TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

No. 145

December 2015

Deadline for next issue: Friday 15 January 2016

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:
P.O. Box 16102,
Wellington 6242,
NEW ZEALAND

PLANT OF THE MONTH, p. 2

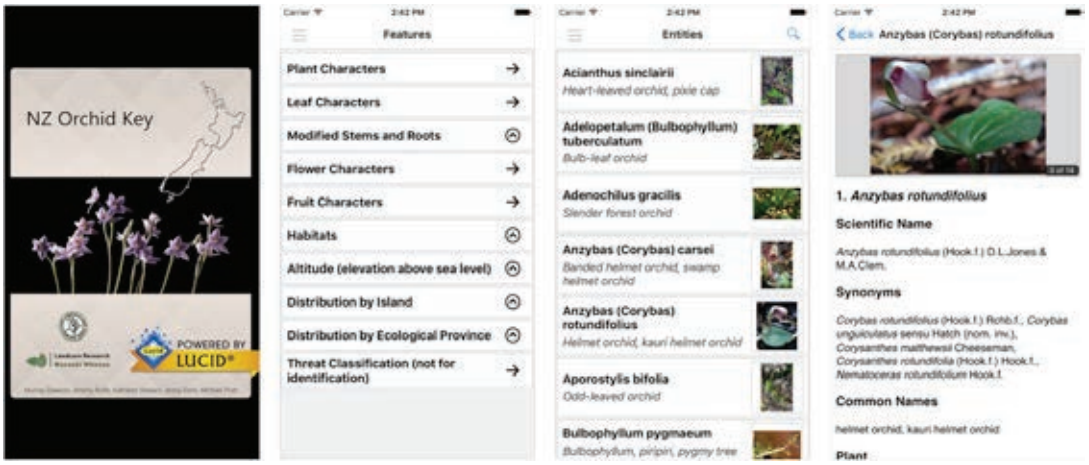
Senecio sterquilinus.
Photo: Jeremy Rolfe

New smartphone app for identifying native orchids

Murray Dawson Landcare Research, PO Box 69040, Lincoln 7640 (dawsonm@landcareresearch.co.nz)

A new New Zealand Orchid Key app for identifying New Zealand's native orchids is available as a free download for smartphones and tablets from the Android Google Play Store and Apple's iTunes. The app is easy-to-use, has lots of colourful photographs, and covers a wide array of plant characters, including leaves, flowers, habitats, and distribution—all of which are explained by fact-sheets built within the app. All of the 120–160 species of native orchids in New Zealand are covered, including those that don't yet have formal botanical names. Scientists have at times debated the classification of our native orchids (especially at the genus and tag-name levels), and research is ongoing.

The icon of the New Zealand Orchid Key app featurig the mauve sun orchid (*Thleymitra malvina*).



Screen shots of the orchid app, from left: start-up screen, feature (character) list, entity (species) list, species profile.

Native orchids are a remarkable and diverse family of plants, mostly ground dwelling (terrestrial), but there are also nine epiphytic species typically perched high up in trees. In the wild, native orchids are easily overlooked until seen in flower when they are at their showiest. Many species prefer to grow alongside hiking tracks, in semi-open habitats, and become a favourite of nature watchers and photographers during the flowering season.

Native orchids have high conservation values and exacting growing requirements so should not be removed from the wild. Under the New Zealand Threat Classification System (de Lange et al., 2013) (used by the Department of Conservation), five species of native orchids are Nationally Critical, one is Nationally Endangered, four are Nationally Vulnerable and many are At Risk.

PLANT OF THE MONTH – *SENECIO STERQUILINUS*

Senecio sterquilinus. Photo: Jeremy Rolfe.

