TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

No. 234

October 2023

Deadline for next issue:
Friday 24 November 2023

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 info@nzpcn.org.nz

Postal address:
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NEW ZEALAND

President's Report to the 2023 NZPCN Annual General Meeting

John Barkla (mjbarkla@xtra.co.nz)

I'm pleased to report that the network continues to go from strength to strength with membership lapping at the 1000-member mark.

The highlight for many will have been the Queenstown Conference late last year. This delivered an outstanding programme of presentations, workshops, field trips, awards and social activities. It was well supported and we received much favourable feedback from attendees. Hearty thanks are due to the amazing organising team of Alex Fergus, Jesse Bythell and Jo Smith. Following on from this, the network organised a very successful Queenstown Lakes District Restoration Pathways workshop, the findings of which will be circulated in due course. Planning is well underway for our next conference, to be held in Whangarei. Make sure you lock that early October 2024 date in your calendars.

The web team, led by Jesse Bythell, has continued to provide significant improvements to the website. Users may have noticed an additional feature on the species fact sheets that quickly determines which of our plant lists contain the species in question. Others may appreciate the new 'Wetland Plant Indicator Status Rating' derived from the revised national wetland plant list to assist councils in delineating and monitoring wetlands. Many of our factsheets now also link to the relevant Manaaki Whenua Online Interactive Keys.

The quantity and quality of fact sheets continues to improve and this is especially evident with our significantly expanded coverage of lichens. I thank those of you who have provided photos to plug gaps as we strive to ensure each fact sheet has a comprehensive set of accompanying images. There is ongoing work to improve the website, which we highlight from time to time with notices in *Trilepidea*.

Thank you to those of you who have written an item and/or provided photographs for our newsletter. Please keep them coming and encourage others to do the same.

During the year we made a substantial submission regarding 'A redesigned NZ ETS Permanent Forest Category'. We highlighted and advocated for the important role our native flora should play in helping sequester carbon as part of the country's Emissions Trading Scheme.

Since the end of the financial year, we were pleased to support threatened plant research by awarding a David Given Threatened Plant Scholarship to Samiksha Patel, a Masters student at the University of Canterbury. Samiksha will carry out a conservation genomic study of threatened limestone populations of *Senecio matatini*.

The review of our 5-year Strategic Plan is almost complete and a revised plan will soon be available on the website. We've also taken a fresh look at the various roles that Council members fulfil to give effect to the strategic plan and have identified some new roles.

This year marks the network's 20th anniversary and we should all be proud of how far the network has come since the late John Sawyer rallied support for his grand idea. The presentation by Jesse Bythell following the AGM will reflect on those 20 years of NZPCN.

I have now completed 3 years as President and will not be seeking re-election. Throughout my term I've had great support from all the Council members, our Administrator, kaiawhina, and our two major sponsors. I have no doubt our new President will also enjoy that support.

Thank you for your plant conservation efforts around the country and for your ongoing enthusiasm and support for the NZPCN.

David Given Threatened Plant Scholarship 2023

Alex Fergus (fergusa@landcareresearch.co.nz)

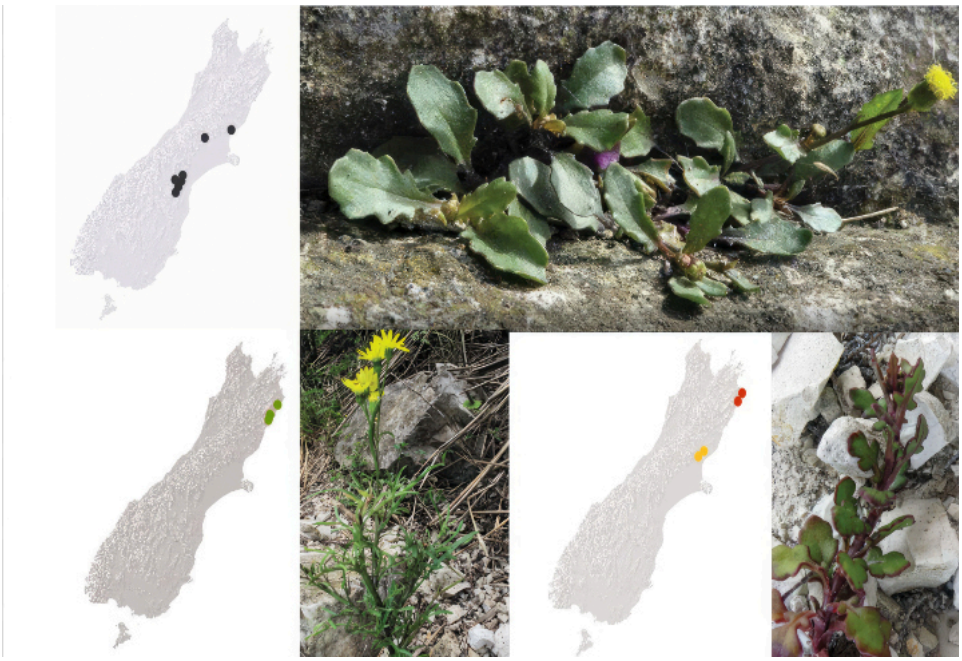
As noted in the previous issue of Trilepidea, Samiksha Patel is the successful recipient of the 2023 scholarship with her project *A conservation genomic study of threatened limestone populations of* Senecio matatini *(Asteraceae)*. Samiksha is a Masters student at the University of Canterbury, her project is supervised by Pieter Pelser (University of Canterbury), alongside Peter Heenan and Rob Smissen of Manaaki Whenua – Landcare Research. Please read on below for an overview of Samiksha's project.

