TRILEPIDEA

NEWSLETTER OF THE NEW ZEALAND PLANT CONSERVATION NETWORK

Please send news items or events to events@nzpcn.org.nz
Postal address: P.O. Box 16-102, Wellington, New Zealand

E-NEWSLETTER: NO 39. FEBRUARY 2007 Deadline for next issue: Friday 16 March 2007

Message from the President

I have been travelling around the Canterbury Region of late. It is good to be invited to give talks and to lead seminars on plant conservation related subjects. I take every opportunity to talk about the New Zealand Plant Conservation Network—of course. I could not help but be very pleased to find that many people have heard of both the Network and the Network website. Not many of these people owned up to being members of the Network and that is another important topic. I was interested to learn that many have said that they have taken part in the annual vote for New Zealand's most favourite native plant. This included quite a few children from a young audience that I was talking to.

Thinking about it, the annual vote reminds me that it is always very interesting to see what is going to be the Plant of the Month. I always look forward to seeing what the plant will be. This month it is the Nationally Endangered *Pittosporum obcordatum*. Read on, because below you will find some very interesting details.

Further on in this month's newsletter, you will love the acount of 'Resurrecting the dead – bringing back Adams's Mistletoe'. This is a most exciting account of an extroadinary series of events. I am even tempted to say that this account could be the basis for a very readable book. Many thanks to Sue Wickison and Peter de Lange for writing and contributing this article. More like this please from other members.

The Network continues to have many successful outcomes in its diverse efforts to address the 16 targets of the Global Plant Strategy. Therefore it is not surprising that the Network has announced with pleasure the full fact sheets and images that are now available for all 14 species classified as vagrants. That and the 12,000 images now on line is a marvellous achievement. Congratulations to all involved.

Please don't forget to help the Network to identify YOUR Most Important Plant Areas. This project can work only with your input. Please do read the explantion below and have a go at nominating sites. This is another important target for the Global Plant Strategy.

There are lots of exciting events coming up and details of many of these are in this month's Newsletter. It's great to have so much to choose from—and I look forward to hearing from you about your participation in these events. Please do write a piece for the Newsletter—it's your Newsletter.

Finally, I must return to membership of the Network. Yes, the membership, with your help, has gone past 350. However, I do urge you all to help to advertise the benefits of being a member of the Network. If you work in a school or other educational institute, do talk to them about corporate membership. Similarly with local and regional government. Do help to recruit both individual and corporate members.

Ian Spellerberg
Lincoln University

Plant of the Month

Plant of the Month for February is the Nationally Endangered *Pittosporum obcordatum.* This is a small, gynodioecious, usually single-trunked, columnar tree 5–8 m tall. It is a species of primarily eastern lowland alluvial forest, favouring sites prone to summer drought being otherwise waterlogged, and frost-prone during winter. In the North Island, it is known from Awanui south to the Wairarapa, with a predominantly easterly distribution. In the South Island, it is now known from several sites in the Catlins west to Lake Manapouri. Historically, this species was also known from Banks Peninsula, the type locality, where it is now presumed to be extinct. It is threatened by loss of habitat. Initially this was caused by the widespread clearance of the easterly, lowland alluvial forest habitat this species favours. However, decline has continued, even within many protected forest remnants due to subtle changes in forest microclimate and hydrology, brought about by habitat fragmentation. Also, many populations are threatened by the spread of aggressive weeds, which suppress (or prevent) regeneration, and can smother adult trees. The Network fact sheet for this species may be found at: www.nzpcn.org.nz/vascular_plants/detail.asp?PlantID=91

Pittosporum obcordatum. Photo: John Smith-Dodsworth.

Fact sheets completed for New Zealand indigenous vagrants

As currently accepted, New Zealand has some 14 indigenous vascular plants that have been classified by the New Zealand Threatened Plant Panel (in 2001) as vagrants. This means that in their wild condition in New Zealand they exist as small populations whose further natural spread is thought to be inhibited by some reproductive or ecological constraint. In most cases, the same species remain abundant in countries outside of New Zealand.

NZPCN is pleased to announce that full Fact Sheets and images are now available for all 14 species. Please note that some of these vagrants may be reclassified later this year at some other rank as more recent field surveys have shown several of them to have expanded their range. However, for many others, there is no recent information on their status, and at least one, a species of orchid (*Myrmechila trapeziformis*), no longer exists in this country as a natural population.

Mazus pumilio, one of the 14 Vagrant taxa for which fact sheets have been completed on the Network website (www.nzpcn.org.nz/vascular_plants/detail.asp?PlantID=728). Photo: Peter de Lange..

