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 103. JUNE 2012 Deadline for next issue: Monday 16 July 2012

Council member guest editorial

The Greater Wellington Regional Council manages the headwaters of the Hutt River for water supply. Situated at the southern end of the Tararua range, it is area that ranges in vegetation types from rata-rimu-matai emergent over tawa-hinau-kamahi to alpine turf and tussocks. In March, we re-measured the 20 × 20 metre National Vegetation Survey Plots in the Eastern Hutt River. Established in the mid 1970s by the New Zealand Forest Service, these permanent plots were set up to track changes in the vegetation over time. Despite a loss of favour at times for this survey method, it has withstood the test of time and now forms the basis for the assessment of New Zealand's native forests and carbon storage.

I always enjoy my time in the field, keeping contact with the environment, getting back to nature and realising the importance of the basics of life, food warmth and shelter. The 2012 survey has reinforced to me the speed of change in the technology used in these surveys in contrast to the slowness of changes recorded in the vegetation since 1998. GIS, GPS and electronic recording are now the norm, as opposed to stem diameter growth of one to two millimetres for most trees and seedlings that grow 20cm if they are lucky over the 14 year period.

In most places in New Zealand, changes in our native habitats are being over taken by the increasing speed of modern life and its impacts. Over the last 50 years, the vegetation surveys show very little change in these plots. This situation is not uncommon in mid altitude red/silver beech forest, one of New Zealand's most common forest types. It is in part due to the harsh climate and lack of available nutrient at the site. Therefore impacts on this type of forest lasts for decades and takes centuries to heal, as long as there are no other impacts.

These vegetation survey plots also reflect an era when botany was a core discipline in most curriculums and a key to the understanding of the local environment. The fact that the survey methods and plots created 50 or more years ago by trained botanists are providing the best measure of change in our forests today shows the importance of field botany in understanding New Zealand's indigenous landscapes. Having people who are able to identify plant species in a place that understand and get a feel for the vegetation dynamics of a place is of immense value. While the generation of botanists that established and or measured these plots are close to retirement, the upcoming generation is nowhere to be seen. Despite outstanding tertiary institutions that yearly form high quality young botanists, there appears to be a shortage of available field botanists in the New Zealand job market. Where are all our young botanists gone? Greater Wellington was recently contacted regarding their need for botany skills. Government and local authorities have been tasked with reporting on the state of the environment in their regions and the task requires qualified individuals with good knowledge of the local flora.

Botany is a baseline to understand and measure ecosystem processes and services. We lose contact with our native environment at our peril. Good field botanists can provide the measure of change and the ability to test the accuracy of the many desk top exercises. They are key if New Zealand is to report on its native landscapes.

Owen Spearpoint, Greater Wellington Regional Council

PLANT OF THE MONTH – *Microsorum pustulatum* subsp. *pustulatum*

Microsorum pustulatum subsp. *pustulatum*.
Photo: Jeremy Rolfe.

Plant of the Month for June is kōwaowao, hound's tongue fern (*Microsorum pustulatum* subsp. p*ustulatum*). This common creeping fern is found throughout the North and South Islands, many offshore islands and in Australia. It is abundant on the main islands of New Zealand except for Central Otago.

It is usually spotted growing across the ground, climbing on tree branches or scrambling over rocks. It often grows with the related *Microsorum scandens*, but *M. pustulatum* is more drought tolerant, preferring more open, drier habitats.

The fronds are a bright glossy green colour, thick and somewhat rigid, with entire wavy margins and distinctive reticulate venation. The fronds are quite variable in shape; younger plants fronds are often undivided, becoming pinnatifid with age. The fronds grow from creeping, stout, fleshy rhizomes with brown-black appressed scales.

Kōwaowao grows very easily from rooted sections of rhizome and can be grown in a wide variety of conditions. Once established they require very little care, are drought tolerant and not subject to many pest and diseases.

