NEW ZEALAND PLANT CONSERVATION NETWORK

TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

No. 166

September 2017

Deadline for next issue: Monday 16 October 2017

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 events@nzpcn.org.nz

Postal address:
c/- 160 Wilton Road
Wilton
Wellington 6012
NEW ZEALAND

PLANT OF THE MONTH, p. 2

Parablechnum procerum
Photo: Jeremy Rolfe.

Tribute to Roger Michael Greenwood (1920–2017)

Anthea McClelland, Chair, F&B Manawatū (amccl@inspire.net.nz)

Roger Michael Greenwood, known as Michael, was a Life Member of Forest and Bird. He was one of the foundation members of the Manawatu Branch when it was created in November 1957 and served on the committee for over 20 years. He, together with Mrs Una Esler, formed the Junior Naturalists, which was designed to get children, 8–16 years old, in closer touch with conservation through recognition of native flora and fauna. In addition, he was a constant participant in many of the meetings and field excursions of Forest and Bird, and the Manawatu Botanical Society over the decades.

Michael at work in Keeble's Bush. Photo: Jill Rapson.

Michael was born in New Plymouth and educated in Wanganui and Canterbury. After university, in 1943, he joined the Plant Chemistry Division, DSIR, where he worked (apart from 18 months at the University of Western Australia when he was awarded a fellowship in Soil Microbiology) until he retired in 1980. During this time, his work at DSIR centred on isolating and typing *Rhizobium* bacterial strains to find their ability to nodulate their specific legume hosts. NZ 2037, the most famous, was one of his strains that has been used widely for inoculating white clover. Seed coated with *Rhizobium* provides young clover plants with a kick-start and ability to fix nitrogen. This was an important development and part of the reason why our pastures are internationally considered so successful.

Michael also conducted several studies on New Zealand plants and, in particular, he worked with colleague Ian Atkinson to develop the hypothesis on the possible influence of moa browsing pressure in moulding divarication, the twisted and tangled morphology of many mainland indigenous shrubs. This hypothesis has resulted in both amateur and professional botanists taking much more interest in this peculiar group of plants.

Before Michael retired, he became interested in Keeble's Bush, which is close to Palmerston North. Keeble's Bush is widely considered the best remnant of lowland podocarp-broadleaved forest in the Manawatu. In his will, Charles Keeble reserved it for scientific purposes only and, in the decade after Charles died in 1971, Michael worked to form a Charitable Trust to look after this well-preserved 17 ha bush remnant. In 1985, Michael became the inaugural Chairman of the C.T. Keeble Memorial Forest Trust, served as chair until 2001 and remained on the trust until 2012. In 1980, he was offered a 1.8 ha scarp downstream from Keeble's Bush to plant in native trees and

continued on page 3

PLANT OF THE MONTH – *PARABLECHNUM PROCERUM*

Parablechnum procerum. Photo: Jeremy Rolfe.

Plant of the month for September is *Parablechnum procerum* or 'small kiokio', one of five *Parablechnum* species endemic to New Zealand. The species is widespread throughout the country from about Mangamuka forest south to the sub-Antarctic and Chatham Islands. It lives in a wide range of habitat types from coastal forest and scrub to sub-alpine tussock grassland. In the southern part of its range, it often is one of the dominant groundcover species in mixed forest and shrubland. It can cope with a wide range of growing conditions from deep shade in peat rich wetlands, to dry, sunny clay banks. It extends occasionally into full alpine habitats. Across its range, the species is sympatric with all other *Parablechnum* species, especially *P. novae-zelandiae* and *P. montanum*. The plant is short rhizomatous and can form extensive dense patches up to half a metre tall. The fertile fronds are generally taller and more erect than the drooping sterile fronds. The leaves range in colour from bronze red in the open to dark dull green in the shade, with 2-15 pairs of serrated pinnae (leaflets).

This species is similar in appearance to most other species of *Parablechnum*, but is most like *P. montanum*, which can be distinguished from *P. procerum* by its more sickle-shaped acute tipped pinnae, generally dark (nearly black) rachis (leaf mid vein) and costae (pinnae mid veins). *Parablechnum montanum* also has stipe scales with a central black spot, as opposed to those of *P. procerum* that have brown centres. *Parablechnum novae-zelandiae* can be distinguished from *P. procerum* by its lowermost pinnae that are distinctly very short and rounded, except in very juvenile plants. To add to the confusion, *P. procerum* can hybridise with the other *Parablechnum* species.

