shed light on the theory that these varieties are more distinct than simply being varieties of the same species (they are very different morphologically and have overlapping distributions).

Species of the genus *Astelia* (Family Asteliaceae) are spread throughout the Southern Hemisphere, with most New Zealand species being endemic to this country. The genus name *Astelia* means 'stemless' (from the Greek prefix 'a', not, and 'steli', a column). The species epithet, *nivicola*, means 'snow dweller' e.g., nival, and the varietal epithet is acknowledges the work of Dr Isobel M. Morice who first recognised these plants as distinct.

You can view the NZPCN website factsheet for *Astelia nivicola* var. *moriceae* at: http://www.nzpcn.org.nz/flora_details.aspx?ID=371

Though the focus for the seed bank remains the Myrtaceae, nonetheless non-Myrtaceae collections are still being received from trained collectors. These are being processed by the seed bank volunteers leaving the seed bank staff to concentrate on the Myrtaceae. Thanks go to the trained collectors who are sending in collections and the volunteers in the seed bank, Paula De Goldi and Christine McArthur, who are processing the collections, for all the time they are giving. This time enables non-Myrtaceae seed to continue to be collected and banked with the aim of securing the biodiversity in all New Zealand's indigenous flora, not just the Myrtaceae, in storage, as insurance against threats such as diseases that are as yet unknown.



Seed bank volunteer, Paula De Goldi, working on a non-Myrtaceae collection.

Conserving seeds to fight plant extinction

Whānau of Te Awa Tupua, the Whanganui River, are the fifth recipients of a seed-banking drum kit developed as part of a BioHeritage National Science Challenge project focused on developing Māori solutions to fight myrtle rust. A seed-banking drum is a special kit that enables community members to collect, dry and store seeds from local taonga (treasured) plants. “With support from Te Tira Whakamātaki (TTW – The Māori Biosecurity Network), the initiative was launched when Māori communities identified seed-banking as central to protecting Aotearoa New Zealand from threats such as myrtle rust”, says BioHeritage Māori Manager, Melanie Mark-Shadbolt. Myrtle rust is a serious fungal disease that attacks trees in the myrtle family, including taonga species pōhutukawa, mānuka and rātā. The seed-banking drums are easy to build and straightforward to use, enabling communities to use them to conserve seed according to their local, traditional collection tikanga (protocols).

Whanganui women, Kim Ranginui and Marilyn Tamakehu, are strongly connected to the marae alongside Te Awa Tupua, and Te Kura o te Wainui ā Rua – the awa school based at Rānana – and felt it was fitting for seed bank gifting to happen at the kura (school). “It means the tamariki and community can celebrate the seed-banking efforts, plus we hope they’ll be inspired to pursue possible career options in science or environmental protection fields,” Marilyn says. “Te Kura o Te Wainui ā Rua is the epicentre for tamariki who live and breathe Te Awa Tupua on a daily basis and, as such, this is the ideal venue for this exciting occasion to happen. The kura also has the benefit of the heritage orchards on the surrounding marae which have supported our learning and enhanced the understanding of our tamariki in relation to this important kaupapa (subject).”

In late 2017, Kim and Marilyn attended a seed conservation course in Aotearoa that was facilitated by TTW and the Millennium Seed Bank (MSB) that is part of England’s Kew Royal Botanic Gardens (RBG Kew). They are passionate about seed-banking, ensuring iwi gain knowledge about preserving taonga species and that this is maintained for generations to come. As part of the TTW-RBG Kew collaboration, Kim recently secured a place on a three-week, intensive Seed Conservation Techniques course hosted by RBG Kew’s Conservation Science Department at MSB in the UK.

Mel says that the BioHeritage project has highlighted the concern Māori have that tikanga was not adequately acknowledged within national or international seed-banking practices. “While New Zealand has been seed-banking for some time now, especially within the myrtle rust response, unfortunately Māori aren’t being consulted adequately throughout the process. This means that, in some instances, sites sacred to Māori were being harvested for seeds without free, prior or informed consent as required

under the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). In an effort to turn that around, this project is about raising awareness of seed-banking activities in Aotearoa, and reclaiming seed conservation mātauranga (Māori knowledge),” says Mel.

“This practical approach provides tangible benefits to our communities and valuable insights to improve conservation outcomes—for example, our people can collect and store seeds valuable to their communities guided by kaumatua (Māori elders) who can guide them on which trees are the ‘parents’ or best ones to collect seeds from. Incorporating this traditional knowledge is crucial to optimising the long-term disease management of myrtle rust. By using the seed-banking drums, communities are effectively building an insurance policy that can future-proof taonga species from extinction”, Mel says.

