TRILEPIDEA

Newsletter of the New Zealand Plant Conservation Network

No. 136

March 2015

Deadline for next issue: Wednesday 15 April 2015

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

NZPCN 2015 Conference Dunedin 28–30 October

'Nurturing Our Conservation Roots for Generations to Come'

This is the first time the Network has held a conference in Dunedin, home of the country's earliest botanical society and oldest botanic garden. Two days of symposia at Otago Museum will be proceeded by a selection of workshops that delegates are invited to attend. Saturday will be devoted to exploring the native plant communities and native gardens in and around Dunedin.

The conference will offer eight symposia themed around celebrating early plant conservation and fostering plant conservation efforts into the future. The symposia themes are:

- Early Plant Conservation in New Zealand
- Unique Southern Flora
- Native Plant Protection – legal issues and opportunities
- Threatened Plant Research
- Grassroots Plant Conservation
- The Next Generation of Plant Conservationists
- Working with Native Plants
- Building Networks and Partnerships

If you would like to present a paper during one of the symposia, please contact the conference coordinator, Jesse Bythell (jesse@biosis.co.nz), no later than **17 April 2015**.

Conference costs, workshop and field trip details are still being finalised and will be announced soon on our website (www.nzpcn.org.nz).

PLANT OF THE MONTH – *COROKIA MACROCARPA*

Corokia macrocarpa. Photo: Jeremy Rolfe.

Plant of the month for March is *Corokia macrocarpa*. This is an endemic plant of the Chatham Islands where it is known as hokataka or whakataka.

Often growing on the rocky shores and beaches, it is also found in open forest, on cliff faces, and near bodies of water like lakes and lagoons. Usually a large shrub, it can grow into a tree reaching six metres tall. The leaves are typically 4–8 cm long and 1.5–3.5 cm wide, leather like with a glossy upper surface and white tomentum underside.

One of three native *Corokia* species, *C. macrocarpa* is named after its large flowers, from the Greek *macro* (large) and *carpa* (flower). *Corokia macrocarpa* flowers from November to April; the flowers are yellow with an orange centre followed by orange to yellow fruit that can be seen year round.

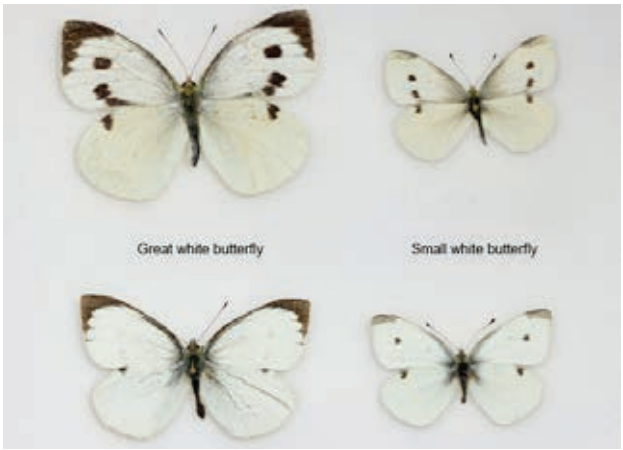
You can see the Network fact sheet for *Corokia macrocarpa* at: www.nzpcn.org.nz/flora_details.aspx?ID=457

Great white butterfly threat (2)

Kelly Maxwell, Department of Conservation (kmaxwell@doc.govt.nz)

The mop up phase of the great white butterfly eradication has sparked a lot of reflection within our team of how far we have come since September 2013. I have learnt so much about the multi-facets of an eradication that I feel brimming with knowledge ready to hit the ground running on the next project. One facet of the project that has been crucial to its success has been the Technical Advisory Group (TAG). Field staff and management have maintained a very close and valuable relationship with the TAG which created a feedback system of communicating what we should expect to find and what we were experiencing on the ground in terms of ecology of the butterfly. It allowed us to tweak our operations efficiently and effectively to achieve one of the main goals of the knock down phase which was to restrict the geographical spread and suppress the density of the population. One specific example of knowledge gained was when field staff and the TAG team worked closely to come up with the proportions of larvae brought in that had been parasitized by the wasp *Cotesia glomerata*, we discovered that we could expect at least a 35% rate of parasitism by the wasp, which remains our biggest ally in finding the last caterpillar.