12,000 images now on line

The Network has now loaded over 12,000 images on the website. That means we now have over 81% of the indigenous flora illustrated. We are now looking for images to plug the remaining gaps for 457 indigenous plants and for images to improve what we already have. Please tell us if you can help plug any of the remaining gaps with your own images.
Images may be sent to info@nzpcn.org.nz.

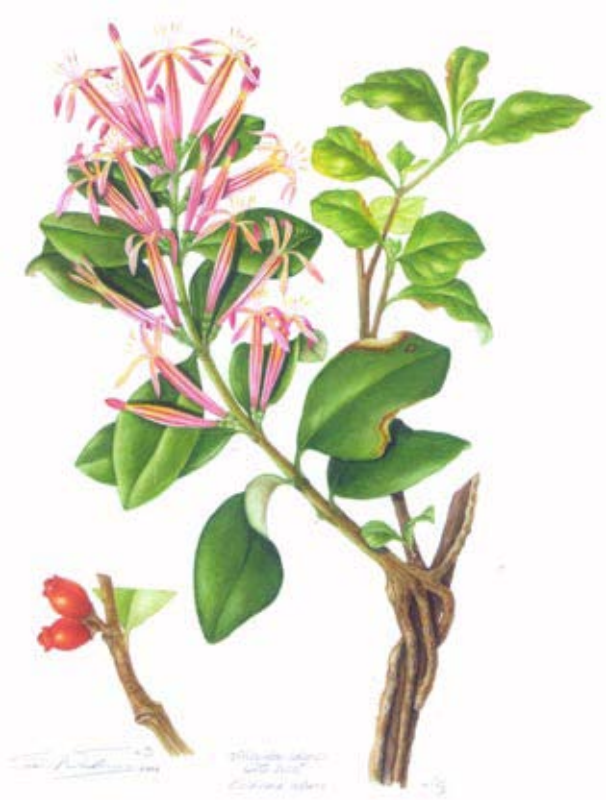
Resurrecting the dead – bringing Adams's mistletoe (*Trilepedia adamsii*) back to life

*Sue Wickison, Wellington (*www.suewickisondesign.com), *Peter de Lange, Auckland* (Pdelange@doc.govt.nz)

NZPCN needed a painting for the Individual Conservation Achievement Award given each year to recognise excellence in the field of plant conservation. The botanical artist, Sue Wickison, was approached and asked if she would undertake a commission.

"It would be an honour", was her reply, "but I always work from living material".

Adams's mistletoe (*Trilepidea adamsii*), already on the logo of the NZPCN website, was thought to be an excellent species to represent the need for conservation. This plant is extinct and was last seen in 1954 on Sanitorium Hill, Maungakawa, near the Waikato town of Cambridge. So much for Sue's only criterion of needing living material! Could she bring the plant to life again through paint? Not only that but could she illustrate it and its favoured host mamangi (*Coprosma arborea*)?



The painting of *Trilepidea adamsii* by Sue Wickison.

Sue has a degree in botanical illustration and spent nine years as a Botanical Illustrator with the Royal Botanic Gardens, Kew, working with herbarium specimens, so she was familiar with the requirements of the work. Sue rose to the challenge of painting Adams's mistletoe and studied every specimen to familiarise herself with the species. For access to specimens she was kindly assisted by Drs Patrick Brownsey and Leon Perrie at Te Papa and Mr Ewen Cameron and Ms Mei Nee Lee at the Auckland War Memorial Museum. The specimens at the Auckland Museum proved especially important because they include the holotype. She also worked closely with Peter de Lange who interviewed Lucy Cranwell, Audrey Eagle, Mike Wilcox, Peggy Sexton, and Barbara Segedin—all of whom actually saw the plant alive, and in some cases collected it; critically examined most of the herbarium specimens available both here and overseas, and searched in vain for the species over large parts of its former range.

Sue Wickison studying *Trilepidea adamsii* at Auckland Museum.

At the Auckland Museum, Sue had the chance to see the paintings and drawings that had been done by botanical artists such as Georgina Hetley, Matilda Smith (for Thomas Cheeseman's illustrated New Zealand Flora published in 1914), Fanny Osbourne, and Audrey Eagle. Interestingly these illustrations differed quite a lot from each other, which threw up further questions—were the differences due to the skill level of the artists or variation in the plant due to habitat, host type or stages of growth?

