



# TRILEPIDEA

NEWSLETTER OF THE NEW ZEALAND PLANT CONSERVATION NETWORK

Please send news items or events to [events@nzpcn.org.nz](mailto:events@nzpcn.org.nz)

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

E-NEWSLETTER: NO 46. SEPTEMBER 2007

Deadline for next issue: Monday 15 October 2007

## Message from the President

This is a very important issue of the Newsletter—so I do urge you to read it now and not put it aside for future reference. There are some important announcements. Before I mention those, I would like to say how good it is to see the pieces in the Newsletter from William van den Ende and from Wayne Bennett. The former is a recipient of the New Zealand Science, Mathematics and Technology Teacher's Fellowship and during that time he has been undertaking a survey of the aquatic plants in the rivers around Christchurch. Amongst other things, he makes the very timely comment that 'removal of willows can only improve the rivers and their aquatic plants'. He has recorded some very valuable information about some native aquatic plants. I wonder if similar surveys have been undertaken in other parts of New Zealand. Do you know of any recent examples?

Wayne Bennett describes a very exciting project that has brought together several parties to help in the ecological restoration of the Waikato. In particular, the emphasis of this article is on ecosourcing, that is propagation of native plants from a representative sample of the local wild population. This is a very important and timely topic and one that, I believe, needs much promotion. I note also with some excitement that the latest initiative of Ecosourced Waikato and the Hamilton City Council is to promote the availability of ecosourced material through retail garden centres.

Now, those important announcements! Do please reply regarding the Network 2007 Annual General Meeting to be held in Wellington on Friday 5 October. The AGM is an important event and we also have an important guest speaker, Dr Matt McGlone. The topic of his presentation is sure to prompt much debate. Like to know more? Go to the Network website ([www.nzpcn.org.nz](http://www.nzpcn.org.nz)).

The time has come for you to make nominations for awards! What better way is there of encouraging native plant conservation and restoration than by making these awards? Do please send in your nominations because we rely on you—the Network Members—to identify where the good work is being done.

Finally, and as a follow up to the launch of the MWH National Threatened Native Plant Seed Bank, we need you to register as seed collectors. This is a great opportunity for as many people as possible to contribute to this milestone project.

I look forward to seeing as many of you as possible in Wellington on Friday 5 October.

*Ian Spellerberg*

*Lincoln University*

## Australian Network for Plant Conservation

Our sister organisation is holding its annual conference in Mulgoa, near Penrith, west Sydney in April next year. The organisers would love to see a significant number of New Zealanders at the conference. Contributions by way of papers or posters are very welcome. Plan to be there; the earlier you make your flight bookings the cheaper they are likely to be. For more details, see the information in the Events section of this newsletter.

## Plant of the Month

Plant of the Month for September is the endemic herb *Libertia cranwelliae*. It is known from only the Awatere and Kopuapounamu Valleys on the East Cape. It is an iris-like plant consisting of leafy fans crowded or emerging at intervals from far-spreading rhizomes. Its white flowers and yellow-orange to black fruits do not overtop the leaves. No information about the habitat of this species is available and hence it has been classified as Data Deficient. Surveys were undertaken in 2003 of the two known sites but no plants were discovered. The species may well be extinct so work is urgently required to relocate plants in the wild. The Network fact sheet for this species may be found at:

[www.nzpcn.org.nz/vascular\\_plants/detail.asp?PlantID=775](http://www.nzpcn.org.nz/vascular_plants/detail.asp?PlantID=775)



*Libertia cranwelliae*. Photo: Peter de Lange.

## Macrophytes of the Christchurch Rivers

W. van den Ende, Burnside High School ([vandenende@xtra.co.nz](mailto:vandenende@xtra.co.nz))

This year I have been the fortunate recipient of a New Zealand Science, Mathematics and Technology Teacher's Fellowship. These fellowships are funded by the NZ Government and administered by The Royal Society of New Zealand. Part of my project is to complete a survey of the aquatic plants in the Styx, Avon and Heathcote Rivers, Christchurch. Aquatic species included in the sampling were limited to macrophytes which are described as either floating, submerged, emergent or plover species (rooted at the margins and forming a floating mass). All three rivers and their tributaries have been surveyed from source to estuary. In total, 645 sites have been sampled for species presence and abundance.

