TRILEPIDEA

NEWSLETTER OF THE NEW ZEALAND PLANT CONSERVATION NETWORK

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Postal address: P.O. Box 16-102, Wellington, New Zealand

E-NEWSLETTER: NO 116. JULY 2013 Deadline for next issue: Wednesday 14 August 2013

President's message

Hi, everyone.

Well, it is the middle of winter and, in theory anyway, one of the worst seasons for botanising, but I have recently escaped the office after a very busy June and have been lucky enough to get out on several expeditions in beautiful winter weather. Interesting records continue to reward those out in the field, as we found behind Kennedy Bay on the Coromandel Peninsula: *Adelopetalum tuberculatum* ("At Risk—Naturally Uncommon") on the trunk of a large kauri, conveniently at eye level, and scattered large maire tawake (swamp maire) amongst kahikatea on the edge of a good quality manuka-raupo-*Coprosma tenuicaulis* wetland. At another coastal site, further south, the early stages of possum browse damage were evident in the form of greying sparse pohutukawa canopies over about one kilometre of coastline. We alerted the owners to this damage, which they are going to act on promptly. Obvious possum browse damage of pohutukawa has become much less common than it was a few years ago because there is generally a high level of awareness and action to protect pohutukawa. However, those of us out there in the field need to be alert and pass on observations to landowners and managers.

A few weeks ago, I revisited the Opape and Haurere Headlands east of Opotiki, where *Olearia pachyphylla* ("Threatened—Nationally Critical") is present on both headlands. It is a fantastic shrub and these sites are its stronghold, being reasonably common here, and it is unusual that it is not more widespread.

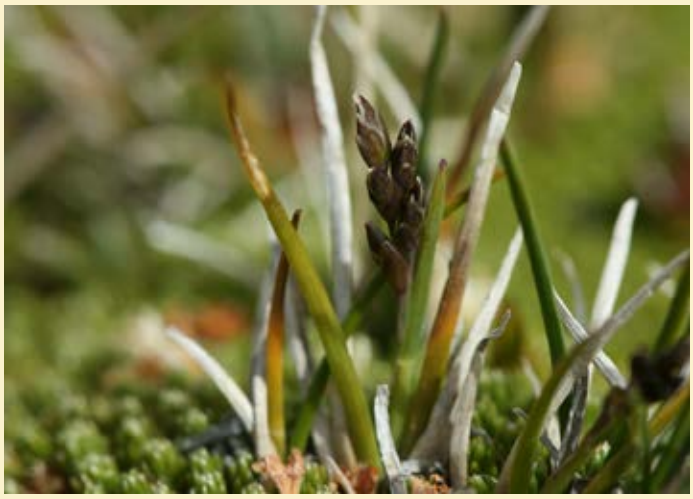
This next tale illustrates, in a small way, the value of botanical societies in terms of informal information exchange. *Myosotis petiolata* subsp. *pottsiana* ("Threatened—Nationally Critical") is probably one of the first threatened species that I

National Plant Conservation Endowment Fund challenge

Professor Ian Spellerberg's challenge for nine other donors to donate $500 to the newly launched National Plant Conservation Endowment Fund was well and truly met by the end of June. By that date, $9250, at least, had been raised by the challenge. We will have a more detailed article about the Endowment Fund in the next issue as we would like to formally acknowledge all the donors. Since a number of the donors asked that their donation be anonymous, the Council asks that all donors accept very heartfelt thanks for the way in which you have supported this new Network venture. Receipts will be issued to all donors (so you can claim back money next year as a Donation Tax Credit from the IRD; the Network is a registered "Donee organisation"). The Council would, however, like to make particular mention of the Native Forests Restoration Trust, all of whose Trustees donated $500 to the Fund. Along with approximately $2000 raised by the auction at the Conference dinner (50% of the proceeds; the other 50% went to the David Given Scholarship Fund), the Endowment Fund has been well and truly established.

Please note the fund-raising does not stop here! Further donations are welcome (using the website donation page or by contacting the Network). Also, if you have an idea for a fund raiser to grow the fund, then please share it with us or just do it. The sooner we reach $50,000, the better, and the sooner we can start handing out grants for plant conservation action.

PLANT OF THE MONTH – *POA INCRASSATA*



Poa incrassata. Photo: Mike Thorsen.

Plant of the month for July is the meadow grass, *Poa incrassata*. Naturally uncommon, *P. incrassata* is endemic to the South Island in central and western Otago to north eastern Southland and is also found on Stewart and Auckland Islands. Found in subalpine to alpine areas, it grows in damp ground in herb fields, fell fields and open, windswept, poorly drained short tussock grassland. Forming tufts only 50–150 mm tall, its small, stout, glaucous to reddish-purple tinged leaves and panicles make this grass fairly distinctive from other New Zealand *Poa*. It is perhaps most likely to be confused with *P. sublimis*, which has a similar coloration and stature. However, *P. incrassata* differs with its scabrid, short, stiff panicle branches and spikelet pedicels. Populations of *P. incrassata* tend to be small and scattered but this appears to be natural and it seems to be secure over its known range. Its small size means it has undoubtedly been overlooked on the Auckland Islands and in the South and Stewart Islands. So if you spot it, record an observation on the NZPCN website. You can see the Network fact sheet for *Poa incrassata* at: www.nzpcn.org.nz/flora_details.aspx?ID=305

saw in the wild so I am quite familiar with it and was able to identify it at speed whilst combining two of my favourite activities: botanising and mountain biking. I briefly stopped on the Pakihi Track in the Otara catchment, inland from Opotiki, to read a new DOC interpretation panel, saw a blurb about the *Myosotis*, duly rode down the track and saw and photographed the said species and gave it no more thought. However, when I showed the photograph at the Rotorua Botanical Society AGM, DOC staff got quite excited and said that despite the interpretation panel saying it occurs in the area, they did not know about this population and that it was a new record. There are only 3–4 known populations so this is moderately interesting! Moral of the story is that information sharing is good, and writing articles—large or small—about your activities and discoveries and publishing them in newsletters does actually help plant conservation!

