



TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

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Deadline for next issue:
Friday 16 February 2024

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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Mangonui 0442
NEW ZEALAND

PLANT OF THE MONTH, p. 2



Brownseya serpentina.
Photo: Bill Campbell.

From the President's Pen – December 2023

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

For me the turning of the seasons and the ending of the calendar year always bring about reflection on the past months and some anticipation of the year to come. It is hard to imagine that it was this time last year we had recently concluded our conference in Tahuna Queenstown and it is exciting to think that next October we will hold a conference in Whangārei! Moving our conference around and getting off the beaten track helps bring a completely new range of plants and people together and fosters creativity, problem-solving and collaborative efforts to understand, celebrate and conserve our flora.

Many of us will be anticipating the holiday break as a chance to relax with family and friends or perhaps quietly potter about at home working on personal projects, and of course the hills and wild places beckon with promises of adventure and new plants to meet. Whenever I encounter a new plant, it is often the people I am with and the places we are in which also imprint themselves in my memory and often I catch myself recalling places and trips with fondness when I encounter that species again in a new place. I really appreciate people who have taken the time to show me botanical treasure troves and am delighted when I get the chance to return the favour for someone else. It is this social aspect of botanising, mutually admiring and sleuthing about for plants, which perhaps is overlooked amidst the technical and sometimes tedious tasks. I think the old-fashioned name for botany, *scientia amabilis* ('the pleasant science'), is very apt.

Admiration of our flora was not in short supply this month during the 2023 Favourite Native Plant Vote and much of it was being expressed vociferously online. While the vote may seem frivolous and somewhat trivial, it is a good excuse to unashamedly enthuse about our flora, especially to a broader audience. Most conservation stories in Aotearoa are bittersweet—they are often stories of significant losses and of constantly striving to avoid extinction with few resources. Telling these stories to the wider public can be challenging because, while those of us inside the conservation world are already convinced of the just cause, many outsiders may feel demotivated or overwhelmed when hearing about the scales of the problems. Showcasing the variety, quirkiness, beauty and unique facets of our flora is perhaps a somewhat cheesy way to combat plant blindness, but I think these love stories may be more motivating than simply telling stories of epic battles against all the odds.

Whatever your adventure this summer, be it in the remote backcountry or botanising at your local park or beach, I wish you all a pleasant holiday. We at NZPCN are looking forward to 2024 and would welcome your tales of the plants you encounter this summer, along with the reasons you love them.



Pōhutukawa / *Metrosideros excelsa*, New Zealand's Christmas tree came fifth in the vote for our Favourite Native Plant.
Photo: Jeremy Rolfe.

PLANT OF THE MONTH – *BROWNSEYA SERPENTINA*

Bill Campbell (billcampbell@xtra.co.nz)

The plant of the month for December is *Brownseya serpentina*, a rarely seen clubmoss that was until recently known as *Lycopodiella serpentina*. This species is also known from most states in Australia and also New Caledonia, where it may be extinct now.

In New Zealand, *Brownseya serpentina* is a coastal to lowland species, most often associated with peat bogs where it grows amongst rushes, mosses and liverworts. It is said to be intolerant of competition from taller plants but at Lake Ohia, where it is relatively abundant, it is sometimes found growing under quite dense vegetation.

Plants have a prostrate growth habit and are often yellow-green in colour. The distinct coloration and the ground hugging growth habit help distinguish this species from another clubmoss, *Lateristachys lateralis*, often found growing in the same environment.



Brownseya serpentina: (left) typical growth habit and appearance, Lake Ohia 8 August 2015; (right) plants with fertile cones, Lake Ohia 5 August 2018. Photos: Bill Campbell.

As mentioned above, the two clubmosses often found growing together are superficially similar. However, *Lateristachys lateralis* is usually bright to dark green in colour and its fertile cones are on short stalks growing outwards from the erect stems. The fertile cones of *Brownseya serpentina* are borne at the top of the aerial (erect) stems.

