



TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

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Deadline for next issue:
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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. 2



Syzygium maire.
Photo: Simon Walls.

The return of the NZPCN's favourite native plant vote

Alex Fergus (fegusa@landcarereserach.co.nz) and Jesse Bythell (jesse.bythell@gmail.com).

After a year's hiatus, Aotearoa's most beloved podium of plant love will return in October this year, settling into its new permanent calendar position, which will see it run from October 1–31 annually. As always, 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.

In the build up to this year's vote NZPCN committee members will take turns championing a candidate. These profiles of floristic luminaries will be thematic, targeting issues like conservation concern, ecological function and down-right loveliness. These profiles will appear in our newsletter *Trilepidea* and on our website. It is the latter, our new website, that has made add-ons like our favourite plant vote far easier to engineer and we're delighted to announce that voting will now be possible on your phone, something we know has hindered participation in the past.

As in previous years, everyone will be able to cast a vote for whichever native plant they wish. However, your comments will no longer be automatically uploaded to the leaderboard—to avoid vegetative trolling. We will make use of your comments, however, and the most insightful and interesting will be uploaded to our website. To ease off on what have been some rather hostile north-south plant rivalries in past years, while we will have a leaderboard, it will not display a public tally.

The NZPCN favourite plant vote first ran on our website in 2002, we're very excited to see which of our native plants you're most anxious about/in awe of/in love with, twenty years on.



(left) Pōhutukawa (*Metrosideros excelsa*) was voted Aotearoa's first favourite plant in 2002. (right) The 2019 favourite plant was taurepo (*Rhabdothamnus solandri*). Photos: Jeremy Rolfe.

If you are interested in being involved with media support for the 2021 vote, please get in touch with Alex fegusa@landcareresearch.co.nz or Jesse jesse.bythell@gmail.com.

PLANT OF THE MONTH – *SYZYGIUM MAIRE*

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

The plant of the month for July is *Syzygium maire*, maire tawake or swamp maire. It is the only native representative of the genus in the New Zealand region. The species is found from Te Pahi, in the northern North Island, down to the Pukaka valley in Marlborough, but is absent across large parts of its range.



Syzygium maire. (left) Foliage, Okiwi Bay, Marlborough Sounds, 12 October 2019. Photo: Rowan Hindmarsh-Walls. (right) Fruit, Okiwi Bay, Marlborough Sounds, January 2007. Photo: Simon Walls.

Swamp maire, as the name suggests, likes living in damp areas, and can tolerate very wet feet. It is a swamp forest specialist and has a few interesting features that help it live in these kinds of environments. The plant has a dense and spreading root plate that helps hold up trees in their waterlogged habitat. The root plates often produce 'knees' which stick up above the water level and have proliferations of pneumatophores, or 'breathing roots' attached to them, allowing the roots to exchange gases from the air.

This tree species can reach a height of more than 15 metres, and has opposite, shiny pointed bright green leaves, with slightly crinkled edges. The white flowers are borne in dense clusters above the leaves and have many stigmas, making them look like small paint brushes. The small orange to pink fleshy fruit ripen on the tree and are a favoured food for many native bird species.

Syzygium maire is a very distinct tree and can be distinguished by its preference for very damp habitats, pale bark, and distinct myrtaceous flowers and fruit. The could possibly be confused for the exotic *Syzygium smithii* in urban forest remnants, but differs from that species by having free rather than fused calyx lobes.

Syzygium maire is endemic to New Zealand, with a current threat ranking of Threatened – Nationally Critical, as it is highly susceptible to the exotic myrtle rust disease. Aside from this the species mostly exists as many small isolated remnants, many of which are no longer viable due to continued land clearance and swamp drainage. As the species is fleshy fruited the seed needs to be kept damp and does not store well in normal seed bank conditions. As such, work is being undertaken to test other cryopreservation techniques that may be used to store the seed, to allow the species to be preserved in the scenario that it is wiped out by myrtle rust in the wild.

The genus *Syzygium* means 'yoked together', from the greek 'sym' meaning together; and 'zygon' meaning a yoke for plough oxen, or pair. This refers to the leaves, which are always in pairs. The species epithet 'maire' is one of the Maori names for the tree.