Myosotis petiolata var. *pottsiana*.
Photo: Mike Thorsen.

So get out there and botanise whilst doing those other activities that you enjoy in the outdoors and share your experiences with other plant conservation networkers.

Happy botanising,

Sarah Beadel
President

Explaining scientific names (5): Ngā ingoa Māori

Jesse Bythell (jesse.bythell@orcon.net.nz)

Because the first week of July is Te Wiki o Te Reo Māori or Māori Language Week and the theme for 2013 is Ngā ingoa Māori or Māori names, I thought it appropriate to look into some of the botanical names of our native plants that are derived from Māori words. In some cases, these botanical names have retained a Latinised version of the Māori name for a plant in the generic or specific name. In other cases, species have been named after geographic locations with Māori names. Below are a few examples I found, I am keen to hear of others that readers may know.

- *Beilschmiedia tawa* – named after the Māori name for this plant, tawa or taua. The word tawa also means 'to be purple' and it is possible that tree's name is in reference to the dark purple berries that were valued by Māori as a food source for people and wood pigeons.
- *Discaria toumatou* – derived from the Māori name tūmatakuru, which means 'to show consternation or be apprehensive' and is a possible reference to the fearsome and confounding spines that this plant has.
- *Hoheria* spp. – derived from houhere, the Māori name for *Hoheria populnea* and *H. glabrata*. *Hoheria populnea* was used by Māori for a range of purposes such as medicine, food, fibre and tool-making.
- *Phyllocladus toatoa* – derived from the Māori name for this species (toatoa is also the Māori name for *Haloragis erecta*).
- *Podocarpus totara* – from the Māori name, tōtara, a very important species for Māori with a wide range of uses including food, medicine, canoe construction and tool-making.
- *Corokia* spp. – derived from korokio or korokia-tārango, which is the Māori name for *Corokia cotoneaster*.
- *Manoao colensoi* – derived from the Māori name for this tree, manoao.
- *Mida salicifolia* – derived from the Māori name maire (the /r/ consonant in Māori is realised as an alveolar flap, which would have sounded a bit like a [d] to English speakers).
- *Tupeia antarctica* – derived from the Māori name tāpia, which may be derived from the word tāpi 'to apply (as a dressing for a wound)', although no medicinal uses of this plant are recorded.
- *Raukaua* spp**.** – derived from the Māori name raukawa for *Raukaua edgerleyi*, the fragrant leaves of which were used for making scented oils.
- *Centipda aotearoana* – from the Māori name for New Zealand (although originally the name only referred to the North Island). That was derived from the Māori ao, 'cloud, daytime, world', tea, 'white', and roa 'long', usually translated as 'land of the long white cloud', a reference to the appearance of the island from the sea.
- *Convolulus waitaha* – named for the location in Canterbury, from the Māori wai 'water' and taha 'to pass to one side' meaning a backwater.
- *Euchiton ruahinacus* – named after the Ruahine Range, from the Māori ruahine 'old woman, wise woman'.
- *Leptinella maniototo* and *Poa maniototo* – named after the Maniototo Plain in Central Otago, from the contracted Māori name manaio-o-toto. This name comes from mania, 'plain', and toto, 'blood', meaning plain of blood. The location name is spelled variously maniototo and maniatoto, the latter being approved by the New Zealand Geographic Board.
- *Myosotis rakiura* – named after the Māori name for Stewart Island. Rakiura is derived from raki, 'sky', and ura, 'glowing' or 'blush'. One explanation for the name is because of the beautiful sunsets seen from the Island. Another possible explanation is that the name is derived from Te Ura-Te Raki-tamou 'the blush of Te Raki Tamou, in reference to a story of the shame of a Māori chief who went to the island to court a woman and subsequently found out she had a husband.

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Landcare Research. Nga Tipu Whakaoranga – Maori Plant Use Database. http://maoriplantuse.landcareresearch.co.nz/WebForms/default.aspx

Feral pohutukawa and other island stories

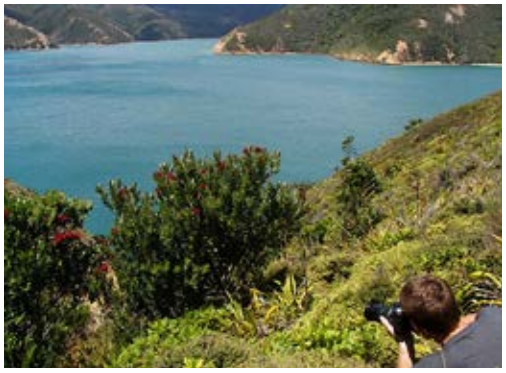
Geoff Walls, Ecologist, Christchurch (geoffwalls@orcon.net.nz)

One of the sessions at the 2013 NZPCN conference in Auckland was entitled "Naturalising natives – friend or foe?" This is a brief overview of the presentation I gave. It illuminates some case studies that show that an answer to the rhetorical question is not always obvious. It also offers some aspects to consider when faced with deciding what to do about a naturalising native.

Feral pohutukawa on D'Urville Island

My family owns a remote 37 ha property on northern D'Urville Island, well south of the natural pohutukawa distribution. When we bought it in 1970, we fenced out the stock and dedicated the entire property to ecological restoration. It has been protected since 1988 by the QEII National Trust as an Open Space Covenant.

The first pohutukawa seedlings appeared within about 10 years, via seed blown across the bay from the trees at the neighbouring farm homestead, over a kilometre away. Within another decade, pohutukawa was well established on our peninsula, overtopping the local vegetation. Now there are thousands of plants, including trees 5 m tall, flowering and seeding gaily. They will soon form a coastal pohutukawa forest where there was mixed beech-broadleaved forest before the farming era.