Another facet of the eradication that was absolutely crucial to our success this far has been the involvement of the Nelson public After my year and a half of knocking on people's doors and asking to check their gardens, I am still pleasantly surprised at the positive reception I get from most residents even if it has been the fifteenth time we asked to do so. In a way, field staff have been lucky that we have had such direct line of gauging the public response so that we can adjust advocacy messages appropriately and time them according to feedback received and season. The great white butterfly bounty hunt, in my eyes, was one of our most successful campaigns. To this day, it remains a talking point and I'm sure neighbours still chat at their letterboxes about it. It encouraged people to really take a look at the physical differences between the two species of cabbage butterflies that we have in New Zealand and I'm sure it was the most cost effective butterflies caught for the project.



The environment that we have created within the team has been one of determination, co-operation and of good humour. We have striven to keep our focus of inspecting every property to the best of our ability but have also made a conscious effort to create a fun workplace at the same time; after all, it's hard to take yourself too seriously when you're swinging a butterfly net and running through the long grass. Luckily for us, great white butterfly eggs and caterpillars are quite conspicuous and I assume this must have been one of the factors in favour of testing the feasibility of eradication. From the start of my employment, I have seen all lifecycle stages coming into the office from all over the Nelson area creating congestion in the office to now when we are all hanging on tenterhooks awaiting our next 'find' (if it ever comes). It's bitter-sweet working on an eradication because the more we celebrate our success the less employment there is for us but considering the emotional commitment it takes I wouldn't have it any other way.

(Editor's note: maybe there are messages here for weed eradication programmes.)

New app makes identifying plants easier

Identifying plants is complex when there are dozens, hundreds and in some cases even thousands of species, many with similar features. But Landcare Research is making this easier. It recently developed a free app for smart phones and tablets to identify native coprosma plants. Native coprosmas are a common and diverse genus of trees, shrubs and ground-hugging plants.

The app, called the NZ Coprosma Key, allows users to identify their plant specimen by selecting from a series of features to narrow down the range of 53 possible species. These features include leaf size, branch colour, leaf hairs and many others. The app was adapted from a computer-based *Coprosma* identification tool and is the first of more to come.

Landcare Research scientist David Glenny, the lead author of the app, said it was created to help identify plants during ecological survey work and would be of particular benefit to Department of Conservation staff. However, it would also be useful to students, researchers, and others in the New Zealand botanical community. "Although the app is easy to use, I don't regard it as a key for beginners as you actually have to know already that you've got a *Coprosma*. New Zealand has a lot of plants that look quite similar to *Coprosma*. So I created the key mainly for people doing survey work who already know the flora reasonably well but who need help with what's quite a difficult group," he said.

Landcare Research scientists Murray Dawson, left, and David Glenny using the app to identify a *Coprosma*.

"One benefit of the app is that, unlike traditional methods of identifying plants, it is fully portable. It eliminates the need for those in a remote area to cut a sample of an unknown plant to later identify with a book or computer," Glenny said.

Another benefit is that the app is "self-contained" and does not require internet access or cellphone reception in the field. "It's better than I imagined," said Glenny said. "Many *Coprosmas* are most easily identified when in fruit, which occurs only at certain times of the year; the app overcomes this challenge," he said. "Every pre-existing key used fruit colour, which is quite diagnostic. If you have ripe fruit that's fantastic but fruit is typically only available in autumn. Ecologists tell me that in places like the West Coast forests they never see ripe fruit no matter what month they visit. So part of the point of that original computer key was to provide an ID tool that didn't just rely on fruit colour."

Landcare Research scientist Murray Dawson led the development of the LucidMobile coprosma app. Dawson is also developing apps to identify New Zealand native orchids, flowering plants, weeds and grasses. Dawson said that the development of the native orchid apps is nearly completed. The flowering plants and weed apps are due out later this year.

