



TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

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Deadline for next issue:
Friday 20 March 2020

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

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NEW ZEALAND

PLANT OF THE MONTH, p. 3



Liparophyllum gunnii. Photo: Rowan Hindmarsh-Walls.

A new liverwort species for Wellington

Lara Shepherd – Museum of New Zealand Te Papa Tongarewa

A new species of liverwort has just been identified in Wellington and named after local Wellington amateur botanist Rodney Lewington (1935–2018). This article tells us more about liverworts and Rodney's contribution to New Zealand botany.

What are liverworts?

Liverworts, along with mosses and hornworts, belong to the group of small plants known as bryophytes. Bryophytes don't have flowers but instead reproduce with spores.

There are around 7500 species of liverwort worldwide. New Zealand is a hotspot for liverworts with around 5–10% of the known liverwort species occurring here.

There are two groups of liverworts. Thalloid liverworts look like flattened green pancakes.

In contrast leafy liverworts have leaves and stems and are often mistaken for mosses. Around 85% of liverworts are leafy liverworts.



Marchantia sp., a thalloid liverwort. Kapiti Coast. Photo: Lara Shepherd.



Schistochila repleta, a leafy liverwort. Hunua Range. Photo by Peter de Lange.

Rodney's new species

In 2017 Te Papa Research Associate Peter Beveridge found a tiny leafy liverwort growing on the trunk of a beech tree in Remutaka Forest Park. It didn't look like any of the known species of liverwort. Close study of its features and comparison of its DNA with other liverworts confirmed that it was a new species.

Cheilolejeunea rodneyi has only been found at three locations, all within the Wellington region. It is possible that this species is more common but that it has been overlooked in the past (the shoots are only around 1mm wide).

The description of this new species brings the total number of *Cheilolejeunea* species in New Zealand to 11, four of which are found nowhere else. It is likely that more species of *Cheilolejeunea* liverworts remain to be discovered in New Zealand.

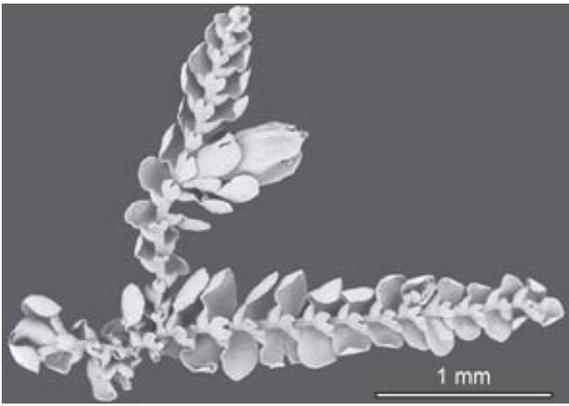


Fig 3. A scanning electron microscope image of *Cheilolejeunea rodneyi*. Image: David Glennly.

Here is a link to the paper describing the new liverwort *Cheilolejeunea rodneyi*:

<https://openjournals.library.sydney.edu.au/index.php/TEL/article/view/14045/12753>

A passion for bryophytes

In the 1980s Rodney became interested in mosses and then liverworts, becoming one of New Zealand's experts in the latter group.

Rodney was a passionate teacher and generously shared his knowledge by regularly giving talks and bryophyte identification workshops.

Peter Beveridge, who led the study of *Cheilolejeunea rodneyi*, considered Rodney a mentor and they frequently went on fieldwork together.

Sadly Rodney passed away in 2018 but he had been with Peter when *Cheilolejeunea rodneyi* was collected from the Hutt Valley and knew about the dedication.

Rodney was well known in the botanical community and was posthumously awarded the New Zealand Botanical Society's 2019 Allan Mere Award, which recognises the contribution of outstanding New Zealand botanists. He had been an active member of the Wellington Botanical Society since 1961 and was heavily involved with the Otari-Wilton's Bush Trust. Rodney also donated over 4000 plant specimens to Te Papa's herbarium.



Rodney Lewington hunting for liverworts in Abel Tasman National Park, 26 March 2010. Photo: Peter Beveridge



Rodney's wife Darea accepts the Allan Mere on behalf of Rodney from the New Zealand Botanical Society President Anthony Wright. Darea shared Rodney's love of botany and provided support and assistance for many of Rodney's botanical endeavours, 2019. Photo: Lara Shepherd.

This article first appeared on the Te Papa blog website and has been reproduced with permission.