Plant of the month for December is *Senecio sterquilinus*, an endemic herbaceous daisy from the coast. It can be found in the North, South and Chatham Islands, however, it is very restricted in its range, usually found around guano rich sea bird nesting grounds or seal haul outs, earning it the common name of guano groundsel. An annual or short lived perennial, it grows into a sprawling plant up to 0.6 m × 0.6 m. In summer, the large yellow flower heads often completely cover the plant, giving it great horticultural potential. It can be confused with *Senecio lautus*, but differs in having a larger overall stature, a greater number of involucral bracts (the scales surrounding the flower head or capitula) and a greater number of ray florets. Guano groundsel is considered an 'At Risk—Relict' species and has a very restricted distribution. It seemingly depends on sea bird guano to thrive making it very vulnerable to any decline in nesting sea birds. You can read more about *S. sterquilinus* at: http://www.nzpcn.org.nz/flora_details.aspx?ID=684

Some interesting orchids

One of New Zealand's rarest orchids, *Caleana minor*, has unusual flowers with an uncanny resemblance to tiny flying ducks. Although the flying duck orchid is common in Australia, in New Zealand it is known only from one small colony within a geothermal area at Rotorua.

In contrast to this rarity, New Zealand's most widespread orchid is the common onion orchid (*Microtis unifolia*), named after its onion-like tubular leaf. This species is found both in the wild and in pastures, lawns, and urban areas. Spider orchids (*Nematoceras* and others) are named after their flowers that have long and slender spider-like sepals.

Caleana minor (flying duck orchid), a Threatened: Nationally Critical species restricted to one site in New Zealand, (left) plant in flower, Photo: Chris Ecroyd; (right) close-up of flowers showing their resemblance to flying ducks. Photo: Ian St George.

Microtis unifolia (the common onion orchid). Left: colony of plants. Photo: Ian St George. Right: close-up of green flowers. Photo: Jeremy Rolfe.

Nematoceras "whiskers" (spider orchid), an informally named entity that is nevertheless well known, showing four long and whisker-like petals and sepals. Photo: Jeremy Rolfe.

The sun orchids, *Thelymitra*, named because some only open in warm weather, have relatively simple star-shaped flowers that may be white, pink, purple, blue, or other colours.

Sun orchids from left: *Thelymitra aemula*, *Thelymitra carnea*, *Thelymitra cyanea*, *Thleymitra longifolia*, *Thelymitra pulchella*. Photos: Jeremy Rolfe.

Development of the app

Murray Dawson of Landcare Research, Lincoln, led the project, in collaboration with the New Zealand Native Orchid Group. Kathleen Stewart and Jenny Dent worked with Murray measuring characters from herbarium specimens held at Lincoln and Auckland. Michael Pratt provided his species' profiles to use within the app, sourced from his outstanding New Zealand Native Orchids website (http://nativeorchids.co.nz). The remaining author of the New Zealand Orchid Key is Wellington-based botanist and photographer Jeremy Rolfe who contributed his high quality orchid images.

Other images were crowd-sourced from members of the New Zealand Native Orchid Group and the NatureWatch NZ orchid project (http://naturewatch.org.nz/projects/new-zealand-native-orchids). Native orchids are a popular subject for photography with devotees throughout New Zealand. Thanks to the generosity of these contributors, the new app contains an amazing collection of over 1500 pictures that would have taken several lifetimes for one person to accumulate. This is a great example of what can be achieved through outreach, citizen science, and crowd-sourcing.

Each species within the app is supported by a descriptive profile, providing all the information needed to verify the identification. Species' profiles include links to online resources on native orchids—the original New Zealand Native Orchids website profiles, NZPCN web pages, and the Flora of NZ online. However, the app itself is a self-contained download onto smartphones and tablets, so it can be used in the field where there is no Internet access. Because of its completeness, the New Zealand Orchid Key also provides a comprehensive resource for learning about this fascinating group of plants.

This app is part of a series of free interactive keys for identifying New Zealand plants. Online versions are hosted by Landcare Research (www.landcareresearch.co.nz/resources/identification/plants). The app work extends the accessibility of these online keys, a move that is welcomed by anyone interested in plants, field workers, hikers, gardeners, photographers, educators and students.