"These apps are very easy to use and self-explanatory. They are powerful and able to accommodate hundreds of images," said Dawson.

The development of the apps has been funded by the Terrestrial and Freshwater Biodiversity Information System (TFBIS) Programme. TFBIS supports the conservation of New Zealand's indigenous biodiversity by increasing awareness of and access to fundamental data and information about terrestrial and freshwater biota and biodiversity. The NZ Coprosma Key can be downloaded via the Landcare Research website, Apple App Store or Android Google Play Store.

Towards a Regional Threat Classification System for New Zealand

Jeremy Rolfe, Department of Conservation (jrolfe@doc.govt.nz)

The Department of Conservation, working with regional councils, is developing a system to assess the conservation status of organisms at regional scales. Modelled on the New Zealand Threat Classification System (NZTCS; Townsend et al., 2008), the Regional Threat Classification System (RTCS) is being developed with regional councils using their boundaries for regional assessments.

Regional assessments of the conservation status of organisms will provide regional councils and DOC with valuable information to help plan biodiversity management, aid regional protection efforts and will assist groups working on restoration projects to identify species of conservation concern that are appropriate for their projects. It is also anticipated that information gathered in the regional assessments will contribute to NZTCS assessments—in the past, people have been reluctant to contribute submissions to the NZTCS because 'they only know about their local situation'.

Historically, regional threatened plant lists have been developed in several parts of the country (e.g., Townsend et al., 1998; Forester & Townsend, 2004; Stanley et al., 2005) but there was no consistency in the criteria used, or how 'regional' boundaries were defined. By developing an assessment process that is consistent with the NZTCS and using an agreed set of boundaries, it is hoped that regional threat classification will contribute to a more detailed understanding of the status of and trends affecting indigenous biodiversity throughout New Zealand. Where the NZTCS considers national trends, an RTCS can focus on local and regional trends affecting species.

Panels of regional experts from DOC, the regional councils and other organisations have tested the regional system on the birds and reptiles of Greater Wellington and the birds of Hawke's Bay. Regional assessments of vascular plants are now being trialled in Waikato and Greater Wellington.

The size of regional floras makes the assessment of plants substantially more complex than assessments of vertebrate groups—we estimate that regional vascular plant floras are c. 10× larger than their equivalent bird faunas. Confirming the regional flora to be assessed (including taxonomically indeterminate entities that have been assessed in the NZTCS) is a considerable task that requires herbarium records to be checked to validate the presence (historical or current) of taxa.

Assessment of taxa for their regional conservation status largely follows the process and criteria specified in the NZTCS (Townsend et al., 2008). The main departure from the NZTCS is that the population size thresholds for 'Regionally Not Threatened' taxa are modified from the NZTCS. This is to minimise the possibility that a taxon is assessed 'Regionally Threatened' or 'Regionally At Risk' in every region but "Not Threatened' nationally. These 'Regionally Not Threatened' thresholds vary according to the relative sizes of the regions. An additional category, 'Regionally Extirpated' has been established to account for taxa that have been lost from a region but for which the possibility remains that they may in future be restored to that region, either naturally or by human agency.

The Regional Threat Classification System will also record several new 'qualifiers' in addition to the 18 in the NZTCS. These additional regional qualifiers are:

FR	Former Resident	Breeding population (existed for more than 50 years) extirpated from region but continues to arrive as a regional vagrant or migrant.
IN	Introduced Native	New Zealand indigenous taxon that has been introduced to the region by human agency although not known to have naturally occurred there.
RN	Restored Native	Taxon that had previously been extirpated from the region.
TL	Type Locality	The type locality occurs in the region.
NR	Natural Range Limit	The known range (extending in any direction) of the taxon meets its natural limit in the region.

HR	Historical Range Limit	The inferred range (extending in any direction) of the taxon in pre-human times meets its natural limit in the region.
NS	National Stronghold	More than 20% of the national population breeding in or resident for more than half their life cycle in the region.
RE	Regional Endemic	Known to breed only in the region.