The Network fact sheet for *Microsorum pustulatum* subsp. p*ustulatum* may be found at: www.nzpcn.org.nz/flora_details.asp?ID=2201

Native plants are not just for tree huggers

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

My identity as a New Zealander is strongly tied to our land. Native plants define our landscapes and inspire me every day. Wherever I go, I notice our plants and enjoy the aesthetic and intellectual stimulation they provide. I value native plants and want to protect them.

Thyridia repens (*Mimulus repens*), native musk, Māori musk, native monkey flower.

Our plants and landscapes mark points in my life history. Memories of childhood holidays in the Marlborough Sounds are evoked every time I smell the dusty litter of beech leaves and ponga fronds. I can remember exactly where I was the first time I saw a native monkey musk in flower or the first time I learned how to identify dainty bristle grass. I feel at home when I am in the mountains walking amongst alpine plants. I will never lose the thrill of discovering a plant in a new place or unravelling the mystery of a species I don't recognise. And, with thousands of native plants to keep me busy, I will never get bored!

My friends who are not mad about plants scratch their heads at my work stories and roll their eyes when I tell them about botanising in my spare time. Not everyone can understand spending 13 hours searching for a single tiny species of turf plant or voluntarily getting scratched to bits crawling through thick scrub just to see what might be growing there. They think I am joking when I advise them that the best way to find native swamp nettle is with your fingers because it is very well camouflaged in the rushes where it likes to grow. The farmers I work with smile with surprise when I gush enthusiastically that the scruffy looking plants growing on their land are rare and host dozens of native insects. Sometimes these quiet men surprise me back by waxing poetically about the pleasant scent of matagouri flowers or how they watch to see when their mistletoe flowers each summer. My partner has to be patient with me while I trail along at the back on tramps gawking at plants and muttering Latin names under my breath. The number of scraps of paper with species lists and bits of plants that have been through the washing machine at our house is beyond count.

We each have our own relationships with the native plants around us. We know when to expect the kowhai in our gardens to flower each spring. We have the company of plants when we seek solitude in the backcountry. We get homesick when we see a cabbage tree growing overseas. We are close to the sublime when we stand beneath an ancient kauri. We play with toetoe stalks and climb pohutakawa trees. We welcome birds that visit the natives in our gardens. The gifts of native plants are rich; they have led me to lifelong friendships and given me many recreational and professional opportunities.

However, our native plants are under threat. The majority of our native plants are found nowhere else on Earth and many of them face extinction. Even plants that are widespread are disappearing from our landscapes Unlike our native animals, our native plants have very little legal protection. We must look after our identity and conserve it for future generations. Today is Plant Conservation Day, what does this mean to you?

Will you plant a Chatham Island forget-me-not or a cabbage tree in your garden? Even better, will you plant one of our precious South Island endemics? Will you devote a third of your garden to a native plant wilderness? Will you clear out the tradescantia that is spreading into a neighbouring reserve? You cannot delegate to anyone else the responsibility of caring for your precious local natural areas. We are all in this together on a journey towards a sustainable use of our natural resources and that includes our native plants. So, if you love our native plants, get involved.

There are many ways we can pitch in to protect our native plants. Put some natives in your garden or remove some weedy plants that threaten our native plant communities. Join a local landcare or weedbusting group. Learn more about how native plants are crucial ingredients to the survival of our special birds, bugs and lizards. Explore your local estuaries, wetlands, dunes and forests and get to know the plants that are adapted to live in these habitats. Tell your local MP and council representatives about the places you love and the plants that grow there and seek their support in conserving them. Teach your children to enjoy nature and marvel at the unique diversity of New Zealand plant life.

Jesse Bythell monitoring mistletoe in Waitutu Forest and native musk (*Thyridia repens*), a naturally uncommon species found in saltmarshes, estuaries and lagoons.

This article first appeared in The Press on Plant Conservation Day, Friday 18 May.

New species on the National Pest Plant Accord

A review of the National Pest Plant Accord species list occurs every five years. Proposals for the inclusion and removal of plant species were received in April 2011.