A conservation genomic study of threatened limestone populations of *Senecio* aff. *matatini* (Asteraceae)

Samiksha Patel[1], Pieter B. Pelser[1], Peter Heenan[2] and Rob Smissen[2]
[1]University of Canterbury, School of Biological Sciences
[2]Manaaki Whenua - Landcare Research

Senecio matatini is a New Zealand endemic plant species, belonging to the Asteraceae family. Its populations are sparsely distributed across the South Island and the central and southern parts of the North Island, New Zealand. Recently segregated from *Senecio glaucophyllus, S. matatini* has a complex taxonomic history. This is reflected in its name, where matatini means 'composite' and 'complex'. At the infraspecific level, subsp. *matatini,* subsp. *toa*, subsp. *basinidus*, and subsp. *discoideus* are currently recognised. Yet, there are also several tag-name taxa possibly affiliated to the complex which require further research to determine if they should be formally recognised and, if so, at which taxonomic rank. Among these, *S.* aff. *matatini* "South Marlborough limestone", *S.* aff. *matatini* "Cape Campbell", *S.* aff. *matatini* "Mt Cass", *S.* aff. *matatini* "North Dean" and *S.* aff. *matatini* "Tablelands" are limestone endemic taxa that are of known conservation interest. However, we know too little about them to assess their conservation status and enable effective conservation management.

We want to use genomic data obtained through Genotyping by Sequencing to determine the amount of genetic diversity in and the extent of connectivity among the populations of the five tag-name taxa and the four currently recognised *S. matatini* subspecies. With this information, we can identify populations that are most at risk of losing genetic diversity, have unique genetic variation, or are genetically isolated from other populations. This information can also be used to inform taxonomic studies aimed at determining which and how many taxa to recognise within this taxonomically complex group. This would contribute to reducing the number of New Zealand informally recognised 'tag name' taxa and thereby resolve taxonomic uncertainties that complicate conservation management. It can also be used when assessing the conservation status of the tag-named taxa with the New Zealand Threat Classification System and then prioritising conservation work. In summary, this research will provide limestone conservation practitioners with a new toolset for protecting five rare obligate limestone taxa and facilitating their recovery.



Senecio aff. *matatini*.
Top: "Mt Cass"
Bottom left: "South Marlborough Limestone".
Bottom right: Red dots represent "Cape Campbell" populations & yellow dots represent "North Dean" populations. Photo is of "Cape Campbell".
Reproduced from Heenan & Rogers (2019) with permission of PB Heenan.

Thanks to our many photographers!

Jesse Bythell, NZPCN Webmaster (jesse.bythell@gmail.com)

We are continually humbled by the tremendous generosity of people who share their photos for us to use on the NZPCN website. We currently have over 33,500 unique images on our website from 343 different photographers.

Jane Gosden has contributed a significant number of her photographs (nearly 1,000) with a focus on alpine herbs. You might enjoy some of her splendid images next time you are reading about *Myosotis colensoi* (Fig.1) or *Ranunculus limosella* (Fig.2).

Fig.1. *Myosotis colensoi* flower, Hogs Back Track, Castle Hill 4 November 2022.

Fig.2. *Ranunculus limosella* flower, Irishmans Creek Conservation Area, in a kettle hole tarn 6 February 2022. Photos: Jane Gosden

NZPCN Conference Whangārei 2024

Taylor Davies Colley, Bill Campbell, Marley Ford

The New Zealand Plant Conservation Network is excited to announce its next conference for 6–9 October 2024, in Whangārei. We will be reflecting on the past, present and future of plant conservation in Aotearoa New Zealand with our theme "Ka mua, ka muri – walking backwards into the future". With this we will be able to celebrate 21 years of NZPCN, and hundreds of years of plant conservation in Aotearoa, and reflect on how all that has happened informs the future.

The conference will run from Sunday to Wednesday, with workshops and a welcome event on Sunday, symposia on Monday and Tuesday, and field trips on Wednesday. Our field trips and workshops will make the most of the incredible flora of Whangārei, with the city also being the gateway to wider Te Tai Tokerau/Northland and all the amazing botanising it presents.

Registrations will open on 1 January 2024, so keep an eye out on our website, in Trilepidea, and on our Facebook page as we update these with more information.

If you or your business would like to support the conference, we are looking for conference sponsors, as well as donations to our auction raising funds towards the David Given Threatened Plant Scholarship and the John Sawyer Threatened Plant Endowment Fund. Please get in touch with conference organising committee lead Taylor Davies-Colley at nzpcnconference@gmail.com.with any enquiries or offers of support.

We look forward to seeing you all in Whāngarei next October.

2023 Favourite plant vote update

Megan Ireland (megan.ireland@wcc.govt.nz)

The 2023 New Zealanders' favourite plant vote is coming soon!