The species is endemic to New Zealand, with a current threat ranking of Not Threatened because it has a widespread range and is abundant across most of its range. This is a species that has probably partially benefitted from human disturbance, since it is fast to re-colonise areas after fire and thrives in scrub. Being almost unpalatable to most animals (except possums and very hungry cattle), the species survives in many rough-pasture, hill-country areas, where there are scattered rock outcrops, or some woody vegetation. Land clearance for intensive agriculture and competition with exotic weed species are the main two threats to the species.

Traditionally, it was used to wrap food being cooked in a hangi (Colenso, 1869). It is not commonly grown in cultivation, but should be relatively easy because of its hardiness and could be grown in a range of environments, including under trees.

The species epithet 'procerum' means long, from the Latin word procerus; there are many long parts but most of them not distinguishing features. You can view the NZPCN website factsheet for *Parablechnum procerum* at: http://www.nzpcn.org.nz/flora_details.aspx?ID=2072

Reference

Colenso W. 1869: On the geographic and economic botany of the North Island of New Zealand. *Transactions of the New Zealand Institute* 1(2): 1–58.

since it had a wide range of differing habitats, he decided to take it on as a retirement project. Michael's specific aim, which he followed in this restoration programme, was to propagate and establish species that had become very rare in Keeble's Bush, thus securing their future in the Manawatu District. He continued growing and planting in this area over the next 30 years. His efforts inspired the planting of the intervening area, the Link, by Peter van Essen, starting in 1996.

Michael was a tireless advocate for protecting native forests and bush remnants. In 1984, he_was involved with the "Save the Odlins Block Committee" which, through urgent negotiation, saved a 2000-hectare area of native bush at Tokomaru from being logged; it has now been returned to the Tararura Forest Park. He has also contributed to the understanding and protection of most other remnants in the Manawatu through sharing his knowledge of New Zealand's flora and vegetation.

In 1993, he was awarded the prestigious Loder Cup, New Zealand's premier conservation award, which celebrates our unique and distinctive flora and honours those who make outstanding contributions to its conservation. In 2010, Michael was awarded Honorary Life Membership of the New Zealand Ecological Society for his scientific achievement, contribution to Keeble's Bush and contribution to restoration ecology. He was also a member of the Pukeiti Rhododendron Trust, the Wellington Botanical Society and the Manawatu Museum Society, and was a long-standing member of the local branch of the Royal Society of New Zealand and the NZ Institute of Chemistry.

Though largely unacknowledged, Michael is probably New Zealand's first and foremost restoration ecologist, as well as being an inspired scientist, an active and effective conservationist, and a true gentleman and friend. He will be greatly missed.

New lichen described from the Chatham Islands

Peter J. de Lange, Unitec Institute of Technology, Department of Natural Sciences (pj.delange@xtra.co.nz) and David M. Houston, Northern Terrestrial Ecosystems Unit, Bidoiversity Group, Department of Conservation (dhouston@doc.govt.nz)

The decision to collect lichens during a July 2015 winter investigation of the vegetation associations, plant life and fungi of Rangatira (South East Island) by the Department of Conservation (DOC) has resulted in the formal recognition of a new species of lichen for the Chatham Islands (Printzen et al., 2017).

The DOC 'Botanical' Survey was undertaken during the usual winter Chatham Island petrel (*Pterodroma axillaris*) burrow maintenance undertaken yearly during mid-winter on Rangatira. During the July 2015 visit, and aside from checking burrows, counting black robins (*Petroica traversi*) and other routine weed control and track clearing, it was intended to update the vegetation map for the island and investigate the succession within pohuehue (*Muehlenbeckia* aff. *australis*) vineland (Fig.1). Oddly, Rangatira, despite its global significance as the staging post for the recovery of the critically endangered black robin, has had little documentation of its flora. In part, this may be because, with an understandable focus on the conservation management of black robin and Chatham Island petrel, most shore parties have been ornithological rather than botanical. That said, there has been considerable research effort undertaken to investigate the vegetation succession of the island in the last 20 years. In particular, study has focussed on the pohuehue vineland that many experts

Fig. 1. Flowering plant (male specimen) of pohuehue (*Muehlenbeckia* aff. *australis*), Thinornis Bay, Rangatira. Photo: P.J. de Lange.

believe is an impediment to the natural forest recovery of the island (Fig. 2). Simply put, more forest is needed if we are to have more black robins. To achieve that goal, some people wondered if suppressing the pohuehue and planting those areas with forest trees would accelerate vegetation recovery and so produce more bird habitat.