You now can view the outcome of the National Pest Plant Accord (NPPA) species list review at http://www.biosecurity.govt.nz/biosec/consult/archive

Superstars of botany: Rare specimens

John Whitfield, Nature

A handful of plant collectors has shaped the field of botany. Now they are disappearing, and there are no clear successors.

John Wood has had malaria twice, and dengue fever once. He has shaved leeches off his legs with a machete in South East Asia — "You're supposed to use a lit cigarette, but I don't smoke" — had his car stolen in Bolivia and lain face down in the Yemeni desert while local tribes exchanged gunfire over his head. He encountered such inconveniences in the process of collecting over 30,000 plant specimens over 40 years of travelling the globe, mostly as a hobbyist. Over 100 of his finds have become type specimens from which new species were described. Those numbers elevate him to the ranks of a star collector — the top 2% of botanical gatherers, who have accumulated more than half of the type specimens in some of the world's most important collections.

These elite field workers have probably numbered fewer than 500 people throughout history. But they have contributed much of what scientists know about plant diversity, ecology and evolution, and have been crucial in the race to document the world's plants before they are lost to deforestation, development, invasive species and climate change.

Many botanists, however, believe that the era of the superstar collector is drawing to a close, at least in the 200-year-old form of a man (or occasionally woman) setting out from Europe or North America to see what the tropics hold. As botany has moved away from taxonomy and towards molecular studies, few of the jobs available allow researchers to spend long periods in the field gaining an encyclopaedic knowledge of plants. Tropical countries have also imposed restrictions on foreign researchers and are developing their own botanical expertise among home-grown scientists. "It's possible that the days of the non-native plant collector are virtually at an end, and people like myself are the last examples," says Wood.

As the star collectors disappear, botanists are debating how to fill the gap. Some researchers, including Wood, are training botanists in tropical countries, the presumed home of most undiscovered plants. But others think that it might be more efficient to recruit a large group of less-skilled collectors, aided by technology and crowd-sourcing techniques. "The real question is, can we exchange a few elite collectors for an army of enthusiastic less-experienced collectors?" asks Cam Webb, a Harvard University plant scientist based in Indonesian Borneo.

That is a tall order, given the seminal part that top collectors continue to play. "The most interesting results are produced mostly by people who know what the plants look like, and what to expect in a certain area, and that's why they can pick out what's unexpected," says Henk Beentje, a specialist in tropical palms at Kew Gardens in London. "They're worth more than their weight in gold."

For the full story go to:

http://www.nature.com/news/superstars-of-botany-rare-specimens-1..10498#/ref-link-6

Nature 484: 436–438 (26 April 2012) DOI: doi:10.1038/484436a

Dactylanthus taylorii flowers in Threatened Plant Garden

Liz Overdyck Waikato Botanical Society (eg3@waikato.ac.nz)

The rare and unusual root parasite *Dactylanthus taylorii* (dactylanthus) has established from seed sown by the Waikato Botanical Society in the society's Threatened Plant Garden on the Waikato University campus. The small and inconspicuous inflorescences were found for the first time this summer confirming successful establishment 5 years after seeds were sown. The dactylanthus seed were collected in Pureora Forest Park and sown in February 2007 with the help of Dr Avi Holzapfel from the Department of Conservation. Thousands of tiny seeds were sown in three sites under *Myrsine australis* and *Pittosporum tenuifolium* trees, with dactylanthus successfully establishing under the latter species. Twenty-seven female inflorescences were counted, barely emerging from the leaf litter. As the main body of dactylanthus, a tuber, grows under the surface, it is often difficult to tell how many plants are at a site. However, because the inflorescences were arranged in a single ring-pattern, it seems likely that they all came from a single tuber. The time of emergence after sowing might seem long but is consistent with recent seed-sowing trials in the wild, where first emergence was noted 4 years after sowing. Here, too, the majority of inflorescences were female, in contrast to established populations where male inflorescences dominate. Given the number of inflorescences and the size of the ring these formed on the ground, it is possible flowering could have occurred already in the previous year in the Threatened Plant Garden but had not been detected. Some seeds were also experimentally sown by the society into two large pots in 2007 with *Melicytus ramiflorus* and *Pittosporum colensoi* host trees, but these have not yet shown any signs of establishment.

