



# TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

No. 169

December 2017

Deadline for next issue:  
Monday 15 January 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](mailto:events@nzpcn.org.nz)

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

## PLANT OF THE MONTH, p. 2



*Veronica hookeri*. Photo:  
Rowan Hindmarsh-Walls.

## Conference field trip 3: Forest and Alpine

### Part A: Cockayne walk, Arthur's Pass

Jacqui Bond ([jabond@doc.govt.nz](mailto:jabond@doc.govt.nz))

After sitting for 23 hours listening to my colleagues exciting field work at the NZPCN conference it was time explore the Southern Alps... in person! Being from Rotorua, I chose the Arthur's Pass field trip to expose myself to small plants and altitude. With my vast knowledge of North Island botany I was bound to show the hosts for our trip, Bronwyn Slack and Jane Gosden, a thing or two. Eleven of us departed Hokitika and headed for Arthur's Pass, with our first stop being the Cockayne Walk, just short of the Otira village, fittingly named after a yester year botanist.

Parking at the clear blue river of Kellys Creek, it looked like it had recently been remodelled for our arrival. Straight up would have taken us to the Carroll Hut but we took the nature walk (30 minutes!). In true botanical style, we rushed out of the car only to spend 20 minutes getting 100 m from the long drop toilet. The first distraction were those small leaved shrubs (*Coprosma* spp. of course), then it was those small leaves in the moss, *Viola* and *Nertera* species. A good tip to ID *Nertera depressa* is that it smells bad (thank you, Janeen, for pointing that out!) By now, I realised that this landscape would not make me shine in the area of plant botanical knowledge and I was resigned to learn from the locals. Different *Blechnum* spp. were abundant; I think I have my eye now in for *Blechnum montanum*, *B. vulcanicum* and *B. nigrum*. For a short walk of 30 minutes return (for the normal walker), I think we got our money's worth.

The highlights for me were the many fern species, seeing southern rata in the flesh and, of course, realising that I know nothing about southern mountain flora (to be confirmed at our next stop in Otira Valley!).



## PLANT OF THE MONTH – *VERONICA HOOKERI*



*Veronica hookeri*. Photo: Rowan Hindmarsh-Walls.

The plant of the month for December is *Veronica hookeri*, one of five of the 'semi-whipcord' group of *Veronica* species, all endemic to New Zealand. The species is adapted to exposed habitats in the mid to high alpine zone. It is generally found in boulder-fields and on rock outcrops, especially along exposed ridge crests where the plants are often found growing out of cracks in large rocks. The species can be found in the wetter western areas of the South Island, from Kahurangi National Park to Ben Ohau Range behind the Mackenzie Basin. The plants form small woody sub-shrubs with tiny, hairy-edged leaves packed close to the stems. When looking from above, the leaf arrangement on the stems is cruciform (in the shape of a cross). Small clusters of white flowers are borne near the tips of the shoots, mainly between November and February.

The species is similar in appearance to the other semi-whipcord *Veronica*, and overlaps in distribution with *V. tumida*, *V. tetrasticha* and *V. quadrifaria*. It differs from these other species by having leaves that are pretty much oblong above a broad base, with a square apex, and a small sunken hydathode (water secreting pore) at the tip. Also, this species is mostly found in the wetter western areas, whereas the other species are mostly found in the drier eastern areas of the South Island.

This species is endemic to New Zealand and is currently listed as Not Threatened since most of its habitat is fairly intact and resistant to weed invasion. It is not prone to browse by most exotic animals aside from hares. The species can be cultivated in a free draining rock garden, but should not be removed from the wild because almost all of its natural habitat is within conservation areas.

The genus *Veronica* is large and spread all over the globe but, unlike most of the exotic species, New Zealand *Veronica* spp. are mostly woody. The genus name *Veronica* is named after Saint Veronica, who gave Jesus her veil to wipe his brow as he carried the cross through Jerusalem, perhaps because the common name of this plant is 'speedwell'. The species is named after Sir Joseph Dalton Hooker (born 1817)—a world famous botanist.

