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 100. MARCH 2012 Deadline for next issue: Monday 16 April 2012

President's message

Here we are at the 100th edition of the NZPCN newsletter. It signifies a great effort from all of our contributors, as well as past and present newsletter editors and designers (John Sawyer, Eric Scott and Jeremy Rolfe). It takes quite an effort to ensure the production of a monthly informative newsletter, so many thanks to those people for their dedication and input. This edition provides us with a time to reflect on NZPCN's achievements, as well as to consider how best to contribute to native plant conservation in the future. We are honoured to have two former NZPCN Presidents provide us with their thoughts. They note that we have many challenges ahead if we wish to achieve our vision of halting plant extinctions and to encourage New Zealanders to cherish their flora and that we need to think how best to use our energies.

This month, there is a final call for submissions to the New Zealand Threatened Indigenous Vascular Plant Relisting and an amazing story about a 32,000 year old plant. Our role in disseminating information about indigenous plant species is an important one that continues to grow, as can be seen in the article about the new flora mapping system. Please continue to send in your contributions to the newsletter to ensure our members are kept up-to-date about native plant conservation activities and information.

Philippa Crisp
Greater Wellington

PLANT OF THE MONTH – *DRYMOANTHUS ADVERSUS*

Drymoanthus adversus. Photo: Jeremy Rolfe.

Plant of the month for March is *Drymoanthus adversus*, an endemic orchid. Usually epiphytic, *D. adversus* can be found growing from coastal areas to montane heights in the North, South and Chatham Islands. It is uncommon in the southern two-thirds of the South Island where it is virtually replaced by a related species, *D. flavus*.

Dryomanthus adversus is usually epiphytic and grows on a range of host trees or occasionally on cliffs, rock faces or terrestrially. Its leaves form dark green tufts, are occasionally purple spotted, fleshy, elliptic to oblong, and arise above many white to brown, cord-like roots that firmly attaching the plant to its perch. Inflorescences up to 80 mm long arise in spring to mid-summer. Flowers are green or greenish-white, flecked with red, maroon or purple.

Dryomanthus flavus is a similar species but differs in having thinner, duller, spotted leaves tending to be more elliptic to lanceolate in shape, with flowers that are greenish yellow and lack spots.

The Network factsheet for *Drymoanthus adversus* can be found at:
www.nzpcn.org.nz/flora_details.asp?ID=1824

Looking back to move forward

Mike Oates, Wellington City Council (Founding President 2003 – 2005; Treasurer 2006 – 2011)
(Michael.Oates@wcc.govt.nz)

Age has given me perspective, and a clear view of what's important in life and the need to make the most of what little time we have to make a difference. What's truly exciting is when you can do this with others that feel the same. Such has been my privilege over the past 8 years as part of the start-up and development of the New Zealand Plant Conservation Network.

I have been involved in voluntary organisations for over 30 years and learnt something about why organisations start and why they thrive. Primarily, it involves passionate people with a vision who work uncompromisingly towards that cause. It also pays to have some politically savvy, common sense and a bit of luck!! NZPCN has had all of that and more and stands out as the most successful and effective organisation I have been involved with.

The Network was born out of a frustration around the lack of support for and focus on our unique flora. Its genesis, however, would not have come about without the support and vision of several people especially the first committee of myself, Peter de Lange, John Sawyer, the late David Given, Barbara Mitcalfe, Robyn Smith, Tim Park, Eric Dorfman and Steve Benham. I still recall the inaugural AGM and workshop at Te Papa and the positive energy and feeling that this was our time. That energy has stayed with the Network and is one of our great strengths.

One of the reasons for the Network's success is that it broke the mould for what a membership organisation was and could be. It was one of the first organisations to be e-based in every aspect. While preparing this article, I located the first minutes and newsletters on my PC. The hard copies have long gone. Our ability to communicate with members in real time and provide them with information in a form they want it has changed the demographics of "club" members. We have a huge membership under 40 and the age is coming down as we keep the entry level cost so low for students. The website needs no words to describe its success. It has transformed the native plant world for us all and stamped our mark as a professional world leader.

So, where to from here?