How to think about this? To destroy the pohutukawa or celebrate it? Some ecological perspectives help. First, the pohutukawa is putting back a forest structure more quickly than the local plants that are struggling in the harsh exposed site beset with salt-laden winds and infertile soil. Second, the pohutukawa is not excluding anything unusual or unique. Third, pohutukawa is an analogue for the southern rata and climbing rata (3 species) that would have been there before, providing habitat, shelter and food. Fourth, the pohutukawa is providing for the very local fauna that you would wish to nurture: tui, bellbird, silvereye, geckos, native bees and butterflies.

To control or eradicate the pohutukawa would require aerial herbicide application, or a bulldozer, a hot fire or weeks of cutting-and-poisoning. It would make an awful mess, achieve nothing useful, and not stop the inflow of wind-borne pohutukawa seed. Compared with wilding pines, which would have entirely taken over our property had we not tracked down and destroyed every seedling, sapling and tree that appeared over the last 40 years, the pohutukawa is ecologically benign. In fact, we think it is an asset. Instead of an overbearing exotic conifer forest we will have a delightful area of pohutukawa forest. As ex-lighthouse keeper, and D'Urville resident, Pip Aplin put it: "The day I stop planting pohutukawa is the day they stop planting exotic pines".

Finally, pohutukawa wood occurs in peat deposits well south of its current natural range. So it was probably on D'Urville Island a few thousand years ago, got pushed north during the recent glaciations and has returned with a bit of human assistance.

Elsewhere on D'Urville

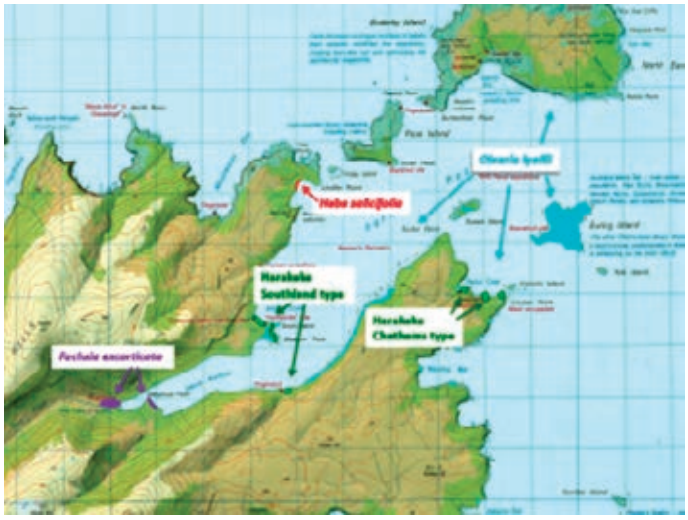
Rengarenga (*Arthropodium cirratum*), karaka (*Corynocarpus laevigatus*) and whau (*Entelea arborescens*) occur in localised sites, all associated with evidence of former Maori settlement (earthworks, garden mounds, middens, burnt stones, charcoal, stone tools and worked stone material). These plants, naturally confined to the northern North Island, have become naturalised. They are living archaeological features.

So too is kowhai (*Sophora microphylla*) and some harakeke (*Phormium tenax*). Pockets of these plants occur in former settlement sites, deliberately grown for various uses (rongoa/medicinal and fibre). Cabbage trees (*Cordyline australis*) are prolific at these sites, and were probably also cultivated (for food and fibre uses). So, what look at first glance like natural patterns and distributions might not be as natural as they appear.

Rewarewa (*Knightia excelsa*) is a newcomer to the island. It is vigorously putting itself about, as it is elsewhere in the Marlborough Sounds. There are many young trees in our covenant. I think that rewarewa has crossed Cook Strait (wind-blown seeds) within the last 150–200 years, has become established during the farming era and is now relishing the post-farming era of forest regeneration. It, too, is ecologically benign, an asset like pohutukawa.

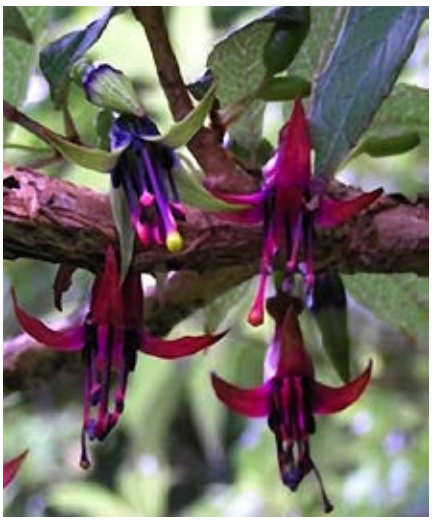
The Auckland Islands

In the vicinity of Port Ross, in the Sub Antarctic Auckland Islands, there are several naturalised natives. Snares Islands tree daisy (*Olearia lyallii*) occurs in various places where there were former settlement sites, associated with sealers, whalers, castaway depots and farmers. It probably arrived in 1810–1820 with the sealers. It has become dominant in places, but without the regime of massive seabird activity that drives the system in the Snares, it is being slowly overcome by the regenerating southern rata. It is not a threat; nothing needs to be done about it.



Two types of harakeke occur in isolated clumps; one probably from a Southland origin (brought by sealers and whalers); the other definitely from the Chatham Islands. This latter harakeke is in old garden sites where a group of fugitive Ngati Mutunga and enslaved Moriori from the Chathams lived between 1842 and 1856. It is still there 150 years on.

South Island koromiko (*Hebe salicifolia*) and kotukutuku (*Fuchsia excorticata*) are growing in small discrete locations in Port Ross. Both species are in old settlement sites, both probably deliberately introduced. Koromiko would have been important for its medicinal (anti-diarrhoea) qualities; the kotukutuku for its fruit. None of these naturalised natives is an ecological threat. Rather, they provide enduring botanical insights into the past interactions of intrepid people with these forbidding islands.