Key specimens that proved particularly useful to verify plant details were AK 103910 and 103911, for the habit and flowers, and AK 223974 for the fruit. Using calipers, Sue carefully measured all the details of the plant and drew up a flowering branch, like piecing together a fascinating jigsaw puzzle.
Determining the colour of the flowers was the biggest problem for Sue to solve, since Cheeseman, who originally described the species, was colour blind and there is no mention of colour in his description. Based on the colours of other species in the mistletoe group, on the old illustrations and on the distinctly striped herbarium specimens, a painting emerged. Knowing the flowers were basically pink and yellow is not really good enough for an artist since which pink and which shade of it are important plus there are so many yellows to choose from. Would a lemon yellow be closer than cadmium or a more vibrant Indian yellow? Were there nuances of colour changes as the flowers aged?

As the haustoria of Adams's mistletoe have never been described and there are no known specimens of this structure, illustrating them was especially difficult. Peter de Lange's research suggested that Adams's mistletoe had a growth habit very similar to the green mistletoe (*Ileostylus micranthus*), so Sue turned to that species for some guidance. The closest living material Sue could get to was *Ileostylus micranthus* at Nga Manu Sanctuary, Waikanae, kindly shown to her by Rhys Mills. That plant helped Sue understand the parasitic nature of the group and how Adam's mistletoe might have attached itself to its host.

The project of research and the final painting took a number of weeks to complete, using mostly Sminke watercolour paint on Schoellhammer paper. Layers of fine glazes of colour were gradually built up in the traditional style of botanical painting. The final touches of hours of fine detailed dry brush work added depth and polish to the painting. At all stages of the illustration's preparation Sue carefully checked the details with mistletoe experts.

It is hoped that the award will be enjoyed by many recipients in years to come for the tremendous work that is being undertaken in the name of conservation.

Sue is currently working as a freelance artist on native New Zealand plants and preparing for a solo show in April at Savill Garden, Windsor Great Park, UK, which is to coincide with the opening of the refurbished New Zealand garden that is being given to the Queen.

See Sue's web site for more details about her work www.suewickisondesign.com and the NZPCN site www.nzpcn.org.nz for more details about *Trilepidea adamsii*

Identification of your Most Important Plant Areas

The Network is now calling for nominations of Important Plant Areas using the on-line nomination form on the Network website (www.nzpcn.org.nz) – see NZ Native Flora>NZ Important Plant Areas.

Important Plant Areas (**IPAs**) are the best sites for wild plants and fungi. The purpose of an **IPA** programme is to identify a network of sites within each biogeographic zone that are critical for the long-term viability of naturally occurring wild plant populations. The identification of IPAs in New Zealand and throughout Oceania is valuable so that conservation efforts for wild plant species and their habitats may be appropriately targeted to these sites. Target 5 of the Global Strategy for Plant Conservation is that "protection of 50% of the world's most important areas for plant diversity assured by 2010". So that New Zealand may achieve this target, the Network is working to identify IPAs and criteria for identification of these areas have now been developed. The Network is now calling for nomination of sites using the form provided. These sites will be examined by an expert panel every few months and if supported will become part of the Network's IPA database. Gradually, the Network will build up a database of the most important areas in New Zealand for plants, which will aid our conservation programme.

Another milestone

The membership of the Network rose past 350 in the past month. However, not all members have responded to the invoice for their membership fees that was sent out over recent months. If you are one of those, please pay your subscription NOW.

Seed of New Zealand *Gaultheria* wanted – Can you help?

Dr Sylvia Plaschil is interested in studying the germination behaviour and ecology of *Gaultheria*. As part of her collaborative work with Hort Research she is keen to obtain viable seeds of the following species:

Gaultheria antipoda
Gaultheria colensoi
Gaultheria crassa
Gaultheria depressa var. *novaezelandiae*
Gaultheria depressa var. *depressa*
Gaultheria macrostigma
Gaultheria nubicola
Gaultheria oppositifolia
Gaultheria paniculata
Gaultheria parvula
Gaultheria rupestris

Gaultheria crassa (top) and *G. nubicola*.
Photos: John Smith-Dodsworth.

If you are able to assist Dr Plaschil please contact her at the following address or email:

Dr. Sylvia Plaschil
Federal Centre for Breeding Research on Cultivated Plants
Institute of Horticultural Crops
Erwin-Baur-Str. 27
D-06484 Quedlinburg
Germany

Email: s.plaschil@bafz.de

Homepage: www.bafz.de

Under the New Zealand Native Plant Act 1934 it is an offence to collect native plants without landowner's permission, or in such a way as to deplete natural populations. Therefore if you are willing to help, remember that any seed gathered must be obtained either from cultivated material, or with the landowner's permission. Any seed obtained from land administered by the New Zealand Department of Conservation will require a permit.