You can view the NZPCN website factsheet for *Syzygium maire* at: <https://www.nzpcn.org.nz/flora/species/syzygium-maire/>

The mistletoe *Tupeia antarctica* in Dunedin—a new site bolsters population

John Barkla (mjbarkla@xtra.co.nz)

Tupeia antarctica (G.Forst.) Cham. & Schltdl. is an endemic aerial stem hemiparasitic mistletoe with a conservation status of ‘At Risk – Declining’ (de Lange et al. 2018). It is one of five extant members of the Loranthaceae family. A sixth species, *Trilepidia adamsii*, is thought to have become extinct in the last 60 years (Norton 1991). The main threats to *Tupeia antarctica* appear to be introduced mammalian herbivores, habitat destruction, and loss of seed-dispersing native birds.

Around the urban part of Dunedin City, *Tupeia antarctica* is a rare species, compared to the more common and widespread green mistletoe (*Ileostylus micranthus*). Until recently, it was known from just a small population in the Dunedin Town Belt and a few scattered plants elsewhere. In the Town Belt it is predominantly found in the northern half, where patches of native forest prevail. The vegetation here mainly consists of kānuka (*Kunzea robusta*), with a range of other broadleaved forest species, along with some exotic coniferous-deciduous forest.

I have been searching for and recording *Tupeia antarctica* in the Town Belt for several years and many of these plants were included in a recent study by Zoe Lunniss as part of her Masters of Science thesis (Lunniss 2020). In a 300-hectare study site that encompassed the northern Town Belt and adjoining residential area, Zoe recorded 46 *Tupeia* plants on 21 host trees comprising 20 marbleleaf (*Carpodetus serratus*) and one tree lucerne (*Chamaecytisus palmensis*) (Lunniss 2020).

During the course of wider surveys for *Tupeia antarctica* in Dunedin in May 2020 I came across a previously unknown population in the grounds of Wakari Hospital, approximately 2.4 km west of the Town Belt. This initial discovery was followed up with further searching within the expansive hospital grounds on five days in May 2020, April 2021, June 2021 and July 2021. In total, 175 *Tupeia antarctica* were recorded on seven hosts (Table 1), with the overwhelming majority on introduced tree lucerne (*Chamaecytisus palmensis*) (Fig. 1). Of particular note is four instances of double-parasitism where *Tupeia antarctica* was found hemiparasitic on green mistletoe (Fig. 2).

Table. 1 Hosts and number of *Tupeia antarctica* shrubs supported at Wakari Hospital site.

Host	Number of <i>Tupeia antarctica</i> shrubs
<i>Olearia traversiorum</i>	1
<i>Melicytus ramiflorus</i>	1
<i>Pseudowintera colorata</i>	2
<i>Ileostylus micranthus</i>	4
<i>Pittosporum eugenioides</i>	6
<i>Carpodetus serratus</i>	14
<i>Chamaecytisus palmensis</i>	147
TOTAL	175



Fig. 1 (left). Large shrub of *Tupeia antarctica* on tree lucerne host, 17 April 2021.



Fig 2. (right). *Tupeia antarctica*, lower centre, hemiparasitic on *Ileostylus micranthus*, 10 June 2021.

The site encompassing the mistletoe is an area of c. 0.8 hectares, and comprises well-established amenity plantings dominated by tree lucerne (up to 12 m tall) along with a mix of both native and exotic trees. These include *Pseudopanax laetus*, mountain horopito (*Pseudowintera colorata*), mahoe (*Melicytus ramiflorus*), wineberry (*Aristotelia serrata*), akeake (*Dodonaea viscosa*), tarata (*Pittosporum eugenioides*), taupata (*Coprosma repens*), buddleia (*Buddleja davidii*), bottlebrush (*Callistemon* sp.), and wattle (*Acacia* sp.).

Most tree lucerne hosts supported multiple *Tupeia antarctica* plants (up to 14) and had both this species and green mistletoe present on the same host. Attachment of *Tupeia antarctica* on the tree lucerne often originated from a haustoria swelling on the branch or trunk (Fig 3). In common with the Town Belt population, many trees also had swollen infection points on branches and trunks without any visible mistletoe (Fig. 4). *Tupeia antarctica* has the ability to remain dormant under the bark of host trees until conditions are suitable for growth. Unfortunately, there was no simple way to determine whether these infections were living individuals.