The successful cultivation of dactylanthus in a garden is very exciting for this unique species, which is threatened in the wild due to habitat loss and recruitment failure because of browsing of the inflorescences by possums, rats and pigs. Establishing a population at an educational institute will, hopefully, provide great opportunities for future research and advocacy for dactylanthus. The use of hand pollination will be considered next year to encourage seed set on the existing plant, so we will be watching very closely for the re-emergence of flowers. If further seed is available, the Waikato Botanical Society will look at establishing dactylanthus also in the new Threatened Plant Garden site, also on the University campus.

Dactylanthus taylorii inflorescences form a ring pattern amongst *Myrsine australis* seedlings in the Threatened Plant Garden, Hamilton. Photo: O. Overdyck.

Te Ara Kakariki scoops award for Community Leadership

Te Ara Kākāriki Greenway Canterbury Trust (TAK) received major recognition for its efforts this month, being awarded a prestigious Green Ribbon Award. Environment Minister, Amy Adams, presented the Community Leadership category award to Malcolm Lyall, Chair of the board of trustees, at a ceremony at Parliament on 5 June.

With less than 1% of native habitat now remaining on the Canterbury Plains, indigenous biodiversity in the region has reached a critical point. TAK was established to promote the restoration of native wildlife on the Canterbury Plains and create a network of habitats from the mountains to the sea, between the Waimakariri and Rakaia rivers. A long-term goal of the Trust is to bring kākāriki (the native bush parrot) back to plains where it once roamed. Together with committed landowners and volunteers, the Trust has planted almost 10,000 plants in the last three years, with 4500 being planted in just two days at its Canterbury Plantout Weekend last September. The Trust aims to plant another 5500 natives at its Plantout Weekend this September, adding another 11 'GreenDots' across the region.

The Green Ribbon Awards highlight outstanding work in protecting and enhancing New Zealand's environment; the trust was up against more than 250 other entrants to take the 2012 Community Leadership award. TAK was praised for its work with the community, iwi, landowners, councils and nurseries, as well as for its GreenDot network of native plantings, carried out by volunteers, aiming to create corridors of native habitat across Canterbury. Ms Adams said, "Volunteers play a significant role in all of this work, and the awards give them much-deserved public recognition, while providing others with ideas on how to get their initiatives off the ground."

Malcolm Lyall, Chair of TAK, said: "We welcome any individual or organisation wanting to help create or restore native habitats. We have a wealth of experience together with our 'green army' of volunteers who want to help give a lasting legacy to the natural environment of our beautiful landscape."

A tour of TAK's GreenDot sites was held on Sunday 17 June when a range of speakers talked about biodiversity and explained why these plantings are so important.

To find out more, go to www.kakariki.org.nz

Images still needed of exotic plants

Can you help us plug the last gaps in our exotic vascular flora image library? We have illustrated 55% of New Zealand's exotic vascular plant species but we still need images for 1164 taxa listed in this link: www.nzpcn.org.nz/publications/Images%20still%20needeof%20exotic%20plants-May-2012.pdf

If you can help us please send named images to the Network at info@nzpcn.org.nz, with the name of the photographer and details of where the image was taken. If you have multiple images please post them on a CD to NZPCN, PO Box 16-102, Wellington. The list on the website (link above) is a perfect photographer's hit list for your spring field trip.

Distribution and phenology poster

The Network has produced a range of posters to encourage people to record distribution and phenology observations. The posters will be available on request. Pin them up at work, in council offices and libraries, university departments, in DOC information offices, etc. Send your requests for copies to: info@nzpcn.org.nz, including information about where in the country the posters will be displayed so that we can send copies with a relevant view.

Want to help manage our flora mapping system?