Wellington's turn

Wellingtonians will get a rare opportunity in March to see exactly what Otari-Wilton's Bush is home to when scientists converge on the reserve to take part in the city's first BioBlitz.

The event—which starts at noon on Friday 23 March with a session for schools and then runs from 3 p.m. until 3 p.m. the following day—will bring together an eclectic group of working and amateur mycologists, ornithologists, lichenologists, bacteriologists, herpetologists, ichthyologists, entomologists, and botanists from around the Wellington region.

Described as a scientific race against time, a BioBlitz is an environmentally friendly event involving scientists, students and the public. Botanists are already hard at work on the existing plant lists, and planning for the Bioblitz day. Contact bioblitz@paradise.net.nz for more information or offers of botanical help.

Otari-Wilton's Bush Curator/Manager Rewi Elliot says the goal is to count as many species as possible in a defined period of time to raise awareness of the vast array of species (biodiversity) living in a healthy urban park—everything from plants, insects and mammals to birds, fish and fungi.
"Otari will be open as usual and though visitors won't actually be able to help search and count, they will be able to watch the proceedings and take guided walks to see the scientists and their assistants in action," he says.
The event is being organised by the Otari-Wilton's Bush Trust in association with the Council to help mark the100th anniversary of the gazetting of the first 55 hectares of Otari-Wilton's Bush as a scenic reserve and is part funded by a Wellington City Council grant. Otari School hall and the Otari Information Centre will be set up with computers to record and display what has been found.

It has the support of a range of organisations including the Wellington City Council, School of Biological Sciences of Victoria University, the Royal Society of New Zealand Environmental Education Department, Massey University, Greater Wellington Regional Council, the Department of Conservation, and Landcare Research.

Similar events have been held in New Zealand and elsewhere including one in Waitakere City, Auckland, in March 2006. To find out more about the event check www.otari100.org.nz or phone 499 4444.

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

AGM & Evening Meeting: Wednesday 7 March 2007, Unitec School of Natural Sciences, 7.30 pm AGM, 8.00 pm "Plant life of the Chatham Islands", Ewen Cameron & Mike Wilcox report on the ABS trip to the Chathams, 4–11 January 2007.

Field Trip: 10 am Saturday 17 March 2007, Forest & Bird's Matuku Reserve, Bethells Beach. Meet at 10 am at the reserve; parking is limited so please consider car-pooling. The forest was logged in the early 1920s but is regenerating well. The canopy is dominated by puriri, karaka, nikau, rewarewa, kowhai and tree fern. The hight number of fruiting species supports hight numbers of tui and kereru. Enquiries to Ranger John Staniland, phone 09 810 9516, email: bushridge@slingshot.co.nz; or Leslie Haines phone 09 818 9964.

Waikato Botanical Society

Field trip: Sunday 11 March Te Hunga, Kaimai Range (combined trip with Rotorua Botanical Society), see below for details. Meet: 8 am Landcare Research carpark Gate 10 Silverdale Rd, Hillcrest or Gordon (corner of Old Te Aroha and Armadale Roads) at 9.00 am. Contact: Graeme Jane ph 07 570 3123.

Meeting and AGM: Tuesday 27 March at 7 pm. **Venue:** R2.06 Biology Department, University of Waikato. Parking at Gate 9 entrance, Hillcrest Rd, follow entrance over speed bumps around right-hand bend and down hill, R-block building entrance on right has sharp left-hand turn approach. Access at ground floor of stairwell, follow signs to 2nd floor to room, R2.06. The talk will be given by Bruce Mackay on Restored Urban Forest Patches. Bruce has many years experience working for City and District Councils and has recently completed a Masters thesis at Waikato University. His research looked at factors in the success of restored urban forest patches in the Hamilton Ecological District by comparing vegetation composition over time under different planting and maintenance regimes. Contact: Liz Grove eg3@waikato.ac.nz ph 07 846 0965 (hm)

Rotorua Botanical Society

Work Day: Saturday 3 March – Okareka Mistletoe Restoration Project Weed Control releasing work day. Leader: Paul Cashmore 07 348 4421 (hm), 07 349 7432 (wk). Meet: Ex-Okareka store 8:45 am. Grade: medium–hard—activities suitable for all ages and abilities will be provided. This will include releasing our September plantings from weed growth. Please call Paul Cashmore (07 348 4421 (h) or 07 349 7432 (w) during the week before the trip.