Fig. 3 (left). *Tupeia antarctica* branchlets emerging from swollen haustorium attachment point on tree lucerne host, 17 April 2021.

Fig. 4 (right). Swelling on branch of tree lucerne that may indicate latent infection of *Tupeia antarctica*, 3 Jul 2021.

A range of size classes was evident with the largest *Tupeia* shrubs having dimensions along each axis of c. 1 m × 1 m. Sex was not investigated although several plants were observed in heavy fruit in May 2020 and April 2021 (Fig. 5). This species of mistletoe is dioecious and only female plants produce fruit.



Fig. 5. *Tupeia antarctica* in fruit, 4 May 2020.

The oldest planted vegetation on the hospital grounds probably date back to 1915 when the site was an infectious disease centre before becoming a sanatorium, general hospital, and its current use as a psychiatric hospital. There are some hints to the former pre-human vegetation though, with rare large relict matai (*Prumnopitys taxifolia*), rimu (*Dacrydium cupressinum*) and broadleaf (*Griselinia littoralis*), that are likely to be centuries old, scattered through the more recent vegetation.

It is not clear why *Tupeia antarctica* plants are so abundant at this site and appear in robust health. Lunniss (2020) noted that introduced herbivorous mammals such as the brushtail possum (*Trichosurus vulpecula*) and rats (*Rattus* spp.) significantly impacted *Tupeia antarctica* growth by browsing on plants at all her study sites in Otago. The Dunedin Town Belt population was greatly affected by these pests. While the status of these pests at the Wakari Hospital site is not known, a trapline around the perimeter of the hospital ground removed close to 80 possums (Southern Health undated). Hopefully this pest suppression will be sustained and widened with the current roll-out of Predator Free Dunedin measures across the city. This should benefit mistletoes through reduced browse pressure and improved populations of seed-dispersing native birds.

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An update on *Lecanora kohu* (Lecanoraceae)—new locations and a review of its conservation status

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Introduction

The type of *Lecanora kohu* Printzen, Fryday, Blanchon et de Lange (Lecanoraceae) was collected on the 28 July 2015 from Hokoreoro / Rangatira / South East Island (hereafter Hokoreoro), a 249 ha Nature Reserve, situated 2 km south-east of Rangihau / Rangiauria / Pitt Island (hereafter Rangihau), Chatham Islands (Printzen et al 2017). Specimens were collected from Hokoreoro from two phorophytes, hakina (*Melicytus chathamicus*) and *Muehlenbeckia* aff. *australis*. These collections were part of a deliberate sampling made as part of a survey of the island's botanical and mycological diversity by the author and colleague David Houston. During the research leading to the formal publication of *Lecanora kohu* as a new species, searches were made for specimens of it in Chatham Islands lichen collections held in New Zealand herbaria, and within unaccessioned collections from those islands. None were found. Nor were any collections recognised from the other larger islands of New Zealand. Therefore, *Lecanora kohu* was provisionally regarded as endemic to the Chatham Islands by Printzen et al. (2017) who suggested it was highly unlikely to be confined to the type locality, and that it should be searched for elsewhere on the islands, and indeed New Zealand. Because the species was then known from only two collections, *Lecanora kohu* was awarded a conservation status of 'Data Deficient' (de Lange et al. 2018).

At the onset of 2018, I visited the Chatham Islands, initially when working for the Television series 'Coast' (January 2018) and then later in my role as a member of the Chatham Islands Conservation Board. These visits allowed for opportunistic lichen collecting from a range of sites and *Lecanora kohu* (Fig. 1) was discovered in a number of locations on the islands, allowing for a reassessment of its ecology and proposed adjustment of its conservation status.



Fig. 1. *Lecanora kohu*—close up of thallus. This specimen was noted on the trunk of hikoā karamu (*Coprosma chathamica*) at Chudleigh Conservation Area, Rekohu.