The purpose of the vote is to find out why New Zealanders love their native plants and help raise a greater awareness and appreciation of native plants. Once voting opens, you can cast your vote through the on-line voting system on our website. 213 plants received votes in the last favourite plant vote, with 2021 being one of the highest voter turnouts ever. That is until 2023...

Some of the previous winners include the button daisy *Leptinella nana* (2021), an orchid *Caladenia alata* (2018) and the rarely seen root parasite *Dactylanthus taylorii* (2019). Check out the previous year's winners here https://www.nzpcn.org.nz/nzpcn/favourite-plant/.

Watch this space for voting dates and then you'll have to make what could be a difficult decision as to which will be your favourite plant for 2023. There can only be one winner—will you be backing it?

Alpine flora of Nelson Lakes National Park—my first encounter with giant vegetable sheep

Melissa Hutchison (melissa@tenax.co.nz)

For some reason I'd assumed Nelson Lakes National Park was just boring mountain beech forest, run-of-the-mill/widespread South Island alpine plants, and not very interesting geology. The poor cousin to nearby Kahurangi National Park, with its dramatic limestone mountains and karst country covering Mt Owen, Mt Arthur, The Needle and Haystack, 100 Acre Plateau and 1000 Acre Plateau, which host a slew of limestone endemics to excite even the most well-trodden botanist. But how wrong I was! Flocks of giant vegetable sheep, cascading waterfalls, delicate tarn margin communities, alpine flushes, and cryptic scree plants—you name it, it was there! The alpine landscapes and flora of Nelson Lakes National Park (NP) were far more diverse and interesting than I had imagined, and it left me feeling a little foolish that I hadn't made the effort to explore this area sooner in my 20 years of living in the South Island.

According to the Department of Conservation "Nelson Lakes National Park (established in 1956) protects 102,000 hectares of the northernmost Southern Alps. The park offers tranquil beech forest, craggy mountains, clear streams and lakes both big and small" (DOC 2023). The Park includes the Rotoiti Nature Recovery Project—a 'mainland island' where DOC and the Friends of Rotoiti (a voluntary group) undertake intensive pest animal control across 5,000 hectares of beech forest, in order to protect native flora and fauna such as kākā (*Nestor meridionalis*) and roa/great spotted kiwi (*Apteryx maxima*).

More than 450 indigenous plant species (including bryophytes) have been recorded in Nelson Lakes NP (iNaturalistNZ 2023a). I was especially keen to acquaint myself with the alpine flora of the Park, so planned a five-

day tramp into the Travers Range with my family and friends. We started through beech forest along the Lakeside Track next to Lake Rotoiti, then climbed up onto the tops via Hukere Stream and the aptly named Cascade Track. We camped next to tranquil Hinepouri Tarn and scrambled up steep scree slopes onto the summit of Mt Angelus/ Maniniaro (2,075 m a.s.l.). We then tramped over the spectacular Sunset Saddle into Hopeless Valley and cruised back down the Travers Valley to Lake Rotoiti via Lakehead Hut.

Dramatic bluffs and waterfalls in the upper Hukere Valley. Looking towards Mt Angelus/Maniniaro (2,075 m a.s.l.), Travers Range.

The upper Hukere Valley (hūkere means steep, precipitous or sheer) forms a basin encircled by dramatic bluffs and waterfalls. A variety of plant species were seen clinging to the sides of the rock faces, including the tiny speargrass *Aciphylla monroi,* needle-leaved daisy *Celmisia laricifolia*, mountain foxglove *Ourisia macrophylla* subsp. *lactea*, and two fleshy-leaved members of the carrot family (Apiaceae), *Anisotome pilifera* (classified as At Risk – Declining, de Lange *et al.* 2018) and *Azorella roughii*.

Around the rocky margins of Hinepouri Tarn, scattered shrubs such as *Dracophyllum pronum*, *Hebe ciliolata* (*Veronica hookeri*), *Hebe* (*Veronica*) *pauciramosa* and *Leonohebe* (*Veronica*) *lycopodioides* were seen, along with tufts of *Marsippospermum gracile* and bright yellow flower spikes of the giant speargrass/taramea *Aciphylla colensoi*. Damp ground on the lake edge supported a dense native turf with *Abrotanella fertilis*, *Celmisia alpina*, *Drosera arcturi*, *Epilobium pernitens*, *Euphrasia revoluta* and *Plantago lanigera*.

One of the highlights of the trip for me was seeing flocks of giant vegetable sheep clinging to the sides of rocky slopes below Mt Angelus – what a truly iconic and remarkable group of plants! Much time was spent admiring and photographing clumps of *Haastia pulvinaris* var. *pulvinaris*, the somewhat smaller (perhaps less sheep-like) *Haastia pulvinaris* var. *minor*, and their much smaller relative *Raoulia bryoides* (*bryoides* means 'moss-like'). The genus *Haastia* is endemic to New Zealand, and all three species in the genus are strictly alpine (Mark 2021).