Fig. 2. North-eastern portion of Rangatira as seen from the Trig Station. Much of the flat expanse of vegetation is pohuehue (*Muehlenbeckia* aff. *australis*) vineland. Photo: P.J. de Lange.

Critical to answering this question is the need is to determine the current vegetation associations of the island. Without those data, it is difficult to predict the likely future vegetation succession of the island. So, in July 2015, we set out to try to gather those data. Further, in addition to our vegetation mapping, we decided to update existing knowledge of the island's flora and its fungi and lichens – the latter are two life forms rarely noted by scientists visiting Rangatira.

As Rangatira was once so extensively modified, the flora and vegetation of the island, though recovering, lacks the diversity of that seen in similar habitats on nearby Pitt Island. Of course, it's also true that the much smaller size of Rangatira limits the floral diversity—so you would expect less diversity. Nevertheless, following from the July 2015 survey, and working through the myriad fungal and plant collections housed in New Zealand herbaria, we can report an interim flora for Rangatira comprising 182 indigenous and 68 naturalised fern and flowering plants (including five hybrids and seven [possibly new to science] 'species'), one hornwort, 28 liverworts (one of which is naturalised to the Chatham Islands) and 50 mosses (including one naturalised to the islands). We also report four fungi and 119 lichens. Whilst we are pretty confident that the fern and flowering plant tally is accurate, more work is needed for the hornwort, liverwort and mosses – plant groups rarely collected by island visitors. Similarly, there will be more fungi on the island and, without doubt, many more lichens. Though the results of our four-day investigation are still being written up, a draft vegetation association map is now available for use. Copies are held by the Department of Conservation.

Fig. 3. Lichenfield on shore platform coastline leading from Te Outa to Whalers Bay, Rangatira. The lichen causing the white 'paint' is mostly *Pertusaria graphica* whilst the yellow lichen is *Dufourea ligulata* (a species which is usually coloured dark orange). Photo: P.J. de Lange.

With respect to the lichens, those of Rangatira are, with few exceptions, crustose, often drab species that are easily missed in the gloomy forest. It is on the exposed coastal cliff faces, shore platforms and rock outcrops of Rangatira where lichens, at least visually, dominate (Fig. 3). In particular, the white 'paint' of *Pertusaria graphica* forms a distinctive band on the rocks just above the spray zone (Fig. 3) and on the island's exposed cliff faces. In places, this is broken by the *Dufourea ligulata* (Fig. 3) a species which, depending on the degree of exposure, can be yellow, orange or very dark fiery orange. In

some places, another orange species, the tufted *Teloschistes flavicans* (Fig. 4) is present. Though the rock dwelling lichens of Rangatira are visually conspicuous, those of the forest are not; most are scarcely evident, blending with the bark of the trees, shrubs and vines they inhabit. Some are so inconspicuous that they are seen only when the host plant is carefully inspected by torch light or using an ultra violet lamp. There are some occasional surprises though.

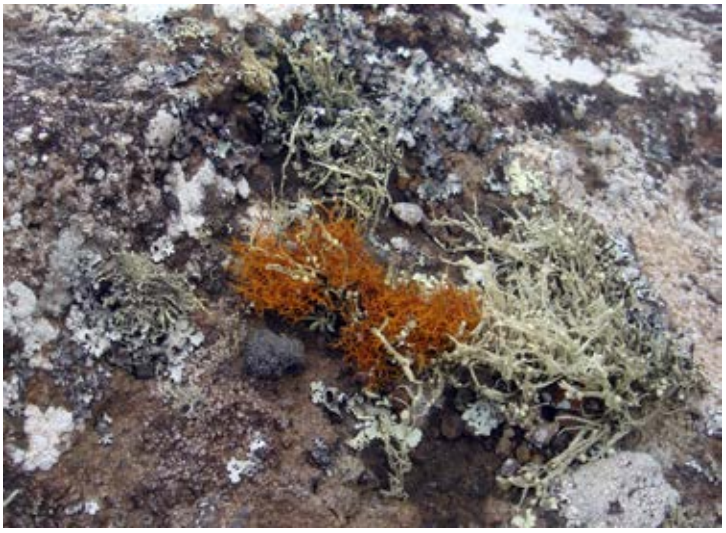

Fig. 4. Lichenfield sporting the bright orange, tufted lichen *Teloschistes flavicans* and greyish 'seaweed-like' *Ramalina celastri*. Photo: P.J. de Lange.