Stick to our strengths. We cannot be all things to all people. We are not a major lobby group but a more considered professional group focussing primarily on education and information services. If that continues to be our vision, then stick to it. Don't get distracted with other stuff.

Be adaptable and keep ahead of the game. The website is the nucleus of our business and raison d'etre. Ensure it remains a world leader with a sound long term platform.

Work together and support our most important resource: our members, particularly those who give unstintingly of their time to support the work of the Network, either as Council members or volunteering time for specific projects.

Partner with other organisations where it is beneficial to do so. We don't need to reinvent the wheel if someone has already done it.

As a bicultural society we have an obligation to engage and work with tangata whenua. We have made a great start with the marae-based training courses funded from the Biodiversity Advice Fund. There is more to do.

And remember that, in spite of our successes, our native plants need us more than ever.

Invited contribution – a former president's view

Ian Spellerberg, Lincoln University (President 2006-2009) (Ian.Spellerberg@lincoln.ac.nz)

The New Zealand Plant Conservation Network has every reason to celebrate the 100th newsletter but it comes at a time when much more plant conservation effort is desperately and urgently needed.

The 100th issue of the newsletter comes during a year of importance for nature and the environment. In June, there is the much heralded Rio+20 Earth Summit. I prefer to think of this as the Stockholm+40 Earth Summit because we shouldn't forget that there have been four decades of Earth Summits. Every decade the message is the same. We must do more to prevent the devastation of forests, do more to prevent continuing pollution of aquatic systems, and do more to try to meet biodiversity targets, etc. Over 40 years, there has been a huge and steady growth in the number of environmental NGOs, environmental conferences, and resources. Over that same period of time, nature and the environment has continued to deteriorate.

At a time when we should be asking why 40 years of nature conservation has failed to prevent the continuing loss richness and diversity amongst the world's flora, we have every reason to look back and celebrate 100 issues of the newsletter. The Network has been a major force when it comes to plant conservation in New Zealand. The web site (perhaps the greatest achievement) serves as the most valuable and most used resource for information about native plants. The educational activities of the Network and the production of educational and training materials have made a significant contribution to raising the awareness of our flora. From the seed bank to publications and from databases to conferences, the Network has done more to meet the 16 goals of the Global Plant Strategy than any other group in New Zealand. That is remarkable given that the Network is a network of like-minded volunteers scattered throughout these ancient islands. The rich diversity of skills and knowledge amongst the Network and the passion and commitment for our flora is surely unparalleled in any other group.

It's noticeable that native plants are enjoying more and more popularity compared with 20 years ago. Back in 1992, you would be hard pressed to find a native plant in a garden centre. Now, there are specialist native plant nurseries. The number of new native plantings on private land has increased. The Network, the people in the Network and the Network's public resources have undoubtedly contributed to the improved acceptance and higher profile of native plants. All of this will provide a sound platform for the much needed and far greater efforts that will be required in the coming years to conserve, protect and restore our natural heritage.

I believe that the value of our native plants and native plant communities is poorly recognised – and I suspect that most people in New Zealand have no interest in native plants. The threatened status of our native flora is of no interest to the media. Why should it be when the headline news is taken up with a blind belief in economic growth, fascination with political trivia, and with pop stars! The fact that native plants and native plant communities have immense cultural, ecological, spiritual, amenity, recreational, and economic value escapes the attention of most politicians. According to some politicians, the greatest threat to farming in this country comes from the greenies! Being green is still (in this the 21st Century) seen as something weird or even worse. Terms such as 'tree hugger' or 'environmentalist' are used in a derogatory manner.

New Zealand's flora will become more and more threatened from so called industrial 'developments', from urbanization, from pollution, and from a vehement believe that exotic plants must be preserved because they are part of our colonial heritage. Never before has there been such an important time to draw on our commitments and resources to protect and promote the value of our native plants and native plant communities. On a Richter scale of 1–8 (I live near Christchurch) here are some suggestions very dear to my heart.

1. Show off our natural heritage. Don't buy greeting cards or calendars that have exotic plants. Insist on buying or making your own cards to show the beauty, colour and extraordinary diversity of forms of our native plants.

