



TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

No. 227

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Deadline for next issue:
Friday 21 April 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

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PO Box 147
Mangonui 0442
NEW ZEALAND

PLANT OF THE MONTH, p. 4



Atriplex billardiarei. Photo: Peter de Lange.

Flora of New Zealand – Ferns and Lycophytes

Patrick Brownsey and Leon Perrie

After more than 10 years of research, the final treatment of the *Flora of New Zealand – Ferns and Lycophytes* was published in November 2022. The full *Flora* includes 34 sections, including an introduction, keys to families and genera, and 32 family treatments. These are freely available online as webpages at www.nzflora.info or as a series of pdf publications at www.nzflora.info/publications.html. A checklist of currently accepted names and synonyms for all New Zealand's indigenous and naturalised ferns and lycophytes is published annually and is based on the *Flora of New Zealand – Ferns and Lycophytes*. The 2022 checklist is available at datastore.landcareresearch.co.nz/dataset/checklist-of-the-new-zealand-flora-ferns-and-lycophytes-2022.

The *Flora* treats 32 families, 78 genera, 268 species and 10 subspecies of indigenous and naturalised ferns and lycophytes in New Zealand. For all lower-ranked and many higher-ranked taxa, it provides the currently accepted name and any synonyms based on New Zealand material, vernacular names, description, photos, distribution, biostatus, habitat, cytology, recognition characters, known hybrid combinations, and a brief summary of recent taxonomic and phylogenetic work. Holotypes have been identified, or lectotypes and neotypes designated, for almost all basionyms relating to native taxa. Identification keys to families and genera are provided in an introductory section, and to genera and species within each family treatment.

Descriptions and distribution maps (Figure 1) are provided for every species based on examination and verification of c. 70,000 fern and lycophyte collections in the main New Zealand herbaria (AK, CHR, and WELT). Collection specimens seen for the *Flora* have been annotated, either on the herbarium sheets themselves or in the relevant institutional database, or both.

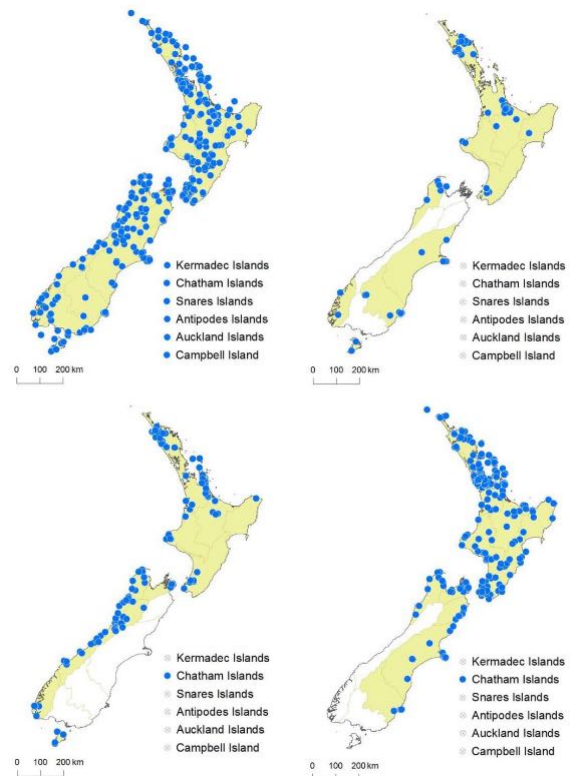


Figure 1. Maps from the *Flora of New Zealand – Ferns and Lycophytes* based on verified herbarium specimens. Clockwise from top-left: *Hypolepis ambigua*; *Hymenophyllum australe*; *Cyathea dealbata*; and *Trichomanes strictum*. Maps © Landcare Research CC BY.

The introduction provides an overview of the New Zealand fern flora. It includes historical background to the current *Flora*, and a summary of diversity, endemism, hybridism, cytology, distribution within New Zealand and overseas, ecological preferences, altitudinal range, biostatus, and conservation threat status. There are also details of the number of basionyms that have been described, the categories of primary types, and a list of the principal authors of New Zealand taxa.

It is 60 years since H.H. Allan's *Flora of New Zealand*, Vol. 1, was published in 1961. In that time another two families, 12 genera and 40 species of indigenous ferns and lycophytes have been recognised in New Zealand (Figure 2). In addition, 64 naturalised taxa are now fully documented, a group that was not treated at all in Allan's *Flora*. The adopted taxonomy is conservative compared to some other authorities, and has attempted to minimise name changes while recognising monophyletic genera.