Other apps for identifying New Zealand plants

The first LucidMobile™ app version of these online keys was the New Zealand Coprosma Key released in December 2014 (Android) and January 2015 (iOS). David Glenny and his collaborators developed that key and Murray Dawson managed its translation into an app. *Coprosma* is a plant genus of 53 species currently recognised in New Zealand and the identification app received great feedback from users—the new New Zealand Orchid Key app should prove to be at least as popular. Murray is working on releasing others, including an app for the identification of New Zealand weeds.

Funding for these projects was provided by the New Zealand TFBIS (Terrestrial & Freshwater Biodiversity Information System) Programme.

Reference

de Lange, PJ; Rolfe, JR; Champion, PD; Courtney, SP; Heenan, PB; Barkla, JW; Cameron, EK; Norton, DA; Hitchmough, RA. 2013: Conservation status of New Zealand indigenous vascular plants, 2012. *New Zealand Threat Classification Series 3*. Department of Conservation, Wellington. 70 p.

New Zealand Indigenous Flora Seed Bank (NZIFSB) –Seed Collector workshops for 2016 and summer help at the Seedbank.

Jessica Schnell (J.L.Schnell@massey.ac.nz) and Craig McGill (C.R.McGill@massey.ac.nz)

2016 Seed Collector Workshops

As 2015 draws to a close, planning for 2016 is underway. Three workshops on seed collecting are scheduled for 2016. These will be in Auckland, Whanganui and Cromwell. The first workshop will be at the Auckland Botanic Gardens from 12-14 January; registrations close on 5 January 2016. Collecting will continue in the Auckland area on 15 January so there are three days available on which already trained collectors can collect. The second training workshop in 2016 will be at Bushy Park, near Whanganui from, 9-10 February. Registrations for this workshop close 2 February but already there are only a few spaces left. The workshop in Cromwell will be built around a two week collecting expedition in Otago, again giving plenty of opportunity for trained collectors to collect. The Cromwell workshop will be held at the Otago Polytechnic campus, Cromwell, on 14 March with seed collecting for participants on the 15 and 16 March. Registrations close 15 February 2016. For more information on the workshops, please contact Jessica Schnell at: J.L.Schnell@massey.ac.nz.

Summer help at the seed bank

A part of the summer scholarship programme for undergraduate students within the Institute of Agriculture and Environment at Massey University, the seed bank has had Viladmir Kaul, a second year Horticultural Science student, working within the seed bank. Viladmir's summer project in the seed bank will involve the collection and assessment of seed of species within the New Zealand flora for desiccation tolerance. This is to determine whether the seed can be stored under standard seed bank conditions and identify those species for which alternative storage protocols will need to be developed. Viladmir has been assisting in the collecting, processing and quality assessment of seed coming into the bank as part of learning the techniques needed for the assessment of desiccation tolerance. At the same time, this has been a great help in completing the 2015 collecting programme before the next collecting season begins. We thank the Institute of Agriculture and Environment for supporting Viladmir's work in the seed bank through the IAE summer scholarship programme. It is great having Viladmir helping in the seed bank.

Left: Viladmir Kaul preparing *Coprosma* seeds for viability staining. For some species seeds need to be prepared by peeling of the seed coat and/or cutting to allow the tetrazolium chloride stain to assess the embryo and storage tissues. Right: Viladmir and Yu Kai, assessing seeds before immersion in tetrazolium chloride for viability staining. Yu Kai has recently completed her masters investigating the storage of *Clianthus* and *Carmichaelia* and has been helping with viability assessment.

We would like to take this opportunity to thank the volunteers, seed analysts, collectors and interested members of the community for supporting and assisting at the seed bank over the past year. Thanks to their efforts, in 2015 we have collected and banked 56 species, including 12 threatened or at risk species. The total number of species or subspecies banked now stands at 93.