One such surprise was found the exposed stems of pohuehue near Western Landing (Fig. 5), and again on the bark of mahoe (*Melicytus chathamicus*). This lichen presented as a small, whitish crustose 'scab'. The 'scab' on closer inspection sported numerous pinkish depressions (Fig. 6). Back in New Zealand, thin sections of these immersed pinkish spots revealed that they were fruiting bodies (apothecia) and the spores extracted from these placed the lichen into the genus *Lecanora*.

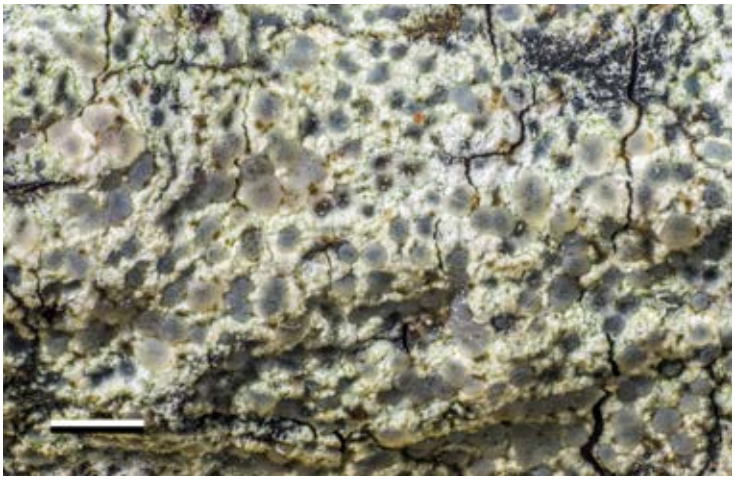

Fig. 5 (left). Portion of the type specimen of *Lecanora kohu* (dry state) showing an example of the new lichen on the branchlet of pohuehue (*Muehlenbeckia* aff. *australis*). Scale bar = 5 mm. Photo: J.R. Rolfe.
Fig. 6 (right). Close up of a rehydrated (wet) thallus portion of *Lecanora kohu* showing the distinctive, immersed 'pinkish' fruiting bodies (apothecia). Scale bar = 1 mm. Photo: J.R. Rolfe.

Lecanora is a worldwide, species-rich genus of lichen of 600 or so taxa. The Rangatira specimens didn't match anything recorded from New Zealand, so images were taken and passed to experts in the USA (Field Museum, Chicago, Michigan State University, Michigan) and Senckenberg Institute, Germany. These elicited sufficient interest that duplicate material was sent to Michigan, and from there to Frankfurt. Initially, it was decided that the Rangatira *Lecanora* was *L. confusa*, itself of interest as it would have been a new record for the New Zealand Archipelago. Then it was thought the specimens matched an undescribed species from the Falkland Islands. Finally, it was decided that they were in fact a new species.

This odyssey has culminated in the formal recognition of a new species, named *Lecanora kohu* ('*kohu*' from *Te Reo Maori* for 'fog/mist' in allusion to the sea fog that often obscures Rangatira) (Printzen et al. 2017). The new species is so far known only from the two July 2015 collections made from Rangatira. The species is not present in the other more extensive lichen collections from Pitt and Chatham Island but it is probably present there as well. Indeed, any claim to *Lecanora kohu* being

endemic to the Chatham islands would be rather unwise. Previous claims of an endemic *Caloplaca*, *C. maculata*, known only from Chatham Island, on coastal cliffs near Waitangi provided unfounded when the species turned up at Akatore, near Dunedin, South Island, New Zealand (de Lange 2012). Only time and further collecting will tell whether *Lecanora kohu* occurs anywhere else in the world.

In the meantime, the discovery of *Lecanora kohu* on pohuehue and associated mahoe in the regenerating vegetation of Rangatira serves as a pertinent reminder of the need to carefully inventory the biota of a place before deciding on management actions. Currently, *Lecanora kohu* is known only from Rangatira and we know very little about its abundance and habitat preferences there. We need more information. Also, considering its chance discovery, one wonders what hitherto unrecognised biota also reside within the successional vegetation of Rangatira. Even more notable is the fact that the pohuehue itself is an apparently undescribed, new species (Fig. 1), which (unlike the easily overlooked *Lecanora kohu*) is very probably endemic to the Chatham Islands. That, too, is slowly being worked on, this time by an Austrian Post-Doctoral Fellow at the Melbourne Botany Gardens, Dr Tanja Schuster—watch this space for further developments.