Figure 2. Fern species newly described during the production of the *Flora of New Zealand – Ferns and Lycophytes*. From left: *Asplenium lepidotum*; *Gleichenia inclusisora*; *Hymenophyllum pluviatile*. Photos: Leon Perrie.

It is intended that the *Flora of New Zealand – Ferns and Lycophytes* will become a living, online document—each family treatment being updated as new taxa are recognised, significant taxonomic change occurs, or known distributions expand. Second editions of the treatments for Dennstaedtiaceae, Polypodiaceae, and Thelypteridaceae have already been published, and more will follow, providing a constantly evolving *Flora* that reflects current understanding of New Zealand's fern and lycophytes.

We acknowledge the staff from Manaaki Whenua who have produced the treatments and led the broader *Flora of New Zealand* programme; colleagues around the country who have contributed specimens and new data; and the peer reviewers of our work.

Elusive Castle Hill buttercup seedlings seen for first time in 43 years

Debra Wotton, Director & Principal Ecologist, Moa's Ark Research Ltd and Adjunct Fellow, Biological Sciences, University of Canterbury (debra.wotton@moasark.co.nz)

In a small, montane basin surrounded by limestone bluffs and tors, around 70 Castle Hill buttercup (*Ranunculus paucifolius*) plants nestle amongst the scree. This beautiful basin is the only place on the planet where the Critically Endangered Castle Hill buttercup grows. The basin and the buttercup were protected as a Nature Reserve in 1954—named after Lance McCaskill, who was instrumental in its establishment. It was the first reserve in New Zealand to be established for the purpose of protecting a native plant.



The cryptic Castle Hill buttercup is easily overlooked—until it flowers.

As one of the rarest plants in New Zealand, Castle Hill buttercup is at extreme risk of extinction. Not only are the plants a tasty meal for hares and rabbits, but invasive weeds can smother the plants and stabilise the mobile scree in which they live. To compound the problem, seedlings haven't been recorded since at least 1978, and possibly earlier.

In early January 2022, I headed to the reserve to collect buttercup seeds for a Department of Conservation-funded research project. It was a beautiful, blue-sky summer day in the Canterbury high country, with views of the surrounding mountains, and a resident kārearea (New Zealand falcon) for company.

While on my hands and knees searching for seeds, I suddenly noticed a little cluster of seedlings nestled between the leaves of a buttercup plant. A buzz of excitement ran through me. There was no doubt in my mind—these were Castle Hill buttercup seedlings. Their bronze foliage, the distinct and beautiful network of veins visible on the upper leaf surface, the thick—almost fleshy—lobed leaves, combined with the red stems, were unmistakable.

As I photographed the seedlings, I knew it was a momentous discovery—not only because seedlings hadn't been seen in nearly half a century, but also because this species struggles to reproduce. Of the 69 plants I counted in the reserve in the summer of 2021–2022, 52 flowered but only 24 produced any seeds—and only six had more than 50 seeds. To make matters worse, the seeds are difficult to germinate and the few nursery-raised seedlings produced seldom survive.

I found seven buttercup seedlings that day. Prompted by my discovery, Department of Conservation (DOC) rangers Danny Kimber and Janelle Dickson visited the reserve a week later and found a further 5 seedlings. During a brief search in December 2022 I found newly emerged Castle Hill buttercup seedlings, although fewer than the previous year. Seedlings may have been emerging undetected for some time. Nevertheless, my research suggests that intensive weeding undertaken by DOC since 2008 has enhanced flowering, seed production, seedling establishment, and survival of Critically Endangered limestone plants such as Castle Hill buttercup. Recent fencing of the reserve to keep out hares and rabbits may also have helped.

PLANT OF THE MONTH – *ATRIPLEX BILLARDIEREI*

Rowan Hindmarsh-Walls (rowan.hindwalls@gmail.com)

The plant of the month for March is *Atriplex billardierei*, one of five native species of *Atriplex* found in the New Zealand region. The species is found on the Chatham Islands, and in the past around the Foveaux Strait coast and Rakiura/ Stewart Island but hasn't been seen in southern New Zealand for some time. The species is also present in Tasmania, Australia.

Atriplex billardierei is a coastal species and is mainly found along the strandline at the top of beaches, often growing in sand amongst washed up wood or kelp.



Atriplex billardierei: (left) Rekohu/Chatham Island, January 2020; (centre, right) Maunganui Beach area, Rekohu/Chatham Island, February 2021. Photos: Peter de Lange (with permission).

The plant is an annual monoecious (male and female flowers on the same plant) herb species that sprawls over the ground. The succulent glaucous-green leaves are covered in glistening watery spherical projections called papillae and are borne on stems that root at the nodes. The flowers are tiny and green or pale cream in colour. The male flowers are borne in axillary clusters, while the female flowers are found singly or in pairs in the leaf axils (where the leaf joins the stem). The spongy seeds once mature are mostly dispersed by water, in this case the ocean, and wind.