NZPCN's striking winner of 2015 Favourite Plant: New Zealand Favourite Plant and Worst Weed voting concludes

Matt Ward, Network Council Member (mattdavidward@gmail.com)

Favourite Plant

The 2015 Favourite Plant and Worst Weed election has come to an end. Voting for your favourite New Zealand plant and worst weed was run through November after being kicked off at the Dunedin Conference. The 13th annual competition for favourite plant was anyone's guess at the start of the vote, but quickly became a one horse race. Earning 25% of the vote, the winner of the 2015 Favourite Plant as voted by you is giant emperor daisy, *Pleurophyllum speciosum*.

Pleurophyllum speciosum, Campbell Island. Photos: Jane Gosden & John Barkla.

This "At Risk—Naturally Uncommon" megaherb is found only on subantarctic islands. It grows to 1 metre across and has stout scapes up to 1 metre tall, topped with violet composite capitula. Like Alex Fergus (prolific campaigner and supporter of this voting outcome), this species impressed the botanist who first described this species. In 1844, Joseph Hooker noted in his travel journal:

> "...the most extraordinary is the *Pleurophyllum* meadow, a community dominated by the large-leafed herbaceous composite, producing a floral display second to none outside the tropics." (https://www.plantexplorers.com/explorers/biographies/hooker/megaherbs.htm)

A sight to be seen in flower and one which has not been sighted by many, since the habitat which the species occupies is visited by only a few people each year. I will never likely see this beautiful species, but those who have had this to say:

John wrote: "*Stunning on its own, stupendous en masse.*"

Malcolm wrote: "*I've had the privilege to see fields of this flowering on Campbell and it is a stunner.* "

Jane wrote: "*What isn't there to admire in this magnificent megaherb? Its isolated location lends it an almost mythical presence amongst New Zealand plants. Unusually large with brilliant purple inflorescences* Pleurophyllum speciosum *is the personification of a botanical legend. This plant alone is worth travelling the distance south to Campbell Island; I would do anything to visit this plant again.*"

Alex wrote: "…*Unlike many beauties, the Giant Emperor Daisy (*Pleurophyllum speciosum*) is not pampered, it does not demand light breezes and temperate climes, it is the stubborn beauty that grabs a handful of snow and shoves it down her own neck. Sitting stoic, with elephant ear-sized radical leaves, rigid, grooved, and arranged to absorb every bit of the 5% of light breaking through Campbell Island's claggy over-cloak. Breaking bud in blues and pinks and purples, and sending a scape a metre skyward in order to cast her magnificent seed unto the wind. A naturally uncommon beauty that is unnaturally beautiful...*"

This year's top 10 featured nine newbies, compared with last year's leader board. The 2015 runner up, led for a short time and is the only survivor from last year's top 10, the iconic and endangered kakabeak (*Clianthus puniceus)*. This species garnered 8.4% of the vote and is a regular feature in the top 10 needing little explanation as it sits clearly in most New Zealanders' minds with its superb brightly coloured flower panicles. Thought to have occurred naturally in Northland and the Auckland portion of the Hauraki Gulf, it was once a feature in many garden centres until being replaced by it close relative *C. maximus*. In 2005, there was thought to be just one surviving natural plant in the Kaipara Harbour area making this species "Threatened – Nationally Critical", with the likelihood of going extinct in the wild. The passionate supporters of this species had lots to say:

Clianthus puniceus in cultivation.
Photo: Jeremy Rolfe.

Shaun wrote: "*It's a Kaipara native like me and it needs as much help as we can give it*."

Philip wrote: "*Plants like this, that have plummeted to the extent that it has, need people's attention (like* Metrosideros bartlettii*). Considerable publicity has not averted its decline, which should be a lesson in avoiding any sense of complacency that might arise from its already high profile. Apart from that, it is particularly distinctive, and is now commonly supplanted by* Clianthus maximus *within gardens. The Auckland Botanic Gardens' work on* C. puniceus *is heartening*."