Brownseya serpentina has a current conservation status of Threatened – Nationally Vulnerable. Wetland drainage, stock trampling, fertiliser run-off, vegetation succession and fire all pose a significant threat to this species. In addition, this species has been targeted by fern collectors.

The genus *Brownseya* is named in honour of Dr. Patrick J. Brownsey (1948–2023), who was based at the Museum of New Zealand Te Papa Tongarewa. The species epithet *serpentina* most likely refers to the snake-like (serpentine) growth habit.

You can view the NZPCN website factsheet for *Brownseya serpentina* at https://www.nzpcn.org.nz/flora/species/?quick_search=brownseya

NZPCN 2024 conference

Taylor Davies-Colley, Bill Campbell, Marley Ford

Set your reminders, registrations for the NZPCN 2024 conference in Whangārei go live on 1 January 2024.

This conference will be held from 6–9 October 2024 at Forum North in Whangārei. The theme of this conference will be *ka mua, ka muri – walking backwards into the future*. Exploring and celebrating the past, present and future of NZPCN and plant conservation in Aotearoa/New Zealand.

Early bird registration starts at \$290.00 for members and is available from 1 January to 31 March 2024. The registration fee includes access to all symposia sessions, together with the NZPCN 21st celebration dinner on the Tuesday evening.

As always with NZPCN conferences, a range of workshops will be available to engage, inspire and educate participants on topics from rongoa and bryophytes, to science communication and orchid identification.

Four exciting and great value field trip options will give participants the chance to experience iconic Northland landscapes and flora. You'll be able to choose between visiting kauri forest, gumlands, wetlands or a regenerating island conservation project.

Student scholarships will be available for those making presentations. Full details will be in the February issue of *Trilepidea*. Limited funding is also available to assist attendance for members with low or no income. Please contact Taylor at the email address below if you would like to know more.

We will also be hosting our usual charity auction raising funds for the David Given Threatened Plant Scholarship and John Sawyer Threatened Plant Endowment Fund. If you or your business have something you would like to contribute to the auction, please contact us at the email address below.

Please direct all enquiries to conference lead Taylor Davies-Colley at nzpcnconference@gmail.com.

NZPCN 2023 Favourite Native Plant vote wrap

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

Over the last month we've cast our votes, created memes, and battled it out for our favorite plant! This year's winner of the favorite plant of 2023 is *Clianthus maximus* (kōwhai ngutu-kākā). Congratulations to everyone voting and campaigning for this beautiful plant. *Clianthus maximus* spent the last month battling it out for first place, showing how much we love this plant and its beautiful flowers.



Kōwhai ngutu-kākā (*Clianthus maximus*) in flower. Photos: Malcolm Rutherford.

This Threatened – Nationally Critical shrub can be found growing on the East Coast of the North Island from Te Araroa south to the northern Hawke’s Bay and east to Te Urewera. Though common in gardens and plant nurseries due to its vibrant flowers, it is rare in the wild. This species faces threats from browsing animals, erosion and fire. <https://www.nzpcn.org.nz/flora/species/clianthus-maximus/>

Over the past 30 years DOC Ranger Graeme Atkins (Ngāti Porou) has worked to improve the status of ngutukākā and boost its population across the East Coast.

Graeme while talking to Stuff said:

“There’s less than 100 plants growing in the wild, and the trouble is they don’t grow into trees, so the two main threats to them in the wild are deer and goats,”

“The chances of the public seeing them in the wild is pretty much zero because where they hang out in this day and age are on steep cliffs and bluffs.”

“With the help of his trust, Tairāwhiti Ngutukākā – East Coast Kakabeak, Atkins has built a national following from gardeners and delivered around the community to help the flora flourish” (Stuff.co.nz, Maxine Jacobs, Dec 16 2023 Ngutukākā crowned Aotearoa's favourite native plant for 2023).