Atriplex billardierei is similar in appearance to *A. prostrata*, which also lives in similar habitats but *A. prostrata* can be distinguished by its distinctly large arrowhead shaped leaves. *Atriplex buechananii* is also similar but does not have the watery pustules on the leaves as in *A. billardierei*.

In New Zealand *Atriplex billardierei* has a threat status of 'Threatened – Nationally Endangered', as it has a scattered distribution and is threatened by coastal habitat disturbance due to human impacts and increased storm surge events. It is also threatened by competition from exotic weed species, grazing of coastal areas, and past collection of the species.

The genus *Atriplex*, or saltbushes is large, with around 250 species worldwide that are scattered all over the globe. New Zealand native species are mostly halophytic (salt tolerant) and found in either coastal or inland salty or dry environments.

The exact derivation of the name *Atriplex* or "Orache" in English is uncertain, but one suggestion is that it is from the latin *ater*, black, and *plexus*, woven together. Another suggestion is that it is derived from the Greek *atraxis*, also in the forms *andraxis* and *adaphaxis*, the name of a green vegetable. The species is named for Jacques Julien Houttou de la Billardiere, a French botanist who collected in Australia in the late 18th century and wrote an early flora of Australia.

You can view the NZPCN website factsheet for *Atriplex billardierei* at: <https://www.nzpcn.org.nz/flora/species/atriplex-billardierei/>



Castle Hill buttercup seedlings seen for the first time in nearly half a century.



Each Castle Hill buttercup seed is precious, as so few are produced.

The discovery of seedlings provides a glimmer of hope that the Castle Hill buttercup may be able to self-propagate, and increases its prospects for long-term survival.

Acknowledgements

Thanks to DOC staff Danny Kimber, Sandy Yong, and Ellery Mayence for providing logistical support and advice, and funding the research that led to this discovery.

***Lithothelium australe* Aptroot et H.Mayrhofer (Pyrenulaceae) rediscovered on the Chatham Islands**

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Lithothelium is a genus of crustose lichens within the Pyrenulaceae, which in the field, to the untrained eye can be rather unprepossessing, as the thallus is often white, whitish-grey or grey-green and the perithecia (fruiting bodies) are small black spots. The genus, made of some 20 species, is mostly corticolous and epiphytic, though a few species are saxicolous (igneous rocks or limestone) (Aptroot 2006; Galloway 2007). At the time of the last Lichen “Flora” Galloway (2007) one species, *L. australe*, was accepted for New Zealand.

Lithothelium australe (Fig. 1) is a saxicolous species recorded thus far only from limestone. It was described in 1991 on the basis of a single collection made in 1985 by the late Brian P.J. Molloy from loose Bryozoan Limestone, collected from “Big Bush”, on the shores of Te Whanga, Rēkohu (Chatham Island) Aptroot & Mayrhofer (1991). Aside from that collection the species is known also from a collection made from limestone at Bullock Creek, North Westland, South Island (Galloway 2007) but, as far as we know, *Lithothelium* has not been collected from the Chatham Islands again.



Figure 1. *Lithothelium australe*, *in situ* on small limestone outcrop on John and Judy Kamo’s property, Te Matarae Road, Rēkohu – note the dull grey colour of the thallus and large black perithecia.

To that end, at the instigation of André Aptroot, we decided to look for it during a visit to the Chatham Islands in May 2022. Beyond wanting to know more about this lichen, a survey for it seemed especially pertinent as *Lithothelium australe* is currently listed as ‘Data Deficient’ (de Lange et al. 2018).

Limestone abounds on Rēkohu/Wharekauri (Chatham Island) – hereafter Rēkohu, especially along the eastern shores of Te Whanga. There are also sporadic outcrops on Rangihau/Rangiuria (Pitt Island) at Onoua (Flower Pot) and nearby Tarawhenua Peninsula. On Rēkohu Campbell et al. (1988) recognised three key limestone formations named as follows: Tumaio Limestone (confined to vicinity of Takapu), and Te Whanga Limestone (with two members recognised - the Matanginui and Te One

limestones). Te Whanga Limestone is the most widespread of these. There are five further limestones, of more restricted occurrence; *Victorella* Limestone (confined to a sinkhole at Waitaha Creek), Taoroa Limestone (Maunganui Beach near Washout Creek), Motarata Limestone (mostly found south of Te Mataarae and north of Whareama, Te Whanga), an unnamed limestone of Altonian age that has been found locally on the Karewa Peninsula at Moutapu, and a limestone of Waipipian age that is thus far only known from a core sample taken from a borehole near Tioriori Creek (there seem to be no surface exposures) (Campbell et al. 1988). Within the Te Whanga Limestone formation Campbell et al. (1988) informally recognised an ‘undifferentiated Te Whanga Limestone’ that the authors noted is of widespread occurrence. This limestone, described as a ‘hard, cemented limestone’ was interpreted by Campbell et al. (1988) as recrystallised Matanginui or Te One limestone –it was defined by them as a ‘hard, porous to non-porous, spar-cemented grain stone’.