You can view the NZPCN website factsheet for *Veronica hookeri* at: [http://www.nzpcn.org.nz/flora\\_details.aspx?ID=903](http://www.nzpcn.org.nz/flora_details.aspx?ID=903)

## Part B: Otira Valley

Janeen Collings ([Janeen.Collings@aucklandcouncil.govt.nz](mailto:Janeen.Collings@aucklandcouncil.govt.nz))

After a very interesting couple of days at the NZPCN Conference, it was timely to be getting off the seats and into the bright mountains with promises of Mount Cook buttercup heaven. To avoid confusion the heavenly species is *Ranunculus lyallii*, which I refuse to call a lily.

On 18 November a small group led by Jane Gosden and Bronwyn Slack headed eastwards and upwards from Hokitika to the Otira Valley track. Sculptured by ice, the deep valley was glaciated around 16–14 thousand years ago (Eaves et al., 2017). The track climbs over a glacial moraine and follows the contour through subalpine scrub and tussock. Timings advise it takes about an hour and a half return but we spent a glorious four hours at botanising pace.

The weather was sunny and still, perfect conditions for sub alpine wanderings. Spilling out of the cars and descending upon the innocent vegetation it was plain to see it would be a difficult task to get us herded on to the track proper.

At around 900 m the vegetation near the car park comprises a mosaic of shrubs and tussock land (see Fig. 1)—*Dracophyllum longifolium* is the dominant shrub with *Lepidothamnus intermedius* × *L. laxifolius*, *Halocarpus bidwillii*, *H. biformis*, *Olearia colensoi* var. *colensoi*, *Brachyglottis rotundifolia* var. *rotundifolia*, *Coprosma foweraki*, *Pseudopanax colensoi* var. *colensoi* commonly occurring. Red tussock (*Chionochloa rubra* ssp. *cuprea*) is the dominant tussock species.



Figure 1: Looking up the valley over *Dracophyllum* shrubland.  
Photo: Dhahara Runatunga.

We were very fortunate to have such knowledgeable and patient leaders who dangled the ‘botanising is even better’ carrot to get us heading in the right direction up to the footbridge at the Otira River. A short distance up the track, in boulder field, we were rewarded by *Ranunculus lyallii* flowering profusely, simply stunning (Fig. 2). Shrubs included *Olearia cymbifolia* with its remarkable saddle shaped leaves, the chunky *Melicytus alpinus* and the hebes (or veronicas depending on what you want to call them) *Hebe canterburiensis* and *H. subalpina*.



Figure 2: *Ranunculus lyallii*. Photo: Janeen Collings.

A high diversity of herbs, around 129 species, occurs in the valley. I have highlighted a few that struck me as rather beautiful. Of the many *Celmisia* spp. three caught my eye, the yellow veined *Celmisia armstrongii*, (Fig. 3), the strikingly silver and bold *C. semicordata* ssp. *semicordata* (Fig. 4) and the ubiquitous *C. discolour*. *Anaphaloides bellidoides* has to be the most fun name to say and it was in early flower. *Drosera arcturi* was seen where expected on a bryophyte encrusted seep.



Figure 3: *Celmisia armstrongii*.  
Photo: Janeen Collings.



Figure 4: *Celmisia semicordata* ssp. *semicordata*.  
Photo: Janeen Collings.

Where the track meets the Otira River at around 1000 m the vegetation is dominated by herbaceous species with occasional shrubs (Fig. 5). In this area, my favourites were the sweetly scented cushion plant *Raoulia tenuicaulis* in full bloom, *Parahebe lyalii* and the tiny flowering *Leonohebe cilliata* (Fig. 6).



Figure 5 (above): Herbfields at the Otira stream with Jane Gosden lending a botanising hand. Photo: Dhahara Runatunga.



Figure 6 (right): *Parahebe lyalii* (centre right) with flowering *Leonohebe cilliata* (left). Photo: Janeen Collings.

I was not alone in being reluctant to head back as the day wore on. During our travels, kea were occasionally heard and, on arrival back at the car park, there was a rather shy bird swaggering about. I left thinking that shy was a better way of being around people. On behalf of everyone on this field trip I extend a huge thank you to our field trip leaders Jane and Bronwyn, the sponsors, Otari Wilton's Bush, and the conference organising committee who pulled together an awesome event.