Acknowledgements

For assistance in the field on Rangatira during July 2015, we would like to thank Bex Bell and James Maunder then staff working for the Department of Conservation Chatham Island Area Office. The process of describing *Lecanora kohu* was undertaken in a series of skips and jumps around the world for which we must first acknowledge the interest and help of Dan Blanchon, Unitec, Department of Natural Sciences. Dan's help took us to Thorsten Lumbsch of the Field Museum, Chicago, USA who suggested we follow up the find with Alan Fryday of the Michigan State University, USA, and Christian Printzen of the Senckenberg Research Institute, Frankfurt, Germany. We also would like to thank Jack Elix, Australian National University, Canberra, Australia, and Robert Lücking, Botanischer Garten und Botanisches Museum, Berlin, Germany, for offering a constructive review of the paper we subsequently wrote describing *Lecanora kohu* with Alan, Christian, Dan and Jeremy Rolfe.

References

de Lange, PJ. 2012: Sole Chatham Islands endemic lichen discovered on south Otago Coastline. Chatham Island New Zealand website. [accessed 2017 August 30]. http://www.chathams.co.nz/index.php/naturalheritage/138-lichen-no-longer-endemic

Printzen, C; Blanchon, DJ; Fryday, AM; de Lange, PJ; Houston, DM; Rolfe, JR. 2017: *Lecanora kohu*, a new species of *Lecanora* (Lichenized Ascomycota: Lecanoraceae) from the Chatham Islands, New Zealand. Submitted: *New Zealand Journal of Botany 55*. DOI: 10.1080/0028825X.2017.1364274

Greening the Canterbury Plains through volunteer efforts

Elizabeth Guthrey, Plantout Coordinator, Te Ara Kakariki Greenway Canterbury Trust (office@kakariki.org.nz)

This year, it will have been 11 years that Te Ara Kakariki Greenway Canterbury Trust has existed. The trust began with just a couple of sites (now known as 'Greendots') per year. As funding and interest has increased each year, we have been able to extend our cause to a large number of landowners wanting to plant natives in Selwyn District.

Te Ara Kākāriki Greenway Canterbury Trust kicked off the community Canterbury Plantout days for September 2017 on an organic farm in Broadfield. There are multiple methods of preparing and maintaining a site for native plants. Vanya Alison Maw is impressive for a senior citizen; she is committed to doing everything organically without sprays. For her, this meant moving buckets of mulch around with a tractor while volunteers planted and used the mulch to lay around the plants. She has been planting native plants on her property year after year for about two decades. This is the first time a group of people have dedicated their Saturday morning to planting natives alongside her growing forest. With tears in her eyes, Vanya said "It's just wonderful to have you all here, I'm so blessed". Ecologist Nathan Dougherty acknowledged that native birds are already feeding on her

existing native trees and that this is a very exciting place to continue restoring across the field for coming years.

Most new native 'Greendot' sites start off as bare paddocks; the only trees in sight being a couple of pine, eucalyptus or willow trees. Wim Nijhof removed a number of willows earlier in the year to make way for a native 'Greendot' in Lincoln. He has left a few stumps and logs on the ground so that terrestrial invertebrates can make homes and establish a hub of biodiversity in time. Nicki Shackleton's new 'Greendot' site nearer Te Waihora/Lake Ellesmere was planted with 500 plants, which will become thousands in years to come. She pointed into the distance and said, "One day there will be native trees all the way to that far hedge. It is to have wide trails suitable for all ages of people. It is to be a sanctuary and a place people can come and relax and be at peace".

Volunteers planting at Vanya Maw's Broadfield 'Greendot'.

It's always very exciting for volunteers to imagine how the native 'Greendot' will be in years to come. Native 'Greendots' can comprise a few hundred or many thousands of native plants.

To accommodate native bird populations on the plains, we need to establish larger patches of natives every 5 km, and smaller patches every 1 km. This is possible with the collaboration among private landowners, trusts like Te Ara Kākāriki Greenway Trust, volunteers from the community, and private and public funders, such as the Selwyn District Council, Central Plains Water Environmental Management Fund, the Ministry for the Environment, and Isaac Conservation and Wildlife Fund.