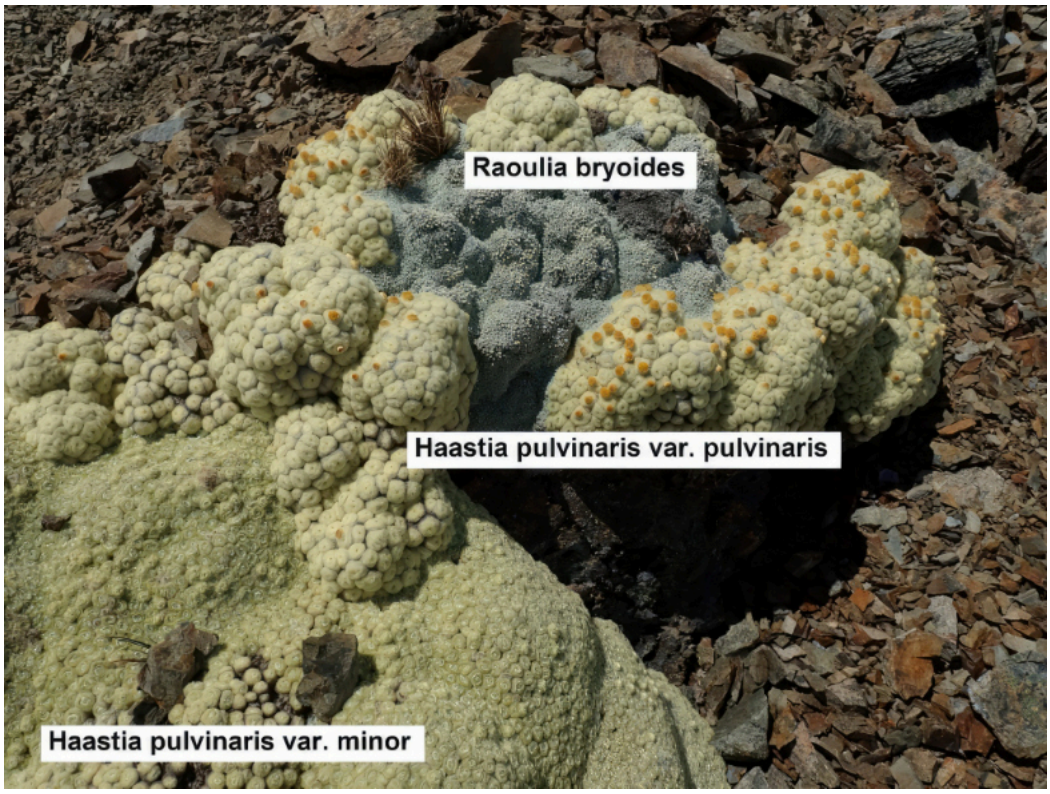
Boulderfields and relatively stable screes below Mt Angelus revealed a wide variety of other specialist alpine plants, such as *Haastia sinclairii* var. *sinclairii* with its large fluffy flower heads, tiny spiky cushions of *Colobanthus buchananii*, the distinctive, red-margined willowherb *Epilobium rubro-marginatum*, penwiper *Notothlaspi australe*, *Poa novae-zelandiae*, and the diminutive but lovely *Parahebe* (*Veronica*) *cheesemanii* subsp. *cheesemanii*.

The tranquil waters of Hinepouri Tarn, nestled between Lake Angelus and Mt Angelus.

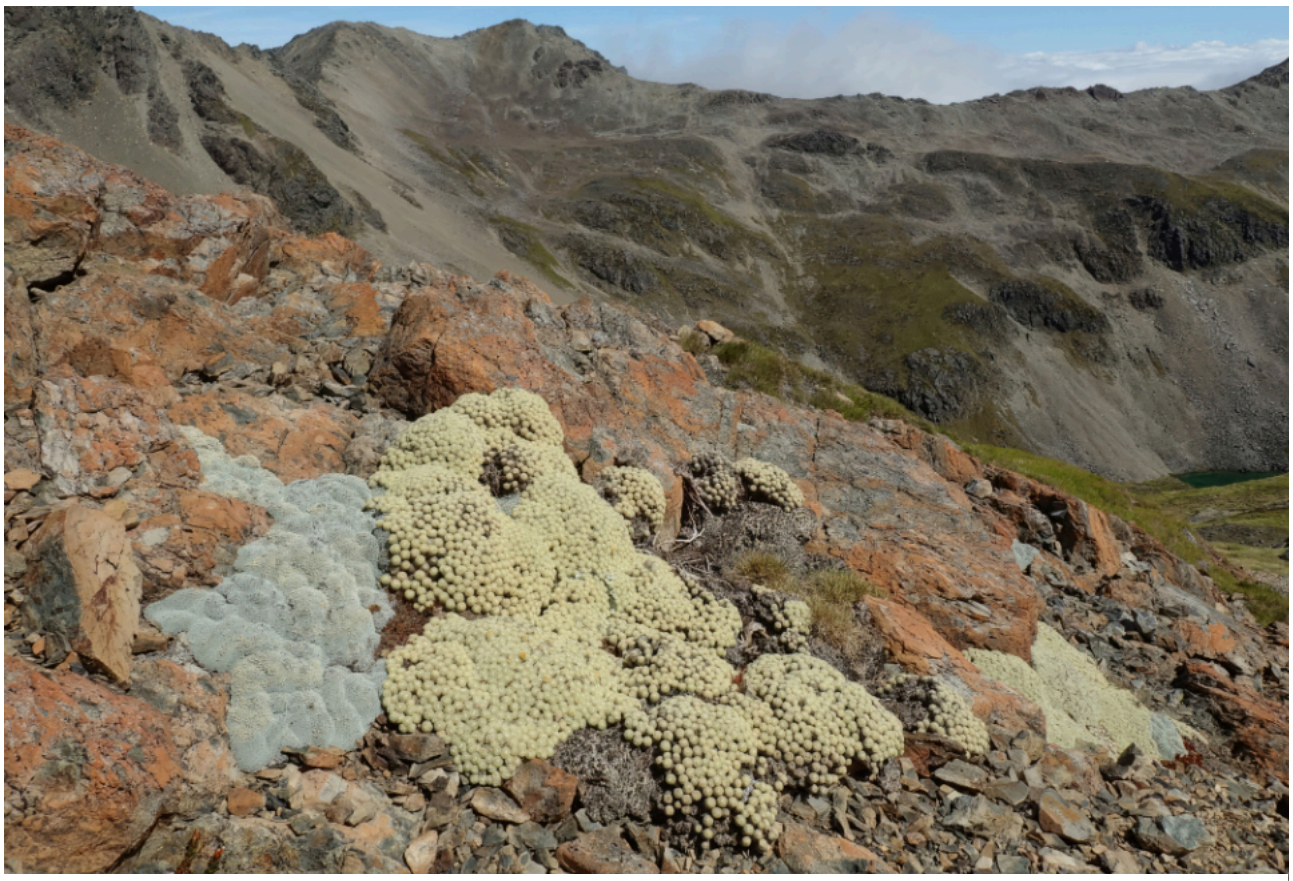
Bright yellow flower spikes of the giant speargrass/ taramea *Aciphylla colensoi*.