We are looking for a volunteer keen to help process corrections to the Network's flora distribution database. Currently, Network members and members of the public are sending through corrections to the species maps using the feedback button. We need someone to process these corrections so that we can improve the accuracy of the plant distribution database. Please contact the Network if you are interested in helping with this task or have any queries about it (e-mail: info@nzpcn.org.nz). It is expected that the work will take about 30 minutes each week. Knowledge of native plants and experience in the use of plant databases is preferred.

Funding opportunities

Royal Botanic Gardens, Kew, Small Grants 2012

Through the Bentham-Moxon Trust, Kew Gardens (UK) makes 30 to 40 small grants per year to botanists and horticulturists for plant collection and field research; international visits or work at Kew; travel and conferences; and other project support. Preference is for grants that involve a developing country. The closing date for applications is 30 September 2012. Further information: http://www.kew.org/about-kew/policies-information/bentham-moxon/index.htm

The Endeavour Awards

The Australian Government's internationally competitive, merit-based scholarship programme providing opportunities for citizens of the Asia Pacific, the Middle East, Europe and the Americas to undertake study, research and professional development in Australia. Awards are also available for Australians to undertake study, research and professional development abroad. Further information: http://www.deewr.gov.au/International/EndeavourAwards/Pages/Home.aspx

Wellington Botanical Society Jubilee Award 2012 – Applications sought

The Wellington Botanical Society invites applications for an Award of up to $2,600 to encourage and assist applicants to increase knowledge of New Zealand's indigenous flora, and to commemorate the Society's Jubilee in 1989.

For more information contact: Secretary, Wellington Botanical Society, PO Box 10 412, Wellington 6143, or by e-mail to *bj_clark@xtra.co.nz* , by 30 October 2012.

Applications sought for the Arnold and Ruth Dench New Zealand Botanical Award

As members of the Wellington Botanical Society, Arnold and Ruth Dench derived much personal satisfaction from participating in many of its activities. The passing of Ruth in 2007 and Arnold in 2010 brought to an end their long and active association with the Society. Alison Dench, Arnold and Ruth's daughter, has generously made available an annual award of $1,000 in memory of her parents. The Award aims to enhance understanding and awareness of NZ's indigenous flora including interactions between indigenous flora and invasive species (flora or fauna).

Applications should be made in typescript to: Secretary, Wellington Botanical Society Inc., PO Box 10 412, Wellington 6143, or by e-mail to *bj_clark@xtra.co.nz* , by *30 October 2012*

Tom Moss Student Award in Bryology – Applications sought

Tom Moss was an active member of the Wellington Botanical Society for many years, and was a participant in the very first John Child Bryophyte Workshop in 1983.
To commemorate his name, his contribution to New Zealand botany, and his particular interest in bryology, a Trust Fund was established in 2006. The 2012 Award of $400 will be made at the John Child Bryophyte Workshop in November on Stewart Island. Publications for consideration should be submitted with a covering letter by 25 October 2012 to: Tom Moss Student Award, Wellington Botanical Society, PO Box 10 412, Wellington 6143.

Further information about the Award may be obtained from Dr Patrick Brownsey, Te Papa, P.O. Box 467, Wellington (Ph 04 381 7135; e-mail patb@ tepapa.govt.nz).

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):

8th Asia Pacific Conference on Algae Biotechnology for the Asia Pacific Society for Applied Phycology

Conference: Adelaide, Australia, 9 – 12 July (www.sapmea.asn.au/apcab2012).	**Contact:** Conference Secretariat: ph: +61 8 8274 6048; fax: +61 8 8274 6000; e-mail: apcab2012@sapmea.asn.au

Auckland Botanical Society

Meeting: Wednesday 4 July at 7.30 pm for a talk by Ewen Cameron titled 'Flora of the Canary Islands'. **Venue:** Unitec School of Health Sciences, Gate 4, Building 115, Room 2005.	**Contact:** Maureen Young youngmaureen@xtra.co.nz
Field trip: Saturday 21 July to Point View Reserve.	**Leader:** Mike Wilcox Mike.Wilcox@xtra.co.nz