The Chathams

There are many naturalised New Zealand mainland native plants on the Chatham Islands. Some, such as taupata (*Coprosma repens*), are a serious threat (in this case to the endemic rocky shore plants such as *Leptinella featherstonii*, *Lepidium oleraceum*, *Aciphylla dieffenbachii* and *Myosotidium hortensium*). They are weeds and need to be stopped in their tracks before they get beyond control. On the other hand, kopi (*Corynocarpus laevigatus*), known as karaka in the rest of New Zealand, is thoroughly embedded in the ecology of the islands. It is dominant in places, especially behind the massive dune systems, and is self-perpetuating. It was probably introduced about 600 years ago, brought by the Polynesian settlers and cultivated for its big nutritious fruit. The dense arching canopies have since sheltered many generations of Moriori, and its trees carry ancestral carvings acknowledging the relationship. This naturalised native, then, is revered as a taonga plant. No-one in their right mind would see it as a weed.

Things to consider when faced with a naturalising native

How then to decide whether a naturalising native poses threats sufficient to require action? There's no blanket rule, but one must consider things such as:

- The aggression/invasiveness of the species
- What's at risk?
- Is it an analogue for something local?
- Is it a living cultural artefact?
- The stitch-in-time principle
- The damage done by attempting control
- The resources required
- Has the horse already bolted?

Beyond that, it's a matter of philosophical opinion.

Montigena novae-zelandiae and its rhizobial partners

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Montigena novae-zelandiae, common name the 'scree-pea', is a small, woody, rhizomatous, legume sub-shrub found on the dry eastern mountains of the South Island of New Zealand, where it grows on partially stable greywacke scree slopes. It is the only New Zealand legume that occurs on this specialised habitat and currently has a threat status of 'declining' (de Lange et al., 2009).

Montigena novae-zelandiae. Photo: John Barkla.

Montigena novae-zelandiae, formerly known as *Swainsona novae-zelandiae*, was reclassified as a monotypic genus in 1998 because of the substantial differences in its anatomy and growth habitat compared with *Swainsona* spp. It is one of four legume genera native to New Zealand; the others are *Clianthus* (kakabeak, 2 spp.), *Carmichaelia* (New Zealand broom, 23 spp.) and *Sophora* (kōwhai, 8 spp.). *Montigena, Clianthus* and *Carmichaelia*, along with the Australian genus *Swainsona* (55 spp.), form the legume sub-tribe Carmichaelinae. Interestingly, *Montigena* is more closely related genetically to the Australian *Swainsona*, particularly *Swainsona galegifolia*, than *Clianthus* or *Carmichaelia*.

All New Zealand native legumes tested can fix atmospheric nitrogen via symbiotic bacteria (rhizobia) in root nodules but little is known of the rhizobia that form nodules on *Montigena*. Our recent work has shown that, although *Montigena* is confined to a specialised scree habitat, it does not have its own specific rhizobia, but shares rhizobia with *Carmichaelia* and *Clianthus*. These strains of rhizobia do not nodulate *Sophora* spp. or *S. galegifolia* and rhizobia isolated from *S. galegifolia* do not nodulate *Montigena*. This is particularly significant, because *M. novae-zelandiae* and *S. galegifolia* are each other's closest relative. A major finding is that the nodulation genes of rhizobia that nodulate *Montigena, Carmichaelia* and *Clianthus* are very different from those of rhizobia outside New Zealand. On current evidence, it would appear that these genes are, in fact, unique to New Zealand rhizobia. These rhizobia are possibly an unnamed species of the genus *Mesorhizobium*.

Acknowledgement

This work was supported by the Brian Mason Scientific and Technical Trust and a Lincoln University Doctoral Scholarship (HWT).

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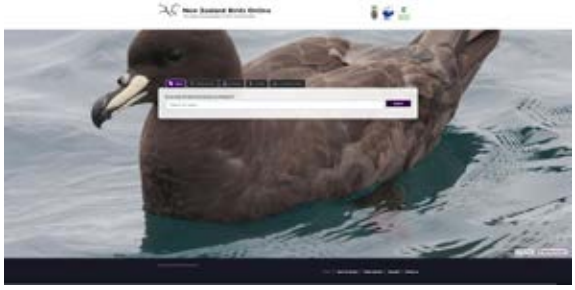
New Zealand Birds Online is alive and kicking

Colin Miskelly, Project Manager and Editor – New Zealand Birds Online (nzbirdsonline@osnz.org.nz)

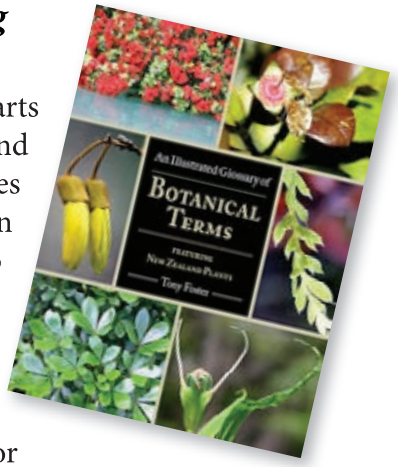
New Zealand Birds Online—the digital encyclopaedia of New Zealand birds—was launched on 2 June, and is freely available to all at: www.nzbirdsonline.org.nz This sister website to the NZ Plant Conservation Network's website is a collaboration between Te Papa (the National Museum of New Zealand), the Ornithological Society of New Zealand, and the Department of Conservation. It covers all 457 bird



species on the New Zealand list, including Miocene fossils, recently extinct species, vagrant species, introduced species and all living native bird species. Original text was provided by 111 different authors, and over 250 photographers contributed 6500+ images, including at least one image for each species, living and extinct. The website also has over 1100 sound files (representing almost all living species and a few extinct ones) and over 1300 extracts from existing publications.