The iconic giant vegetable sheep, *Haastia pulvinaris* var. *pulvinaris*.

Slightly less giant, but still very large, vegetable sheep, *Haastia pulvinaris* var. *minor*.



A mixed flock of vegetable sheep! Giant vegetable sheep *Haastia pulvinaris* var. *minor* and *H. pulvinaris* var. *pulvinaris*, with their smaller relative *Raoulia bryoides*.



Vegetable sheep – *Haastia pulvinaris* var. *pulvinaris* and *Raoulia bryoides* – below Mt Angelus, Travers Range.

Raoulia bryoides, a smaller relative of the giant vegetable sheep, is found on the drier mountains of eastern Nelson-Marlborough and North Canterbury (Mark 2021).

Striking flower heads of *Haastia sinclairii* subsp. *sinclairii* below Mt Angelus. The species occurs on stable or partly mobile debris in fellfield and scree throughout the South Island (Mark 2021).

Celmisia diversity was impressive – according to iNaturalist, 16 species of *Celmisia* have been observed in Nelson Lakes NP (iNaturalistNZ 2023b). This includes common/widespread species like *C. semicordata*, *C. sessiliflora* and *C. spectabilis*, as well as less well-known species such as *C. sinclairii*, which is confined to eastern Nelson and western Marlborough (Mark 2021). A 'new' species for me was *Celmisia lateralis* var. *villosa*, a trailing subshrub with branched stems. This species occurs from Nelson to western Marlborough and south to the Paparoa Range in north Westland (Mark 2021).

Tiny, bright green cushions of *Raoulia subulata* were observed in damp fellfield below Sunset Saddle, along with patches of *Kelleria croizatii* and *Phyllachne colensoi*. *Raoulia subulata* is widespread in late snowbanks and sheltered permanently wet sites in fellfield on the higher mountains of the South Island. When not in flower, however, it is easily mistaken for a moss (hence its common name 'moss-like scabweed') (Mark 2021).

Notothlaspi australe, one of three penwiper species in New Zealand (the genus is endemic to NZ). This species occurs from Nelson-Marlborough to north Westland and overlaps with *N. rosulatum* on the Travers and St Arnaud Ranges (Mark 2021).

Parahebe cheesemanii subp. *cheesemanii* was seen in boulderfields and screes below Mt Angelus and Sunset Saddle. Its distribution is described as "rather erratic between the mountains of Nelson-western Marlborough" (Mark 2021).

Spiky cushions of *Colobanthus buchananii* were seen growing on rocky slopes below Mt Angelus. The species is found in the Nelson area and drier mountains east of the Southern Alps.

Showy flowers and distinctive, red-margined leaves of *Epilobium rubro-marginatum*. This species occupies screes and rocky sites from NW Nelson to south Canterbury (Mark 2021).

Celmisia lateralis var. *villosa*, a trailing subshrub with branched stems. The species occurs in Nelson-western Marlborough and south to the Paparoa Range (Mark 2021).

Azorella roughii was seen on damp rock outcrops in the upper Hukere Valley. This fleshy-leaved species is in the Apiaceae (carrot family) and occurs in Nelson and western Marlborough.

Damp fellfield below Sunset Saddle provides habitat for low-growing cushion plants like *Kelleria croizatii*, *Phyllachne colensoi*, and *Raoulia subulata*. Looking into Hopeless Valley.

Tiny, moss-like cushions of *Raoulia subulata*, below Sunset Saddle.

Dense, soft cushions of *Kelleria croizatii* (Thymelaceae, or daphne family).

