TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

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Deadline for next issue:
Friday 22 September 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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NEW ZEALAND

PLANT OF THE MONTH, p. 3

Coprosma brunnea. Photo: Rowan Hindmarsh-Walls.

Why do the upper Whanganui River tawa (*Beilschmiedia tawa*) appear to be dying?

Rob McGowan (pa.r.mcgowan@gmail.com)

I had a call from the upper Whanganui River recently from Jason Taiaroa. Jason, following on from his kaumatua Sir Archie Taiaroa, has been given special responsibility by the old people to act as a kaitiaki for the upper part of the river. The river people have a major concern that a lot of tawa trees seem to be going through some sort of dieback phase. On top of that tawa has not fruited on the river for a number of years. That is a major worry, as tawa historically has been a major food source, no longer for people but these days especially for wild pigs that are still a major source of food for families. I have observed a lack of fruiting here in Tauranga Moana over recent years, but not the dieback.

Something does also seem to be happening with seed production of other species. Some species that are usually prolific seed producers are producing little or none, and several of my nursery friends are reporting much lower than usual germination rates Is this a result of changes in the climate, or are they the result of the unusual wet year we are experiencing?

There is certainly plenty to be concerned about.

Following is an edited summary of Jason's email to me.

> It's only happening to the tawa, no other tree I have noticed. It looks like they have been lightly sprayed as some parts are alive and some are dead, but I'm sure that's not the case. When you squeeze the leaves in your hand, they release from the tree and crumble. I'd have to look around more to see if there are any saplings or young trees around. I haven't noticed any. I haven't seen any fully dead tawa either.
>
> I also mention to you that tawa hasn't fruited on the Whanganui awa for 15 odd years. Yet in other places like the Parapara highway on Ati Hau and Pureora it is fruiting.
>
> The two areas I have seen are 10 kilometres apart, so a helicopter would need to be used to see the true extent in the area. This may be something that should happen soon? This is happening within kawenata, so NWR might help out? Whakarae is aware of this kaupapa. The landowners are aware of this as well. I haven't told the Department of Conservation.
>
> I haven't noticed the tawa flowering at all. Aspect doesn't seem to be a factor. Next time I'm around there I'll get some more photos and could even use a drone.

Has the dieback and lack of fruiting been observed in other parts of the country? Tawa is a major component of the river ngahere and its demise would be devastating.

Editor's note: Feedback to the NZPCN and the author on this question would be very much appreciated.

Images supplied by Jason Taiaroa.

PLANT OF THE MONTH – *COPROSMA BRUNNEA*

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

The plant of the month for August is *Coprosma brunnea*. It is one of over 60 recognised *Coprosma* entities endemic to the New Zealand region. The species is only found in the South Island, from Southland to Golden Bay. It favours well drained open areas where there is little competition from other species. It is often found in open riverbeds on gravel islands or the lower alluvial terraces within the flood zone, but it also occurs on rocky outcrops, in short tussock grassland or on open stony faces.

Coprosma brunnea is a small, prostrate and wiry shrub that scrambles over the ground surface and on occasion can form large loose tangled mats. The wiry trailing stems are light to dark brown and sparsely clad in browny green, narrow, hairless leaves. The insignificant flowers are similar in colour to the leaves and are borne at the leaf axils along the stems. The species bears distinctive white to pale blue juicy looking fruit which are edible and are especially palatable to frugivorous birds and reptiles.

The species is part of the *Coprosma acerosa* species complex, which requires further taxonomic work to fully resolve, as the distinctiveness (or lack of) of some of the recognised entities within the group needs to be examined. *C. brunnea* is most similar to *Coprosma acerosa*. It is so similar in fact that some taxonomists regard it as falling within the natural range of forms of *C. acerosa*. *Coprosma acerosa* in the strict sense is a coastal species while *C. brunnea* is an inland species found near, but not on, the coast. The branches of *C. brunnea* tend to be darker brown in colour and more wiry with the leaves fairly widely spaced, while those of *C. acerosa* are often more yellow brown, a bit thicker and the leaves are generally more tightly packed along the stems. Another similar species is *Coprosma elaterioides* but this is a more tangled upright species which is found in swamps and wet areas on the western side of the South Island. There is another very similar taxonomically unresolved entity tag-named *Coprosma* aff. *acerosa* 'Central North Island' which grows in similar habitats on the North Island's volcanic plateau, and another one tag-named *C.* aff. *acerosa* 'Cobb' which lives in similar habitats to *C. brunnea* but is restricted to the Golden Bay area of the South Island.