The website has several features that we consider to be 'novel'. Some may be unique, but that is an over-used term and there are many websites out there to check before we can be confident that no-one has done it before. You can also follow New Zealand Birds Online via Twitter @NZBirdsOnline—https://twitter.com/nzbirdsonline—and on Facebook—www.facebook.com/nzbirdsonline.

New ibook: *An illustrated glossary of botanical terms featuring New Zealand plants* by Tony Foster (tony.foster@xtra.co.nz)



Have you ever had a close look at a plant and tried to make sense of the parts you are observing? Chances are you run into difficulties finding words and in understanding the vocabulary that botanists use to describe the features of plants. The aim of this iBook is to assist all those with an interest in plants to gain a practical understanding of the botanical terms used to describe and identify them. This useful reference presents 1260 botanical terms, their derivation from Latin or Greek, a definition of the term and 550 illustrations of New Zealand plants to convey the meaning of the term. There is a full glossary of the terms as well as study cards. The reader will gain a practical understanding of the terminology required for plant identification and description. This illustrated glossary explains and describes the descriptive terminology of plants and their parts. It illustrates and gives examples of the vocabulary used to describe, identify and classify plants. The stunning photography of New Zealand native plants together with the descriptions and captions speaks stronger than either could do alone. It is botany explained for the visual learner.

Paremata Flats restoration

Ian Price, co-ordinator of the Paremata restoration project

Over 20,000 trees achieved in just six weeks through a fantastic team effort—over 250 volunteers gave more than 1055 volunteer hours to achieve this; some turned up multiple times. The area designated as a memorial planting area has been planted with all the nursery trees. Already 24 memorial trees have been planted. Pam and Ro Pope and Jane Stephens contributed by purchasing some large-specimen pukatea, swamp maire and kahikatea from Titoki Nursery. All memorial specimens made it through the dry summer.

Plant survival

The survival of trees planted last year before Christmas was very high—losses were less than 1%. However, losses did increase with the dry period over the summer months, concentrated where estuary influence was greatest—losses increased to around 3–4%. In the areas where losses had occurred in higher numbers, this year we solely planted *Plagianthus divaricatus* (coastal ribbonwood—7000), which is salt tolerant. Because of the losses and the debate about rising sea levels, we decided to push the boundary between estuary and land further into the paddocks with future plantings. Several 10-metre control plots have been established to monitor plant survival.

Approximately 200 trees were lost this year due to stock accessing the planted site; hopefully, the Council will ensure all fences are maintained to a standard that will prevent stock entering the planted area. On a positive note, natural losses have been minimal relative to the scale of the project; we are actively identifying issues contributing to losses and seeking advice and support to mitigate these

losses. One of the fundamentals to plant survival has been the control of the exotic grass, tall fescue; we are not allowing this grass to out-compete our plantings.

Plant growth

The growth of last year's plantings, despite the dry summer, has been the standout feature noted by many of our regular planters. A number of photo-monitoring points have been selected; they will be annually photographed for growth comparisons. This will highlight the exponential changes as the years go by and will show the success of the weed/tall fescue control. The photos on the next page show the changes. Check our website (www.paremataflats.co.nz) to see many of this year's planting photos.

Comparisons of plant growth at Paremata Flats from 2012 (left) to 2013 (right).

Bird life

Fernbirds are very common now as a result of the intensive predator trapping programme. As the years pass and the 10,000 *Plagianthus* (coastal ribbonwood) we have planted begin to mature, the habitat for fernbirds will increase dramatically and so will their numbers. At this year's planting, a planter who had had a lifelong interest in the fernbird came up to me ecstatic, enthusing that she'd had a fernbird less than a metre from her for several minutes. She said she'd seen more fernbirds in a couple of hours than in her lifetime. For those of us who are regularly at Paremata, this is now a common event.

Banded rail are not common, but they are there—there are plenty of footprints in the mud. Their feet are similar to pukeko but half the size, so keep an eye out in the mud of the estuary tributaries. Banded rail are very secretive and generally run to evade predators, which makes them vulnerable to dogs, but they can fly. With an increase in habitat and predator control, their numbers will increase.

At lunch on one planting day, those present were all sitting down having lunch when a falcon swept in low and landed just above us. Falcons are now regularly heard flying around Paremata Flats. Bellbird, pigeon and tui are always present, in very high numbers at certain times when specific food is available. It is amazing to be out at the reserve early on still mornings to hear the bird song reverberating around

the valley; this is due to many of the local community now actively trapping pests. Weka have now returned to the valley naturally and are frequently heard calling. White heron are seen on occasions over winter; around 8 to 10 royal spoonbill are resident in the estuary; a number of varieties of terns are seen working the estuary, where, on occasions, large schools of mullet are observed swimming up the Wakapuaka River at full tide; during the season, many whitebaiters work the river too.

Weed control/management

Weed control from Paremata, along Maori Pa Rd Esplanade Reserve through to and including Uri O Te Wai (Bishop Peninsular), requires on-going management. The top priority over the next few years is the control of tall fescue within the planted area to give new plantings the best opportunity for survival until they reach a point where they begin to shade the tall fescue.

With regard to the other nasties like old man's beard, banana passionfruit, and blackberry, with regular monitoring they should not become a major concern. Three grid searches of the planted areas have been done over the last 12 months, removing weeds. This was very successful in managing weed germination. As the native trees grow, shading will reduce the amount of weed germination, but monitoring will be on-going.