## Reference

Eaves, S.R.; Anderson, B.M.; Mackintosh, A.N. 2017: Glacier-based climate reconstructions for the last glacial–interglacial transition: Arthur's Pass, New Zealand (43°S). *Journal of Quaternary Science* 32: 877–887. doi:10.1002/jqs.2904

**Editor's note:** Should any participant on Trips 1, 2 and 4 feel like giving us a report on those trips, any text and images will be gladly received. Copy deadline for the January issue is Monday 15 January; if that is too tight, then Thursday 15 February is the February deadline. I am always available to help polish the text if a fear of writing is a barrier to you writing something.

## Conference field trip 5: Freshwater and Glaciers

Tom Belton ([tbelton@doc.govt.nz](mailto:tbelton@doc.govt.nz))

Sixteen lucky conference delegates travelled south from Hokitika and experienced the joys of South Westland on a stunning West Coast day. Guided by Tom Belton (DOC) and Paul Champion (NIWA) on our drive south we saw the effects of alluvial gold mining around Ross, indigenous timber milling, Cyclone Ita, and the impressive results of DOC's large scale crack willow control at Lake Wahapo. Our first stop was at the Franz Josef glacier where we walked to the glacier viewpoint from where some of the vegetation sequences which have resulted from the glacier's retreat can be clearly viewed. We also walked to Peter's Pool, a small moraine lake, and noted plenty of species of interest along the way including *Mazus radicans*, loads of green hood orchids, and at least four species of *Olearia* including the only known specimen of *Olearia lineata* in the West Coast region.

From Franz, we headed out to Okarito Lagoon to where we viewed the history of this now tiny coastal settlement, and discussed weed control and some of the plant species present around the lagoon. Paul Champion was particularly excited to see good populations of *Ruppia* below the boardwalk through the lagoon, and



Paul Champion (NIWA) describing the aquatic plant communities at Lake Ianthe. Photos: Tom Belton.

southern rata (*Metrosideros umbellata*) was already beginning to flower. Our next stop was Okarito Pakahi, where the short walk to a viewing platform gave fantastic panoramic views of the full extent of Okarito Lagoon in one direction and Aoraki and the Southern Alps in the other. This was also our chance to view a typical West Coast pakihi wetland; we saw *Utricularia dichotoma* in flower, as well as emerging sun orchids (*Thelymitra* spp.) and sundews (*Drosera* spp.). We even saw the footprints of Okarito brown kiwi (rowi), in a muddy depression near the edge of the pakihi.

Our final two visits for the day were to Lake Ianthe and Lake Mahinapua, where we cooled our heels in the lake margins while Paul Champion introduced us to the submerged flora and Tom Belton described DOC's weed and pest fish control efforts at these two stunning, popular lakes. At Mahinapua, we were lucky enough to see several kotuku (white heron) up close, before arriving back to Hokitika only about half an hour later than planned—not bad going for a bunch of plant nuts!



Delegates visit Lake Mahinapua where we encountered several kotuku up close.



The magnificent view of Okarito Lagoon from the top of the Okarito Pakihi track.

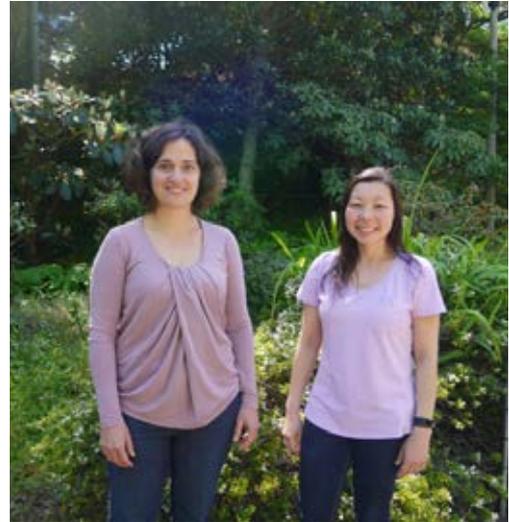
## New Zealand Indigenous Flora Seed Bank (NZIFSB)

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

### NZIFSB staff focus: Georgina Homs Aubia and Cristina Sato Winkworth

With the arrival of myrtle rust into New Zealand (Raoul Island) in March and the mainland in May there has been a great influx in collections of seed of Myrtaceae species arriving at the seed bank through the DOC-led collecting programme. Consequently, the workload in the seed bank has dramatically increased. This has resulted in two new staff members being employed.