I have identified a total of 140 species. Some comments on the more noteworthy finds follow. However, firstly I would make the general observations that the two most important factors limiting these aquatic plants are shading and sedimentation. The removal of the rampant willows, *Salix fragilis* and *S. cinerea*, can only improve the rivers and their aquatic plants. Sedimentation, however, is a more serious and a less easily remedied issue. Sediments tend to smother plant growth and fill in the spaces between the stones on the bottom thereby reducing the ability of aquatic plants to establish. Sedimentation is a slow, accumulative process, often not noticed until too late. The obvious starting point is to reduce movement of sediment into the river in the first place because, once it is there, removal is a costly and disruptive process.

Although there are many species common to all three catchments, each river has its own distinctive plants. For example, parts of the Otakaikino (south branch of the Waimakariri River) are dominated by the aquatic buttercup, *Ranunculus trichophyllus*, yet it is rare in the Styx which is only a few hundred metres away. Similarly, some spring-fed streams north of the Waimakariri are dominated by *Ludwigia palustris* but it is rare within Christchurch. The Avon River is an iconic symbol for Christchurch but the less altered state of the Styx warrants all the efforts we can muster to preserve its natural state. The Heathcote, despite its reputation, has yielded surprises that warrant optimistic conservation.

The endemic *Crassula kirkii*, previously known from the lower South Island, was recorded from two sites in the Heathcote. This is the first time it has been recorded in Canterbury. Its presence helps to emphasise the importance of aesthetically unattractive areas like salt marshes, lagoons and moist banks. Another species recorded for the first time from



*Crassula kirkii*.

Canterbury is *Isolepis prolifera*. Its presence in a new subdivision suggests that it may be a recent introduction. The horned pondweed *Zannichellia palustris* was recorded from both the Avon and Heathcote Rivers. It was previously recorded in Canterbury from only Lake Forsyth. Possibly its small size and because a stand of it resembles the seedlings of many monocotyledonous plants are reasons for it being overlooked.

*Montana fontana fontana* though recorded previously from Canterbury was identified to sub-species level. The indigenous *Limosella lineata* was found in the unlikely habitat of a boxed drain! If its habitat requirements could be determined, it is possible that it could be used in Christchurch City Council's waterway restoration work.



*Urtica linearifolia*.

The endemic swamp nettle, *Urtica linearifolia*, was found at only one site, Horseshoe Lake which matches its distribution description of 'widespread but localised'. Three indigenous species of *Potamogeton* as well as the introduced *P. crispus* were recorded. The latter has been blamed for the excessive weed growth along the rowers' section of the Avon River at Kerrs Reach. However, my sampling showed that it is the native *P. ochreatus* that grows in the central deeper parts of the river, while *P. crispus*, which gets the blame, is confined to the shallow tidal margins.

On the negative side, I discovered a patch of Cape pond weed, *Aponogeton distachyus*. This plant has become a serious water weed in other parts of the world where it has been introduced. The total population of seven plants was removed and site will continue to be monitored.

## Ecosourced Waikato

Wayne Bennett, Coordinator, Ecosourced Waikato ([wayne@forestflora.co.nz](mailto:wayne@forestflora.co.nz))



There is a game that botanists play which involves holding your breath when you can't see a native plant. Apart from the Canterbury Plains, there are few places more dangerous to play this game than the Hamilton Basin. In 2001, a steering group was formed by representatives of the Department of Conservation, Hamilton City Council, Waikato Regional Council, Waikato District Council, University of Waikato, nursery industry representatives and local restoration enthusiasts. This steering group set itself the task of ensuring the supply of ecosourced plants for ecological restoration in the Waikato.

There are three commonly recognised aspects to biodiversity: the gene level, the species level and the ecosystem level. Appropriately, much of the focus of plant conservation is at the species level but the focus of this group is more on the gene and ecosystem level. Within a plant species, possibly half of the genes are common to all members of the species, leaving half variable across the landscape. The practice of ecosourcing involves propagation of native plants, particularly for ecological restoration, from a representative sample of the local wild population. This practice tries

to capture and regenerate any genes that might be local or characteristic of the local population. In the Waikato, many small populations or individual plants are isolated and no longer able to interbreed with the rest of their species. Species like *Streblus heterophyllus*, *Coprosma rigida*, *C. rotundifolia*, *C. areolata*, *Hedecarya arborea*, *Prumnopitys taxifolia* and *Sophora microphylla* are characteristic of the Waikato riverbank and are at risk of being swamped by large quantities of a few species commonly planted throughout the country. Ecosourcing is an attempt to maintain their biodiversity.