(*Editor's comment: the 2012 New Zealand Plant Conservation Network community award for 'outstanding contribution to Native Plant Conservation in New Zealand' went to the Nelson Branch of Royal Forest and Bird for its efforts in restoring this delta floodplain, an estuarine ecosystem at Paremata Flat (Whangamoa River Mouth) just north of Nelson.)*

A new generation of boundary riders

Jesse Bythell (jesse.bythell@orcon.net.nz)

In early July, a group of keen people, horses and dogs converged at White Burn Hut near the boundary of Walter Peak and Mt Nicholas Stations. In the early days of extensive pastoral runs, there were no fences and boundary riders worked year-round to ensure stock did not stray off the property. In the 21st century, we scoured the boundary of these two properties in search of a different exotic species and with very different intentions. Our focus was on locating and killing a scattered population of *Pinus contorta* infesting the area. The young trees were small enough to kill with hand tools and widespread enough that scouting them from horseback proved to be an advantage. People on foot complemented riders by being able to access trees in steep and precipitous spots where taking a horse was ill-advised in the wet and snowy conditions.

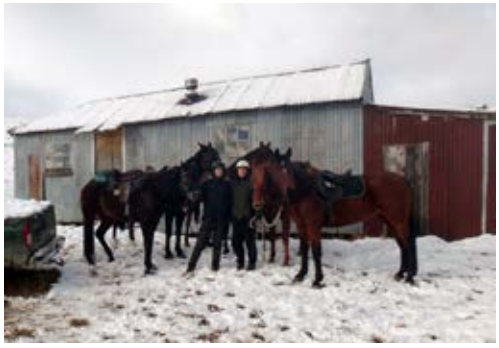
White Burn and Ridge Peak after a recent dump of snow

Ginger shows us what he thinks of *Pinus contorta*!

Wilding conifers in this area pose a threat to the values of the nearby Taka Ra Haka/Eyre Mountain Conservation Park as well as the values of the properties on which they occur. A number of endemic plants occur in the Eyre Mountains, including *Celmisia philocremna, C. spedenii, Myosotis* sp. 'Mossburn', and *Brachycome* 'West Dome'. Threatened species such as *Chaerophyllum basicola* (Nationally Critical), *Olearia hectorii* (Nationally Endangered) and *O. lineata* (Declining), *Carex uncinifolia* (Nationally Endangered) (de Lange et al., 2009) are also found in the Eyre Mountains. The area also supports a range of animals including the recently described Eyre Mountain skink (*Oligosoma repens*). The

quantity and location of the trees we killed were passed on to local Department of Conservation staff, the Wakatipu Wilding Conifer Group and the relevant landowners.

The weather conditions did hamper our efforts and there are still young trees remaining in the area. However, we had a good weekend in the mountains and dogs, horses and humans returned in one piece (despite my truck going for a brief swim while crossing a ford!). We are looking forward to going back in more clement conditions to muster the stragglers.



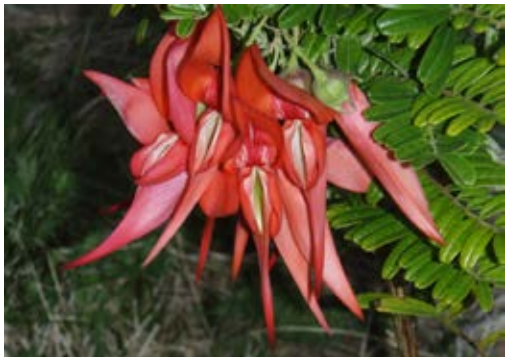
Our Jane and Jesse and the five trusty steeds at White Burn Hut (left to right): Ed, Toby, Friday, Ginger and Atawhai.

Reference

de Lange, P.J., Norton, D.A., Courtney, S.P., Heenan, P.B., Barkla, J.W., Cameron E.K., Hitchmough R., Townsend A.J.. 2009. Threatened and uncommon plants of New Zealand (2008 revision). *New Zealand Journal of Botany* 47: 61–96.

DNA tests raise hope for elusive native plant: *Spectacular kakabeak still teeters on the edge of extinction*

DNA tests on extremely rare plants discovered in inland Hawke's Bay offer some hope that the species may yet be saved from extinction. Until recently, just 110 kakabeak plants (*Clianthus maximus*, or *ngutukākā* in *te reo*) were known to exist in the wild but the tests suggest there is greater potential than previously thought for the species to re-establish itself. Results revealed slight genetic differences between plants discovered in Te Urewera National Park and nearby native forests, suggesting that the population there has crashed to low numbers only relatively recently.



The deep red flowers of the kakabeak, curved like the beak of the parrot after which they're named, hang in heavy bunches.

Imported fauna have impacted wild populations of kakabeak severely and the species now holds New Zealand's highest possible threatened plant ranking 'Nationally Critical' (de Lange et al., 2009). Although grown widely in gardens, domestic kakabeak have limited genetic variation and therefore little genetic value.

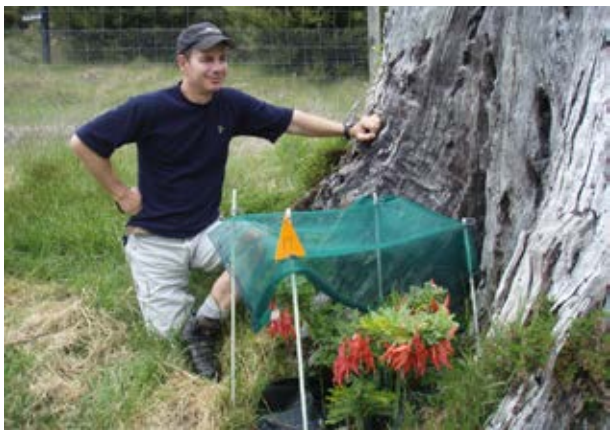
Testing was conducted by Dr Gary Houliston, a plant geneticist at Landcare Research, on clippings taken by the Forest Lifeforce Restoration (FLR) Trust from six plants discovered on the Waiau Bluffs in Te Urewera National Park and in nearby native forests over the past two years. Their DNA profiles were compared with the genetic make-up of all wild kakabeak tested to date, with the results revealing slight genetic differences from others tested in Hawke's Bay.