PLANT OF THE MONTH – *LIPAROPHYLLUM GUNNII*

Rowan Hindmarsh-Walls

The plant of the month for February is the insignificant *Liparophyllum gunnii*, the only representative of the genus in New Zealand. The species is found from the lower North Island southwards to Auckland Island. It can be found in permanently wet open peaty areas, and can survive being fully submerged for periods of time. Further north in its range the species is found in low alpine habitats, but it descends down to sea level in southern areas. The herb can form thick mats around the edge of pools and in open short wet herbfield. It is very small and often overlooked unless flowering. The bright green leaves are linear spatulate (long and spoon-shaped) and succulent, with sometimes darkened tips. The singly borne flowers are large, relative to the size of the plant, and white with five triangular petals. If dug up the plant has thick fleshy rhizomes and roots. It is often found growing with species such as *Centrolepis ciliata*.



Liparophyllum gunnii – Falla Peninsula, Auckland Island, 21 January 2020. Photos: Rowan Hindmarsh-Walls.

Liparophyllum gunnii is distinctive in Aotearoa, and has no close relatives in this country. Even when no flowers are present the leaves are so distinctive the plant is unlikely to be mistaken for anything else.

The species is native to New Zealand, but is also found in Tasmania. It has a threat ranking of 'Not Threatened' in this country as, although sporadic, it is fairly common and widespread. The main threats to the species are likely wetland degradation through exotic plant invasion of its habitat. Due to its small size the species is easily overrun by larger more competitive exotic wetland species, especially grasses, sedges and rushes.

The genus *Liparophyllum* is very small with approximately eight species. Many of the other species are found in Australia and Papua New Guinea. The genus name *Liparophyllum* is derived from the Greek *liparos* (fat, shiny or oily), and *phyllon* (leaf), which presumably refers to the distinctive shining, oily looking succulent leaves. The species epithet *gunnii*, is named after Ronald Gunn, a prolific Tasmanian botanical collector of the mid 1800's.

You can view the NZPCN website factsheets for *Liparophyllum gunnii* at: http://www.nzpcn.org.nz/flora_details.aspx?ID=2188

Taurepo in the South Island

Tom Stein

So, the voting is over and taurepo, *Rhabdothamnus solandri*, has been pronounced the NZPCN favourite native plant of 2019. In my opinion, a worthy winner.

Growing up in west Auckland's Waitakere Ranges in the 1970's, taurepo was a treasure of a plant and a wannabe botanist's dream. From a distance and to the untrained eye its small leaves and twiggy shrubby nature make it look like any of a number of small leaved twiggy shrubby things and yet close up it is so distinctive, with its hairy leaves and the especially beautiful orange-red bell shaped flowers. After a cursory check you can be certain that you got the ID right. Best of all is its name. *Rhabdothamnus solandri* rolls beautifully off the tongue and to a 16 year old natural history nerd, was a great way to impress friends and family with your new found superior knowledge while out walking in the hills. 'Hey, look at that lovely patch of *Rhabdothamnus solandri* growing on that bank over there...'. Or 'Aren't the *Rhabdothamnus solandri* flowers lovely at this time of year...'. You get the idea.

Fast forward several years and I am still a wannabe botanist, only now with a few more years' experience, and am working as the QEII National Trust regional rep for Marlborough and Nelson/Tasman areas in the top of the South Island. This fantastic role means I get to visit all manner of amazing natural places on private land that few other people ever get to see.



Flowers December 2019, Scheelite Creek.

In August 2015 as part of my QEII Trust role, I was assessing a 20ha QEII covenant in forestry land on the north bank of the Wairau River in the tantalisingly named Scheelite Creek, which flows via Timms Creek into the Wairau River from the Richmond Ranges. It is predominantly beech forest in which red beech (*Fuscospora fusca*) is predominant with smaller amounts of black beech (*Fuscospora solandri*) and silver beech (*Lophozonia menziesii*). Kamahi (*Weinmannia racemosa*) and kākūka (*Kunzea ericoides*) are also present in the canopy, and māhoe (*Melicytus ramiflorus*) is dominant in the gully bottoms. The surrounding hills harbour several abandoned gold mine shafts, and scheelite (calcium tungstate) is often associated with quartz, which in turn carries gold. On the northern side of the Richmond Range Scheelite was mined in the Wakamarina gold fields during World War One.

Climbing steeply up Scheelite Creek, recording the vegetation types as I progressed, I noted a group of small leaved twiggy shrubby things that looked familiar but didn't look quite right, growing on the edge of a small waterfall. On closer inspection I saw one little red trumpet flower and instantly thought here's my old mate, *Rhabdothamnus solandri*. At that time, I thought it was a bit unusual as I couldn't remember seeing them in the top of the South Island before. I was very surprised to learn, when I got home, that they had, in fact, never been recorded from the South Island at all!