“The trust was set up to give the community a chance to play a part in the management and lift the species' profile because it’s such a bloody beautiful plant,”

“We’ve planted a couple of thousand plants at marae and kura, and we just want to put the species back into people’s faces.

“Getting people to vote for the kakabeak is a definite result for all this work we’re putting in.”

Graeme Atkins is also organising a ngutukākā festival in the Gisborne region for September 2024, so be sure to check it out.

NZPCN has run the favourite plant vote since 2002 with winners in all shapes and sizes. All this to find out why New Zealanders love their native plants and help raise awareness and appreciation of native plants.

New Zealand has around 2500 native vascular plants, 82% are endemic to NZ, and more than 45% of native vascular plants are threatened or at risk of extinction. Our indigenous plants lack sufficient legal protection, so spreading awareness about our native flora and especially threatened species is an important first step for many species survival.

The top ten has been a blend of iconic species, such as *Metrosideros excelsa* (pōhutukawa) and *Clianthus maximus* (kōwhai ngutu-kākā), with some of our less appreciated plants.

Among these well-known bright and vibrant flowers have been a great diversity of native plants. Like *Zostera muelleri* subsp. *novozelandica* (rimurehia, seagrass) that can be found submerged in our estuaries and the rootless *Wolffia australiana* (water-meal) that can be found floating in our wetlands throughout Aotearoa. Another newcomer is the lichen, *Aptrootia elatior*, this is the first time a lichen has been in the top 10 for the NZPCN Favourite Plant vote. At the last minute *Urtica ferox* swooped in to take 10th place. A plant that demands respect and is no stranger to the top 10.



Rimurehia, seagrass (*Zostera muelleri* subsp. *novozelandica*) came second in the Favourite Plant vote. Photo: Jeremy Rolfe.

Here are some of the wonderful comments about why people have voted for their favourite plant

- *Myosotidium hortensia* “Kopakopa is an amazingly beautiful rakau, worthy of aroha & protection.”—Mona
- *Zostera muelleri* subsp. *novozelandica* “Very important for marine carbon sequestration and habitats, and a beautiful plant in its own right.”—Paul
- *Ranunculus lyallii* “This plant is the antithesis of what an alpine plant is expected to look like with its large leaves and flowers, yet it survives very well high in the mountains. The flowers are magnificent. Once seen, never forgotten.”—John
- *Wolffia australiana* “Smallest plant in the world... what else is there to say.”—Max
- *Clianthus maximus* “Rich vibrant colour, amazing flower shape, blooms at exactly the right time and it makes me smile”—Margaret
- *Clianthus maximus* “I wanted to vote for a threatened species and help promote awareness of this and other threatened species”—Fiona

This has by far been our biggest vote yet with more votes cast and with over 240 different species acknowledged and voted for.

I’d like to say a massive thank you to everyone who voted, created memes, was involved through social media and campaigned for specific species.

Also, thanks to Louisa Steyl and Maxine Jacobs for their article in Stuff, Mark Leishman from RNZ Nights for having our president Jesse Bythell join them to fly the flag for native flora and the Favourite Plant vote.

Here are the top ten species you voted this years favourite plant 2023:

1. *Clianthus maximus*—(kōwhai ngutu-kākā)
2. *Zostera muelleri* subsp. *novazelandica*—(rimurehia, seagrass)
3. *Gentianella calcis* subsp. *manahune*—(Manahune gentian)
4. *Fuchsia excorticata*—(kōtukutuku)
5. *Metrosideros excelsa*—(pōhutukawa)
6. *Aptrootia elatior*—(a lichen)
7. *Spiranthes australis*—(spiranthes orchid)
8. *Ficinia spiralis*—(pīngao)
9. *Wolffia australiana*—(water-meal)
10. *Urtica ferox*—(ongaonga)