2. Our children need much more education about our native plants. If you are a teacher, have a go at calculating how many trees are required to replenish one person's daily oxygen use? You will be surprised. Children deprived of contact with nature grow up to have problems later in life. Have a child close their eyes and hug a native tree and ask them to say the first words that come into their head. You will be delighted with the answers.
3. Native plants as companion plants. You may have heard about the benefits of growing marigolds amongst your carrots. Do any native plant species have beneficial properties as companion plants in horticulture and agriculture? I suspect that many members of the Network may have a few ideas or have a few observations that would be of immense interest to other members. Write an article for the newsletter.
4. Membership of the Network. We have to increase membership, not by 10 or 30 but by at least doubling the membership by the end of this year. You can help even more than you do now by encouraging more people to join!
5. Lobbying politicians. The only way to bring about change is to lobby politicians and not to write letters to newspapers. So, please, write to all your local council members and ask them to use only native plants in urban environments. Write to your M.P. about a local native plant issue. Write to the Minister of Tourism and ask to have better promotion of our native plants.
6. A Trust for planting native trees on children's birthdays! What better way is there of treasuring precious moments with your child or grandchild than planting a tree on each birthday? Perhaps the council could set aside land for such purposes.
7. Native plant research. If you are thinking about plant research then please consider the need to address the value of our native plants in working landscapes. No one has undertaken broad based research on the economic value of native plants and native plant communities in working landscapes.
8. A Gondwana project. Back in 2000, the EU had lots of money and that helped to establish the Eden Project in the southwest of England. Some people believe this is now the best plant education centre in the world. That's not to say that it competes with such respected institutions such as Kew Gardens. Our botanic gardens in New Zealand are some of the best in the world but I think, nationally, we could do much better. The establishment of a national native plant centre could test the imagination of any business person's entrepreneurial skills. I am not thinking just botanic gardens. I am thinking a place that has so much diversity of activities and interest that it becomes a New Zealand icon for visitors and a 'must visit' place for the family weekend.

Looking back, the Network has a record to be proud of and it's one that inspires even greater effort to help us go forward. New Zealand's flora needs help!

Footnote

Tree hugging: my wife and I are the guardians of what could be one of the largest cabbage trees in New Zealand (the single trunk has a girth of about 225 cm (2.25 m) and I guess that it's about 11 metres tall). Children visiting us love to hug that tree when they arrive and when they leave. I love it!

Flora mapping system goes live

The Network has now launched its on-line flora mapping system to provide detailed information about the distribution of plant species and the flora of sites throughout New Zealand. This flora mapping system has close to 1 million plant distribution records and can be used to search for species distributions or for site data.

This project has been made possible thanks to sponsorship from the Department of Conservation, the support of Graeme Jane (who provided his national plant list database to be a core part of this on-line system) and to Network members recording thousands of phenology observations over the past 18 months. Approximate degrees of accuracy for each type of data are provided on the system; in the meantime we recommend field checking data to confirm occurrences.

This on-line system has taken 2 years to build and has involved many people throughout the country. Due to collection risk, at this stage all native plant records from DOC's national plant database have been excluded from the database and the coordinates for all threatened plant and native orchid records from the Plant List Database have been randomly shifted. If you have any queries about this system please contact the Network at: info@nzpcn.org.nz Also, please tell us if you have suggestions for improvements to this mapping system.

The on-line distribution map of mahoe, *Melicytus ramiflorus.*

Important note

We expect there to be errors in the data as few observations are supported by herbarium specimens. We seek your help in correcting mistakes that may be due to observer error (when the observation was first made) or due to errors in data entry when the records were added to the on-line system. In some cases observations are listed as "Wild" when in fact they are clearly "Cultivated" as they are outside the species' known natural range. Please use the feedback button to tell us of errors and we will work to correct them. Our goal is to crowd-source Network member knowledge to improve the accuracy of this system over the coming years.

Marae-based plant training courses

Philippa Crisp, Greater Wellington (Philippa.Crisp@gw.govt.nz)

Gecko New Zealand Trust has been delivering marae-based plant training courses for NZPCN over the past six months. The delivery of these courses has been funded through a Biodiversity Advice Fund grant. The marae course currently being delivered is "Introduction to plant life in New Zealand", which is one of four plant training courses that have been developed by the Network. Two of the three courses programmed for delivery have been completed—one near Dargaville and one in Otara. Gecko NZ Trust will provide a full report once the final wananga has been run, but you may be interested in the responses we have received from course participants so far.