“If we look at Australia, for example, they didn’t seed-bank before myrtle rust arrived and now they have taonga species on the verge of extinction. Sharing knowledge and the things we learn from the myrtle rust incursion will help us be more prepared for future biosecurity invasions.”

New Zealand flora overseas

Eric Scott, NZPCN administrator (mescott43@gmail.com)

On a number of occasions some years ago, we featured images of New Zealand native plants growing in overseas countries. Back in late May and early June, I was travelling in Europe and had separate one-week stays in Biarritz (France) and Isle of Wight (UK). In travelling around those areas, I saw quite a few examples of two native plants, cabbage trees (*Cordyline australis*) and flax (*Phormium tenax*) and I thought it was worth repeating images of these species in these ‘foreign lands’.

One thing that was very obvious about the numerous cabbage trees on the Isle of Wight was how prolifically they were flowering. Given the summer that UK has had, it would seem that Māori tradition regarding the flowering of cabbage trees has been retained into their Northern Hemisphere home.

Any time anyone is overseas and spots a New Zealand native plant, photograph it and send a copy to us (info@nzpcn.org.nz) with the location and the name of the photographer; it would be good to increase the species list, surely more than flax and cabbage tree have been exported!



New Zealand flax near the beach in Biarritz.



A New Zealand flax specimen in the grounds of Osborne House, Isle of Wight.



A cabbage tree (with flax in the background) in the garden of a hotel on the main street of Biarritz (it was drizzling rain at the time).

Nga Uruora back in print

The late Geoff Park's *Nga Uruora*, *The Groves of Life (Ecology and History in a New Zealand Landscape)* is back in print as a VUP Classic. Check out the website (www.ngauruora.nz) developed by Geoff's family to share stories about how people have been influenced by Nga Uruora. Geoff's family is interested in hearing from people who are keen to contribute a story.



New Zealand Plant Conservation Network annual awards

It is again time again to honour those who have made an outstanding contribution to native plant conservation in New Zealand. The New Zealand Plant Conservation Network is now calling for nominations for the 2018 awards.

Award categories are:

- Individual
- School
- Council
- Community
- Plant Nursery
- Young Plant Conservationist of the Year (under 18 years at 30 June 2018)

The nomination form is attached to the end of the newsletter and is available from the Network website (www.nzpcn.org.nz)

Only six weeks to go before nominations close for the prestigious NZPCN awards. Please circulate this information to your networks and encourage people to make nominations. Anyone is eligible to make nominations, not just Network members. It is also possible to make nominations in each of the different categories. Nominations close on **Friday 5 October 2018**.

The awards will be presented at the **2018 Network Annual General Meeting**.

Whanganui Regional Museum Botanical Group Golden Anniversary

You are invited to a special celebration of the 50th anniversary of the Whanganui Regional Museum Botanical Group on Saturday 27 and Sunday 28 October 2018. A varied programme has been planned. There are now flights by Chathams Air between Auckland and Whanganui: <https://www.airchathams.co.nz/Airline-Info/whanganui-schedule/>. The hosts can arrange pick-up from and delivery to Whanganui airport. Please book your own accommodation; some is available at the Quaker Settlement (twin share \$45 each, per night, or your own room \$60 (including linen and towel), sleeping house \$30 each (take your own bedding and towel). Contact: www.quakersettlement.co.nz/facilities-bookings/charges-and-fees/

By arriving a day or more before, or staying on after Sunday, you can check out some of the other local botanical options. Members of the Botanical Group may be available to show you around if you would like a guide. Places to explore include Gordon Park Scenic Reserve (10 ha of swamp forest with an all-weather track); the James McGregor Arboretum at Kowhai Park on the true left of the awa; coastal dunes at Castlecliff (see a local dune restoration project or unmanaged dunes to the west, with interesting garden escapes among lots of splendid spinifex; Bason Botanical Gardens. For the more adventurous, consider a day trip to the Waitahinga Trails (mainly tracked black beech forest). The Botanical Group has plant lists available for most of these places.

Potential attendees are invited to contact Margi Keys, the anniversary committee's convenor (see below), for details. Earlybird registration (\$50 per person) is open till 31 July after which date it becomes \$60 pp. Registrations should be made with Margi Keys (email: margikeys93@gmail.com or ph: 06 344 1250).

Auckland Council Regional Environment and Natural Heritage Grant

Adam Abdeldayem, Senior Grants Advisor, Auckland Council (adam.abdeldayem@aucklandcouncil.govt.nz)

I am happy to inform you that the Auckland Council Regional Environment and Natural Heritage Grant 2018/2019 is currently open and will be accepting grant applications until **31 August 2018**.