After five days tramping in Nelson Lakes National Park, I'd finally had a proper introduction to its unique alpine landscapes and flora and developed a newfound appreciation for this special part of the South Island. But there are still many more interesting plants to see, and I am missing the company of giant vegetable sheep, so I'm sure that my next visit won't be too far away.

Climbing up through screes and boulder fields to Sunset Saddle with my daughter. View of Hinepouri Tarn and Lake Angelus in the background (looking north).

References

de Lange P.J., Rolfe J.R., Barkla J.W., Courtney S.P., Champion P.D., Perrie L.R., Beadel S.M., Ford K.A., Breitwieser I., Schönberger I., Hindmarsh-Walls R., Heenan P.B. and Ladley K. 2018: Conservation status of New Zealand indigenous vascular plants, 2017. *New Zealand Threat Classification Series 22*. Department of Conservation, Wellington. 82 p.

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iNaturalistNZ 2023a: Plant species observed in Nelson Lakes National Park. https://www.inaturalist.org/places/nelson-lakes-national-park-nz#taxon=47126. Date accessed: 24 October 2023.

iNaturalistNZ 2023b: *Celmisia* species observed in Nelson Lakes National Park. https://www.inaturalist.org/places/nelson-lakes-national-park-nz#q=celmisia. Date accessed: 24 October 2023.

Mark A.F. 2021: *Above The Treeline. A nature guide to alpine New Zealand*. Potter and Burton, Nelson. 433 p.

Conservation award recognises decades of work protecting South Island plants

Hon. Willow-Jean Prime, Minister of Conservation (Press Release)

Environmental consultant Mike Harding was awarded the prestigious conservation award, the Loder Cup, by Conservation Minister Willow-Jean Prime at a ceremony in Christchurch this evening.

This award recognises Mike Harding's outstanding contributions to native plant conservation from his decades of work protecting the South Island's native flora.

Minister Prime says Mike's career in plant conservation spans more than 30 years and has been highly successful across a range of sectors both on the ground and at the policy level. Following stints at the Department of Conservation and Forest and Bird in the late 80s and early 90s, Mike set up as an independent environmental consultant in 1993.

“Mike’s expertise, courage, professionalism, strategic thinking, dedication and ability to work with a wide range of people shone through in his nomination, which included nine letters of support. He has also put in countless hours of unpaid work to benefit New Zealand’s indigenous flora and is well deserving of the Loder Cup."

Mike was nominated for the Loder Cup by Forest and Bird, with supporting letters from nine parties including representatives from the Christchurch City and Tasman District councils, environmental consultants, and the forestry industry.

“Of note is Mike’s extensive survey work to identify Significant Natural Areas for several councils, including more than 770 sites across more than 200 properties in the Timaru district and 138 sites in the Waitaki district, as well as sites in the Mackenzie Basin.

“Through this, Mike has shown an outstanding ability to work with private landowners to help them understand the special areas of habitat they have on their properties and build their support to protect them.”

Minister Prime says Mike has led efforts to study and protect the beautiful “at risk” yellow alpine buttercup in Arthur’s Pass.

“His work determined the northern geographical limit of the species in the Hawdon River East Branch and identified the impacts of uncontrolled browsers on this vulnerable species.

“Mike continues to monitor and advocate for the buttercup and other high country plant species throughout the Waimakariri Basin and elsewhere in the high country.”

Minister Prime says Mike has also made a significant difference in plant ecology by providing advice such as management plans, ecological assessments, protection strategies, weed assessment and control planning, Environment Court appearances and ecological assessments for tenure review.

“Mike has made a tangible difference to South Island plant conservation, and he is a worthy recipient of this year’s award. I want to congratulate him on his impressive career to date and look forward to seeing his work in the future.”

The Loder Cup aims to encourage and honour New Zealanders who work to investigate, promote, retain, and cherish our indigenous flora.

Donated in 1926 by Gerald Loder, an avid plant collector and enthusiast, the Cup embodies a passion for our indigenous flora and celebrates those who are committed to such a passion.

Fig.1. Mike Harding and Penny Nelson, Director-General of DOC. Photo: DOC

Can you help our research on a new species of lichen?

Peter J. de Lange (pdelange@unitec.ac.nz), Andrew Marshall (amarshall2@unitec.ac.nz) and Dan Blanchon (dblanchon@aucklandmuseum.com)

As part of our lichen research we have become aware of an unnamed corticolous (bark inhabiting) lichen in the genus *Lithothelium* (Pyrenulaceae) (Fig. 1, Fig. 2)). The new species has thus far only been found on the bark of ti kouka / cabbage tree (*Cordyline australis*) (Fig. 2A, B) growing in exposed / sunny locations. The new lichen is conspicuous, forming white or grey-white 'sheets' across the bark of ti kouka / cabbage trees (Fig. 2B). The dark black fruiting bodies (perithecia) are usually prolific, and accompanying them are myriad smaller, black, pin-prick sized pycnidia.

Figure 1. *Lithothelium* n. sp. close up of specimen showing prominent black fruiting bodies. Photo: P.J. de Lange.