Field trip: Sunday 11 March Te Hunga, Kaimai Range (combined trip with Waikato Botanical Society), Leader: Graeme Jane (ph 07 570-3123). Please give the leader or Paul Cashmore (see above) a call during the week before the trip. Meet at the carpark between the Convention Centre and the Police Station, Fenton Street, Rotorua at 8am or Gordon (corner of Old Te Aroha and Armadale Roads) at 9.00 am; 4-wheel drive vehicles may be able to give access to the summit of Thompsons Track. Grade: hard! Track recently cleared to hut. Some steep sections and lots of Gahnia on the slips. Weather and logging permitting we will attempt the climb to the Te Hunga Plateau. On the ascent we will go through tawa forest before ascending steeply into tawari fog forest and cross several old slips to a saddle on the main ridge. From there the vegetation is a mix of kamahi scrub, scattered silver beech and open areas with live young and dead old cedar. Near the hut continuous areas of tawari forest contain silver pine and mature cedar. Bluff areas (if we can locate one) contain yellow silver pine. Special plants: Pittosporum kirkii and gentians. If logging prevents this option, a route from near Gordon may be attempted (still needs to be explored - last visited 5 years ago and the track has been unmaintained for 20 years).

Meeting, Monday 12 March, Forest and Bird / Rotorua Botanical Society Lecture: – Maori medicinal use of native plants and Nga Whenua Rahui (similar to QEII Trust for Maori land) by Robert McGowan, who has a degree in Anthropology and is a fluent speaker of Maori. Rotorua Women's Club, Hinemaru St, near Princes Gate Hotel, 7.30 pm.

Wellington Botanical Society

Evening meeting: Monday 19 March: Role of plant communities in global climate change by Dr Sean Weaver, Lecturer, Environmental Studies Programme, Victoria University. His first degree was in botany, and he later went on to specialise in forest ecology, then forest conservation management, the relationship between science and policy, and now the forest conservation dimension of international climate change policy. Sean is a member of the Royal Society Climate Committee, an expert reviewer for the Intergovernmental Panel on Climate Change (working Group II), and currently undertaking a research project on the generation of carbon credits from forest conservation in Vanuatu. Plant communities play a central role in the terrestrial carbon cycle and therefore in the climate system. The biosphere currently absorbs about half of human-induced carbon emissions, with a significant role played by terrestrial plant communities. The eco-physiology of this phenomenon has important implications for global carbon balance assessments and global climate policy. This presentation will explore some of the emerging themes relating to the role of forests in the climate change story.

Field trip: Saturday 10 March: Field trip – Crafar wetland covenant, Te Hapua Wetland, Kapiti. Morning: botanise the Crafar wetland covenant, part of the Te Hapua complex which was originally a 500-600 ha farm until it was subdivided in 2002. The Crafar covenant is approx 6.5 ha; 10% is open water, depending on the time of the year and how much recent rain there has been; 45% is flaxland; 25% is reedland and the remaining 20% is mingimingi/kanuka treeland. Baumea articulata, Carex dipsacea, C. maorica are found in the area. Afternoon: visit Kapiti Coast District Council Oxbow and Devils Elbow covenants on the Waikanae River just 1.5 km from SH1. See terrestrial northern rata, matai, swamp maire in these adjacent riparian covenants. Meet: 9.30 a.m. on roadside outside 204 Te Hapua Road, off SH2 5 km north of Waikanae. Leaders: Tim Park (ph 384-5708 (weekdays)) and Paul and Linda Crafar. Note: SECOND SATURDAY OF MONTH.

Otari Bioblitz

24 hour event: 3 pm Friday 23 March to 3 pm Saturday 24 March, Otari Wilton's Bush, 160 Wilton Rd. For infromation phone 04 499 4444 or see www.otari100.org.nz, or www.owb.co.nz. This Bioblitz is brought to you by the Otari-Wilton's Bush Trust and the Wellington City Council, with the essential scientific expertise of the School of Biological Sciences, Victoria University of Wellington, the Royal Society of New Zealand, and the Greater Wellington Regional Council, and the work of many volunteers.

Botanical Society of Otago

BBQ: Friday 2 March, 2007, 12 noon to 2.00 pm, to welcome new botany/ecology students and new BSO members. Where: front lawn Botany House Annex, Great King Street (across the road from the main Botany building). Sausages, sandwiches and drinks provided free by the Botanical Society of Otago. All BSO members welcome! Contact: David Orlovich, phone: (03) 479 9060.