C. brunnea has a conservation status of 'At Risk – Declining', as it has been wiped out from much of its original range and is suffering from exotic weed competition and habitat loss. Remnant populations are predominantly in less modified habitats and river valleys with fewer river-bed weeds. The human-induced narrowing of many of our mighty braided river valleys will have had a significant negative impact on this species. The plant is still widespread in its range but is generally sparse across this range, and is often overlooked due to its small size and dark colour, which blends in with the surrounding environment. There are still some excellent populations of the species in places like the braided Haast River valley in South Westland, which is a fairly intact river system with few woody weed species and no stock grazing in most of the catchment.

Species in the genus *Coprosma* are found across Hawaii, Borneo, Java, Australia, New Guinea, New Zealand and the Pacific to the Juan Fernandez Islands. Most of the New Zealand species are endemic. The species occupy a wide range of habitats from coastal to high alpine environments.

The genus *Coprosma* means "manure smell" and is derived from the greek 'kopros', dung, and 'osme', odour or perfume. The name refers to the unpleasant smell of one of the first species in the genus to be described. The Latin species epithet *brunnea*, meaning brown/ brownish is derived from the Teutonic word brun, and probably refers to the overall brown colour of plants of this species.

You can view the NZPCN website factsheet for *Coprosma brunnea* at: https://www.nzpcn.org.nz/flora/species/coprosma-brunnea/

Coprosma brunnea, Emerald Stream, Southern Fiordland, 24 January 2023. (left) Fruiting plant; (right) growth habit. Photos: Rowan Hindmarsh-Walls.

Yeo yeo, tone it down! Over enthusiastic plant surveys in Yeo and Tone River catchments of Marlborough

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

Kia ora koutou,

My name is Rowan and I am the biodiversity team supervisor for the Department of Conservation South Marlborough district, based in the Wairau office. Those of you who know me know I am an extreme lover of plants, to the point of obsessiveness sometimes. For me botanical survey trips are the pinnacle of plant nerding and are like going on a holiday with a fantastic new species to find around every corner. I spend half the year scheming about new places I can justify carrying out botanical surveys through work, and compile lists of potential species that require further surveys.

Last financial year the Department of Conservation released a 'species on the brink' funding package for critically endangered plant entities that were deemed to be on the edge of extinction. Unfortunately, here in Marlborough we have too many species on this list, so we, with the help of Shannel Courtney, our regional native plant technical advisor in Nelson, put in a number of bids to this fund for some of our species on the brink. Two species that we identified as having not had enough attention of late were *Cardamine pachyphylla,* and *Pachycladon stellatum.* The *Cardamine* is endemic to New Zealand and only found in a small area in inland Marlborough, and in the Torlesse range area in Canterbury. Almost nothing is known about the species, especially in the Marlborough part of its range and because it has only been named recently the Department had never carried out a survey for the species.

Pachycladon stellatum is endemic to the same area of Marlborough as the *Cardamine and* has been incidentally surveyed at various points in the past by the Department, but has never had a recent dedicated survey for the species across its known range. Both species have a threat classification of Threatened- Nationally Critical and we had our suspicions that the *Pachycladon* wasn't doing too well, as the genus is highly palatable to introduced herbivores and most species in the genus have undergone a rapid decline in population over the last 50 years. We decided to put in a funding bid, which was successful, for money to survey for both species concurrently on a week-long field trip in the heart of their known range, the Yeo Stream and Tone River catchments, in the Turks Head area at the western end of the inland Kaikoura range.

The Yeo and Tone catchments are characterised by very dry, rugged mountainous terrain with lots of scree and bluffs, especially in the Yeo catchment. There is no real forest in either catchment with most of the woody vegetation being montane shrubland, dominated by matagouri and mix of other shrubland species, including briar rose, in the Yeo catchment. The only true small tree species in these areas are *Hoheria lyalii, Olearia paniculata,* and *Phyllocladus alpinus.* There are also areas of dry tussock grassland, rocky face plant communities, many large areas of semi vegetated scree, and a few wetland seep communities. Plant surveys are difficult in this area in the peak of summer as temperatures can become too hot for humans to cope with and some of the plants shrivel up and die away at that time of year, so we picked mid-December for this field trip as we knew most species would be at their prime and it would be the time of year to pick up flowering plants of both the target species.