It is intended that regional assessments will be conducted 5-yearly by panels of regional experts in a manner similar to the NZTCS. Botanical societies can play a vital role in the regional assessments of plants by helping to validate regional vascular plant lists, contributing to the membership of regional assessment panels and submitting information about local plant populations.

After the regional vascular plant assessment trials have been completed, a Regional Threat Classification System manual will be prepared to guide the expert panels.

References

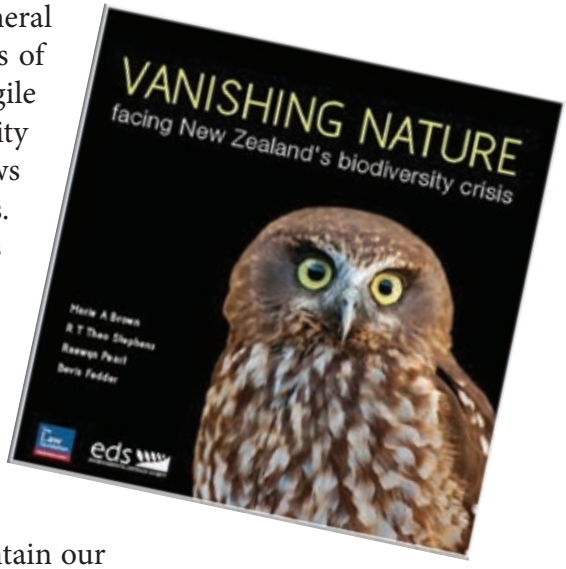
Forester, L; Townsend, AJ. 2004: Threatened plants of Northland. Department of Conservation, Wellington. 80 p.

Stanley, R; de Lange, P; Cameron, EK. 2005. Auckland Regional Threatened and Uncommon Vascular Plant List. Auckland Botanical Society Journal 60:152–157.

Townsend, AJ; Beadel, SM; Sawyer, JWD; Shaw, WB. 1998: Plants of National Conservation Concern in Wellington Conservancy. Department of Conservation, Wellington. 220 p.

Townsend, AJ; de Lange, PJ; Duffy, CAJ; Miskelly, CM; Molloy, J; Norton, DA. 2008: New Zealand threat classification manual. Department of Conservation, Wellington. 35 p. www.doc.govt.nz/publications/conservation/nz-threat-classification-system/nz-threat-classification-system-manual-2008/ (accessed 27 Feb 2015)

New book: *Vanishing nature: facing New Zealand's biodiversity crisis* by Marie A Brown, R T Theo Stephens, Raewyn Peart and Bevis Fedder



This full colour, soft cover publication is suitable for both a general and a technical audience with user friendly language and lots of images. New Zealand's remarkable indigenous biodiversity is fragile and it's in crisis. Our economic institutions promote biodiversity loss by not accounting for environmental costs and our laws and policies are unable to prevent the resulting ongoing losses. The design and implementation of policy and programmes that safeguard ecosystems require both an understanding of political, economic and social factors influencing biodiversity protection and a foundation based on established ecological principles. The book presents an exhaustive analysis of New Zealand's biodiversity loss and its conservation. The authors argue that the fundamental drivers of harm as well as the barriers to effective protection must be addressed if we are to halt the loss of our native species and ecosystems and maintain our natural capital. This will require novel economic institutions designed to bring private and public interests toward alignment. The book includes a comprehensive suite of strategic, tactical and practical solutions and finishes with a vision and action plan that the Environmental Defence Society is committed to champion in the coming years. Biodiversity loss is not inevitable, it is a choice. ISBN 978-0-9876660-4-8. Published by the Environmental Defence Society, Auckland.