Of these limestones, the type of *Lithothelium australe* was collected from Te One Limestone, which reaches a thickness of 25 m at Big Bush (the type locality for this species). Critically, Te One limestone is described as ‘soft, very porous, massive, well-sorted bryozoan grain stone’. This is important, as the type was collected from ‘loose Bryozoan limestone’ at Big Bush (Aptroot & Mayrhofer 1991). However, beyond knowing what the substrate for the lichen was, we knew little more. Brian Molloy, who was keen to see it rediscovered, told the senior author in January 2014 that he couldn’t recollect much about it, beyond having collected lichen samples from limestone for David Galloway during a survey of ‘Big Bush’. He noted that one day in late 1991 he received a reprint of Aptroot & Mayrhofer (1991) in the mail from the lead author of that paper in acknowledgement of his discovery causing him surprise that his specimen had travelled so far around the world (Chathams to New Zealand to Austria), and that it was a new species.

Lichens in the Pyrenulaceae are characterised by a smooth, glossy, waxy or rugose thallus covered in ‘black dots’ (perithecia). The thallus of New Zealand representatives of the family, *Pyrenula* especially, are often greenish-white or grey-green, though in a few species it may be yellow, fawn or orange. In the case of *Lithothelium australe* the thallus was described by Aptroot & Mayrhofer (1991) as grey or grey-green when moist (Fig. 1) and white when dry (Fig. 2).

With little knowledge of its appearance, habitat preferences, and knowing that there are many very similar looking lichens on the same substrate on the islands, we were forced to collect lots of specimens. Then back in New Zealand subject them to chemical tests, microscopy and laboratory analysis for identification.

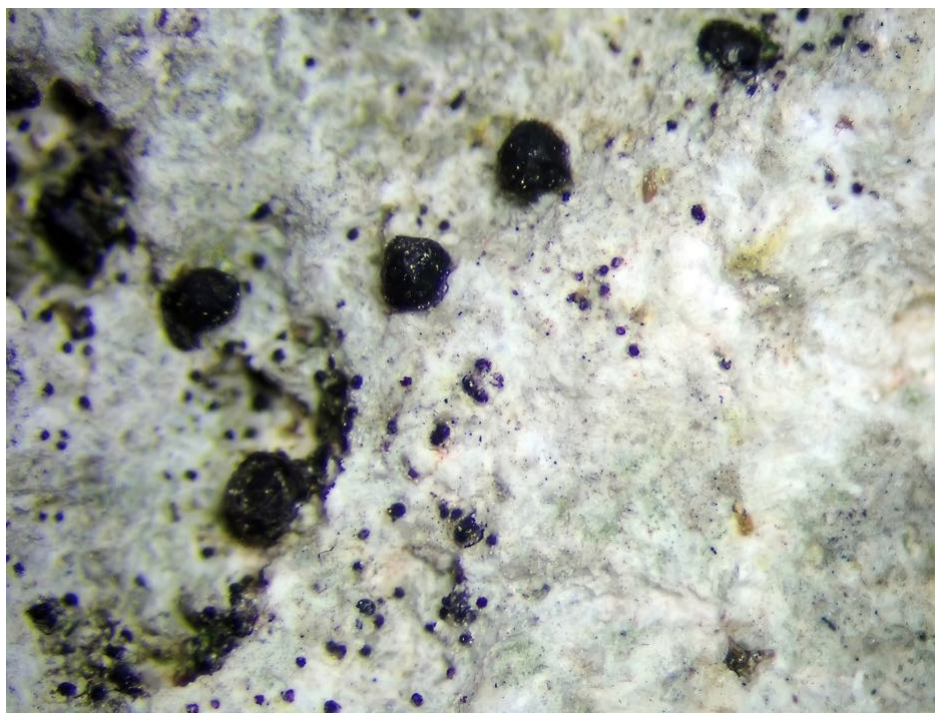


Figure 2. *Lithothelium australe*, dry herbarium specimen showing pycnidia (small black spots) perithecia (large black raised structures (perithecia)) (P.J. de Lange CH4167 & L.M.H. Schmid, UNITEC 13375).