The trip went from 12–16 December 2022, with an A class team of Janet Newell, Jan Clayton-Greene, Ben Wotherspoon, Jemima Gardiner-Rodden, and myself. We started off the first day by travelling to the nearby Molesworth Homestead then flying by helicopter into a good campsite in the Yeo catchment where we set up camp and spent the afternoon familiarising ourselves with the surroundings and the species of the area. Using some old GPS points from a previous trip in the area we got onto our first patch of four plants of *Pachycladon stellatum* which were growing on a damp shaded overhang near a waterfall. The plant grows out of sheer rock faces and has an impressively large fleshy taproot with which it attaches itself to the substrate. That afternoon we found a bunch of other interesting species including *Senecio dunedinensis, Carmichalia kirkii, Ewartiothamnus sinclairii, Veronica pentasepala, Muehlenbeckia ephedroidies* 'inland erect', and an unusual petite inland form of *Linum monogynum.* We

Tone River in the clouds, 15 December 2022. Photos: Rowan Hindmarsh-Walls.

all couldn't help but notice the massive amounts of ungulate sign around, especially goats, and that most of the palatable native vegetation was heavily browsed. It was a bit of a sad state of affairs, as species like *Carmichalia kirkii* had been decimated since Jan's last survey for them in the valley.

Day 2 dawned fine and chilly but soon heated up into a scorcher of a day. Jan and Janet headed off to survey another branch of the catchment, Jemima surveyed for skinks in the hills around camp, while Ben and I took the high road up a side stream to a massive rock outcrop on a high ridge above the valley. As we surveyed our way up the valley looking in every possible place where either the *Pachycladon* or *Cardamine* might be we recorded all vascular plant species we encountered along the way. We found some amazing patches of *Pterostylis australis* and *Ewartiothamnus* in the scrub zone, then went past a bluff with some good plants of the newly named *Pachystegia hesperia* growing on it. We hit the jackpot at lunchtime when we reached a high shaded face which appeared to have three different species of *Pachycladon* growing on it, as well as a sizeable population of a *Cardamine* that was looking very similar to our target species. This was a great place to stop for lunch! The *Cardamine* turned out to be *C. dimidia,* the sister species to *C. pachyphylla*, but we found *Pachycladon stellatum*, *P. fastigiata*, and *P. enysii* growing within close proximity, and one of the *P. fastigiata* was flowering which was cool to see. We also spotted, very fleetingly, a large scree

Pachycladon stellatum, 15 December 2022.

skink which was a first for me. Later in the afternoon we managed to locate another two *Pachycladon stellatum* plants, as well as a number of interesting scree species (which I'll mention later), and a weed first for me, corn toadflax, *Linaria arvensis,* on a rock outcrop. I also encountered for the second time only a very unusual inland form of *Haloragas erecta* which lives on very dry rocky faces in inland Marlborough and north Canterbury. The others arrived back at camp hot, tired and hungry having found very few *Pachycladon* plants and a few patches of *Cardamine dimidia* but no *C. pachyphylla*.

The first half of day 3 was spent scree and bluff bashing as well as wading through seas of *Podocarpus nivalis* looking for the elusive *Cardamine.* Aside from a few goats trying to kill us by knocking rocks on us from the bluffs above the morning was fairly uneventful with a few more *P. stellatum* plants being picked up by both teams and a number of other patches of the wrong *Cardamine.* We had lunch and then flew to the Tone River, leaving Jan and Janet back at Molesworth as they had other commitments to attend to. The afternoon was spent unsuccessfully searching for both species on some scrubby bluff areas above the upper Tone valley flats. We did however encounter good populations of some other interesting species including *Veronica melanocaulon*, *Traversia baccharoides*, *Gingidia trifoliolata*, and *Lagenophora barkeri.* We noticed that compared to the Yeo stream, this catchment had far more palatable species present in abundance, and we put that down to the fact that my team has done regular ground and aerial based ungulate control in that catchment for at least the last 5–10 years, unlike the Yeo which has had no attention from the Department. The difference was staggering!

Day 4 dawned wet and cloudy so we made a few extra cups of tea in the hut and waited for the rain to go away. It didn't, so we headed off mid-morning to a promising looking bluff system towards the head of the valley. We hadn't gone far up this bluff when we started encountering reasonable number of the *Pachycladon* as well as lots of again, you guessed it… the wrong *Cardamine*, *C. dimidia.* Further up the bluff system we encountered a *Pachycladon* plant that had flowered a few years early and had surprisingly not died. Most plants die after flowering. This plant had a plethora of tiny seedlings growing on a ledge under it which was interesting to see, but they were within the browse range of goats and chamois so needed to be uplifted and transplanted, which we have done on a subsequent trip.