Melissa wrote: *"A beautiful native that should be more widespread"*

Bec wrote: "*Probably no plants of this left naturally in the wild (probably—there may be a seed bank, there may be a few seedlings emerging now and again). It doesn't get much rarer than that. Fortunately, there's a conservation seed orchard at Auckland Botanic Gardens and DOC are re-planting it back.*"

In third place, rimu (*Dacrydium cupressium*) appeared in the top 10 for the fourth time. This iconic podocarp is one of our few forest giants known to occasionally reach heights of 60 metres, with a trunk up to 2 metres diameter. This species is also now very much renowned for its association with the breeding habits of our iconic kakapo, and many people alluded to this with their comments. Rimu also has the notoriety of being an ingredient in New Zealand's first local beer by Captain Cook in 1773. This species would once have been a feature commonly seen in much of our lowland forests but, like my home, many houses in the early part of the last century were constructed from it, which makes it uncommon near larger towns and cities throughout the country. Voters had this to say:

The drooping foliage of a juvenile rimu, *Dacrydium cupressinum*.
Photo: Jeremy Rolfe.

Virginia wrote: *"Always loved the beauty of the rimu and now we know that it is imperative to kākāpō successfully breeding makes it not only beautiful but also so important. "*

Alison wrote: "*I'm 74 years old, born in N.Z. and the rimu has always been my favourite tree. I just love its drooping foliage, unlike any other native tree. And it's so important for our native birds to feed from too :)"*

Thomas wrote: *"I am voting for this plant because it is a big piece of the diet of one of my favourite organisms on the planet the kākāpō. Hopefully it encourages people to plant more of it*."

Worst Weed

The worst weed competition, which is in its fourth year, was a close affair this year, with the winner managing only 17% of your votes. This species is a pain all over the country and is again, a much deserved winner, that's three out of four years! The winner of the 2015 Worst Weed as voted by you again is Wandering Jew, *Tradescantia fluminensis*

There is little explanation needed about this pestilent menace of a plant. I will leave it to the voters to express their thoughts:

Tim wrote: *"Hate it!"*

Tradescantia fluminensis Stokes Valley. Photo: Jeremy Rolfe.

O.S.H. wrote: *"This is a pernicious weed which wreaks an unprecedented level of havoc among our native ecosystems and urban gardens throughout New Zealand; by acknowledging its particularly detrimental impact on the environment I hope that people nationwide are inspired to take their best efforts to remove this species from our ecosystem."*

Peter wrote: *"Here's one for John Sawyer (he hated it and made a point about it being accidentally showcased in the "LOTR Fellowship of the Rings" film)."*

The New Zealand Plant Conservation Network would like to thank the hundreds of you who got motivated to vote in our annual Favourite Plant and Worst Weed poll. This year has once again found new and very worthy winners; we can only hope that this recognition will help our local flora gain more exposure, recognition and protection to guard its wonderful and unique qualities. Please vote again in November 2016 for your Favourite New Zealand Plant and Worst Weed; don't forget to vote for an orchid next year. Thanks to John Sawyer for starting this vote back in 2002, long may it continue.

	New Zealand's Top 10 Favourite Plants 2015	% of vote	New Zealand's Top 10 Worst Weeds 2015	% of vote
1.	Great emperor daisy, *Pleurophyllum speciosum*	25.0	Wandering Jew, *Tradescantia fluminensis*	17.0
2.	Kakabeak, *Clianthus puniceus*	8.4	Climbing asparagus, *Asparagus scandens*	14.0
3.	Rimu, *Dacrydium cupressium*	7.2	Agapanthus, *Agapanthus praecox praecox* subsp. *orientalis*	12.5
4.	Puriri, *Vitex lucens*	6.8	Gorse, *Ulex europaeus*	7.0
5.	Puawananga, white clematis, *Clematis paniculata*	6.0	Moth plant, moth vine, *Araujia sericifera*	6.0
6.	Ti kuoka, cabbage tree, *Cordyline australis*	4.8	Lodgepole pine, *Pinus contorta*	4.0
7.	Kotukutuku, tree fuchsia, *Fuchsia excorticata*	4.4	Chinese privet, *Ligustrum sinense*	3.5
8.	New Zealand begonia, *Elatostema rugosum*	3.6	Old man's beard, *Clematis vitalba*	3.1
9.	Lancewood, *Pseudopanax crassifolius*	3.6	Bindweed, convolvulus, *Convolvulus arvensis*	3.0
10.	Hidden spider orchid, *Molloybas cryptanthus*	2.4	Wild ginger, Kahili ginger, *Hedychium gardnerianum*	2.9