***Lecanora kohu* locations, phorophytes and lichen associates**

Rekohu / Wharekauri / Chatham Island

Lecanora kohu has been discovered at 12 locations on Rekohu / Wharekauri / Chatham Island (hereafter Rekohu), all outside the southern tablelands, where, at least for now it seems to be absent. Specimens have been collected from six phorophytes: hakapiri (*Olearia traversiorum*) (Fig. 2), hikoā karamu (*Coprosma chathamica*) (Fig. 3), hakina (*Melicytus chathamicus*), matipo (*Myrsine chathamica*) (Fig. 4), tarahinau (*Dracophyllum arboreum*) and ti kouka (*Cordyline australis*) of which hakapiri and hikoā karamu are thus far the most commonly utilised. Whilst determining lichen abundance can be problematic in terms of defining individuals, area of occupancy and so forth, the overall impression is that *Lecanora kohu* can be locally abundant, often colonising the exposed trunk and branches of phorophytes growing on the margin of forest remnants, in stands or as isolated trees within dune systems, paddocks, or around settlements. In some locations, such as Te One, and Blind Jim's, on the shoreline of Te Whanga, *Lecanora kohu* can form conspicuous patches on the trunks of phorophytes. Associated lichen species on Rekohu may include *Arthonia atra*, *Bacidia* sp., *Brigantiaea chrysosticta*, *Dirinaria applanata*, *Flavoparmelia haysomii*, *Hyperphyscia adglutinata*, *Lecidiella elaeochroma*, *Megalaria grossa*, *M. maculosa*, *M. orokonuiana*, *Menegazzia neozelandica*, *Opegrapha agelaeoides*, *O. intertexta*, *Pertusaria thiospoda*, *Physcia adscendens*, *P. poncinsii*, *Podostictina pickeringii*, *Punctelia subrudecta*, *Pyrenula* c.f. *moniliformis*, *Ramalina canariensis*, *R. celastri*, *R. ovalis*, and *R. peruviana*.



Fig. 2 (left). *Lecanora kohu*—morphology exhibited when growing on the exposed bark of hakapiri (*Olearia traversiorum*), in this case at Harold Peirce Scenic Reserve, Rekohu.

Fig. 3 (centre). *Lecanora kohu*—growing with *Pyrenula* aff. *nitidula* and *P. c.f. moniliformis* on the exposed bark of (*Coprosma chathamica*) at Chudleigh Conservation Area, Rekohu.

Fig. 4 (right). *Lecanora kohu* – morphology exhibited when growing on matipo (*Myrsine chathamica*), in this case on private land, Admiral Gardens, near Lake Marakapia, Rekohu.

Rangihaute

During a brief visit to Rangihaute, the second largest island in the Chatham Islands group, *Lecanora kohu* was searched for around Onoua (Honey-pot) and at Ellen Elizabeth Preece Conservation Covenant (Caravan Bush). It was only found twice, on the trunk of manatu (*Plagianthus regius* subsp. *chathamicus*) (Fig. 5) growing in the small lawn outside the Department of Conservation hut within the covenant, and on the forest margin on hiko karamu. The scarcity of the lichen on Rangihaute is probably anomalous. Despite its size and proximity to Rekohu, this island is less frequently visited, and most of the indigenous vegetation is located in the southern and western two-thirds of the island. I am confident that diligent searching will locate further *Lecanora kohu* populations on this island. Associated lichens included *Brigantiaea chrysosticta*, *Flavoparmelia soredians*, *Megalaria grossa*, *Phyllopsora corallina*, *Physcia poncinsii*, *Podostictina pickeringii*, and *Pyrenula nitidula*.



Fig. 5. *Lecanora kohu* – morphology exhibited when growing on manatu (*Plagianthus regius* subsp. *chathamicus*), Ellen Elizabeth Preece Covenant (Caravan Bush), Rangihaute.

Wharekaikite (Rabbit Island)

Lecanora kohu was collected during a visit to Wharekaikite on 11 February 2021, from the trunk of hakina within a small hakapiri forest. During the visit, the extremely wet conditions were not conducive to lichen collecting, with the branches and trunks of trees and shrubs saturated. Under such conditions lichens are less conspicuous. Further survey on this island will be needed to determine the abundance of *Lecanora kohu* there. The only associated lichen was a species of *Bacidia*, probably *B. laurocerasi* – the specimens collected were inadequate for an accurate determination.