Cost: $45 (EDS members $36). Contact: EDS, P O Box 91736 Victoria St West, Auckland 1142, ph: 09 480 2565, email: manager@eds.nz

New Zealand Indigenous Flora Seed Bank (NZIFSB)

Visit from Rachael Davies, Germination Specialist, Millennium Seed Bank Partnership, Royal Botanic Gardens, Kew and April seed collecting workshop

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

Rachael Davies, who is based with the Millennium Seed Bank at Wakehurst Place, West Sussex, is visiting the New Zealand Indigenous Flora Seed Bank. Rachael has been seed collecting in the South Island since 24 March with Jessica Schnell. Three seed collectors who attended the seed collector training course in Dunedin last November, Lucy Grigg and Tom Myers from the Dunedin Botanical Garden and Jesse Bythell, joined for the collecting trip to Mount Burns. It is great that Lucy, Tom and Jesse were able to take time out from work and other commitments to help with the collecting and to put their plant identification and seed collecting skills to good use!

Rachael's experience has been invaluable in identifying potential post-harvest handling issues and advising on the best way to treat the seed when out in the field. Rachael will be kept equally busy for the last week of her visit working with and passing on her knowledge on seed conservation to the seed bank volunteers and seed analysts based in Palmerston North. Topics Rachael will be talking about include testing the seed of wild species for germination with the attendant issues of overcoming seed dormancy, assessing viability using the tetrazolium test (very useful for dormant seed), post-collecting handling and processing, drying, cleaning, x-raying, counting, banking the seed, and longevity.

Lucy Grigg (Dunedin Botanic Garden), Rachael Davies (Royal Botanic Gardens, Kew) and Jesse Bythell (NZPCN) at Mount Burns in Fiordland National Park.

Seed Collecting workshop Wellington 23/24 April 2015

There will be a seed collector training workshop on 23/24 April. The workshop will be held at the Department of Conservation National Office in Wellington for the first day, with the second day set aside for collecting at Otari Wilton's Bush. Places are limited so if you would like to attend the training please register as soon as possible by emailing Jessica (J.L.Schnell@massey.ac.nz).

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):

Auckland Botanical Society

Meeting: 1 April Janeen Collings 'Threatened plants'/ TBC overseas trip report. **Venue:** Unitec Building 114, Room 2001.	**Contact:** Maureen Young, email: youngmaureen@xtra.co.nz
Field trip: Saturday18 Apr to Pretty Bush, North Kaiwaka.	**Leader:** Doug Shaw.

Ecofest North 14 March – 12 April

Festival: fun, practical events to celebrate environmental action and sustainable living on the North Shore and up to Matakana. Supported by Auckland Council and Ray White North Shore, and co-ordinated by Kaipatiki Project Environment Centre.	**Details:** www.ecofest.org.nz, facebook/ecofestnorth, facebook/sustainablewhanauchallenge, festival@kaipatiki.org.nz or ph: (09) 482 1172

Waikato Botanical Society

Field trip: Saturday 18 April to Pirongia Forest Park – Nikau Loop and Schofield Route.	**Organizer:** Kerry Jones, ph: 07 855 9700 or 027 747 0733, email: km8j1s@gmail.com.

Rotorua Botanical Society

Feld trip: Sunday 12 April to Waikite Wildlife Management Reserve and Waikaropa Bush, Waikite Station. **Meet:** the car park Rotorua at 8:30 a.m. or Waiotapu pub car park at 9.00 a.m. **Grade:** medium.	**Leader:** Paul Cashmore, ph: 07 3484421(hm), 07 349 7432(wk), 0276 507 264 (cell), email: pcashmore@doc.govt.nz.

Wanganui Museum

Meeting: Tuesday 7 April at 7.30 p.m. for a talk by Finn Michalak of Otari Native Plant Reserve, Wellington.	**Venue:** Davis Lecture Theatre.
Field trip: Saturday 2 May to see some of the beautiful, historic trees of Whanganui, in and close to town.	**Leader:** Clive Higgie. Meeting place and time to be announced.
Meeting: Tuesday 5 May at 7.30 p.m. for a talk by John Adams titled 'Historic plantings of early Wanganui'.	**Venue:** Davis Lecture Theatre.