Wananga 1:

- I learnt lots. Wonderful learning experience. Keen and eager to work in our own backyards. I am already killing stoats in the wetlands.
- Learnt what weeds are and what to do with our reserve block. We need to bring our grandchildren to this sort of kaupapa. Good company and kai. Best learning "notice what you notice".
- Thanks Gecko. I learnt lots. We need to look after nature instead of taking it for granted. Tokatoka reserve block needs looking after and it belongs to everyone. We can't leave the work to one hapu, we need to involve the whole iwi.
- Learnt about the different leaves. Glad I came. Awesome! Really enjoyed watching people notice things out in the bush. Learned heaps. It's about our backyard and the person next to me.
- Best part was listening to the ruru (morepork) warm up in the evening when we did the night walk. Awesome!
- Big mihi to waka of learning. Found out about shapes of leaves, names, types of trees. Learnt Latin names, mean Bro! Sipped from the top of the knowledge. Need a few more wananga to utilise knowledge. The music (flute) at night in the bush was awesome. Our tupuna used to walk as one with nature and we can still do that.
- Listen and look at things—notice. Thought plants were just green, now I know stuff. This was my first time to go up the maunga. Learnt lots about plants.
- So much to take in! Only just touching the tip of the iceberg. We need more wananga to keep learning. We need to take it out to the maunga. Learnt lots of knowledge, e.g., difference between pampas and toetoe. Fully enjoyed the wananga. Awesome!
- I had no interest in plants before so honoured to have come. I learnt heaps. Thanks to Chris, Riki and Linda. I look at nature with a different perspective now. Everything comes from nature. Every item has a whakapapa to nature. Need to look after nature so nature looks after us.
- Learnt a lot. I will go home and share this knowledge with the whanau. Lots of pests in my area. I am getting a gun license!
- Enjoyed this wananga as we kept to our own kaupapa. This is the first time outsiders have come in to do this work and we need to build on this. I want to tautuku/acknowledge everyone's contribution. We will take our idea (maunga Tokatoka reserve being settled at the Waitangi Tribunal so that Ngati Whatua will become owners in three years. Idea is for iwi to take responsibility for its upkeep now

in conjunction with DOC (who are not doing much work on it) so when they get it, it already is in better health) to the AGM to get feedback from other marae on our new mahi.

Wananga 2

- This was fun. Learnt the names of plants, e.g. mahoe.
- Very good learning about the plants, best bit was eating the nikau.
- This was good. Learnt I could drink kawakawa.
- Cool experience. I enjoyed it. Learnt new things like the structure of the forest, which is a cool way to look at it. Like to do more wananga especially Maori material culture.
- This wananga was very interesting. Really enjoyed identifying the leaves.
- Good use of time available. Learnt a lot about different things in the forest, e.g. ancient plants in the New Zealand forest. Really good learning.
- It was funny to learn that a leaf is not just a leaf. We are lucky we get to learn as a whanau and our kaumatua is here. Learning as a group is great.
- Really good experience. Enjoyed the learning together. Kaumatua Papa used to tell us we did not listen to him about nature, now I know what he is talking about.
- This was really about the dream of something and making it a reality here. This has shown me that having a second eye to see things differently is good. We talk about conservation a lot but now I see it's all connected. Lovely to be able to do something on our land
- Learnt that everything has a place. Agree with others about this wananga. Enjoyed learning about nature, its purpose and how it connects to us. We have a responsibility to take care of it. Thanks to the facilitators. The more we know, the more we can look after it. I want to make sure we look after our relationship to the forest and the Otara Stream. Intrigued by a lot of what we learnt. Really proud of the forest close to my awa. I want to encourage some of you younger ones to pick up an environmental project here.
- Kaumatua Papa: The most enjoyable hui I have ever been to. I have been blown away. Enjoyed working with the facilitators. Looking forward to the next one.