Clematis paniculata was New Zealand's fifth favourite plant for 2015. Photo: Jeremy Rolfe.

Canterbury Botanical Society visit to Arowhenua Bush October 2015

Alice Shanks, Canterbury Botanical Society (alice@caverock.net.nz)

It was 23 years since the Botanical Society had last visited Arowhenua Bush and once again the trip was led by Fraser Ross, who arranged our access to the privately-owned bush block. We gathered at the edge of the bush and Fraser outlined the history of Arowhenua Bush. It had been largest patch of forest on the Canterbury Plains at the time of European settlement, covering 500 acres (approximately 200 hectares) of alluvial floodplain close to the Temuka River, near Arowhenua Pa. It provided timber for the new stations and town of Timaru until large fires in 1859 and 1863 decimated the bush. By 1975, it had been reduced to several copses of trees scattered over a 10 hectare grazed paddock.

A view of the southern edge of Arowhenua Bush as it is today. Photo: Alice Shanks.

This visit marked the fortieth anniversary of the Big Wind of August 1975 that blew over many of the big trees. It also celebrated 40 years since Fraser was inspired by the devastating damage to do something to restore what remained of a healthy forest. With the approval of second generation farmers Ray and Isobel Lyon, he started by collecting seeds to take home to grow on to replant back in the bush. This was the beginning of 40 years of plant propagation for the bush.

Fraser made a crucial decision at the very beginning. He still has the copy of the 1976 letter from the Director General of the Lands and Survey Department stating that "as plants of the same species may have genetic differences throughout their range, seed or young plants should be obtained from the same patch of vegetation or the same catchment or island, say within 3 - 5 kilometres of the reserve". He adhered to this policy when searching the local area for naturally occurring plants to propagate and introduce to the bush. In this way, harakeke, cabbage trees, and mahoe were returned to the bush. "Back then not everyone appreciated the importance of this and I had to turn down offers of variegated flaxes and even sycamores from fellow Forest and Bird members," he recalled. Today, the revegetated bush is an exemplar of current best-practice "eco-sourcing" standards.

Fraser Ross with a tangle of old man bush lawyer vines (*Rubus schmidelioides*).
Photo: Alice Shanks

The core one hectare of bush was fenced off in 1981 using unemployed people on a work-scheme (the "PEP programme"). Fencing out sheep sped up the natural regeneration of the trees and understorey.

Fraser really did save many species. He layered the last remaining lancewood before the main tree died. Now the layered lancewood trees have seeded. Two matai were excavated from a mass of pohuehue vine that had deformed the trunk. These two female trees have been propped up and they produced seedlings. A second kahikatea was also released from a mound of pohuehue vine and, in 1980, it also seeded. The number of the few naturally occurring raukawa, swamp mahoe, rohutu and weeping mapou have been boosted by propagation and planting.

There is once again a small but significant patch of bush at Arowhenua. There is almost a continuous 6–8 m canopy of natural and planted trees and shrubs within the fenced area. The protruding original kahikatea, matai, pokaka, houhere and ribbonwood trees stand above the canopy and act as a measure to mark the increased height of the canopy at the photo points that Fraser has repeated over the years. Ground ferns have naturally returned to the bush and hounds tongue (kawaowao) has been introduced from a plant not far from the bush.