"The genetic diversity of any plant population is a good indicator of that population's strength," said FLR Trust forest manager Pete Shaw. "The fact that these plants were out there highlights the value of continued field searching." Dr Houliston said the plants discovered by the Trust were a valuable find for restoration purposes.

One of the genetically diverse plants, Rachel's Plant, was discovered by Pete Shaw while Trust patron Rachel Hunter was visiting its property in the Maungataniwha Native Forest. This plant has subsequently produced a lot of seed, some of which has been used in the Trust's kakabeak propagation effort. "Potentially, this will make for a much more robust lot of plants in our kakabeak orchards," Shaw said. "With any luck these plants will themselves produce good crops of robust and genetically diverse seed, which we can use to re-establish a viable population of kakabeak in the wild."

The FLR Trust has already established three kakabeak seed orchards in protected enclosures at its property in the Maungataniwha Native Forest. Staff members are perfecting a ground-breaking

technique to propagate the plants by blasting seeds from a shotgun into likely nursery sites in the wild. Staff member Barry Crene developed the technique using re-loaded shotgun shells packed with regular shotgun pellets, a pulp medium and kakabeak seed. The shells were then discharged into soil from a range of 20 metres, about the distance a helicopter might have to hover from likely nursery sites in the wild. (See *Trilepidea* 110 and 112 for more details.) As with the Waiau Bluffs, such sites are frequently patches of topsoil on bluffs or cliff faces that are as inaccessible to humans as they are to browsers. Helicopters are often the only way to reach them. This innovation will create the potential for an aerial propagation effort on a scale that hasn't yet been possible.



Simon Hall, Chairman of the Forest Lifeforce Restoration Trust, with a Kakabeak plant propagated in one of the Trust's Maungataniwha Native Forest seed orchards.

As well as its work on kakabeak propagation, the FLR Trust is fast carving out a name for itself with the Maungataniwha Kiwi Project, one of the most prolific and successful kiwi conservation initiatives in the country, and the re-establishment of native plants and forest on 4,000 hectares currently, or until recently, under pine.

Botanic Gardens Conservation International Vacancy –Coordinator International Plant Sentinel Network

Botanic Gardens Conservation International (BGCI), the world's largest plant conservation network, is recruiting a coordinator for a newly established International Plant Sentinel Network (IPSN). This Network is being established as part of a project led by the UK's Food and Environment Research Agency (FERA) "*Establishing the basis for an International Plant Sentinel Network (IPSN) as an early-warning system for future pest threats*" and is funded through the EU's EUPHRESCO programme.

The Project

The project is aimed to enhance activities that provide early warning of new and emerging plant pests and diseases. It will involve extensive collaboration amongst partners in Europe and beyond, with a focus on linking botanic gardens and arboreta, National Plant Protection Organisations and plant protection scientists.

The Candidate

The IPSN Coordinator will be responsible for establishing and maintaining the network through identifying and engaging partners and providing technical support, including database and website development. You will have:

- A degree at MSc level (or have equivalent experience) preferably in a plant-science-related subject, with a good understanding of plant pests and diseases.
- At least two years' experience working in a science based project management or coordinating role and show that you can manage budgets and meet deadlines.
- Excellent communication skills in English – both written and spoken and demonstrated ability to act with authority.
- An understanding of databases and of website design and editing.

Good organisational skills will be essential for this role and while able to work on your own initiative, you will also need to be a good team-worker. This post will involve significant overseas travel and travel to BGCI Offices in Kew so you must be prepared to travel in the UK and overseas. Knowledge of a European language is desirable but not essential.

Applications

Please send a letter of application, explaining why you think you are qualified for this post and describing what you believe your skills will bring to the position, together with a current CV to Catherine Thums (Catherine.thums@bgci.org) by 4 August 2013.

Applications will be accepted only from those able to live and work in the UK. Only those people selected for interview will be notified. Interviews are expected to be held in York on 12/13 August.

Preferred start date

Mid- September. The successful candidate will also be expected to attend the 5th Global Botanic Gardens Congress in New Zealand from 20-25 October, 2013.

Further details of the position are available on the BGCI website:

Further Information

http://www.bgci.org/resources/job/0557/

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):

Conservation Incorporated – What's ahead for community-based conservation in New Zealand?

Yellow-eyed Penguin Trust 25th anniversary: a national conference for citizen-based conservation organisations like the Network. The conference is entitled *Conservation Incorporated*. Its aim is to strengthen and diversify the community base for biodiversity conservation in New Zealand. We will convene *Conservation Incorporated* in Dunedin on 17–18 October 2013. The conference will be preceded on 16 October by applied workshops on fundraising, leadership and predator management. *Conservation Incorporated* will be a strongly applied conference, from which participants will leave better prepared for the future and more aware of their place in the broader conservation landscape. **Venue:** the newly refurbished Dunedin Centre, which is conveniently located in the Octagon in the central CBD.	**See our website:** conference@yeptrust.org.nz for details about conference themes, workshops, events. Earlybird registrations opened on 1 June.

5th Global Botanic Gardens Congress

Dunedin: Sunday 20 to Friday 25 October, 2013.	**Symposia, papers and posters:** submit proposals online at www.5GBGC.com.

Auckland Botanical Society

Meeting: Wednesday 7 August at 7.30 p.m. for a talk by Paul Champion titled 'Northland lakes'. **Venue:** Unitec School of Health Sciences, Gate 4, Building 115, Room 2005.	**Contact:** Maureen Young (youngmaureen@xtra.co.nz).
Field trip: Saturday 17 August to Northern Woodhill.	**Leader:** Dave Wilson. **Contact:** Maureen Young (youngmaureen@xtra.co.nz).