The work of Ecosourced Waikato is not restricted to seed collection and propagation but also to planting the plants produced in the best way to ensure the restoration of natural patterns and processes. Though many the local species are not nationally threatened, the lowland forest and wetland ecosystems characteristic of the Waikato are often degraded and fragmented with healthy examples difficult to find. Ecosourced Waikato provides guidance and support to restore and, in some cases, recreate these ecosystems to be authentic and self sustaining.



Ecosourced Waikato has produced lists of the species characteristic of 12 different local indigenous vegetation types to help with both the recognition and restoration of native ecosystems. As a group, Ecosourced Waikato attempts to coordinate the supply of native plant seeds between growers. It produces an email newsletter about native plant seeds and their propagation as the seeds become ripe in the natural environment. As well as this, a monthly workshop providing both guidance and ecosourced seedlings to private landowners has been operating for the past four years from a community nursery. This is beginning to establish a culture of home nurseries and familiarity with the ecosystems characteristic of the area.

Ecosourced Waikato works with schools to help plan and establish school nurseries and gully restoration or native garden projects. There is also a programme of restoring native forest to local riverbanks involving the Ngaruawahia schools.

The latest initiative of Ecosourced Waikato and the Hamilton City Council is to promote the availability of ecosourced native plants through local retail garden centres. It is hoped that one day all children growing up in the Hamilton area will be familiar with the local flora and that plants characteristic of the primeval landscape are so common they are able to freely pollinate, set seed and regenerate on all non productive land in the Hamilton basin.

### **Rangitoto Island has more plant life than first thought**

Rangitoto Island—one of Auckland’s most treasured landmarks—is the home to over 1000 kinds of plants. Not bad for an island only 600 years old with no soil and with lava slopes still in the process of colonisation by vegetation. This unexpected biodiversity is highlighted in a comprehensive book on the island’s natural history, just produced by the Auckland Botanical Society. The Society’s President and book editor Mike Wilcox says they set out to record every kind of plant there, including seaweeds, mosses, liverworts, lichens, fungi, and ferns, as well as flowering plants. The project took two years and during that time scores of plants were recorded there for the first time by the Botanical Society’s survey team. A surprising discovery was that of the 516 kinds of flowering plants recorded some two thirds were introduced species. Fortunately very few of these alien plants have become troublesome environmental weeds, a notable exception being rhamnus which has invaded the coastal pohutukawa forest on the fringes of Islington Bay. The survey revealed impressive numbers of lichens, fungi, mosses and liverworts, and several fern species not previously known from the island.

The team from the Auckland Botanical Society explored the island thoroughly from top to bottom, in every month of the year, to capture the seasonal changes in the vegetation and document the reproductive cycles of all the main species that make up the island's flora. The ecology of Rangitoto Island is recognised nationally as being so distinctive that the island is classed as an Ecological District on its own. As a result of the survey, Mike Wilcox says this designation is fully endorsed. "There are many things unusual about Rangitoto, but the most distinctive feature is the dominant forest cover on the volcanic lava fields, made up of scattered pohutukawa trees, with several characteristic associates such as puka and astelia which have proliferated dramatically since the final elimination of wallabies and possums from the island in 1996".

The book is aimed at visitors to the island, observant nature lovers, biology and geology students, and professional biologists, ecologists and conservation managers. It is an illustrated natural history guide book, a scientific inventory of the island's plant biodiversity, and a study of the ecological processes of plant colonisation and succession all rolled into one. Animal life is included as well; Rangitoto is particularly famous for being a major nesting ground of the black-backed gull. The project was built on the endeavours of many earlier studies of the island's ecology by staff and students of the University of Auckland and Auckland Museum, with plant records going back as far as 1879. The 16 contributors have worked hard to produce a definitive reference book on Auckland's own special volcanic island, and we hope it will be widely enjoyed".