Hokoreoreoro

There have been no further collections of *Lecanora kohu* from Hokoreoreoro since the two collections (from two locations) made from there in July 2015 (Printzen et al. 2017). This situation reflects the fact that very few lichen collections have been made from that island since 2015 and, as yet, the island has not been visited by a lichenologist. Printzen et al. (2015) also noted *Bacidia laurocerasi*, *Phlyctis sordida* and *P. uncinata* as lichen associates.

Ecology

Printzen et al. (2017) understandably offered little about the ecology of *Lecanora kohu*; noting only that it 'gr[ew] on the exposed, mature branches of a widespread, common unnamed species of *Muehlenbeckia* (*M. aff. australis*) and [had been collected] from the exposed trunks of Chatham Island mahoe [hakina] (*Melicytus chathamicus*). The discovery of a further 14 *L. kohu* locations provides additional data.

It seems that *Lecanora kohu* is a photophilous species, seen both by its preference for exposed situations, often on isolated trees or tree stands, or on colonising those trees and shrubs on the margin of forest remnants. The photophilous nature of the species is also confirmed by the lichens associated with it, none of which tolerate shaded situations for long. Notably, there have so far been no records of *Lecanora kohu* from forested interiors or shaded sites.

Lecanora kohu also seems to be tolerant of wind blast, probably also salt laden wind as it is often found on trees growing on the margin of the coast, Te Whanga lagoon, or in open dune field. In these situations, it is either the dominant or only crustose lichen present.

It would also seem that *Lecanora kohu* is strictly corticolous. Even in situations where the exposed root plate and basal trunk of phorophytes supporting the species straddle rocks, *L. kohu* has not been found growing off bark. *Lecanora kohu* has thus far not been collected from lignum, avoiding those portions of dead phorophyte left in situ on an otherwise living host.

Conservation Status

Lecanora kohu was assessed 'Data Deficient' qualified 'IE' [Island Endemic], 'OL' [One Location] by de Lange et al. (2018). This follows the recommendation of Printzen et al. (2017), who further stated that '...we suspect that it is more likely that *L. kohu* is overlooked than genuinely threatened, and that its absence from other islands in the Chatham Islands group reflects that they have yet to be collected by expert lichenologists'. The qualifiers used by de Lange et al. (2018) reflected the belief that *L. kohu* is endemic to the Chatham Islands, and that, at the time the assessment was made, it was only confidently known from one location – Hokoreoro.

Data Deficient taxa are an urgent priority for investigation because beyond their identity, nothing is known of their population size, number and trend, area of occupancy and basic biology. Without such data, a confident conservation status assessment is impossible, and 'Data Deficient' taxa may be at serious risk of going extinct because nothing is known of them to enable effective management (Townsend et al. 2008; de Lange et al. 2018).

Of the 16 *Lecanora kohu* locations now known, ten are located in Conservation Areas, National Historic, Scenic and Nature Reserves administered as part of the public conservation estate by the Department of Conservation. One is located in a privately owned and managed forest remnant near Lake Marakapia, and another is located on hakaipiri trees growing around the Department of Conservation Te One office buildings. The others occur on private land. However, with the exception of Hokoreoro and Harold Peirce none of the new populations occur in secure situations where the longevity of their phorophytes is assured. One population occurs in a forest remnant on the verge of collapse (J.M. Barker (Hapupu) National Historic Reserve) and all of the others on protected land are on exposed, usually senescent, trees.

Determining population size is also problematic. After all, what exactly constitutes a population in a lichen? Assuming then, that a discrete lichen patch is truly one individual, one is left with the problem of counting 'individuals'. While possible, in practice this is rarely done for conservation assessments of cryptogamic plants in New Zealand, rather the area of occupancy is used (de Lange et al. 2018; de Lange et al. 2020; Nelson et al. 2019; Rolfe et al. 2016).

Using area as an estimate of population, suggests that *Lecanora kohu* has a total area of occupancy of c. 3.76 ha with the largest subpopulation so far known, that on Hokoreoro occupying c.0.8 ha.

A rate of decline is still unavailable however. In many situations the phorophytes are in ill thrift and some, such as those colonised by *Lecanora kohu* along the shoreline of Te Whanga at Blind Jim's, Te Matarae and Taia or at the J.M Barker (Hapupu) National Historic Reserve and Nikau Bush Conservation Area are mostly senescent. The only seemingly healthy populations with thriving phorophytes seen are at Chudleigh Conservation Area, Harold Peirce Scenic Reserve and on Hokoreoro. The situation on Rangihau and Wharekaikite is unknown. Exposed trees in ill thrift, especially those on the Chatham Islands, are prone to sudden collapse, and once decline has set in, few trees that I have seen there persist for more than a decade.