The second native planting day, Saturday 9 September, was very windy but with some sunny calm patches. We all made it through with a smile and even finished the three sites a little early. During the day, we had a cake to celebrate the fiftieth planted site. By the end of 9 September, with the volunteers, we have planted approximately 49,300 native plants over the 10 years, including public school sites. Our largest planting day for this year will be on 16 September, with 4,000 plants to be planted by 120 volunteers. By the end of the spring planting season we will have planted over 56,000 plants in the 10 years of the trust's existence. All of these efforts to restore native biodiversity to the Canterbury Plains are possible only with willing volunteers on weekends in spring.

Trustees cake cutting (left to right: Johannes Welsch, Peter Joyce, Alan McDonald, Pam Aldersley, Craig Pauling (chair), Tainui Pauling.

If anyone would like to volunteer, check out the final planting day on the Port Hills: Saturday 30 September. On this day, we will restore fire affected areas on Early Valley Road. You can bring your own vehicle and come morning or afternoon. Register at: www.kakariki.org.nz.

Our thanks go to our funders who enable these restoration projects on the plains: Ministry for the Environment, Central Plains Water Environmental Management Fund, Selwyn District Council, Isaac Conservation and Wildlife Fund and our supporters: Biz Dojo Christchurch (office space), Ngai Tahu (web hosting), Waihora Ellesmere Trust (volunteers).

New Zealand Indigenous Flora Seed Bank (NZIFSB)

Monica Swadel (M.Swadel@massey.ac.nz) and Craig McGill (C.R.McGill@massey.ac.nz)

Arrival of two French Interns

The Seed Bank would like to welcome two interns from France, Vinciane Cappelaere and Mathilde Roignant; both are from the Engineering School in the Agrocampus Ouest in Rennes. They arrived at Massey in early September. Vinciane and Mathilde and will be undertaking research at Massey University under the supervision of Nick Roskruge.

Vinciane has a strong interest in greenhouse fruit production, whereas Mathilde is particularly interested in pasture and soil activity. Both Vinciane and Mathilde are looking forward to learning new laboratory techniques and expanding their English conversation skills.

Vinciane and Mathilde have been working in the seed bank for a week helping sort samples of full and empty *Metrosideros* sp. seed. This is so that full seed can be tested for germination following banking in the -20˚ C freezer at the Margot Forde Germplasm Centre. Their contribution has allowed us to process a greater number of seed collections.

Thank you, Vinciane and Mathilde, we look forward to your time with us over the next 5 months.

Mathilde Roignant (left) and Vinciane Cappelaere.

David Given Threatened Plant Scholarship

Applications are now invited for the award of a David Given Threatened Plant Scholarship. The scholarship is open to New Zealand residents or citizens but the work could involve overseas researchers who collaborate with the New Zealand principal researcher. Threatened species and communities can be either nationally or regionally threatened and 'plant' in this case includes fungi. For more information and an application form please see the attachment at the end of this newsletter. Applications close on **Monday 6 November**; the name of the successful applicant will be announced at the NZPCN conference in Hokitika.

WWF-New Zealand 2017 Conservation Awards

The WWF Conservation Awards entries can be submitted from 26 September to 15 October. The awards are in three categories:

- Engaging young people and communities
- Predator Free New Zealand 2050
- Open category

For more information, click on the following link: WWF 2017 Conservation Innovation Awards

UPCOMING EVENTS

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

New Zealand Plant Conservation Network Biennial Conference

Conference: Tuesday 14 to Saturday 18 November. **Venue:** Regent Theatre, Hokitika. The conference will be followed by the John Child Bryophyte and Lichen workshop on Sunday 19 November to Tuesday 21 November.	**Registration:** http://www.nzpcn.org.nz/conference_register.aspx

Auckland Botanical Society

Meeting: Wednesday 4 October at 7.30 p.m. fro a talk by Cate MacInnes titled 'Kauri, drought and climate'. **Venue:** Unitec Room 115-2017.	**Contact:** Maureen Young, email: youngmaureen@xtra.co.nz.
Field trip: Saturday 28 October for a Bioblitz at Whatipu.	**Leaders:** Mike Wilcox and Ewen Cameron. **Contact:** Maureen Young, email: youngmaureen@xtra.co.nz.
Field trip: to The Pureora Forest Park (PFP) camp, 26–29 November; a few beds remain in dormitory accommodation, all meals supplied (by the on-site chef), linen on the beds and shared ablutions. **Cost:** $185.00 each; a deposit of $50 will secure your place. **Cancellations:** If you decide to withdraw on or after November 15, there is a $10 cancellation fee unless you can find someone else to go instead. If you withdraw before November 15, the fee is $5, unless you have a replacement in mind. **Further information:** http://www.doc.govt.nz/Documents/about-doc/concessions-and-permits/conservation-revealed/pureora-forest-park-lowres.pdf http://www.timbertraillodge.co.nz/timber-trail-lodge/ http://3xplorenz.com/2017/07/19/timber-trail-lodge-luxury-in-nowhere/	**Register:** by emailing Margi Keys (margikeys93@gmail.com; full payment should be made by 15 November to M A Keys 03 1578 0012854 01.