**An order form for *Natural History of Rangitoto Island* appears on page 8.**

### **RSVP for Network Annual General Meeting**

The Network AGM for 2007 will take place on Friday 5 October at Turnbull House, Bowen Street, Wellington from 5 p.m. till 8 p.m. **RSVP by Tuesday 2 October** if you plan to attend.

Email [info@nzpcn.org.nz](mailto:info@nzpcn.org.nz).

The AGM will involve election of a new Network council followed by discussion on issues of interest to members. There will then be food and drink for members. A public lecture at 6.30 p.m. will be open to members of other NGOs, government agencies and the public followed by another chance to mingle. Our Guest speaker will be Dr Matt McGlone. For more information about his talk see the August issue of the newsletter. We look forward to seeing many of you at the AGM but please let us know if you are coming so we can cater for you. Items you would like to have included on the agenda for the AGM should be sent to: [info@nzpcn.org.nz](mailto:info@nzpcn.org.nz).

### **Nominations called for Network Plant Conservation Awards 2007**

The Network is now calling for nominations for the 2007 Plant Conservation Awards. Do you know an individual, a school, a plant nursery, a local authority or a community group that has significantly advanced plant conservation and is worthy of receiving a Network award? Awards are available in each of these categories. The nomination form is available from the Conservation info/Awards area of the Network website ([www.nzpcn.org.nz](http://www.nzpcn.org.nz)). The awards will be presented at the AGM in Wellington on Friday 5th October. For more information email [info@nzpcn.org.nz](mailto:info@nzpcn.org.nz).

### **Please register as seed collectors**

Network members are now encouraged to register as seed collectors for the MWH Threatened Plant Seed Bank. The registration form is on-line on the Network website (see [www.nzpcn.org.nz](http://www.nzpcn.org.nz) under Conservation Info). Please fill in and submit the form. Your details will be checked by the Network before you are confirmed as a registered collector. Please note being registered with the Network as a collector does not mean you have permission to collect plants whenever and wherever you want. Collecting permits will still be required from the Department of Conservation for collection from reserves and parks. Landowner permission will be required when collecting from populations that occur on private property. For more information see the Network website.

## 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](mailto:events@nzpcn.org.nz)):

### eDay 2007

Clean up New Zealand's e waste, Saturday September 29 in Invercargill, Wanaka, Alexandra, Queenstown, Christchurch, Wellington, Wanganui, Rotorua, Whakatane, Tauranga, and Hamilton; Sunday 30 September Auckland. Bring your computer hardware, printers, mobile phones, etc. Volunteers are needed to help on the day; for more information visit: [www.eday.org.nz](http://www.eday.org.nz).

### Auckland Botanical Society

**Field Trip:** Saturday 29 September 2007 to University of Auckland's Leigh Marine Laboratory and Cape Rodney to Okakari Point (Leigh) Marine Reserve. **Leader:** Mike Wilcox (ph: 622 0323). **Meet:** Assemble in the parking lot at the Leigh Marine Laboratory 11.00 a.m.

**Meeting:** Wednesday 3 October at 7.30 pm in the Unitec School of Natural Sciences a talk by Dr Nick Waipara on 'Biological control of NZ weeds: South American connections'. Contact: [youngmaureen@xtra.co.nz](mailto:youngmaureen@xtra.co.nz)

**Field trip:** Labour Weekend 20–22 October, a camp at Whangarei Heads. Explore Mt Manaia and Bream Head. Contact: [youngmaureen@xtra.co.nz](mailto:youngmaureen@xtra.co.nz)

### Waikato Botanical Society

**Field Trip:** Saturday 13 October—Tawarau Forest, northern King Country: A trip into Tawarau Forest along the Gorge Track. Leaving from Were Road, the track crosses farmland then follows the Tawarau River through a spectacular limestone gorge. The track is mostly level and takes 3 hours return (without any botanising). **Meet:** Waitomo Cave Museum at 9 a.m. **Contact:** Kerry Jones (ph: 07 855 9700 (home) 086 800 595 (pager)).