32,000-year-old plant brought back to life—oldest yet

Rachel Kaufman for National Geographic News, February 21, 2012

The oldest plant ever to be regenerated has been grown from 32,000-year-old seeds—beating the previous record holder by some 30,000 years. A Russian team discovered a seed cache of *Silene stenophylla*, a flowering plant native to Siberia, which had been buried by an Ice Age squirrel near the banks of the Kolyma River. Radiocarbon dating confirmed that the seeds were 32,000 years old.

The mature and immature seeds, which had been entirely encased in ice, were unearthed from 38 metres below the permafrost, surrounded by layers that included mammoth, bison, and woolly rhinoceros bones. The mature seeds had been damaged – perhaps by the squirrel itself, to prevent them from germinating in the burrow. But some of the immature seeds retained viable plant material. The team extracted that tissue from the frozen seeds, placed it in vials, and successfully germinated the plants, according to a new study. The plants—identical to each other but with different flower shapes from modern *S. stenophylla*—grew, flowered, and, after a year, created seeds of their own.

"I can't see any intrinsic fault in the article," said botanist Peter Raven, President Emeritus of the Missouri Botanical Garden, who was not involved in the study. "Though it's such an extraordinary report that of course you'd want to repeat it." Raven is also head of National Geographic's Committee for Research and Exploration (the society owns National Geographic News.)

The new study suggests that permafrost could be a "depository for an ancient gene pool", a place where any number of now extinct species could be found and resurrected, experts say. "Certainly some of the plants that were cultivated in ancient times and have gone extinct or other plants once important to ecosystems that have disappeared would be very useful today if they could be brought

back," said Elaine Solowey, a botanist at the Arava Institute for Environmental Studies in Israel. Solowey resurrected the 2,000-year-old date palm that previously held the title of oldest regenerated seed. Her palm seed, though, had been buried in a dry, cool area, a far cry from the *S. stenophylla* seeds' permafrost environment.

"Regenerating seeds that have been frozen at -7˚C for so long could have major implications," said Solowey, who also was not involved in the new study. "That›s because all seed-saving projects—the most famous being perhaps Norway›s so-called doomsday vault, aka the Svalbard Global Seed Vault—depend on freezing seeds. Any insight gained on seeds which have been frozen and how to thaw them and sprout them is very valuable,» she said.

The Missouri Botanical Garden›s Raven added that, if we can uncover the conditions that kept the seeds viable for 32,000 years, then if you were doing it yourself, you›d be able to preserve seeds for longer.

The regenerated-seed study was published in the Proceedings of the National Academy of Sciences.

New Zealand native orchid key

Murray Dawson, Landcare Research (DawsonM@landcareresearch.co.nz)

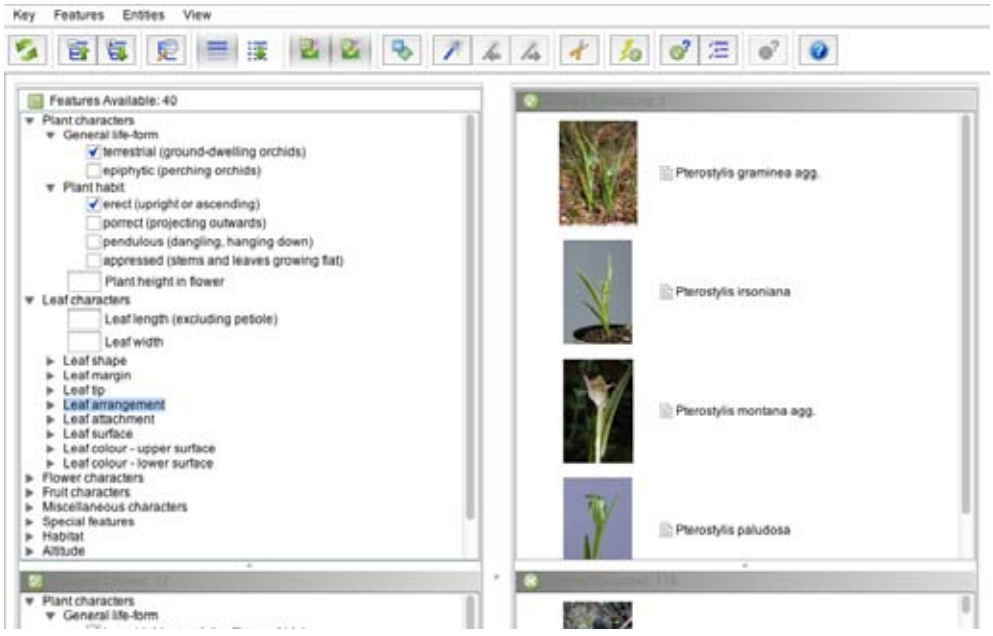
A demonstration version of the New Zealand native orchid key is now available for evaluation and testing. The link is www.landcareresearch.co.nz/research/biosystematics/plants/orchidkey/.