The first opportunistic surveys for *Lithothelium* concentrated on accessible Te One limestone outcrops on the shore of Te Whanga, notably those at Pana/Blind Jim's and along Te Matarae Road. At the northern end of Pana/Blind Jim's the loose, crumbly nature of the limestone supported very few lichens, mostly *Opegrapha rupestris*, and poorly developed *Physcia adnescens* and *P. caesia*. Despite considerable search effort at Pana/Blind Jim's, we found no specimens of *Lithothelium*. Brief opportunistic searches by the lead author in August 2021 along Te Matarae Road found greater lichen diversity on the much harder 'undifferentiated Te Whanga Limestone' that outcrops either side of the road. On this basis, we decided to focus future search effort there.

During May 2022, with permission from landowners John and Judy Kamo, we sampled limestone outcrops on their property on Te Matarae Road (Fig.3). We targeted those lichen crusts that were grey or grey-white and had black fruiting bodies (Fig. 1, 2). In most cases we acquired excellent samples of *Buellia albula* (a new record for the Chatham Islands—see Galloway 2007) but not our target species. However, some samples of limestone supported a rather unremarkable lichen. This lichen had a thallus that was immersed in the limestone substrate, and when wet was scarcely distinguishable from the weathered limestone matrix. Notably the margins of the thallus lacked a prothallus and when carefully inspected was extremely fertile. The perithecia (Fig. 1, 2) were obviously raised, conical, often with fused ostioles. Minute inspection with a hand lens noted that the thallus surface was also minutely flecked with tiny pycnidia (Fig. 2). All these characters suggested we had finally found *Lithothelium australe*. Further confirmation required microscopy back in Aotearoa/New Zealand.



Figure 3. Habitat of *Lithothelium australe* at John and Judy Kamo's property, Te Matarae Road, Rēkohu – this limestone outcrop is mostly covered with *Buellia albula* but the dull grey sides of the outcrop are mostly occupied by *Lithothelium*.

Back in Auckland, dissections of the perithecia from our samples revealed the numerous unbranched paraphyses described by Aptroot for *L. australe*, and, luckily (as so often this is not the case with crustose lichens) numerous ascospores. These were fusciform, red-brown, mostly 3-septate and lacked constrictions at the septa. They measured 20–26 × 6–8 μm, had 3 distosepta, and were up to 1 μm thick (Fig. 4). Our specimens were also examined by Andrew Marshall who confirmed the identification, and for good measure we sent images of the lichen and its microfeatures to André Aptroot, who also confirmed the find. In the protologue of the species, it is noted that *Lithothelium* has a white thallus, something which is not seen in the field but is evident as specimens dry, becoming more pronounced on storage (Fig. 2).



Figure 4. Ascospores of *Lithothelium australe* (40× magnification) from UNITEC 13375 collected from John and Judy Kamo's property, Te Matarae Road, Rēkohu.

Since our rediscovery of *Lithothelium australe* on Rekohu, the senior author has located populations on the same 'undifferentiated Te Whanga Limestone' on the coastline leading south from Pana/Blind Jim's to Cattle Point (Fig. 5), and on the same substrate at Motuhinahina (Fig. 6). In none of these sites is it common; specimens typically occupy the margins of small pits, holes or overhangs, often at the apex of outcrops or on the razor-sharp erosion flags.



Figure 5. *Lithothelium australe* habitat near Cattle Point, Te Whanga, Rēkohu.



Figure 6. *Lithothelium australe* habitat at Motuhinahina, Te Whanga, Rēkohu

These discoveries add to our knowledge but as yet there is insufficient information to remove this lichen from its current ‘Data Deficient’ status. Critically we know little about it in Aotearoa/New Zealand. We hope this short note and illustrations will stimulate further discoveries there.

Acknowledgements

We would like to thank André Aptroot and the late Brian Molloy for encouraging a survey for *Lithothelium australe* on the Chatham Islands. André and Andrew Marshall also confirmed that identification of our initial Te Matarae *Lithothelium* discovery. We thank John and Judy Kamo for permission to collect lichens off their land, and staff from the Te One Area Office of the Department of Conservation, Tom Hitchon especially, for their interest in looking for this lichen, coming out with us on surveys and for assistance with transport. Peter de Lange thanks Hamish Tuanui Chisholm for transport to and from Motuhinahina.