Currently, the new species has only been found along the west coast of Te Ika a Maui / North Island from south of the Hokianga Harbour and Tapora to the northern Manukau Heads, and in the east on the Whangaparaoa Peninsula and Tiritirimatangi Island. We are also aware of it from one location on Rekohu / Wharekauri / Chatham Island. The observations reflect the natural bias of the team working on it. We assume as it is so common where we have seen it that it must be more widespread than this. However, we have so far failed to find it in surveys of Tairawhiti / East Cape, and in brief surveys of Te Aupouri. The new species also seems to be absent from the key Aotearoa / New Zealand herbaria holding lichens.

So to help us understand the new species distribution better we are wondering if people could keep an eye out for it on *Cordyline* in your area. If you see it and can legally collect specimens we would be keen to receive specimens. We need to see specimens as there are a few other lichens that look superficially similar to it, e.g. , *Anisomeridium* and *Pyrenula* spp.

Figure 2. *Lithothelium* sp. nov. A, ti kouka / cabbage tree (*Cordyline australis*) – so far the only known phorophyte for the new species of *Lithothelium*; B, *Lithothelium* sp. nov. seen here covering the exposed trunk of ti kouka; C, ascospores of *Lithothelium* sp. nov. (40× magnification) these are 3-septate, usually brownish and range from 32–33 × 7–8 µm. Photos: A.J. Marshall.

To collect specimens, use a knife and remove a 20–30 mm^2 portion (or more if you can) of the lichen and associated bark (this will not harm the phorophyte which recovers quickly from this type of lichen sampling). Make sure that your specimen has fruiting bodies (perithecia), record the location details, date and collector, and please post to:

Peter J. de Lange
UNITEC Herbarium
School of Environmental & Animal Sciences
Unitec Institute of Technology / Te Pukenga
Private Bag 92025
Victoria Street West
Auckland 1142

Your contributions will be acknowledged.

Last chance to make a submission on the proposed Biodiversity Credit System

The Government is exploring whether a biodiversity credit system could help to incentivise the protection and restoration of native wildlife in Aotearoa New Zealand. A biodiversity credit system would help to conserve habitats and species by enabling landowners, who protect and restore native wildlife, to earn credits for their actions.

The Ministry for the Environment and Department of Conservation (DOC) are seeking feedback on the need for and the design of a biodiversity credit system, and the different roles of government and Māori in implementing it. The intention is to create a system that has positive impact and integrity, tailored to Aotearoa New Zealand's unique context and challenges. This includes how it could work with other programmes that support the environment.

More information including a detailed discussion document and summary document can be found on the Ministry for the Environment website here: https://consult.environment.govt.nz/biodiversity/nz-biodiversity-credit-system/

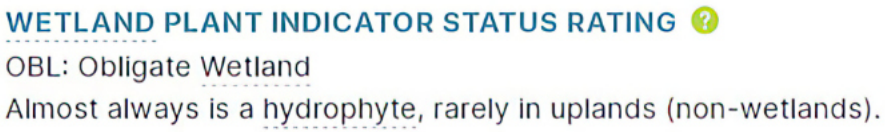
Submissions close **3 November 2023.** Contact: biocredits@mfe.govt.nz

Addition of Wetland Plant Indicator Status Rating and National Pest Plant Accord information to NZPCN website species pages

New Zealand wetland plant indicator status ratings information (Clarkson et al., 2021) has been added to our website on species pages/factsheets. This information was prepared to assist councils in delineating and monitoring wetlands and categorises plants by the extent to which they are found in wetlands and not 'drylands'. The indicator status ratings are OBL (obligate wetland), FACW (facultative wetland), FAC (facultative), FACU (facultative upland), and UPL (obligate upland).

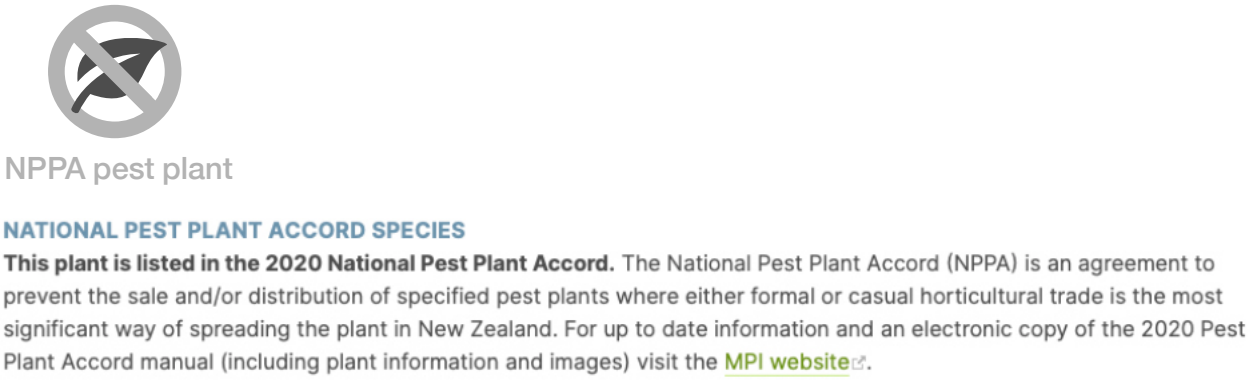
Where it exists, wetland plant indicator status rating information can be found beneath Habitat information on species pages and will also appear in Plant Lists when they are downloaded as CSV files.