There is a help file explaining how to use interactive keys at: www.landcareresearch.co.nz/research/biosystematics/plants/help_key/index.asp. There is also a link on that page to troubleshooting (what you need to do if the key does not work for you).

Bear in mind that character scoring is not yet complete, so some of the orchids may not key out if you select some of these features missing for a particular orchid. Further images will also be added as they become available.

Completion of this project is scheduled for 1 May 2013. The project is funded by the TFBIS (Terrestrial & Freshwater Biodiversity Information System) programme and is a collaboration between myself (Murray Dawson), Jeremy Rolfe and the New Zealand Native Orchid Group. An article outlining the new project was published in The New Zealand Native Orchid Group Journal 121: p. 22 (on-line at: www.nativeorchids.co.nz/Journals/121/121/index.html).

Please feel free to circulate this information to others who may be interested. Your feedback and contributions are most welcome!



A view of the on-line native orchid key.

Property Council challenges tree protection legislation

The Property Council has launched an unusual challenge in the Environment Court to Auckland Council's tree protection rules, says the Environmental Defence Society. "We are aware that papers have been filed seeking a declaration from the Court with respect to matters that were subject to very similar proceedings and a decision just last year," said EDS Chairman, Gary Taylor.

"As a result of those proceedings, the Court clarified the law and there were no appeals. These proceedings seem to having another go at something we thought was done and dusted. So we are somewhat bemused at this stage as to both what the Property Council is trying to achieve and why it has initiated the proceedings at all. The current law, as defined in the earlier proceedings, is that rules in a district plan that prohibit the removal of trees or groups of trees in an urban environment will continue to have effect if they relate to trees specifically identified in a plan."

"There are a number of ways district plans can identify trees to fall within this exception. Clusters of trees identified by location is one example. Trees may also be defined by reference to a named species in a defined area or zone; by reference to a class of trees with defined characteristics in a defined area or zone; and by reference to all trees in a named ecosystem, habitat or landscape. This seems to strike a reasonable balance that achieves the purpose of the Resource Management (Simplifying and Streamlining) Amendment Act 2009, which removed blanket tree protection, while still protecting trees specifically identified in the plan."

"We intend to seek a meeting with the Chief Executive of the Property Council to discuss the issues face to face. It may be that some mistake has been made," Mr Taylor concluded.

(*Editor's note: for the earlier decision see* Trilepidea *93, August 2010.*)

Biodiversity Fund applications called

Private land owners or community groups carrying out conservation work on private land could be eligible for funding from the Biodiversity Funds. Applications for funding close with the DOC-administered fund at 3.00 p.m. on 17 April 2012. Two funds are available:

- An Advice Fund that pays for expert advice and methods of providing information. This could include ecological reports, management plans, field days, wananga, publications (including electronic material), training, workshops and seminars.
- The Condition Fund that supports projects such as restoration planting, fencing, weeding and pest control. The project should improve and maintain the condition of areas of indigenous vegetation, species and habitats.

The Biodiversity Fund is a government initiative to enhance management of indigenous biodiversity on private land. Applications are invited from private landowners and community groups. For guidance on the application process and Fund criteria, visit www.biodiversity.govt.nz/land/nzbs/pvtland/conditionapps.html. To discuss a potential application, please call 0800 86 2020 or email Biofunds@doc.govt.nz to contact a team member.