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Notes from the field – My 12 favourite plant sightings of 2022

Matt Ward, NZPCN Council Member (mattward@gmail.com)

With the silly season behind us now, hopefully we will all have some time to do some exploring. After attending the recent NZPCN conference in Queenstown I was impressed by how strong the depth of knowledge is within our botanical faculty. Young and not-so-young mingled, shared stories and findings about what they are up to everywhere I looked. It was an amazing event and from what I could see and have been told, everyone had an awesome time. With that in mind, I thought I would share my favourite and/or important 12 finds of 2022 (like the 12 days of Christmas), as some light-hearted reading and viewing. For the record, they are not all orchids by the way.

1. *Prasophyllum hectorii*—At Risk – Declining

In January, thanks to a heads up from Bill Campbell, I headed up to the central plateau to see this majestic orchid for the first time. Thanks to great directions it was easy to find and enjoy these kettle hole dwellers, possibly a good year for the species too. BC has reported not as many this time around when passing by recently.



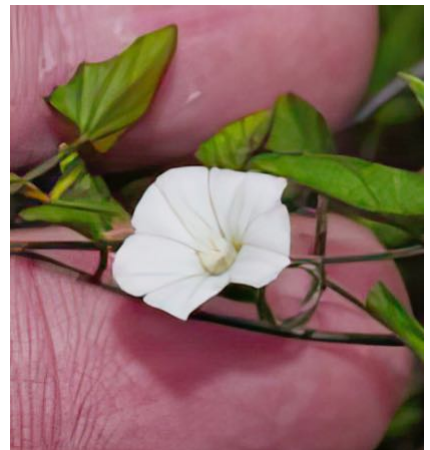
2. *Raukaua anomalus*—Not Threatened

While in the Nelson lakes area for a wedding in January, we went for a walk beside Lake Rotoiti and found this species in heavy flower, which was a first for me. The flowers I had seen previously were shrivelled and few. This fantastic specimen was covered in flowers and was also being pollinated by a bee (not pictured here) as I snapped some pics. Maybe a relatively common species, but in my opinion very much under appreciated.



3. *Convolvulus waitaha*—Regionally Critical (Wellington Region)

I was lucky enough to find this unknown colony of plants in the Baring Head/Orua-pouanui Reserve in February. I collected some seeds at the time and have successfully grown some plants which will be planted back in the area in 2023.



4. *Hypolepis dicksonioides*—At Risk – Naturally Uncommon; Regionally Critical (Wellington Region)

In early February, while showing the new Kapiti Coast District Council – Biodiversity Officer another rare plant in Waikanae Park, Waikanae, we stumbled upon this monster, something neither of us had encountered before. I must report that since this picture was taken, sadly some detrimental mistakes by a developer nearby have led to the floor of the wetland being raised, causing the wetland to be constantly waterfilled, leading to the drowning of the resident remnant native plants, including the hosts of *Korthalsella salicornioides*, which is Threatened – Nationally Critical.



5. *Eryngium vesiculosum*—Threatened – Nationally Vulnerable

In March, while surveying a privately owned dune complex in the Eastern Wairarapa, I discovered another colony not new the region but not known to the Greater Wellington Regional Council (GWRC) Officer I was contracting to, so he was delighted.



6. *Coprosma acerosa*—At Risk – Declining

In May, while surveying another dune complex south of Flat Point in the Eastern Wairarapa, I discovered literally hundreds and hundreds of plants thriving in the back dunes out of harm's way due to lack of human residence in any vast numbers.



7. *Brachyglottis huntii*—Threatened – Nationally Critical

Lucky enough to be involved in some native planting on Rekohu in September, which allowed us to do a bit of exploring on our day off, which meant we could visit these awesome prehistoric looking locally endemic shrubs. I managed to find just the one flower on the several specimens we visited, so very fortunate.



8. *Pterostylis tanypoda*—At Risk – Declining

The following two orchid species eluded me on another trip I planned to the South Island in 2020 just to find them, so this time around I spoke to two local botanical encyclopaedias in John Barkla and David Lytle. I asked both the same question—is there anywhere near Queenstown I could drive to to search out either, or both, of the tiny dryland greenhoods? Both gents suggested the same place, so that then became my place to have a hunt around. At only two and a bit hours' drive from Queenstown it was the perfect central Otago site for a day visit. When talking to John on the phone he gave me pretty precise directions as to where to find this species and they were bang on. The following species was rumoured to be there too, but no direction suggestions were given. Both species were found by thinking like an orchid, so when I found some *Prasophyllum* and *Thelymitra* sp. I figured if these bigger species like this area why wouldn't the little ones... and voila there they were... Such little treasures I reckon!



9. *Pterostylis tristis*—At Risk – Declining

This was a complete stroke of luck. The central Otago DOC Reserve these were in was the site I was told would be my best bet of finding the prior species. When I expressed my interest in meeting this species too, David and John both suggested chance is the only way you find them, so I felt very privileged to finally meet both on the one day after only four hours of grovelling around on my knees. I ended up finding three colonies of this species in the area so was super stoked!