The country in this area was quad tighteningly steep, and we staggered our way onwards and upwards into the clouds. Once we hit the higher scree slopes we encountered a number of interesting scree species, including *Myosotis traversii*, *Epilobium forbesii* and *E. pycnostachyum*, *Lignocarpa carnosula*, *Leptinella dendyi*, *Poa buchananii*, *Oxalis* aff. *exilis* 'scree', *Melicytus* 'Kaikoura', *Stellaria roughii*, *Wahlenbergia carilaginea*, *Haastia pulvinaris*, *Veronica epacridea*, and *Lobelia roughii.* We also encountered a multitude of different *Epilobium* (16 species) and *Luzula* (four species). Even though it was wet we had a great day surveying and botanising. The day was topped off by Ben running down a bunch of moulting Canada geese in the valley bottom, three of which he caught by hand, after which I introduced the others to fresh goose breast fried in butter for dinner.

Epilobium forbesii, 14 December 2022.

Oxalis aff. *exilis* 'scree', 15 December 2022.

The following day we did a bit of a quick survey up some new bluffs and outcrops and found a few new *Pachycladon* before having a bumpy flight back out to Molesworth homestead in the Hughes 500.

Veronica epacridea, 15 December 2022.

All in all we found less than 20 *Pachycladon stellatum* in the Yeo catchment, and slightly less than 70 plants in the Tone area, plus about 150 seedlings. We did not locate *Cardamine pachyphylla* in either catchment even though we went back to some sites previously GPS marked by Peter Heenan. We will try again to locate this species this summer in the lower reaches of the Yeo Stream. And I will write a part two of this article in a later issue, talking about ex situ cultivation of a few of our *Pachycladon* species, including *P. stellatum*.

Happy botanising!

Ben Wotherspoon on scree surveying in the Yeo catchment 14 December 2022.

Uncle Bertie's Botanarium debut on Radio New Zealand

Hey whanau,

Great news, a project I have worked on for a long time, Uncle Bertie's Botanarium is (finally!) about to be broadcast to a New Zealand audience. It's a big audio-cinema style radio series with 24 episodes in the vein of Monty Python, following the adventures of a fictional Joseph Banks (played by Jemaine Clement) as he leads a mission to sail to the very source of pleasure so that he can destroy it.

It is due to make its NZ debut on RNZ as a part of the new Arts show, *Culture 101* from Sunday 20 August. It will nestle in after the 3 o'clock news for twelve weeks, then there will be a break to get ready for the epic Season 2, where things get really biblical. It is also online at rnz.co.nz **here.** If you can't wait until Sunday, then you can have a sneaky listen to the first episode now!

I'm hoping you can help us spread the word, far and wide, through Facebook, Instagram (uncle_berties_botanarium), and by forwarding this information to anyone you think might get a kick out of hearing Jemaine Clement at his funniest, or to anyone who is easily aroused in the company of pot-plants, shrubberies, succulents, ferns and other flora.

Personally speaking I think this is one of my proudest creative moments. I suspect my collaborators Stevie Templer, James Milne and Fiona Elwood feel similar. It's the best thing you've never heard! (Don't just take my biased word for it. See reviews, below)

It's easy to listen to. Goes well in sonic headphones, when doing the dishes, gardening (of course) or in some old-fashioned setting where people gather around a wireless.

The whole thing is a hoot, so please, listen in and spread the word!

Much love from Duncan, on behalf of Fiona, Stevie, James and our huge team.

P.S. If you really want a double-dose of photosynthesis, listen to the inaugural *Culture 101* show on Radio New Zealand, **Sunday 20 August** at 2pm, as there will be an interview with myself, Stevie and James ….

Overseas reviews

"… intricately designed, every element cared for with true attention to detail, making it one of the most enthralling auditory experiences in the podcasting world yet." – AV Club

"Clement is quite wonderful throughout" – *LA Times*

"A gag packed script is finessed with lavish production and great music. Sumptuous" – *The Guardian*

Wallaby social research survey invitation

Kia ora koutou

As part of the Tipu Mātoro National Wallaby Eradication Programme, Biosecurity New Zealand (BNZ) have commissioned Manaaki Whenua Landcare Research (MWLR) to carry out a piece of social research into the key beliefs, attitudes and motivations of New Zealanders when it comes to wallabies in this country.

As part of this research, MWLR is conducting a survey and we are keen to get people who have an interest in wallabies to take part. Insights from this survey will be used by BNZ to help promote better management of wallabies within the community.

The survey is online, is anonymous and voluntary, and should take less than 15 minutes of your time.