The Regional Environment and Natural Heritage Grants Programme is a contestable community grants programme that offers grants between \$5000 and \$40,000 for eligible projects that target the protection, restoration or enhancement of Auckland's environment with a focus on strategic regional initiatives for natural heritage and sustainable living. The programme is open to individuals, Mana Whenua organisations, community groups, trusts and other organisations that contribute to the protection and improvement of regionally significant areas within Auckland in addition to regional initiatives that promote the efficient and sustainable use of resources.

For information about the grant guidelines, eligibility criteria and the link to apply, follow this [link](#).



NEW ZEALAND PLANT CONSERVATION NETWORK

Rōpū hononga Koiora Taiao ki Aotearoa

Expressions of Interest to Provide Administrative Services

Expressions of interest are now being called to take over the contract from the beginning of next year to provide administrative services for the Network. The major tasks involve servicing members' needs and compiling the monthly newsletter but also involve looking after the sales of publications and assisting with the biennial conference. The required skills include good biological, preferably botanical, knowledge, editing experience, knowledge of invoicing, computer skills (e.g., email, Word and Excel), and attention to detail. You will obviously need a computer and good internet access. The time commitment averages 20–25 hours per month. Interested parties are asked in the first instance to contact the President, Rewi Elliot (Rewi.Elliot@wcc.govt.nz) or the Secretary, Matt Ward (mattwardward@gmail.com).

EVENTS

The Global Partnership for Plant Conservation

Conference: *Supporting the Worldwide Implementation of the Global Strategy for Plant Conservation* will be held in Cape Town, South Africa, 28–30 August, 2018.

Register at: <http://www.sanbi.org/events/global-partnership-plant-conservation-conference>

12th Australian Plant Conservation Conference

APCC12: Centre for Australian National Biodiversity Research (CANBR) at CSIRO. **Venue:** CSIRO Discovery at the Black Mountain Science and Innovation Park, Canberra. **Date:** 12–16 Nov 2018.

- presentations on the latest findings relevant to plant conservation and native vegetation rehabilitation
- practical workshops on ecologically sound techniques
- field trips demonstrating plant conservation in action
- social activities to enhance networking.

Early-bird registrations: close Friday 7 September!

More details: www.anpc.asn.au/conferences/2018.

John Child Annual Bryophyte and Lichen Workshop

Date: 8–13 November. **Location:** Pureora Forest Lodge. Open to anyone and everyone with an interest in the mosses, liverworts, and lichens of New Zealand, from beginner to expert. **Accommodation:** Pureora Forest Lodge (<http://www.pureoraforestlodge.org.nz/facilities.html>), other possibilities at Pureora and in the surrounding area. **Bring:** all necessary field gear. **Cost:** approximately \$300. **Tom Moss Award:** open to any student studying any aspect of Australasian bryophytes and/or lichens; see www.wellingtonbotsoc.org.nz/awards/moss.html for details. **Estimate of numbers:** If you are interested in attending the workshop this year, please email Dhahara Ranatunga (dranatunga@aucklandmuseum.com) as soon as possible.

Organisers: Thomas Emmitt, email: temmitt@doc.govt.nz, and Dhahara Ranatunga, email: dranatunga@aucklandmuseum.com.

Auckland Botanical Society

Meeting: Wednesday 5 September at 7.30 p.m. for the Lucy Cranwell Lecture to be given by Willie Shaw, Wildlands Consultants. **Venue:** Unitec Room 115-2017.

Contact: Maureen Young, email: youngmaureen@xtra.co.nz.

Field trip: Saturday 15 September to Craigavon Park, Blockhouse Bay (combined with the Auckland Branch of the Entomological Society of New Zealand). **Leader:** Mike Wilcox (mike.wilcox@xtra.co.nz).

Contact: Maureen Young, email: youngmaureen@xtra.co.nz.

Waikato Botanical Society

Field trip: Sunday 9 September to Arnolds Bush (Piarere) (combined with Rotorua Botanical Society). Grade: easy.

Meet: Piarere Hall (on [SH29, 750](#) metres north east of SH1).

Rotorua Botanical Society

Field trip: Sunday 9 September to Arnolds Bush (Piarere) (combined with Waikato Botanical Society). **Meet:** Piarere Hall (on [SH29, 750](#) metres north east of SH1). **Grade:** easy.

Leader : Mark Smale, ph: 07 859 3729; email: smalem@landcareresearch.co.nz.

Whanganui Regional Museum Botanical Group

Golden Anniversary: Saturday 27 and Sunday 28 October. Registration : \$60 per person.