New Zealand Threatened Indigenous Vascular Plant Relisting – a call for submissions – the deadline is less than a month away!

P.J. de Lange, Ecosystems & Species Unit, C/o Auckland Conservancy, Department of Conservation, Private Bag 68908, Newton, Auckland (pdelange@doc.govt.nz)

Under the terms and conditions set out by the New Zealand Threat Classification System (see Townsend et al. 2008) the last threat listing of New Zealand Indigenous Vascular Plants (de Lange et al. 2009) is now due for revision, and a call for submissions has now been posted on the New Zealand Department of Conservation Website (www.doc.govt.nz/getting-involved/consultations/). As part of that process, the New Zealand Indigenous Vascular Plant Panel will be convening some time in late April or early May 2012 on the Lincoln campus of Landcare Research to undertake this task. Accordingly, the panel now seeks contributions from the botanical community to assist with this process. The role of the wider botanical community in threat listing is important. To that end, panel members encourage those of you who have an interest in the threat status of our vascular flora to prepare submissions (see form attached to end of newsletter). An electronic copy of this form may be obtained from the panel chair (Peter J. de Lange – see email address above) if you wish to make submissions in that way. However, handwritten or emailed submissions outlining the candidate taxa and providing supporting comments and data are also quite acceptable. These may be mailed or emailed to any of the panel members (see below).

Submissions may include support for existing threat listings, suggested changes to these or proposals for new taxa that may not yet have been listed by the panel. Submissions for informally recognised plant entities may also be provided. This is on the understanding that any such entity proposed is supported by an accessible herbarium voucher specimen lodged within an officially recognised herbarium (see Holmgren et al. 1990), which, for New Zealand, includes the following herbaria: AK, CANU, CHR, LINC, MPN , NZFRI, OTA, WAIK, WELT, WELTU.

We strongly encourage botanists to be part of this process.

Submissions will NOT be accepted after 10 April 2012.

The 2012 New Zealand Indigenous Vascular Plant Panel

Chair: Peter J. de Lange (pdelange@doc.govt.nz or pj.delange@xtra.co.nz)

Facilitator: Rod Hitchmough (rhitchmough@doc.govt.nz)

Panel (North to South)

Ewen Cameron – Auckland Museum Herbarium (ecameron@aucklandmuseum.com)

Jeremy Rolfe – Wellington Hawke's Bay Conservancy, Department of Conservation (jrrolfe@actrix.co.nz)

Shannel Courtney – Nelson/Marlborough Conservancy, Department of Conservation (scourtney@doc.govt.nz)

David Norton – School of Forestry, University of Canterbury (David.norton@canterbury.ac.nz)

Peter Heenan – Allan Herbarium, Landcare Research (heenanp@landcareresearch.co.nz)

John Barkla – Otago Conservancy, Department of Conservation (jbarkla@doc.govt.nz)

References

de Lange, P.J.; Norton, D.A.; Courtney, S.P.; Heenan, P.B.; Barkla, J.W.; Cameron, E.K.; Hitchmough, R.; Townsend, A.J. 2009: Threatened and uncommon plants of New Zealand (1998 revision). *New Zealand Journal of Botany* 47: 61–96.

Holmgren, P.K.; Holmgren, N.L.; Barnett, L.C. 1990: Index Herbariorum Part I: The herbaria of the world (8th ed.). Regnum Vegetabile, New York Botanical Gardens, New York.

Townsend, A.J.; de Lange, P.J.; Norton, D.A.; Molloy, J.; Miskelly, C.; Duffy, C. 2008: The New Zealand Threat Classification System manual. Wellington, Department of Conservation.

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):

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; email: apcab2012@sapmea.asn.au.

Auckland Botanical Society

Meeting: Wednesday 4 April at 7.30 p.m. a talk by Dr Chrisen Gemmill, University of Waikato titled 'The Winteraceae' **Venue:** Unitec School of Health Sciences, Gate 4, Building 115. Room 2005.	**Contact:** Maureen Young, email: youngmaureen@xtra.co.nz
Field trip: Saturday 21 April to Forest & Bird's Olive Davis Reserve, Manurewa East.	**Contact:** Maureen Young, email: youngmaureen@xtra.co.nz.