Georgina (Gina) Homs Aubia comes from a background in natural resources management and conservation and has a Masters in Forest Engineering from the University of Lleida, Spain. Years ago, Gina has carried out research into chestnut blight (*Chryphonectria parasitica*). Gina's seedbank journey began as a volunteer back in March 2016 when she responded to a request for volunteers at the seed bank through the Environment Network Manawatu. As a volunteer, Gina processed a large number of different species at the seed bank and has also been on a number of collecting trips so appreciates the time and energy involved in collecting, processing and banking indigenous seed at the seed bank. In May 2017, a job vacancy came available and Gina gladly accepted. Gina has been working on Myrtaceae collections to the current day and her role involves sterilising seed and herbarium samples when they arrive at the seed bank, extracting seeds from their capsules or fruit, counting and weighing the samples under a dissecting microscope, and then selecting the full seeds from the empty seeds and debris resulting in a proportion of full seeds in the collection. Gina's experience from her volunteer work has meant that the large number of Myrtaceae collections received have been processed more quickly than would have otherwise been possible.



Gina (left) and Cristina (right).

Cristina Sato Winkworth has a Masters in Botany from the University of São Paulo, Brazil. Cristina has a background in the field of Plant Systematics and Environmental Education. In her last role, Cristina worked as a regulatory supervisor in Monsanto which involved strategic planning, project management and compliance. Cristina started working at the NZ Indigenous Flora Seed Bank in June 2017. When she applied for the job she thought it could be a great opportunity to work with and contribute to environmental conservation again. Her role also involves sterilising Myrtaceae seeds and herbarium voucher specimens as they come into the seed bank and also at each step of the banking process including transporting seeds to the drying room, extracting the seeds from their capsules, counting and weighing seeds, testing the relative humidity and temperature using a hygrometer, sealing the seeds in their foil bags after one week in the drying room, applying for their accessions through the database, banking the seeds in the  $-20^{\circ}\text{C}$  freezer and, after 30 days, the germination test is set up (this is to check that the samples are still viable after being banked). Finally, if the full seeds do not germinate, a tetrazolium test is run after eight weeks to test seed viability. Cristina's masters research involved the collection and accessioning of herbarium voucher specimens, experience that has proven valuable to the seed bank's myrtle rust response.

The processing of Myrtaceae seed collections comes with a number of challenges because of the minute size of the *Metrosideros*, *Kunzea* and *Leptospermum* seed and we appreciate Gina and Cristina's amazing work ethic and attitude when faced with such challenges. Since the Myrtle Rust Response began at the seed bank, 276 Myrtaceae collections have been banked and 25 Myrtaceae species and subspecies have been received at the seed bank from the Department of Conservation. We would like to take this opportunity to thank DOC, Monica Swadel, Gina and Cristina for this amazing effort, and wish all the readers of *Trilepidea* a safe and enjoyable Christmas and New Year season!

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## 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](mailto:events@nzpcn.org.nz)):

### Australian Network for Plant Conservation

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**12th Australian Plant Conservation Conference:** 12–16 November 2018. Hosted by the Centre for Australian National Biodiversity Research (CANBR) at CSIRO, and held at CSIRO Discovery at the Black Mountain Science and Innovation Park, Canberra, . ANPC conferences and forums provide:

- 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.

More details on APCC12 will be provided in the near future, so stay tuned at [www.anpc.asn.au/conferences/2018](http://www.anpc.asn.au/conferences/2018).

### Auckland Botanical Society

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**Field trip:** Friday 12 – Friday 19 January, the biennial South Island trip is based at the University of Canterbury Westport Field Station.

**Contact:** Mureen Young  
[youngmaureen@xtra.co.nz](mailto:youngmaureen@xtra.co.nz).

### Waikato Botanical Society

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**Field trip:** Saturday 27 January – Monday 29 January for the Anniversary Weekend trip to Te Maika Peninsula (combined with Rotorua Botanical Society).