To register: Margi Keys, email: margikeys93@gmail.com or ph: 06 344 1250.

Wellington Botanical Society

Field trip: Saturday 1 September to the Wainuiomata River West branch. **Meet:** at 9.45 a.m. at main gate, Whitcher Grove, off Moores Valley Rd, Holmdale, Wainuiomata. If you will travel by car, please tell co-leaders if you can take passengers.

Co-Leaders: Chris Hopkins, ph: 04 528 5195; Kat de Silva, ph: 020 4077 9377.

Meeting: Monday 17 September at 7.30 p.m. for a talk by Dr Susan Walker, Landcare Research titled 'Living in the rainshadow: NZ's most distinctive and threatened ecosystems'.

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.

Nelson Botanical Society

Field Trip: Sunday 16 September to Booth's Cottage, Howard Valley. **Meet:** 8.00 a.m. at the Cathedral steps or 8.20 a.m. at Badminton Hall, Champion Rd, Richmond; if coming, please contact Chris by Friday 14 September to arrange car pooling and for notification of cancellation.

Leader: Chris Ecroyd,
ph: 03 544 7038, email:
candjecroyd@gmail.com.

Meeting: Monday 17 September at 7.30 p.m. for a talk by Philip Simpson titled 'Abel Tasman National Park'

Venue: Jaycees Room Founders Park.

Canterbury Botanical Society

Meeting: Monday 3 September at 7.30 p.m. for a talk by Yuriy Malakhov (student grant recipient) titled 'Benthic microalgae of the estuary'.

Venue: Upper Riccarton Library,
71 Main South Road.

Field Trip: Saturday 8 September to Tai Tapu in the spring: the Chaffey kowhai garden, Rocklands forest restoration, and Joyce floodplain forest garden.

Contact: Alice Shanks, please let her know if you intend to come; email: alice@caverock.net.nz; ph: 027 366 1246 so she can let you know if the trip is cancelled.

Meeting: Monday 1 October at 7.30 p.m. for a talk by Hermann Frank titled 'The lizard fauna of South Canterbury limestone and the plants they inhabit'.

Venue: Upper Riccarton Library,
71 Main South Road.

Field Trip: Saturday 6 October to Tiromoana Bush, Kate Valley.

Contact: Alice Shanks, please let her know if you intend to come; email: alice@caverock.net.nz; ph: 027 366 1246 so she can let you know if the trip is cancelled.

Botanical Society of Otago

Field trip: Saturday 15 September, to Swampy Spur Wetland via Burns and Rustler Ridge Tracks. **Meet:** at the Botany Department carpark at 9.00 a.m.

Contact: Robyn Bridges,
ph: 021 235 8997 or 03 472 7330.

Meeting: Wednesday 26 September at 6.00 p.m. for the 17th Annual Geoff Baylis Lecture. Janice Lord, Department of Botany, University of Otago, will give a talk titled 'Reweaving species: the key role of mutualisms in ecological restoration'.

Venue: Castle 1, University of Otago (drinks and nibbles starting from 5.15 p.m. in the concourse).



NEW ZEALAND PLANT CONSERVATION NETWORK

PLANT CONSERVATION AWARDS: 2018

The New Zealand Plant Conservation Network is now accepting nominations for the 2018 awards. The purpose of these awards is to acknowledge outstanding contributions to native plant conservation.

The award categories are:

- Individual** involved in plant conservation
- Plant nursery** involved in plant conservation
- School** plant conservation project
- Community** plant conservation project
- Local authority** protecting native plant life
- Young Plant Conservationist** of the Year (under 18 years on 30 June 2018)

More information about the awards and additional nomination forms are available on the Network website - www.nzpcn.org.nz. You can make multiple nominations under different categories. Anyone is eligible to make nominations, not just Network members. The awards will be presented at the **2018 NZ Plant Conservation Network AGM** in November. Winners will be informed in advance of the meeting. Nominations close on **Friday 5th October**.

NOMINATION FORM

Category (please circle):

Individual *Plant* *Nursery* *School*
Community *Local Authority* *Young Plant Conservationist*

NAME OF NOMINEE: _____

Contact details for person, school, nursery, community group or local authority:

Address: _____

Phone: _____ Email: _____

REASONS FOR NOMINATION:

(Please add more details on separate pages if required.)

Your Name: _____

Relationship to Nominee: _____

Your contact details:

Address _____

Phone _____ Email: _____

Please send your nomination form by Friday 5th October 2018 to:

Catherine Beard (NZPCN Awards Convenor)
Department of Conservation
Private Bag 3072, Hamilton 3240

Or by email to cbeard@doc.govt.nz