Upon further investigation during subsequent visits, I counted around 60 plants ranging in size from 2m high bushes through to small seedling all within one 30m × 20m area growing on the western side of the small waterfall. I have searched upstream and downstream from this site and found no further plants. The site is a shady, south west facing gully at an altitude of around 350m. All the plants are associated with a small bluff system of around 6m in height. The forest canopy here is mostly large kamahi although there is a scattering of māhoe and hekatara (*Olearia rani*) on the steeper areas. Ferns, particularly lance fern (*Austroblechnum lanceolatum*), waterfall fern (*A. colensoi*), kiokio (*Parablechnum novae-zelandiae*) and hen and chicken fern (*Asplenium bulbiferum*) are common ground covers. There are occasional patē (*Schefflera digitata*), kanono (*Coprosma grandifolia*) and māhoe in the understorey. Feral pigs, goats and red deer are present but are having only a minor impact at this site currently.

This all begs the question why here, on the side of a hill, 130 km from its nearest neighbour? There are a few things going for this site. It is reliably damp, it is surprisingly frost free due to its steep nature, is inaccessible to ungulate browsers, has never been cleared or burnt but the likely trump card is the probable presence of scheelite, and/or other minerals which give the soil taurepo's preferred alkalinity.

Of course, there is always the possibility that some gold miner with a passion for the flora of the northern north island transplanted it here deliberately or maybe accidentally via seed stuck to their gear and moved from the Coromandel gold fields. However, I think the look, feel and location of the site rules these out as likely options. Instead, I imagine that this site contains all that taurepo needs to survive and that other sites which may have previously existed in the top of the South Island have over time failed. Unless of course there are more yet undiscovered examples!

Importantly, this privately owned site is now secure within a QEII Trust covenant. The current managers (Merrill and Ring) and owners (Marberry Estate) of the covenant and the surrounding forestry lands are enthusiastic about the many special natural and historic sites contained within their land and are keen to see them maintained and enhanced. Accordingly, the future of this most southern outpost of an otherwise North Island species would seem secure.



Views of the taurepo site at Scheelite Creek.

2019 ASBS–NZPCN Joint Conference, Taxonomy for Conservation — Ruia mai I Rangiatea—Post-Conference summary and call for additional reports

The Australasian Systematic Botany Society (ASBS) and the New Zealand Plant Conservation Network (NZPCN) joined forces for the ASBS-NZPCN 2019 Joint Conference, *Taxonomy for plant conservation – Ruia mai i Rangiatea*. The conference was held at Te Papa in Wellington from 24–28 November 2019. There were 201 registered attendees, with 147 of these hailing from New Zealand, 50 from Australia, and 4 from elsewhere (USA, UK, Sweden). The attendees came from a range of institutions, including universities, crown research institutes, museums, city and regional councils, and botanic gardens, among others. We had a large student turnout, with 27 university students attending the conference, including 16 PhD, 5 Masters and 6 Undergraduates, many of whom presented on their research projects.

The conference offered 6 hands-on workshops, a welcome function, 5 field trips, 4 public events, a conference dinner, silent auction, book launch, and 3 full days of a scientific programme, with 3 keynote speakers, 70 oral presentations and 10 posters. Several ASBS conference attendees have since summarised their experiences at these talks and events in the latest ASBS newsletter, which can be seen here: <http://www.asbs.org.au/newsletter/pdf/19-dec-181.pdf>

We have had much positive feedback regarding the conference and are very pleased with how everything came together. Thank you to all of our sponsors: Wildland Consultants Limited, Coastlands Plant Nursery Limited, Manaaki Whenua Landcare Research, Queenstown Natural Perfumiers, Biosecurity New Zealand - MPI, Te Papa, Otari Wilton's Bush Trust, and Te Papa Press. Thanks also to all of you who attended and presented for helping us put on a great conference!

Call for conference-related articles

Did you attend or present a workshop, field trip, other event, or talk at the conference? Why not submit a short article and photo(s) to share your experience in the next newsletter? Please send your contribution by 20 March to events@nzpcn.org.nz.

Heidi Meudt & Rewi Elliot

ASBS-NZPCN 2019 Joint Conference Co-organisers

UPCOMING EVENTS

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

Auckland Botanical Society

Meeting: Wednesday 4 March at 7.30pm – AGM followed by Speaker Ryan deRegnier (Lucy Cranwell Grant recipient). **Topic:** The Interaction between native New Zealand mosses, birds and insects.

Field Trip: Saturday 21 March to Conical Peak Road. **Meet:** 10.00am at Conical Peak Road.