Coprosma crassifolia is the most common sub-canopy shrub amongst nine sub-canopy small-leaved shrubs. Kohuhu (*Pittosporum tenuifolium*) both planted and naturally recruited dominates the eastern end; a wetland is fringed with harakeke. Outside the fenced area, kowhai and ribbonwood trees were in full flower.

Fraser has added up his visits and the total came to over 800 trips, not counting the many hours he has spent propagating and caring for hundreds of young plants. His photos and notes of the restoration are an important record. Early on, Fraser benefited from visits by botanists Colin Burrows, Brian Molloy and Bryony Macmillan. He has been well-supported by Mary Bullard and members of the South Canterbury branch of Forest and Bird. Forty years on, Fraser can now see that his wish to "do something" after the destruction of the Big Wind has resulted in saving the cultural and ecological heritage of Arowhenua Bush for the next century and beyond.

A future step would be to carry out an entomological survey to assess the insect assemblage to see what has survived and how it compares with Riccarton Bush and nearby forest remnants.

(First published in the Canterbury Botanical Society November newsletter.)

Lucy Cranwell student grant for botanical research: call for applications for 2016

Applications are invited for the Lucy Cranwell Grant of $2,500 from the Auckland Botanical Society to assist a student studying for the degree of PhD, MSc, BSc (Hons) or B. Appl. Sci. in any tertiary institution in New Zealand whose thesis project deals with some aspect of New Zealand's flora and vegetation. Priority will be given to projects relevant to the northern half of the North Island. The research project to be supported will be chosen on the basis of appropriateness to the objects of the Society, namely to encourage the study of botany, and to stimulate public interest in the plant life of New Zealand and its preservation, conservation and cultivation. The grant will be administered by the student's supervisor as a contribution to expenses associated with the project. Closing date for applications: **5.00 p.m. Friday 26 February 2016**

A copy of the Application Form and the Rules of the award may be downloaded from the Auckland Botanical Society website: https://sites.google.com/site/aucklandbotanicalsociety/

Contact for enquiries: Vijay Soma, email: aucklandbotanicalsociety@gmail.com

The Botanical Society of Otago's 2016 calendar is on sale now

Only 17 left at $20 each (or multiple copies for $18 each) [add $2.50 for mail orders]. Available 1.00–3.00 p.m. from the Botany Department Reception, University of Otago (**cheque or correct amount of cash only**) and at Society meetings. For electronic payment, email the Botanical Society of Otago (bso@otago.ac.nz) with your name, address, and whether you want to collect the calendar from Botany Department reception or have it posted, and payment details will be sent.

UPCOMING EVENTS

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

Botanical painting: *Mediterranean plants from the hills and shores of South Pelion*

13–20 May 2016, 9–16 Sep 2016: Residential teaching course for beginners and intermediates. All drawing and painting materials will be supplied unless participants wish to bring their own.
Since antiquity, Pelion has been considered the mountain of flowers and medical herbs, the Garden of the Gods. Homer praised its fabulous flora and medicinal plants in his works. The Pelion region is one of the most verdant places on earth. The vegetation is luxuriant, dense, occasionally impenetrable, and totally captivating in its variety and richness in native trees, plants, herbs and flowers. Only now are some of the rare orchids being discovered and their DNA analysed. Pelion has inspired our course tutor, Maggie Niagassas DipAD DipSBA, who lived in Greece for 35 years before settling back in London, UK, where she practises as a botanical artist. Maggie is a member of the Mediterranean Garden Society based in Athens and has branches throughout the world.

Further information: http://www.lagouraxi.com/LRCH_BotanicalPainting_EN_2016_01.pdf

Australian National Seed Science Forum

14–16 March 2016: The Forum will be held at the Australian PlantBank hosted by the Australian Botanic Garden, Mount Annan, in collaboration with the Australian Network for Plant Conservation and the Australian Grains Genebank. Monday 14 March: evening event; 15–16 March : main science programme. An opportunity for botanical and agricultural institutions, seed scientists and conservation and restoration experts to share ideas that showcase the importance of seed science to the future of plant conservation and food security in Australia.