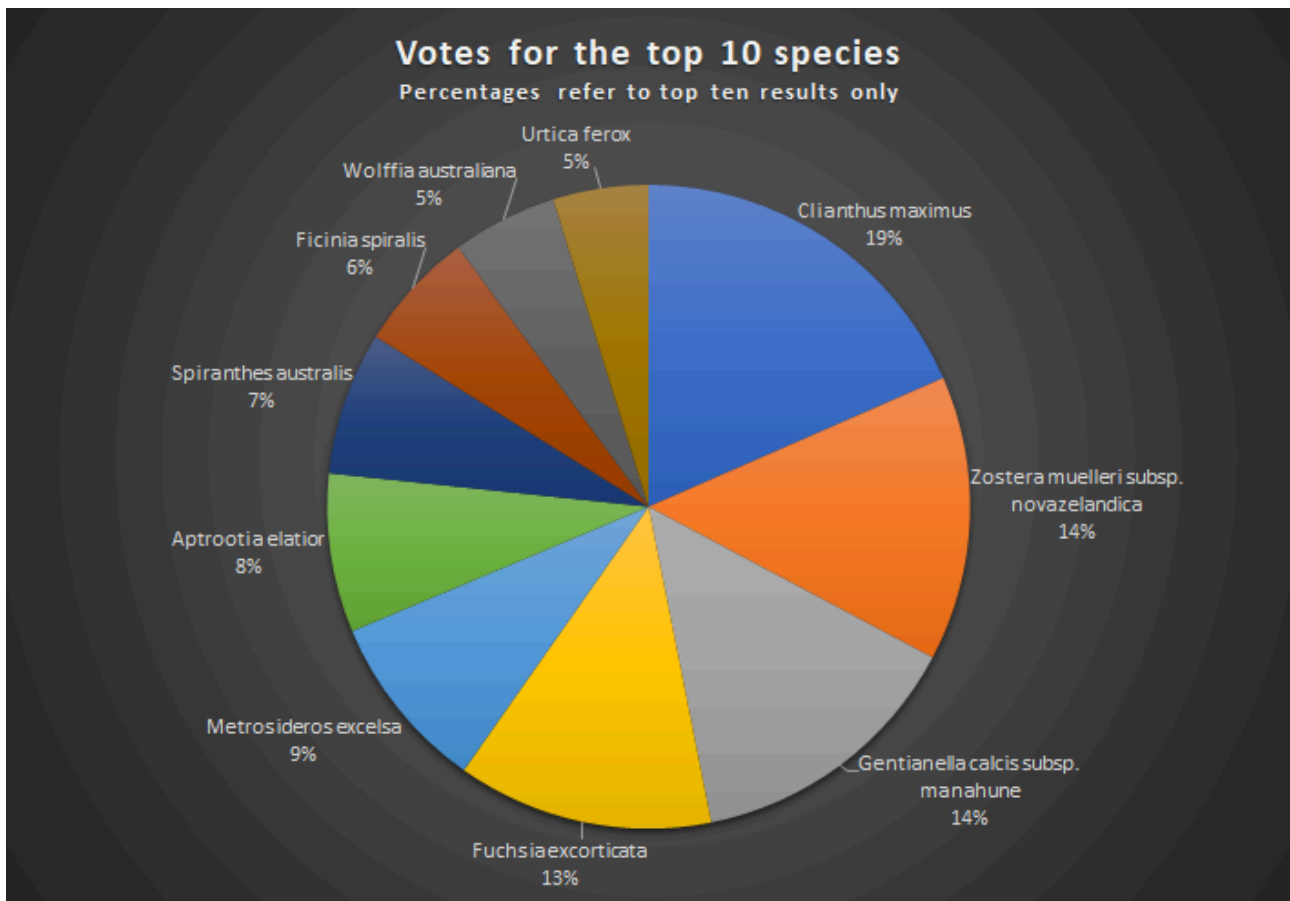
Manahune gentian (*Gentianella calcis* subsp. *manahune*) was passionately campaigned for and a strong contender for the 2023 favourite plant vote. Photo: Hermann Frank.



Fuchsia excorticata. Photo: Jeremy Rolfe.