### University of Waikato

**Summer course:** 8–22 February 2008, Flora of Aotearoa/New Zealand, Department of Biological Sciences summer course: BIOL226BLK-08. Enquiries to: Dr. Chrissen Gemmill (email: [c.gemmill@waikato.ac.nz](mailto:c.gemmill@waikato.ac.nz), ph: 07 838 4053), Dr. Bruce Clarkson (email: [b.clarkson@waikato.ac.nz](mailto:b.clarkson@waikato.ac.nz) ph: 07 838 4237) or contact the Department of Biological Sciences (ph: 07 838 4022), Waikato University, Private Bag 3105, Hamilton.

### Rotorua Botanical Society

**Field trip:** Sunday 7 October, Lake Rotoehu by boat. **Leader :** John Hobbs (ph: 07 348 6620). **Meet:** Rotorua District Council carpark (Fenton St) at 8.30 a.m. or the boat ramp at Kennedy's Bay at 9.00 a.m. **Grade:** Easy. **Important:** contact the leader at least a week before so that boats and other gear can be organised.

### Wellington Botanical Society

**Field trip:** Saturday 6 October, botanise mature and regenerating forest, on and off tracks, boots essential. Full day trip. Map S27, Lake Wairarapa. **Meet:** 9.00 a.m. at Tunnel Gully Recreation Area, Plateau Rd, Te Marua, Upper Hutt. NOTE: Change of meeting place and route! **Co-Leaders:** Chris Horne (ph: 475 7025), Barbara Mitcalfe (ph: 475 7149).

**Meeting:** Monday Evening, 15 October, Victoria University of Wellington. Lecture Theatre 101, Murphy Building, Kelburn Parade. Speakers: senior students from the VUW School of Biological Sciences will talk about their projects.

## Canterbury Botanical Society

**Meeting:** Friday October 5, at 7.30 pm in Room A5 University of Canterbury, two talks; one by Amber Sciligo, who will give a 15 minute talk on *Drosera* selfing, and the second by Nick Head, DOC, who will talk about Limestone areas in Canterbury.

**Field trip:** Saturday 6 October to Church Bay. **Meet:** opposite Princess Margaret Hospital (PMH) at the Hoon Hay end of the roadside parking on Cashmere Rd at 9.30am. Leave at 9.40 a.m.

**Leader:** Nick Head.

**Field Trip:** Show Weekend, Friday 16 November – Sunday 18 November 2007, camp (15–17 November) Kaikoura area. Explore the Blue Duck reserve, Mt Fyfe and (hopefully) some QEII covenants. There is also good opportunity for marine botany. **Leader:** Miles Giller..

**We have booked 14 beds, so if you wish to attend please send a \$20 deposit, indicating which nights you wish to come (Thurs, Friday, Saturday) to:** Kaikoura Camp, c/- Trevor Blogg, PO Box 8212, Riccarton, Christchurch 8440.

**Camp 1:** Friday 11 January – Thursday 17 January 2008. Mokihinui River mouth, north of Westport. Botanise the special vegetation of the coal plateaux of Denniston and Stockton (see Forest & Bird No.284 pp.27–33, 1997, by David Norton). Bookings to Margaret Geerkens (ph 03 352-7922, email: [bert.marg@xtra.co.nz](mailto:bert.marg@xtra.co.nz)) and deposits to: Summer Camp, CBS, PO Box 8212, Riccarton 8440.

**Camp 2:** Tuesday 26 August – Monday 2 September 2008, to Broadbeach, Gold Coast, Australia. For further information contact: Margaret Geerkens (ph 03 352-7922, email: [bert.marg@xtra.co.nz](mailto:bert.marg@xtra.co.nz)) or Russell Moffitt (ph: 03384-1979).

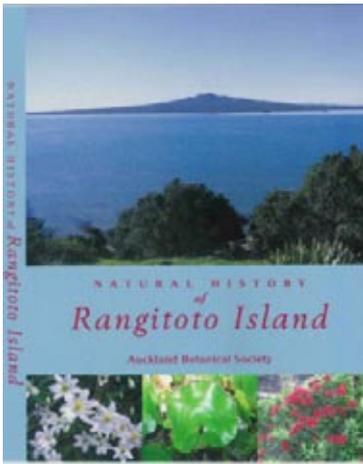
## Botanical Society of Otago

**Meeting:** Wednesday 3 October, 2007, at 12.00 noon in the Union Street Lecture Theatre (upstairs), Cnr Great King Street and Union Street (West) (note venue), a Department of Botany lunchtime talk by [Dr Mike Hilton](#), Geography Department, University of Otago on The effects of marram grass invasion and eradications. **Contact:** [Trish Fleming](#) (ph: 03 479 7577).