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

Meeting: Wednesday 1 April at 7.30pm . **Speaker:** Hannah Buckley.

Waikato Botanical Society

Meeting: Monday 16 March with speaker Kim Parker, Waikato Regional Council, on Kauri dieback disease.

Rotorua Botanical Society

Field Trip: Sunday 8 March to Puaiti Scenic Reserve, Atiamuri (combined with Waikato BotSoc). **Meet:** 8.15am at the Convention Centre carpark, Fenton Street, Rotorua or 9.00am at the corner of Te Kopia and Puaiti Roads, Atiamuri. **Grade:** Medium.

Leader: Paul Cashmore, email: pcashmore@doc.govt.nz, ph. 07 349 7432 (wk) or 027 650 7264.

Field Trip: Saturday 21 March to Mt. Tarawera (combined with Forest and Bird and Waikato BotSoc). **Meet:** 9.00am at the DOC Ashpit Road campground, Lake Rerewhakaaitu. **Grade:** Medium-Hard.
Reserve day Sunday 22 March if wet on Saturday.

Leader: Paul Cashmore, email: pcashmore@doc.govt.nz, ph. 07 349 7432 (wk) or 027 650 7264.

Field Trip: Saturday 28 March to Putauaki (Mt. Edgecumbe) summit and wetland. **Meet:** 8.00am at the Convention Centre carpark, Fenton Street, Rotorua or 9.00am at Maori Investments Limited (near the entrance gate), Waterhouse Street, Kawerau. **Grade:** Easy-Medium.

Leader: Mieke Kapa, email: mieke.kapa@boprc.govt.nz, ph. 027 538 1586.

Please note that there is a minimum age limit of 16 for this outing and numbers are limited to 25 on a first in basis.

Wellington Botanical Society

Field Trip: Saturday 7 March to Makahuri Forest, Te Horo. **Meet:** 9.45am at the north end carpark, Waikanae Railway Station.

Leader: Jon Terry, email jon.terry.nz@gmail.com, ph. 04 971 1631 or 021 168 1176.

Meeting: Monday 16 March with speaker Stuart Fraser, Forest Pathologist at Scion Research, Rotorua. **Topic:** Rust never sleeps: an introduction to Forest Pathology.

Venue: room MYLT101, Murphy Building, Victoria University, Kelburn Parade, Wellington

Field Trip: Saturday 4 and Sunday 5 April to Wairarapa.
Saturday 9.30am. **Meet:** at the layby on Te Whiti Road on the left just south of Gladstone at the junction of and opposite Admiral Road.
Sunday – 9.00am. **Meet:** at Belvedere Road entrance to Fensham Reserve, Carterton.

Leader: Owen Spearpoint, email owen.spearpoint@gw.govt.nz, ph. 04 562 8780 or 027 285 8083.

Leader: Pat McLean, ph. 027 406 6767.

Nelson Botanical Society

Field Trip: Sunday 15 March to Ellis Valley. **Meet:** 8.00am at Cathedral steps or 8.45am on Woodstock side of Baton bridge.
Please register your interest by Friday 13 March.

Leaders: Steve and Penny Palmer, email stevepenny@xtra.co.nz, ph. 03 539 1329.

Canterbury Botanical Society

Meeting: Monday 2 March at 7.30pm with speaker Santiago Martin-Bravos, Manaaki Whenua Landcare Research. **Topic:** Santiago will speak on the flora of his native Spain, especially the area he hails from.

Venue: Upper Riccarton Library community meeting room, 71 Main South Road, Riccarton.

Field Trip: Saturday 7 March to Acheron River, Rakaia. **Meet:** 8.30am at the Yaldhurst Hotel carpark (corner of Pound and West Coast Roads). **Grade:** Rough and untracked, with rough terrain and river crossings.

Contact: Miles Giller, email broadleaf@actrix.gen.nz, ph. 03 313 5315.

Botanical Society of Otago

Meeting: Wednesday 11 March at 5.20pm with Speaker Peter Johnson, Manaaki Whenua Landcare Research. **Topic:** New Caledonia: a Botanist's Paradise.

Venue: Benham Seminar Room, Room 215, Second Floor, Zoology Benham Building, 346 Great King Street, Dunedin.

Field Trip: Saturday 28 March at 8.00am to Poolburn Reservoir, upper Ida Valley.

Contact: David Lyttle, email: djl1yttle@gmail.com, ph. 03 454 5470.

Field Trip: Saturday 4 April at 8.30am to Quoin Point.

Contact: Robyn Bridges, email: robyn.j.bridges@gmail.com, ph. 03 472 7330 or 021 235 8997.