Waikato Botanical Society

Field trip: Friday 20 – Monday 23 October for the Labour Weekend Trip to Waitete Bay.	**Leader:** Dell Hood, ph: 027 521 9260 or email: dhood@xtra.co.nz.

Rotorua Botanical Society

Field trip: Sunday 8 October to the Western Bays Track – the Waihaha River section to Western Bay, Lake Taupo. **Meet:** the car park Rotorua at 8.00 a.m. or the Waihaha car park at 9.30 a.m. **Grade:** easy track condition, medium distance covered.	**Leader:** Chris Bycroft ph: 07 345 3840; email: chris.bycroft@wildlands.co.nz (email preferred).
Field trip: Saturday 14 October to the Okareka Mistletoe Restoration Project for a weed control/plant releasing work day. **Meet:** corner Summit and Loop Rds, Okareka (lake end) at 8.45 a.m. **Grade:** medium-hard—activities suitable for all ages and abilities will be provided.	**Leader:** Paul Cashmore, ph: 07 349 7432 (wk) or 027 650 7264; email: pcashmore@doc.govt.nz.

Whanganui Museum Botanical Group

Meeting: Tuesday 3 October at 7.30 p.m. for a talk by Jim Callaghan titled 'James McGregor Park... is it an Arboretum?' **Venue:** Museum's Davis Lecture Theatre.	**Contact:** Colin Ogle, email: robcol.ogle@xtra.co.nz.

Wellington Botanical Society

Field trip: Saturday 7 October to the Saline Wetlands, eastern Wairarapa. **Meet:** 9.00 a.m. in Gladstone (south-east of Carterton), at the junction of Te Whiti and Admiral roads, 50 m north of Gladstone Rd (Please tell the leader if you have a 4WD and can help ferry people to the site). **Bring:** warm clothes, hat, gloves, leggings, parka and a hi-viz vest if you have one; if not, please tell the leader.	**Leader:** Owen Spearpoint, ph: 027 285 8083; email: Owen.Spearpoint@gw.govt.nz.
Meeting: Monday 16 October at 7.30 for student and grant recipient reports from Nathaniel Walker on 'Macroevolutionary Patterns of Pigmentation and Salt Tolerance in *Caryophyllales*' and Stacey Bryan on 'Pingao: Weaving the Connections'.	**Venue:** Victoria University Lecture Theatre M101, ground floor Murphy Building, west side of Kelburn Parade about 20 m below pedestrian overbridge.

Nelson Botanical Society

Field trip: Sunday 15 October to Wainui Headwaters. **Meet:** 8.00 a.m. at the Cathedral steps; please contact Helen by Friday 13 October if you intend to come.	**Leader:** Helen Lindsay, ph: 03 528 4020; email: lindsay.helen@xtra.co.nz.

Canterbury Botanical Society

Meeting: Monday 2 October**.** Discussion led by Jason Butt on 'Contracts and Volunteers: Unexpected Issues for the Restoration of Indigenous Vegetation. **Venue:** Upper Riccarton Library community meeting room, 71 Main South Road.	**Contact:** Alice Shanks, ph: 03 337 1256; email: alice@caverock.net.nz.

University of Canterbury summer course: Practical Field Botany

Practical Field Botany (BIOL305): intensive, short course in the collection, preparation, and identification of botanical specimens. **Venue:** University of Canterbury, Cass Mountain Research Area, Canterbury. **Dates:** 18–26 January 2018. **Enrolment:** opens 4 October 2017.	**More information:** Matt Walters (matt.walters@canterbury.ac.nz; ph: 03 369 5211) or Pieter Pelser (pieter.pelser@canterbury.ac.nz; ph: 03 369 5228).