If you wish to take part, then you can take the survey by clicking on the link below. Feel free to forward this onto your friends and colleagues if they may be interested in participating.

Wallaby Survey

If you have any queries please contact Travis Ashcroft, who is the Science Lead for Tipu Mātoro National Wallaby Eradication Programme on 027 807 4116 or travis.ashcroft@mpi.govt.nz

Much appreciated for your time.
Kristy Calvert
Wallaby Programme, Biosecurity New Zealand - Tiakitanga Pūtaiao Aotearoa

Wilding Pines Conference 2023

18–20 October 2023, Memorial Hall, Queenstown

Wildings in the Backyard

Timetable of events:

- **Day One** – Conference plus optional WCG Reporting to the Community evening (numbers limited)
- **Day Two** – Field Trips plus Mix n Mingle Canapé Evening
- **Day Three** – Conference

To register or to find out more click here https://wildingpinenetwork.org.nz/wilding-pines-conference-2023/

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 6 September at 7.30pm. **Speaker:** Susannah C. Graham. **Topic:** Impact of *Seriphium plumosum* densification on Mesic Highveld Grassland biodiversity in South Africa.	**Venue:** Unitec, School of Natural Sciences, 139 Carrington Road, Mt. Albert (Gate 4, Building 115, Room 1028).
Field Trip: Saturday 16 September to private native bush, 49 Gelling Road, Ararimu, South Auckland. **Meet:** Driveway just past 61 Gelling Road (next along from 49) at 10.00am.	**Leaders:** Mike Wilcox, Jenny Andrew and Jenni Shanks. Contact mike.wilcox@xtra.co.nz

Waikato Botanical Society

Field Trip: Saturday 2 September to Woods Mill, SH 5 Kaimai Mamaku Conservation Park (combined with Rotorua Botanical Society). **Meet:** Between the Convention Centre and Police Station, Fenton Street, Rotorua at 8.30am or at the track entrance on SH 5 between Rotorua and Fitzgerald Glade at 9.00am. **Grade:** Easy-medium.	**Leader:** Kerry Jones, email km8j1s@gmail.com, ph. 027 747 733.

Rotorua Botanical Society

Field Trip: Saturday 2 September to Woods Mill, SH 5 Kaimai Mamaku Conservation Park (combined with Waikato Botanical Society). **Meet:** Between the Convention Centre and Police Station, Fenton Street, Rotorua at 8.30am or at the track entrance on SH 5 between Rotorua and Fitzgerald Glade at 9.00am. **Grade:** Easy-medium.	**Leader:** Kerry Jones, email km8j1s@gmail.com, ph. 027 747 733.

Wellington Botanical Society

Field trip: Saturday 2 September. **Introduction to Bryophytes**, Tāne's Track, Remutaka Forest Park. The focus of the trip will be on Bryophytes but will also provide the opportunity to botanise more widely. Bring hand lens for up-close work. **Meet:** 9.30 a.m. at Tunnel Gully car park, off the end of Plateau Rd, Te Mārua.	**Co-leaders:** Leon Perrie, leon.perrie@tepapa.govt.nz 027 419 1378; Lara Shepherd, lara.shepherd@tepapa.govt.nz 027 363 5854.

Nelson Botanical Society

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

Canterbury Botanical Society

Meeting: Monday 4 September at 7.30pm. **Speaker:** Olivia Burge, Manaaki Whenua-Landcare Research. **Topic:** Wetlands.	**Venue:** St Albans Community Centre,1049 Colombo Street, Christchurch.
Field Trip: Saturday 9 September to Christchurch City Council Birdlings Regional Park at Wairewa/Lake Forsyth and the new DOC Birdlings Flat Scenic Reserve. **Meet:** Halswell Bowling Green carpark (301 Halswell Road for carpooling at 9.15am or at the north-eastern end of Lake Terrace Road (opposite 71 Forest View Road) at 10.00am. **Grade:** Moderate.	**Leader:** Melissa Hurchison, email fieldtrips@canterburybotanicalsociety.org.nz or phone 03 960 7051 if you intend to participate.

Botanical Society of Otago

Field Trip: Saturday 9 September to Silver Peaks Possum Hut/ Green Ridge circuit.	**Contact:** Gretchen Brownstein, email brownsteing@landcareresearch.co.nz, ph. 021 065 8497.
Meeting: Wednesday 13 September at 6.00 pm. Baylis Lecture. **Speaker**: Carol West. **Topic:** Down in the Weeds.	**Venue:** Archway 4, University of Otago.