10. *Lepidium sisymbrioides*—Threatened – Nationally Vulnerable



During the same day as when I found the two minute orchids, I accidentally stumbled, well crept, upon this specimen. At the time I had no idea what it was other than something likely native. It was something I had never seen before, so when David Lytle informed me, I had correctly identified it on iNaturalist NZ I was stoked!!! A typically hard to love, but special NZ baby.

11. *Mazus novaezeelandiae* subsp. *impolitus* f. *impolitus*—Threatened – Nationally Endangered

Under the expert guidance of Geoff Rogers and Brian Rance we headed in the right direction to meet the *Mazus*. Phillip Smith or should I say eagle-eyes spotted them first and got everyone on the NZPCN Drylands field trip over to carefully meet and greet our newest friend. I am familiar with our local *Mazus* sp. and they are, it has to be said similar, but when one takes the time to look closely the leaves and flowers are quite different to those of *Mazus novaezeelandiae* subsp. *novaezeelandiae*, a Paraparaumu local.



12. *Luzula celata*—At Risk – Declining

Under the expert direction of Geoff Rogers once again, we on the Dryland field trip headed into a modest looking Cromwell dryland in search of an extremely modest rush species. The advice suggested looking in the *Raoulia australis* mats, as can be seen here. This gives a good idea of the scale of this wee plant. I loved the fact that basically 40 odd people were all about the place with faces, cameras, and phones as close as possible to these little critters to try and get a recognisable picture of the target species. Hopefully, I too managed the feat, with this picture showing an open seed capsule with its septical structure, awesome!

If I haven't bored you to death with this collection of pictures and words, please remember we are always after stories and articles for the newsletter and they can be anything of interest about our threatened plants locally, regionally, nationally. Follow the directions for submitting an article at the start of the newsletter and give it a go!!!



Happy belated New Year to all you awesome plant people out there!!!

Queenstown Lakes District restoration pathways workshops

Alex Fergus, Jesse Bythell, Jo Smith

15 May 2023

The Athenaeum, Arrowtown

Session 1: 1 – 4 PM

Session 2: 6 – 9 PM

An enormous amount of ecological restoration mahi is planned and underway in the Queenstown Lakes District (QLD). Much of this work has defined goals, but with many practitioners involved, there is a lack of an overarching strategy or the networks in place to share learnings, define and facilitate success. The NZPCN biennial conference in Tāhuna – Queenstown in December 2022 focused on Hauropi whakahou ki Aotearoa – Restoration Ecology in New Zealand. On the final day of the conference the organisers invited conference participants to provide examples of local restoration stories. However, time limitations prompted the NZPCN to commit to continuing this collation exercise in a workshop format.

**SHARE YOUR
RESTORATION
STORIES WITH US**

QUEENSTOWN LAKES DISTRICT
RESTORATION PATHWAYS WORKSHOPS

15TH MAY 2023
ATHENAEUM HALL, BUCKINGHAM STREET, ARROWTOWN
SESSION 1 (1-4 PM), SESSION 2 (6-9 PM)

The NZPCN, with support from the Queenstown Lakes District (QLD) Council, are inviting all restoration practitioners who work in the QLD to attend local workshops and contribute stories about their restoration experiences. Restoration stories can be anonymous, and while it would help to have specific locations, this information can be omitted if we can capture specific details of local climate/terrain. Most practitioners will have multiple examples of restoration projects they've been involved in, and we will encourage folks to share a story for each. To make the process of collecting stories simple, and fast, we have generated a template which will be used to structure story collection.

It's important to note we are interested in all facets of restoration, the full continuum from unassisted (natural) recovery to intensively assisted recovery. Putting that in a QLD perspective, perhaps you've observed the first broadleaf forest species recruit into a patch of local mānuka scrub without any help, or near the other end of the continuum, perhaps you've blocked drains, rewetted paddocks, removed willows and planted intensively to convert pasture back to wetland. Our scope is wide. Projects will also be very different in terms of time, some may only be a few years old, some might stretch to decades. We want to hear about both successes and failures, as both are equally important.