From left: *Aptrootia elatior* (Photo: Andrew Marshall), *Spiranthes australis*, *Ficinia spiralis*, *Wolffia australiana*, *Urtica ferox* (Photos: Jeremy Rolfe).



Thank you to everyone who campaigned and voted this year. We will be back again next year so watch this space! In the meantime happy holidays and happy plant spotting!

For more information about Tairāwhiti Ngutukākā – East Coast Kakabeak and ngutukākā festival next September please contact Graeme Atkins at gatkins@doc.govt.nz

A new population of the native oxtongue *Picris angustifolia* DC. subsp. *merxmulleri* Lack et S.Holzapfel

Marley Ford (mfecobotany@gmail.com)

Waiting for the ferry at Picton on my way north, I found myself with some time to kill, so I decided to take a small walk through the drowned valleys of Marlborough Sounds in Havelock (South).

Enjoying the sunny day and contemplating the South Island flora I noticed a few oddities that drew my attention. The first, a large exotic plume grass, *Pentapogon rarus* (R. Br.) P.M. Peterson, Romasch. et Soreng (formerly *Dichelachne rara* (R.Br.) Vickery) (collection number MF 2256) growing on a dry cut trackside bank under regenerating kānuka (*Kunzea ericoides* (A.Rich) Joy Thoms). I looked closer and saw an oxtongue and with an affection for herbs, even weedy, my interest was piqued. I quickly realised I was looking at a native species of *Picris* L., which I know from the Far North, rather than the introduced oxtongue *Helminthotheca echioides* (L.) Holub. What I found was three plants of what I now know is *Picris angustifolia* subsp. *merxmulleri* (Figure 1) (Herbarium number: MF 1568) listed as 'At Risk – Naturally Uncommon' (de Lange, 2018). This plant had been unrecorded in the upper South Island since 1 January 1882 when it was collected from Fox Hill in the Waimea Plains by Thomas Cheeseman (AK 10790, AK 10791). The Havelock location is a newly reported population found on 12 January 2023, 141 years after it was first collected in this part of the country.

The genus *Picris* is named from the Greek 'picros' meaning 'bitter', in reference to the bitter taste of some species in the genus (Holzapfel, 2015). Both *Picris* and *Helminthotheca* Vaill. ex Zinn are in the



Figure 1. *Picris angustifolia* subsp. *merxmuelleri* above cut track on clay bank with grasses.

the outer achenes, are larger, white, and pilose hairy; the inner shorter, dark-brown and glabrous. In our indigenous oxtongues (*Picris* spp.) the achenes are never heteromorphic (de Lange, 2023a). In *Picris* the outer involucre bracts are more than 5, in 2–4 rows (rather than usually 5 in a single row); the inner involucre bracts are without featherlike appendages; the achenes homomorphic, cuspidate; with a cream-white pappus, style branches yellow; indumentum of mainly 2-hooked anchor hairs and an extended hair base but without a conspicuously raised base (Kellermann, 2011).

Of the four members of *Picris* in New Zealand, *P. angustifolia* differs by the achenes gradually tapering into a cuspis more than 0.2 mm long (separating it from *Picris hieracioides*) (Figure 2) and; the outer involucre bracts are in 2–3 rows, rarely the longest outer bracts are longer than $\frac{2}{3}$ of length of innermost bracts—usually markedly shorter (usually many outer bracts are longer than $\frac{2}{3}$ of length of innermost bracts—often almost as long as inner bracts in *P. burbridgeae*), with all the bracts straight, and the outer bracts upright to slightly squarrose, and not as wide as inner bracts (Holzapfel & Lack, 1993). The epithet of this species refers to the narrow leaf (Figure 3). *Picris angustifolia* has three subspecies, two of which are known from New Zealand, discussed here. *P. angustifolia* subsp. *merxmuelleri* is named for the