Collectively then, this data indicates a total area of occupancy of c. 3.76 ha, spread over 16 subpopulations, with an overall decline rate estimated at 10–30% over the next 10 years. This would assess *Lecanora kohu* as 'Threatened / Nationally Endangered' on the basis of area of occupancy and trend data (Townsend et al. 2008; Table 3B, p. 15) or on the basis of criteria for 'Nationally Endangered' A3, T1 (i.e., area of occupancy < 10 ha, decline rate of 10–50% over next 10 years; Townsend et al. 2008).

To this proposed assessment the following qualifiers apply ‘DPS’ [Data Poor – population Size], DPT [Data Poor – Population Trend], ‘IE’ [Island Endemic], ‘RR’ [Range Restricted] and ‘Sp’ [Sparse]. This is because accurate data on population size and the rate of decline is still needed. *Lecanora kohu* is now known to occur at several locations, but is still apparently a Chatham Islands endemic where it occupies a specific habitat, colonising trees in open, exposed sites, in which situation it does seem to be sparsely distributed.

This assessment is an improvement on that offered by Printzen et al. (2017) and ratified by de Lange et al. (2018). However, more information on decline rates and trends is needed. Furthermore, the situation may change if populations are discovered within the more densely vegetated southern tablelands of Rekohu, and the Waipaua portion of Rangihau. *Lecanora kohu* has yet to be recorded from Mang’re / Mangere Island, Tapuaenuku / Little Mangere, and Motchu Hop’ / Star Keys Island which have indigenous forest and scrub, and which, considering the lichen’s discovery on the much smaller Wharekaikite (c.1.20 ha) probably also support the species. Notably, at the time of writing (July 2021) a large consignment of lichens collected from Mang’re have been gifted to the Unitec Institute of Technology Herbarium (UNITEC) for study. It will be interesting to see if *Lecanora kohu* specimens are present in those collections.

In the interim, the proposed change in status from ‘Data Deficient’ to ‘Threatened / Nationally Endangered’ remains to be sanctioned by the New Zealand Lichen Threat Listing panel. Irrespective of any future decision though, we now have a better idea of the distribution and ecology of *Lecanora kohu*. Now it remains to be seen if the species is truly endemic to the Chatham Islands; consider *Caloplaca maculata* as a case in point (Galloway 2004; de Lange 2012, 2019; de Lange et al. 2021).

Acknowledgements

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NZPCN Website changes

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New look for image galleries for species pages on our website

Some users may have noticed some subtle changes in the way images are displayed in the gallery at the top of species pages on our website. The key new changes to note are:

- The size of the image you can view is now governed by whether you are logged in or not (previously we had to duplicate each image file and set different access permissions for members and non-members which was a poor use of screen space and was a lot more time consuming for volunteers loading images). A 'person' icon is now visible at the top right corner of an image thumbnail:

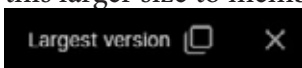


indicates to logged-in member that this image is available at a larger size (800×800 pixels wide)



indicates to user that a larger image is available to logged-in users (i.e. current members).

- Non-members can now see *all* images but the size of the image they see is constrained to a maximum of 400×400 pixels. This means that over 60,000 images are now available to non-members.
- Even-larger versions of some images are now available to members—look for the symbol at the top of the image window. All new images loaded to our website from here on will be available at this larger size to members (up to 2400×2400 pixels)/



- For some images we only have a small image file – members and non-members see the same image. Note, for these images there is no 'person' symbol at the top right of the image when viewed in the gallery.

Plant lists are back!

Thanks for your patience while we built a better way to deliver plant lists on our website. As you know our old website had a page with plant lists but they were hard to access. The new website now offers historic plant lists (often scanned hand-written documents like those prepared by Tony Druce) as well as dynamic tabulated lists which can be downloaded as CSV files. The lists can be viewed in the browser and there is a print friendly version available too.