Otago Botanical Society

Field trip: Saturday 7 October to Flat Top Hill, Central Otago. **Meet:** at the Botany Department car park at 8.00 a.m.	**Contact:** John Steel, ph: 021 213 3170.
Meeting: Wednesday 11 October at 5.20 p.m. for a talk by Dr Hamish Campbell titled 'Geological constraints on Zealandian biogeography'. **Venue:** the Zoology Benham Building, 346 Great King Street, behind the Zoology car park by the Captain Cook Hotel; use the main entrance of the Benham Building to get in and go to the Benham Seminar Room, Rm. 215, 2nd floor. Please be prompt because we have to hold the door open.	**Contact:** Robyn Bridges, ph: 03 472 7330.

David Given Threatened Plant Scholarship

To fund research into the biosystematics and conservation management, protection and recovery of New Zealand's threatened plants, fungi and their communities.

Objective

The scholarship will be granted for research that assists the protection and recovery of New Zealand's threatened plant species and their communities.

Eligibility and conditions

Applicants must be New Zealand residents or citizens but the work could involve overseas researchers who collaborate with the principal researcher.

Threatened species and communities can be either nationally or regionally threatened.

Plant species include vascular and non-vascular plants. Fungi are also covered by this scholarship.

Application

Please address the following areas in any written application for the scholarship.

***Issue*:** Outline the issue to be investigated and why it is important to study this.

***Research methods*:** Outline the approach you intend to take.

***Impact*:** How will your research contribute to the better conservation of the threatened species or community?

***Uptake*:** How will your research be used by your or other organisations?

Researchers: Outline the skills the researchers involved in the project have to ensure it can be successfully completed? Include current CVs of applicants.

***Funding*:** Do you have other funding that is contributing to this project?

***Budget*:** Outline the main items in your budget including equipment, laboratory and field expenses, and personnel.

***Risks*:** Are there any factors that you consider could limit the success of your proposal? How will you mitigate these?

***Referees*:** List 2 referees who can be consulted for their opinion on the proposed research

Scholarship rules

1. One scholarship shall be awarded every 2 years and provide up to $7000 towards the cost of the research project
2. The scholarship is to be awarded by a selection committee, which shall comprise
   a. The President of the NZ Plant Conservation Network (NZPCN)
   b. One other member of the NZPCN Council
   c. An independent person appointed by the NZPCN Council
3. The selection committee may refrain from making an award if, in their opinion, there is no applicant of sufficient merit
4. There are no application forms for this scholarship. Written applications addressing each of the above subject areas should be sent to the New Zealand Plant Conservation Network, Box 16 102, Wellington (info@nzpcn.co.nz) and marked "David Given Scholarship".
5. Referee forms (see below) should be sent to the two nominated referees for completion and posting or email to the Network.
6. **Applications close Monday 6 November 2017**

David Given Threatened Plant Scholarship
Referee form

The applicant must send this form electronically to each of two referees nominated in the scholarship application. These referees should be familiar with the applicant's recent work.

The referee is requested to complete (continue on a separate sheet if necessary), print and sign this form and send to: New Zealand Plant Conservation Network, PO Box 16-102, Wellington. E: info@nzpcn.org.nz

Applicant: Family name: _____ First name: _____

Referee: Name: _____ Position/Title: _____

Address: _____

_____

_____

Phone: _____ E-mail: _____

1. How long have you known the applicant: _____ Years _____ Months

2. Describe briefly the extent of your knowledge of the applicant's work including publications/papers/other relevant research:

_____

_____

_____

3. Please rate the applicant's performance in the areas named below by placing a tick in the appropriate box using your knowledge of the applicant.

	No opportunity to observe	Below average	Average	Above average	Very good	Excellent
Knowledge of own discipline	☐	☐	☐	☐	☐	☐
Ability to express ideas	☐	☐	☐	☐	☐	☐
Command of research techniques	☐	☐	☐	☐	☐	☐
Critical and/or analytical ability	☐	☐	☐	☐	☐	☐
Initiative and motivation	☐	☐	☐	☐	☐	☐
Ability to plan	☐	☐	☐	☐	☐	☐
Perseverance in pursuing aims	☐	☐	☐	☐	☐	☐
Teaching or tutoring ability	☐	☐	☐	☐	☐	☐

4. Please rate the applicant's aptitude for research (please circle) High Moderate/High Moderate Low

Please comment on reasons for gradings in Section 3, and other matters relevant to the applicant including academic integrity:

_____

_____

_____

Signature of referee: _____ Date: _____ _____ _____

Reports relating to this scholarship application must reach the New Zealand Plant Conservation Network on or before Monday 6 November 2017.