**Field Trip:** Saturday 6 October, 2007, to Swampy Spur. Meet: 8.30 a.m. at Botany Carpark, returning mid afternoon. Wear warm clothing. Leader: Professor Bastow Wilson. Contact: Professor Bastow Wilson (ph: 03 479 7572).

## The Hellaby Indigenous Grasslands Trust – 6th Annual Geoff Baylis Lecture.

**Wednesday 10 October, 2007. Start:** 5.10 p.m. Professor Alan Mark will present the 6th Annual Geoff Baylis Lecture with a talk entitled ‘The Hellaby Indigenous Grasslands Trust: Its contribution to the understanding of, and changing attitudes towards, our indigenous grasslands.’ The Trust has supported approximately 360 projects over the years. **NOTE VENUE:** Auditorium, University of Otago, College of Education, Union Street East. **Contact:** Kevin Gould, (phone: (03) 479 9061).



## Natural History of Rangitoto Island

This 192 page book is fully illustrated in colour and provides a comprehensive account of Rangitoto Island, covering flowering plants, conifers, ferns and fern allies, mosses, liverworts, lichens, fungi and algae – including species lists, along with accounts of the geology, history, vegetation ecology, and animal life. The book has been published by the Auckland Botanical Society and is the result of intensive field work and research by our team of contributors, and embodies the findings of past researchers on the origins, biodiversity and ecology of the island.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

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Email or ph number (in case of queries):

\_\_\_\_\_

Price for NZPCN members:

**\$35 including postage**

Number of books: \_\_\_\_\_

Please send your order and cheque to:

Rangitoto Book sales  
Auckland Botanical Society  
P.O. Box 26391,  
Auckland 1344



# Our declining flora TACKLING THE THREATS

Australian Network for Plant Conservation Inc (ANPC)  
7th National Conference

Monday 21 – Thursday 24 April 2008

Location: Mulgoa NSW (near Penrith, western Sydney)

## FIRST NOTICE & CALL FOR PAPERS AND WORKSHOP TOPICS

The ANPC and Mount Annan Botanic Garden invite you to a conference on threatening processes in plant conservation.

**Threatening processes** include human factors like land-clearing, fire mismanagement, and poor planning, geophysical ones like climate change, and biological ones like invasive weeds, animals and pathogens. They interact and operate at the smallest of local scales up to landscape level.

**Tackling threatening processes** is essential, whether for local patch preservation, threatened species management or whole-landscape protection. It requires pooling the best available science and practical experience.

This conference will bring together scientists, conservation managers and on-ground practitioners to demonstrate and discuss techniques for managing threats, share experience and identify knowledge gaps.

**Papers, workshops and field trips** will present the latest science and case studies from Australia and New Zealand.

### Venue and accommodation:

'Winbourne' is a delightful colonial-era property, with modern conference facilities and budget-priced accommodation, with many alternatives nearby.

**Papers:** to present a paper, please send an abstract and full contact details by **15 February 2008**. Off-theme papers of interest to plant conservationists are also welcome.

**Workshop topics:** suggestions are invited, including off-theme. Developed proposals with potential presenters identified are particularly welcome.

**Sponsorship opportunities:** talk to us – your firm or organisation will be visible to conservation experts from across Australia and New Zealand.

**Ancillary meetings:** scope exists for meetings of allied organisations or interest groups within the conference - contact us to discuss.

### Conference registration and accommodation cost:

details available in November 2007, and preliminary program from 30 January 2008. In the meantime, to receive conference updates simply send the ANPC your contact details (by email to [anpc@anpc.asn.au](mailto:anpc@anpc.asn.au) if possible) with subject "Conference".



Mount Annan Botanic Garden

Photos: Lotte von Richter, Mount Annan Botanic Garden.



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