Wellington Botanical Society

Field trip: Easter Friday 3 April – Sunday 5 April to Horowhenua. **Meet:** 10 a.m. on SH1 in Manakau. **Accommodation:** *please book your own* at Levin Holiday Park, 38 Parker Ave, Levin; ph: 06 368 3549, email: lhp@xtra.co.nz, web: www.levinholidaypark.co.nz. Details: www.aatravel.co.nz/main/bookingform.php?listingId=51176&linkFrom=external. If you would like a lift, or have space in your car, please tell the co-leaders.	**Co-leaders:** Mick Parsons, ph: 04 972 1148, 06 273 8087, 027 249 9663, email: mtparsons@paradise.net.nz; Frances Forsyth, ph: 04 384 8891, 021 072 5210, email: frances.forsyth@paradise.net.nz.

Meeting: Monday 20 April at 7.30 p.m. for a talk by Catherine Kirby titled 'Epiphytes, Vines and Mistletoes'. There will be an opportunity to purchase discounted Field Guides ($35).	**Venue:** Lecture Theatre M101, ground floor Murphy Building, west side of Kelburn Parade; enter building off Kelburn Parade about 20 m below pedestrian overbridge.

Nelson Botanical Society

Field trip: Sunday 19 April to Bridle Track, Duncan Bay, Marlborough Sounds. **Meet:** at the Church steps at 8.00 a.m. (provisional time—register with Leader for confirmed details).	**Leader:** Uta Purcell, ph: 03 545 0280 by Friday 17 April.
Meeting: Monday 20 April at 6.00 p.m. for dinner and AGM. **Speaker:** Shannel Courtney for talk titled 'Last Summer'.	**Venue:** Jaycee Rooms, Founders' Park.
Field trip: Sunday 17 May to Rameka Track, Canaan Downs. **Meet:** Church Steps at 9.00 a.m. **Registration:** by 15 May with trip leader.	**Leader:** Elaine Marshall, ph: 021 256 9073.
Meeting: Monday 18 May at 7.30 p.m. for a talk by Sandra Wotherspoon.	**Venue:** Jaycee Rooms Founders' Park.

Canterbury Botanical Society

Meeting: Monday 13 April 7.30 p.m. talk by Kristina MacDonald titled '*Gastrodia* orchids in Christchurch' **Venue:** Upper Riccarton Library community meeting room, 71 Main South Road.	**Note:** new meeting night for 2015: Mondays!
Field trip: Saturday 18 April to Mt Torlesse station forest and red tussock. **Meet:** Yaldhurst Hotel at 9.00 a.m.	**Contact:** Alice Shanks, ph: 03 337 1256.
Meeting: Monday May 4 at 7.30 p.m. for a talk by Graeme Ure titled 'Male fern a new conservation weed'. **Venue:** Upper Riccarton Library community meeting room, 71 Main South Road.	**Note:** new meeting night for 2015: Mondays!

Te Ara Kakariki (Greenway Canterbury Trust) Canterbury plantout tour

Field trip: Saturday 18 April tour of established native restoration sites. **Meet:** at Rushbrook Rd at 9.30 a.m. and finish the tour at 1.00 p.m. **RSVP** by Tuesday 14 April (for catering purposes).	**Registration:** send to: register@kakariki.org.nz.

Otago Botanical Society

Meeting: Wednesday 15 April at 5.20 p.m. for the BSO AGM and Photographic Competition. 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.	**Note:** Please be prompt as we have to hold the door open.
Field trip: Saturday 18 April to Sunday April 19 to the Southern Catlins. Meet: Botany Department, 464 Great King St, at 8.30 a.m.	**Contact:** Marcia Dale, ph: 03 454 6706, email: imaginarycrayfish@gmail.com
Field trip: Saturday 2 May to Molteno's Regenerating Bush, Opoho; Tess and Anthony Molteno will host the BSO on a visit to their property at 236 Signal Hill Road, Opoho. Meet: Botany Department car park, 464 Great King St at 9.30 a.m.	**Contact:** Robyn Bridges, ph: 03 472 7330.