In two workshop sessions we will use a facilitator (Matt Hollier) to define the aims and process for each workshop. We will break participants into four groups, each with a table moderator/scribe, and working together we will draw out restoration stories using the existing templates. If we have time, we will synthesise commonalities as we go, allowing the opportunity at the end of each workshop to identify areas of oversimplification or for adding examples that have been missed. We don't want to pre-empt the nature of the output of this work until we have a better idea of the number and complexity of the restoration stories. One option would be to generate simple state-and-transition diagrams for different ecosystem or vegetation types, identifying transitions and the factors that did (or did not) impact on them. The broader goal would be to identify successful pathways that could guide future restoration work in the region. All restoration stories will be reviewed alongside grey and published literature. No matter what the output, all story contributors will be welcomed as authors on the final synthesis document which will be published in *Trilepidea* and as a standalone document that will be available to download for free from the NZPCN website. To RSVP to attend a workshop, or if you have any questions, contact Alex Fergus (fergusa@landcareresearch.co.nz).

***Trilepidea* article submission guidelines**

Bill Campbell, Editor, Trilepidea (billcampbell@xtra.co.nz)

The NZPCN welcomes contributions for the monthly newsletter *Trilepidea* at any time and from anyone. Generally, articles will be published in the first issue produced after copy is received.

Articles can be as simple as a paragraph or two accompanied by one or more high-resolution photos. Personal botanical stories and discoveries are just as welcome as scientific papers. It may be that you've photographed a threatened or interesting plant somewhere or you've been away on a trip and taken a few pics as you travelled. The NZPCN and its members very much would like to hear about your exciting finds.

On a more technical note:

- Articles should be submitted in Times New Roman 12 font, with standard line and paragraph spacing.
- Photos should be attached as separate files (not embedded in the text), with an indication in the text where they should be placed.
- Captions for accompanying photos would also be appreciated.
- Ideally, articles should be proofread by a third party before being submitted but this is not essential.

What we want more than anything else are your articles in your words and with your photos. We look forward to your contribution(s).

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 5 April at 7.30pm. **Speakers:** Lauren McKenzie and Oscar Yukich Clendon. **Topics:** Genetics of the large-leaved milk tree (*Streblus banksii*) – Lauren; Environmental conditions that influence fruit crop characteristics in tawa (*Beilschmiedia tawa*) – Oscar.

Venue: Unitec, School of Natural Sciences, 139 Carrington Road, Mt. Albert (Gate 4, Building 115, Room 1028).

Field Trip: Saturday 15 April to Withiel Thomas Reserve and nearby lava rock forest remnants. **Meet:** Grass verge at Withiel Thomas Reserve, 5 Withiel Drive, Epsom at 10.00am.

Leaders: Phil Simpson, Ben Goodwin and Bec Stanley.

Rotorua Botanical Society

Field Trip: Sunday 2 April to Lake Rotoatua and Rotongata, Okataina. **Meet:** Rotorua carpark at 8.30am or at Ruato Bay lakefront layby at 9.00am. **Grade:** Medium.

Leaders: Paul Cashmore, email pcashmore@doc.govt.nz, ph. 07 349 7432 (wk) or 027 205 1922 and John Hobbs.

Wellington Botanical Society

Field Trip: Saturday 1 April to Wi Tako Ngatata Scenic Reserve, Silverstream. **Meet:** Corner of Chatsworth Road and Arundel Grove, Silverstream at 9.30am.

Co-Leaders: Laura West, email laurajgwest@gmail.com, ph. 021 583 934 and Owen Spearpoint, email owen.spearpoint@gw.govt.nz, ph. 027 285 8083.

Meeting: Monday 17 April at 7.30pm. **Speaker:** Monica Gerth, Associate Professor, School of Biological Sciences. **Topic:** Kauri dieback disease.

Venue: Victoria University, Wellington, Lecture Theatre M101, ground floor Murphy Building, west side of Kelburn Parade.

Nelson Botanical Society

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

Canterbury Botanical Society

Meeting: Monday 3 April at 7.30pm. **Speaker:** Peter Heenan, Manaaki Whenua-Landcare Research. **Topic:** The myth of 'local' ecosourcing and the paradigm of eco-evolutionary regions to provide resilient conservation outcomes.

Venue: St Albans Community Centre, 1049 Colombo Street, Christchurch.

Field Trip: Saturday 8 April to Sharplin Falls, Stavely Camp Bush. **Meet:** Sharplin Falls carpark at 10.00am. **Grade:** Moderate.

Leader: Tom Ferguson. Email fieldtrips@canterburybotanicalsociety.org.nz if you intend to participate.

Botanical Society of Otago

Meeting: Wednesday 12 April at 5.20pm. Members' night.

Venue: Main seminar room,
Manaaki Whenua Landcare
Research, 764 Cumberland Street,
Dunedin.

Field Trip: Saturday 15 April (Sunday 16 April if rain
postponement) to Burns Reserve. **Meet:** Botany Department
carpark (464 Great King Street North) at 9.00am.

Contact: Robyn Bridges, ph. 021
235 8997.