See below for details.

### Rotorua Botanical Society

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**Field trip:** Saturday 27 Jan – Monday 29 January for the Anniversary Weekend trip to Te Maika Peninsula) (combined with Waikato Botanical Society). **Meet:** Kawhia Wharf at 7.00 p.m. 26 January. **Grade:** easy-medium. **Accommodation:** a bach on the peninsula with space for 12 and there is also space for camping (6 tents). **Cost:** \$5 koha per person for the accommodation plus about \$40 pp to get to and from the peninsula by ferry. **Bring:** food, bedding, clothes, sturdy footwear, togs and towel, torch. **Confirm attendance:** by 19 January.

**Leader:** Thomas Emmitt,  
email: [temmitt@doc.govt.nz](mailto:temmitt@doc.govt.nz);  
ph: 07 878 1050 (wk),  
07 280 7142 (hm),  
027 540 5762 (mob).

## Wellington Botanical Society

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**Field trip:** 4–11 January 2018 for Summer Camp in the Volcanic Plateau, Central North Island. **Base camp:** Taurewa Camp, Pukehinau Rd, Tongariro Forest Park 3989, 500 m off State Highway 47, c. 21 km (15 min) north of National Park village. Breakfasts & lunches will be prepared by BotSoc on a roster system. Dinners will be catered. Please make your own arrangements if you have special dietary needs.

**Accommodation:** Seven 2-person huts; bunk-rooms; camping; all \$17/person/night; self-contained cottage sleeps 7, \$25/person/night. **Booking:** booking ESSENTIAL; preference will be given to members of Wellington BotSoc; download registration form [here for doc version](#) or [here for pdf version](#). **Deposit:** \$400.00 per person to be paid at time of registration.

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**Leader and Contact:**  
Lara Shepherd, email [Lara.Shepherd@tepapa.govt.nz](mailto:Lara.Shepherd@tepapa.govt.nz),  
ph: 027 363 5854, and  
Chris Moore.

## Nelson Botanical Society

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**Field trip:** Friday 26 – Monday 29 January for the camp at St James Station/Molesworth.

**Contact:** David Grinsted, email: [davidgrinsted@gmail.com](mailto:davidgrinsted@gmail.com).

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**Field trip:** Sunday 21 January to Mt Starveall.

**Contact:** Chris Ecroyd,  
ph: 03 544 7038.

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## Canterbury Botanical Society

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**Meeting:** Monday 29 January at 7.30 p.m. for a report back from members who went to the January Sub-Antarctic islands on the Heritage Expedition Botanical tour led by Alex Fergus; mainly plants but it may include photos of birds and huge waves. **Venue:** Upper Riccarton Library community meeting room, 71 Main South Road.

**Contact:** Alice Shanks,  
ph: 03 337 1256;  
email: [alice@caverock.net.nz](mailto:alice@caverock.net.nz).

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**Field trip:** Saturday 10 – Sunday 18 February for summer camp at Gowan Valley, Lake Rotoroa. **Accommodation:** Nelson Rowing Club Camp; cost is from \$15/night if we average at least 14 people per night; tenting space available for 2–3 tents or there is accommodation available in Murchison (camping to motels), Owen River Tavern & Motel or holiday homes at Lake Rotoroa.

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**Booking:** contact Paula Greer,  
ph: 021 233 6794 or 03 379 3965  
after 6.30 p.m.; email: [paulagreer@rocketmail.com](mailto:paulagreer@rocketmail.com).

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## University of Canterbury summer course: Practical Field Botany

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**Practical Field Botany (BIOL305):** an intensive, short summer course designed to meet the need for training in the collection, preparation, and identification of botanical specimens. **Venue:** University of Canterbury, Cass Mountain Research Area, Canterbury. **Dates:** 18 – 26 January 2018. **Enrolment:** opens 4 October 2017.

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**More information:** Matt Walters ([matt.walters@canterbury.ac.nz](mailto:matt.walters@canterbury.ac.nz); ph: 03 369 5211) or Pieter Pelsler ([pieter.pelsler@canterbury.ac.nz](mailto:pieter.pelsler@canterbury.ac.nz); ph: 03 369 5228).