Kaipatiki Project

Community Planting Days: from May to August. **Venue:** Eskdale Reserve Network, Glenfield, Auckland. **Time**: 9.30 a.m. – 12.30 p.m. **Cost:** free, including a BBQ for all planters—please bring a spade if you have one.	**More info:** www.kaipatiki.org.nz/volunteer

Waikato Botanical Society

Meeting: Monday 5 August at 5.30 for a talk by Avi Holzapfel titled '*Dactylanthus taylorii* - Biology, Conservation and Research'. **Venue:** Waikato Environment Centre, 25 Ward Street, Hamilton.	**Contact:** Cynthia Roberts, email: croberts@doc.govt..nz, ph: 07 858 1034.
Field Trip: Saturday 17 August to Lake Koroha (Hauturu Forest). **Meet:** 9.00 a.m. at the Hauturu Hall, corner of Harbour Road and Hauturu Road, South Kawhia. **Grade:** medium-hard. **Bring: g**ood footwear, lunch, togs if you are brave enough.	**Leader:** Thomas Emmitt, email: temmitt@doc.govt.nz, ph: 07 878 1055 (work) or 021 152 3030.
Field trip: Saturday 31 August for a Threatened Plant Collection working bee. **Meet:** 10.00 a.m. at Waikato University Gate 8, Hillcrest Rd, outside Science and Engineering main entrance (E-F link stairway). **Bring:** gloves, old clothes and boots for weeding, planting and propagating activities.	**Contact:** Liz Overdyck, email: eg3@waikato.ac.nz, ph: 07 825 9743.

Rotorua Botanical Society

Field trip: Saturday 14 September to Kaiangaroa Frost Flats - Rangitaiki Bog Pine forest (combined with the Waikato Botanical Society). **Meet:** the car park, Rotorua, 8.30 a.m. **Grade:** medium; need 4WD for forest; contact leader one week before to supply vehicle details (spare seats available for those with no 4WD but booking necessary).	**Leader/Contact:** Sarah Beadel, ph: 07 345 5912 or 021 924 476.

Wanganui Museum

Meeting: Tuesday 6 August at 7.30 p.m. for the AGM and Members' evening. **Venue:** Museum's Davis lecture theatre.	**Contact:** Clive Higgie, e-mail: clive.nicki@xtra.co.nz.

Wellington Botanical Society

Field trip: Saturday 3 August to Oruaiti Reserve, Seatoun, Kau Bay. **Meet:** 9.15 a.m. corner Inglis St and Marine Parade, Seatoun.	**Leader:** Frances Forsyth, ph: 04 384 8891 or 021 072 5210; **Deputy:** Sunita Singh, ph: 387 9955.
Meeting: Monday 19 August for the AGM followed by the Druce Memorial Lecture to be given by Shannel Courtney, DOC, titled 'The mountains of Nelson & Marlborough—a treasure trove of alpine plants'.	**Venue:** Lecture Theatre M101, Murphy Building ground floor, west side of Kelburn Parade.

Nelson Botanical Society

Field trip: Sunday, 18 August to Boulder Bank: ferry and walk from the Cut to Boulder Bank Drive where there will be bus transport back to the city.	**Register:** with Sue Hallas, ph: 03 545 0294, because numbers are required for the ferry and bus.

Meeting: Monday, 19 August at 7.30 p.m. for a talk by Chris Ecroyd and Helen Lindsay titled 'Lord Howe Island'.	**Venue:** Jaycee Rooms, Founders Park.

Canterbury Botanical Society

Field trip: Show Weekend Camp, 14–17 November to 'Island Hills' station, inland from Culverden**. Cost:** $30/person/night.	**Bookings:** please contact Gillian Giller, ph: 03 313 5315.

Otago Botanical Society

Meeting: Wednesday 24 July at 12 noon for a talk by Dr Daphne Lee titled 'Painting a picture of Miocene subtropical Otago—forests and lakes, flowers and fruit, and invertebrates in amber'. **Venue:** Union St Lecture Theatre, corner Union St West & Great King St.	**Contact:** Tina Summerfield, ph: 03 479 7578.
Meeting: Wednesday 31 July at 12 noon for a talk by Dr Rebecca Laurie titled 'Next generation sequencing applications for botantists—why, how and how much?' **Venue:** Union St Lecture Theatre, corner Union St West & Great King St.	**Contact:** Tina Summerfield, ph: 03 479 7578.
Field trip: Saturday 3 August to Mount Watkin/Hikaroroa (foul weather back up date Sunday 4th August). **Meet:** Botany Department car park at 8:30 a.m.	**Contact:** Robyn Bridges, ph: 03 472 7330.
Meeting: Wednesday 7 August at 12 noon for a talk by Dr Arlene McDowell titled '*Sonchus oleraceus*—a good candidate for an antioxidant supplement?' **Venue:** Union St Lecture Theatre, corner Union St West & Great King St.	**Contact:** Tina Summerfield, ph: 03 479 7578.
Meeting: Wednesday 7 August at 5.20 p.m. for a talk by Bradley Curnow titled 'A walk in the English countryside'. **Venue:** 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 as we have to hold the door open.	**Contact:** David Lyttle, ph: 03 454 5470.
Meeting: Wednesday 14 August at 12 noon for a talk by Dr Richard Macknight titled **'**Discovering how plants know when to flower'. **Venue:** Union St Lecture Theatre, corner Union St West & Great King St.	**Contact:** Tina Summerfield, ph: 03 479 7578.
Meeting: Wednesday 21 August at 12 noon for a talk by Rachel Lawrence Lodge titled 'Aspects of niche differentiation in a herbaceous community'. **Venue:** Union St Lecture Theatre, corner Union St West & Great King St.	**Contact:** Tina Summerfield, ph: 03 479 7578.