Plant lists can be found by navigating from our home page to **Publications > Plant list > Plant lists by region** (<https://www.nzpcn.org.nz/publications/plant-lists/>). Note you need to choose a region first to narrow things down as it is not practical to display the large number of lists at once. Some lists may cover geographic areas which spread across regional boundaries but will be allocated to one region only – so check the adjacent region if you are looking for something that straddles two regions.

Once you have narrowed down the region of interest you can scroll around to see dots on the map – red dots are static pdf lists, and blue dots are tabulated (dynamic) lists. List density is indicated by coloured numbers – zoom in or click on these to see more details. In time we will develop some more tools to filter lists by author, keyword and date but at present the main way to navigate these lists is through the map interface.

We currently have over 7,400 plants lists and there is a small backlog to add. Please read the information about compiling a plant list if you are interested in supplying one to us. <https://www.nzpcn.org.nz/publications/plant-lists/how-to-prepare-a-plant-list/> Make sure you check with the landowner before compiling a plant list that is okay to share this publicly. If you want to share a plant with us, please send it to info@nzpcn.org.nz and note we reserve the right to not publish all lists supplied to us.

Thank you to all the diligent people who have supplied lists to NZPCN over the years. These are a valuable resource and judging by the number of emails I got when this function was not initially carried over to the new site these lists are very popular with our website users. Enjoy!

UPCOMING EVENTS

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

Auckland Botanical Society

Meeting: Wednesday 4 August at 7.30pm. **Speakers:** Dan Blanchon and Marley Ford. **Topic:** Lichen species update.

Venue: Unitec, School of Natural Sciences, 139 Carrington Road, Mt. Albert (Gate 3, Building 182, Room 3002).

Field Trip: Saturday 21 August to Paparoa Pa.

Leader: Jack Warden.

Meeting: Wednesday 1 September at 7.30pm. **Speaker:** Colin Meurk. **Topic:** In an age of multiple global emergencies – Cities are keys to biodiversity and planetary futures.

Venue: Auckland Museum.

Rotorua Botanical Society

Field Trip: Sunday 1 August to Waimangu – Hapeetoroa. **Meet:** Rotorua Council carpark at 8.30am or Waimangu Valley carpark at 9.00am. **Grade:** Medium/Hard.

Leader: Martin Pearce, email mpearce21@xtra.co.nz, ph. 07 349 1929.

Wellington Botanical Society

Field Trip: Saturday 7 August to Tane's Track, Pakuratahi Forest. **Meet:** Tunnel Gully Recreation Area parking area beyond the end of Plateau Road, Te Marua at 9.00am.

Leaders: Kate Jordan, email kateljordan@gmail.com, ph. 027 899 0018 and Julia White, email rockwren1@gmail.com, ph. 021 112 8841.

Meeting: Monday 16 August at 7.30pm. AGM and Tony Druce Memorial Lecture. **Speaker:** Bev Clarkson. **Topic:** Peatlands – following the footsteps of APD into special places.

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

Nelson Botanical Society

Field Trip: Sunday 15 August to Shannel Courtney's property, Pohara.

Leader: Contact Shannel at scourtney@doc.govt.nz for further information.

Meeting: Monday 16 August at 7.30pm. **Speaker:** Mike Harding. **Topic:** Threatened flora of the McKenzie Basin.

Venue: Jaycees Room, Founders Park.

Canterbury Botanical Society

Meeting: Monday 2 August at 7.30pm. **Speaker:** Rob Allen. **Topic:** To plant or not in forest restoration.

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

Field Trip: Saturday 7 August to Charteris Bay (Te Wharau). **Meet:** Halswell Bowling Club at 9.00am.

Leader: Tom Feguson, email tom@wai-ora.nz, ph.027 471 6563.

Botanical Society of Otago

Field Trip: Sunday 8 August to Racemans Track. **Meet:** Botany Department carpark (464 Great King Street North) at 9.00am.

Leader: John Steel,
email john.steel@otago.ac.nz.

Meeting: Wednesday 11 August at 5.20pm. **Speaker:** Wendy Nelson. **Topic:** Seaweeds at the doorstep: the diversity of coastal habitats and the species that are found in the Otago region.

Venue: Room 215, 2nd Floor,
Zoology Benham Building,
346 Great King Street.