tribe Cichorieae Lam. & DC. (which has also been known as Lactuceae) and are superficially similar. They differ vegetatively by the stem and leaf indumentum, *Helminthotheca echiioides* or ‘bristly’ oxtongue has 2-, 3-, 4- or 5-hooked anchor hairs and the hairs of the leaves arise from a conspicuous swollen base, while our native *Picris* species have 2-hooked, bristly hairs. (de Lange, 2023a). In the flowers, the involucre bracts of bristly oxtongue are in two rows, with the five outer involucre bracts ovate to cordate, and the apex of the inner bracts feather-like (de Lange, 2023a). Further, the achenes of the introduced oxtongue (*H. echiioides*) are heteromorphic: the



Figure 2 . Cypsela showing pappus (top) and achene (bottom) of *Picris angustifolia* subsp. *merxmuelleri*.



Figure 3. Narrow leaves of *Picris angustifolia* subsp. *merxmuelleri*.

German botanist and taxonomist Hermann Merxmüller (1920–1988). *P. angustifolia* subsp. *merxmulleri* can be separated from the subspecies *P. angustifolia* DC. subsp. *angustifolia* by usually having a cymose panicle, the indumentum of the outer involucre bracts being usually fine, hairs if present are usually in a single or double line (Figures 4, 5) and by the shorter achenes and cusps—the cusps is from $\frac{1}{4}$ – $\frac{1}{6}$ of the total length (compared with $\frac{1}{5}$ – $\frac{1}{2}$ of *P. angustifolia* subsp. *angustifolia*) (Figure 2) (Holzapfel & Lack, 1993). Further, in *P. angustifolia* subsp. *angustifolia* the rosette leaves have usually withered off before flowering (de Lange, 2023b).



Figure 4 (left). Capitulum of *Picris angustifolia* subsp. *merxmulleri* showing outer involucre bracts hairs that are usually (if present) in a single or double line.

Figure 5 (right). Capitulum of *Picris angustifolia* subsp. *merxmulleri* with mature cypsela.

Picris angustifolia subsp. *merxmulleri* is currently recognised as indigenous to New Zealand (Murray & de Lange 1999) though it was first described from Australia, where it is found in Victoria, New South Wales and Tasmania (Holzapfel & Lack, 1993). In New Zealand it has only been recorded from the South Island. Thomas Cheeseman first recorded this plant from two collections in the South Island from Fox Hill, Nelson in the late 1800s. This population is thought to have died out (de Lange, 2023). A second population is known from several collections from Wye Creek, Hector Range and the Bridal Track on the shores of Lake Wakatipu made in 1995–1996 (AK 222289, AK 222758, AK 228124, CHR 486745) (de Lange, 2023). The subspecies was also reported (as *P. hieracioides* L.) from the shores of Lakes Manapouri (CHR 75779 A & B) and Te Anau (CHR 462393, CHR 462394) during lake surveys undertaken during the early 1970s. It is more likely that these southern populations are still extant. In its description by Holzapfel & Lack (1993) *P. angustifolia* subsp. *merxmulleri* is said to be restricted to montane and alpine parts of Victoria, New South Wales and Tasmania with New Zealand not mentioned. Within New Zealand it is now known from three extant populations. The Havelock population is a new record and within reasonable range of the potentially extinct Red Hill population (170 km). Further searching within Nelson and probably most of South Island could potentially yield new populations of this species. In New Zealand *Picris angustifolia* subsp. *angustifolia* occurs on the east coast of the upper North Island, at the Whangaruru Harbour (AK 252278, June 2005) and on the Hen and Chicken Islands (AK 35262, AK 159407, AK 280222, AK 329887).