Information: www.seedpartnership.org.au. Please email: info@seedpartnership.org.au to register for Forum announcements.
Details will be provided in the near future. Invited keynotes and a call for presentations will be announced soon.

7th National Wetland Restoration Symposium 2016: Call for Presentations

10–12 February 2016: ***Wetlands for Life*** Nelson Marlborough Institute of Technology. **Keynote Speaker:** Ruud Kleinpaste, the highly engaging and entertaining "Bug Man". National Wetland Restoration symposia are run every two years to bring together community groups, landowners, iwi, scientists, wetland managers and students who are interested in sharing and learning about wetland restoration.
The theme highlights the vital role of wetlands in providing life-supporting ecosystem services, and opportunities to engage our young people in a life-time relationship with one of our most valuable, yet depleted ecosystem types.
Session themes to be announced.

Registration and information: www.wetlandtrust.org.nz

Thanks to our sponsors: DOC Arawai Kakariki Programme, DOC/Fonterra Living Water programme, Wildland Consultants, Landcare Research.

11th Australasian Plant Conservation Conference

15–18 November 2016: Melbourne in collaboration with La Trobe University and Royal Botanic Gardens Victoria.	**Information:** www.anpc.asn.au/conferences/2016

Waikato Botanical Society

Field trip: 30 January – 1 February, to Marakopa and Mt Whareorino. **Meeting place:** to be confirmed.	**Leader:** Thomas Emmitt, email: temmitt@doc.govt.nz, ph: 07 878 1059.

Wellington Botanical Society

Field trip: 17–24 January 2016 summer camp field trip to Western Waikato. **Registration for this trip has closed.**	**Leader:** Mick Parsons, ph: 04 473 1142 or 027 249 9663.

Nelson Botanical Society

Field trip: Sunday 17 January to Rainbow Skifield (back-up Parachute Rock), Nelson Lakes National Park. Meet: at 8.00 a.m. at the Church steps.	**Registration:** ALL participants to register with the leader by Friday 15 January for our PLB protocol and in case of cancellation. Leader: Beryce Vincenzi, ph: 03 545 1985.
Field trip: 29 January – 1 February for Anniversary weekend camp at Hanmer.	**Register:** with Beryce Vincenzi, ph: 03 545 1985 or Shannel Courtney. **Leader:** Shannel Courtney, ph: 03 546 9922.

Canterbury Botanical Society

Meeting: Monday 1 February at 7.30 p.m. for a talk by Ines Schoenberger, Manager of the Allan Herbarium. **Venue:** Upper Riccarton Library, 71 Main South Road.	**Contact:** Gillian Giller, email: ggillerma1@actrix.gen.nz.
Field trip: 13–18 February to our summer camp on Arapawa Island. Accommodation: for 5 nights at $15/person/night; there is no electricity but gas and solar power provide hot showers, cookers, fridge and lighting. **Access:** water taxi from Picton; coordinated travel on the afternoon of Saturday 13 February, returning on Thursday 18 February.	**Contact:** Gillian Giller if you are interested in coming to the camp or have any questions; ph: 03 313 5315, or email: ggillerma1@actrix.gen.nz.

University of Canterbury – BIOL305-16SU1 Practical Field Botany

January 21–29: an intensive, 8-day summer course designed to teach students and professionals basic skills in field botany field component with work before and after. Enrolment opens 6 October 2015.	**Course coordinator and lecturer:** Dr Pieter Pelser, ph: 03 364 2987 ext 45605; email: pieter.pelser@canterbury.ac.nz.

Otago Botanical Society

Field trip: Friday 12 to Sunday 14 February to Borland. Accommodation: Borland Lodge. Bring: a hand lens, camera and sense of adventure.	**Register:** by 15 January, Gretchen Brownstein email: brownsteing@landcare.research.co.nz.