Waikato Botanical Society

Meeting: Monday 25th June, evening talk. "Ecology of Te Tuhi I Oioroa, Aotea Heads Scientific Reserve" Paula Reeves (Wildlands Senior Ecologist) at Waikato Environment Centre – 25 Ward Street, 5.30– 7pm, followed by a meal at a nearby restaurant.	**Contact:** Cynthia Roberts e-mail: croberts@doc.govt.nz 07 8581034
Working Bee: Saturday 30th June. Threatened Plant Garden Working Bee. 11am at Waikato University Gate 9, Hillcrest Rd Please bring gloves, old clothes and boots for weeding, planting and propagating activities.	**Contact:** Liz Overdyck ph: 07 825 9743 e-mail: eg3@waikato.ac.nz
Field Trip: Saturday 7th July Mt Karioi Pittosporum kirkii hunt. Meet : Landcare 8:00 am / Te Mata School 9:00 AM Grade: Medium / Hard	**Leader:** Kerry Jones. e-mail: km8j1s@gmail.com ph: 07 855 9700 (home) mobile: 027 747 0733.

Rotorua Botanical Society:

Field trip: Sunday 1 July to Matawhaura Bluffs. Meet: the car park, Rotorua, at 8.30 a.m. or 9.00 a.m. at the Wishing Tree, Hongi's Track. Grade: medium–hard.	**Leader :** John Hobbs, ph: 07 348 6620, e-mail: jffhobbs@clear.net.nz

Wanganui Museum Botanical Group

Meeting: Tuesday 3 July at 7.30 pm a talk by Ian Moore titled 'Land suitability and other issues for exotic forestry in Wanganui District'. **Venue:** Museum's Davis lecture theatre.	**Contacts:** Robyn and Colin Ogle, ph: 06 347 8547, e-mail: robcol.ogle@xtra.co.nz.

Wellington Botanical Society

Meeting: Monday 16 July at 7.30 p.m. for a talk by author Philip Simpson titled 'Totara in New Zealand ecology and culture'.	**Venue:** lecture theatre MYLT101, ground floor Murphy Building, west side of Kelburn Parade. Enter building off Kelburn Parade about 20 m below pedestrian overbridge.
Field trip: Saturday 7 July to Makara Hill, Karori. **Meet:** 9.30 a.m. at Karori Park bus terminus. Car drivers please wait here so you can offer people on bus a lift down South Karori Rd to Mountain Bike Park car park.	**Leader:** Mick Parsons, ph: 04 972 1148 mobile: 027 249 9663; **deputy-leader**: Chris Horne, ph 04 475 7025.

Nelson Botanical Society

Field trip: Sunday 15 July to Boulder Bank.	**Contact:** Cathy Jones, ph: 03 946 9499.

Canterbury Botanical Society

Meeting: Friday 6 July at 7.30 pm a talk by Jan Chaffey titled 'China'. **Venue:** Room A5, University of Canterbury.	**Contact:** Gillian Giller, ph: 03 313 5315, e-mail: ggillerma1@actrix.gen.nz.
Field trip: Saturday 14 July to the University of Canterbury Campus plantings. **Leader:** Colin Burrows and/or the university Curator.	**Contact:** Gillian Giller, ph: 03 313 5315, e-mail: ggillerma1@actrix.gen.nz.

Otago Botanical Society

Field trip: Saturday 23 June to Quarantine Island. **Meet:** Botany Department car park at 9:00 a.m. or 9:30 a.m. at Port Chalmers. **Cost:** $10. (Wet weather reserve day 24 June.)	**Contact:** Bill Wilson, ph: 03 477 2282.
Meeting: Wednesday 18 July at 5.20 p.m. for a talk by Susan Walker (title to be announced)**. Venue:** the Zoology Benham Building, 346 Great King Street, behind the Zoology car park by the Captain Cook Hotel. Use the main entrance of the Benham Building to get in and go to the Benham Seminar Room, Rm. 215, 2nd floor. Please be prompt as we have to hold the door open.	**Contact:** , David Lyttle e-mail: djlyttle@ihug.co.nz ph: 03 454 5470.