In Central Otago, *P. angustifolia* subsp. *merxmulleri* was considered to be common in the places where it was found in 1995 and 1996 (de Lange, 2023b), while in Havelock only three plants were seen, though I did not search extensively off track. In Otago it is known from open ground on montane lake margins, with beech (*Nothofagus* spp.) forest, on the bush line, cliff faces and within grey scrub communities (de Lange, 2023b). The Havelock population was in somewhat weedy regenerating coastal forest above Pelorus Sound/ Te Hoiere on a dry clay bank (Figure 6). The plants grew with a range of native and exotic grasses including *Pentapogon* R.Br. and *Rytidosperma* Steud. The track maintenance offers a disturbed regime favourable to this plant. It is highly likely other weeds could out compete the



Figure 6. Woodland like track habitat where this population was found.
All photos: Marley Ford – 12 January 2023

Havelock population and the ultimate succession of the surrounding forest could further risk this population but perhaps the track clearing and steep slips will sustain it here.

This find highlights the large gaps in knowledge we still have in plant distribution in Aotearoa. Our weedy native flora is often forgotten or avoided, even by botanists. It would be easy enough to mistake our native *Picris* as an exotic weed.

For more information see the observation: <https://inaturalist.nz/observations/146919027> and the factsheet: <https://www.nzpcn.org.nz/flora/species/picris-angustifolia-subsp-merxmuelleri/>

Acknowledgements

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References

- de Lange, P. J. (2023a). *Picris burbridgeae* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. <https://www.nzpcn.org.nz/flora/species/picris-burbridgeae/>
- de Lange, P. J. (2023b). *Picris angustifolia* subsp. *merxmuelleri* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. <https://www.nzpcn.org.nz/flora/species/picris-angustifolia-subsp-merxmuelleri/>
- de Lange, P. J., Rolfe, J.R., Barkla J. W., Courtney, S. P., Champion, P. D., Perrie, L. R., Beadel, S. N., Ford, K. A., Breitwieser, I., Schönberger, I., Hindmarsh-Walls, R., Heenan, P. B. & Ladley, K. (2018). Conservation status of New Zealand indigenous vascular plants, 2017. New Zealand Threat Classification Series. No. 22
- Edgar, E., & Connor, H. E. (1982). *Dichelachne* (Gramineae) in New Zealand. *New Zealand Journal of Botany*, 20(3): 303–309.
- Holzapfel, S. (2015). Flora of Australia. *Mantiscalca*. Vol. 37. Melbourne: ABRS/CSIRO.
- Holzapfel, S. & Lack, H. W (1993). New species of *Picris* (Asteraceae, Lactuceae) from Australia. *Willdenowia* 23: 181–191.
- Kellermann, J. (Ed.). (2011). Flora of South Australia. State Herbarium of South Australia, 60.
- Murray, B. G., & de Lange, P. J. (1999). Contributions to a chromosome atlas of the New Zealand flora-35. Miscellaneous familie. *New Zealand Journal of Botany* 37(3): 511–521.

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.

Coastal Restoration Trust of New Zealand 2024 Annual conference

Date: 20–22 March 2024. **Venue:** The Coastal Restoration Trust of New Zealand's 2024 annual conference is being hosted at Maketū marae in Kāwhia. Details about the programme, accommodation, venue and registration can be found at <https://www.coastalrestorationconference.org.nz/> **Early bird registrations** close on 31 January 2024.

Auckland Botanical Society

Meeting: Next meeting Wednesday 6 March 2024.

Field Trip: Next field trip Saturday 16 March 2024.

Nelson Botanical Society

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

Canterbury Botanical Society

Field Trips/Meetings: Please refer to the website: <https://canterburybotanicalsociety.org.nz/canterbury-botanical-meetings-field-trips> for current details.

Botanical Society of Otago

Meeting: Wednesday 14 February at 5.20pm. Speaker: Bradley Curnow. **Topic:** Western Australian wildflowers. **Venue:** Main seminar room, Manaaki Whenua Landcare Research, 764 Cumberland Street, Dunedin.

Field Trip: Sunday 25 February to Slope Point and environs, Southland. Meet: Botany Department carpark at 9.00am. **Contact:** Gretchen Brownstein, email brownsteing@landcareresearch.co.nz, ph. 021 065 8497 to book a place on this trip.