Waikato Botanical Society

Meeting: Thursday 19 April the AGM followed by a talk by Dr Peter de Lange of the Department of Conservation titled 'Kermadec Biodiscovery 2011 Expedition'. **Time:** 6.30 p.m. AGM, 7.00 p.m. the talk followed by questions and a cuppa. **Venue:** Room S.G.03, S block, Gate 8 Hillcrest Rd, Waikato University.	**Contact:** Jackson Efford, email: bot_soc@waikato.ac.nz.

Rotorua Botanical Society

Field trip: Saturday 24 March to Little Waihi Estuary and Islands. **Meet:** car park Rotorua 8.00 a.m. or corner of Wharere Road and SH2, Pongakawa, at 9.00 a.m. **Grade:** Easy but could be muddy, bring gumboots or sandshoes.	**Leaders:** Paul Cashmore, ph: 07 348 4421 (hm), 07 349 7432 (wk), email: pcashmore@doc.govt.nz and Graeme Jane, ph: 07 570 3123 email: gtjane@clear.net.nz
Field trip: Saturday 14 April to Okareka Mistletoe Restoration Project weed control work day. **Meet:** corner Summit and Loop Rds (lake end) at 8.45 a.m. **Grade:** medium-hard; activities suitable for all ages and abilities will be provided.	**Leader:** Paul Cashmore, ph: 07 348 4421 (hm), 07 349 7432 (wk), email: pcashmore@doc.govt.nz
Field trip: Wednesday 25 April to Pokopoko Scenic Reserve, SH33. **Meet:** the car park, Rotorua, at 8.30 a.m. or at picnic area on east side of SH33 (the only one between Paengaroa and Okere Falls) at 9.00 a.m. **Grade:** medium-hard; help compile the first plant species list for the reserve.	**Leader:** Paul Cashmore, ph: 07 348 4421 (hm), 349 7432 (wk), email: pcashmore@doc.govt.nz.

Wellington Botanical Society

Field trip: Friday 6 – Sunday 8 April Easter trip to western Wairarapa. **Meet:** 9.15 a.m. Friday, Dorset Square Native Reserve, Moore St corner SH2, Featherston. **Accommodation:** refer to contacts.	**Wellington contacts:** Sunita Singh, ph: 04 387 9955, mob: 027 405 2987; Chris Horne, ph: 04 475 7025 mob: 027 474 9300.
Meeting: Monday 16 April at 7.30 p.m a talk by Cherryle Prew, Director, Soil Foodweb Institute NZ Ltd, Otago, titled 'Promoting plant health via the soil'.	**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: Thursday 5 to Monday 9 April Easter Camp at Seddonville on the West Coast.	**Leader:** Diana Pittham, ph: 03 545 1985
Field trip: Sunday 15 April to Split Apple Rock Beach in Tasman Bay. **Meet:** at the Cathedral steps at 800 a.m.	**Leader:** Cathy Jones, ph: 03 54 69 499.

Canterbury Botanical Society

Meeting: Friday 13 April at 7.30 p.m. a talk by Janet Wilmshurst titled 'Palynology (pollen study)'. **Venue:** Room A5, University of Canterbury.	**Contact:** Gillian Giller, ph: 03 313 5315, email: ggillerma1@actrix.gen.nz.
Field trip: Saturday 14 April to the Mt Grey picnic area.	**Contact:** Gillian Giller, ph: 03 313 5315, email: ggillerma1@actrix.gen.nz.

Botanical Society of Otago

Field trip: Saturday 24 March to Knight's Bush, Tuapeka. **Meet:** at 8.30 a.m. at the Botany Department car park, corner of Great King Street and Union Street (West).	**Contact:** Allison Knight, ph: 03 487 8265
Meeting: Wednesday 18 April at 5.20 p.m. the AGM and Photographic Competition. **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, ph: 03 454 5470.
Field trip: Saturday 21 April to Craigieburn Reserve, Ross Creek. A prposed joint trip with Forest and Bird; details to be announced. **Meet:** 9:00 a.m. at the Botany Department car park, corner of Great King Street and Union Street (West).	**Contact:** David Lyttle, ph: 03 454 5470.