If you wish to make suggestions for any future wetland plant indicator status rating lists, please contact Dr Bev Clarkson (clarksonb@landcareresearch.co.nz).



Clarkson BR, Fitzgerald NB, Champion PD, Forester L, Rance BD 2021. New Zealand wetland plant list 2021. Manaaki Whenua - Landcare Research contract report LC3975 for Hawke's Bay Regional Council.

If a species is listed in the current National Pest Plant Accord, this information will appear on the relevant species fact sheet near the bottom. There is also a 'pest plant' icon to make it easier to spot when reading the page.



Additional links now on NZPCN website

We love to direct our users to other great online resources relating to our native flora (or things that threaten them). Some recent links have been added to various species pages on our website. If there is a one-to-one relationship the links will appear as blue buttons on the right of the page (desktop) or at the bottom of the page (mobile). If the link is for a broader category, e.g., whole genus or group of weedy species, the link will be included in the body text near the bottom of the page.

You can now find new links to the following resources:

- Weedbusters – species featured on this website are linked directly, a very handy resource for weed management information.
- Interactive keys – Manaaki Whenua has a range of excellent interactive keys; these are now linked to from relevant species fact sheets (e.g. all Coprosma pages link to the Coprosma Key).
- iNaturalistNZ – the links from our species fact sheets will take you to the observation results for that species on iNaturalistNZ.

We are working on tidying up some of the other links on our species pages and are aware some are obsolete/broken.

UPCOMING EVENTS

If you have events or news that you would like publicised via this newsletter please email the Network (info@nzpcn.org.nz), prior to the published copy deadline, with details of meetings, field trips or other events taking place during the following month or later. The deadline for copy for the following month's *Trilepidea* is at the top of the front page of each issue.

If you intend to participate in one of the advertised botanical society meetings or field trips please check with the relevant society beforehand to confirm that the published details still stand.

Auckland Botanical Society

Meeting: Wednesday 1 November at 7.30pm. **Speaker:** Rob Vennell. **Topic:** Antarctic islands.	**Venue:** Unitec, School of Natural Sciences, 139 Carrington Road, Mt. Albert (Gate 4, Building 115, Room 1028).
Field Trip: Saturday 18 November to Oruarangi Creek headwaters, Auckland Airport industrial precinct.	**Leader:** Mike Wilcox, email mike.wilcox@xtra.co.nz.

Waikato Botanical Society

Field Trip: Saturday 4 November to Western Bays Track – Waihaha River section to Western Bay, Lake Taupo (combined with Rotorua Botanical Society). **Meet:** Rotorua carpark at 8.00am or at the Waihaha carpark at 9.30am. **Grade:** Medium.	**Leader:** Chris Bycroft, email chris.bycroft@wildlands.co.nz, ph. 027 498 5513.

Rotorua Botanical Society

Field Trip: Saturday 4 November to Western Bays Track – Waihaha River section to Western Bay, Lake Taupo (combined with Waikato Botanical Society). **Meet:** Rotorua carpark at 8.00am or at the Waihaha carpark at 9.30am. **Grade:** Medium.	**Leader:** Chris Bycroft, email chris.bycroft@wildlands.co.nz, ph. 027 498 5513.

Wellington Botanical Society

Field Trip: Saturday 4 November to East Harbour Regional Park. **Meet:** Days Bay Pavilion at 9.45am.	**Co-Leaders:** Carlos Lehnebach, email carlosl@tepapa.govt.nz and Joe Dillon, email joe.francis.dillon@gmail.com.
Meeting: Monday 20 November at 7.30pm. **Speaker:** Lois Allison-Cooper. DOC Biodiversity Ranger. **Topic:** Tongariro National Park: Unique plants and their survival.	**Venue:** Victoria University, Wellington, Lecture Theatre M101.

Nelson Botanical Society

Field Trip/Meeting: Please refer to the website: https://www.nelsonbotanicalsociety.org/trips-meetings.	

Canterbury Botanical Society

Meeting: Monday 6 November at 7.30pm. **Speaker:** Olivia Burge, Manaaki Whenua – Landcare Research. **Topic:** Wetlands.	**Venue:** St Albans Community Centre,1049 Colombo Street, Christchurch.
Field Trip: Saturday 11 November to the new Steephead Conservation Area, Le Bons Bay, Banks Peninsula.	**Contact:** Email fieldtrips@canterburybotanicalsociety.org.nz if you intend to participate.
Spring Camp: Friday-Sunday 17–19 November at St James Conservation Area.	**Contact:** Email fieldtrips@canterburybotanicalsociety.org.nz to register your interest and for further information.

Botanical Society of Otago

Meeting: Wednesday 8 November at 5.200pm. **Speaker:** Lydia Turley. **Topic:** The behaviour of mushroom populations.	**Venue:** Main seminar room, Manaaki Whenua Landcare Research, 764 Cumberland Street, Dunedin.
Field Trip: Saturday 11 November to the Lenz Reserve at Tautuku in the Catlins. **Meet:** Botany carpark at 7.30am to carpool. **Grade:** Medium/difficult.	**Contact:** Gretchen Brownstein, email brownsteing@landcareresearch.co.nz.