



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

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Message from the President

In this month's packed newsletter there are many interesting and topical issues. There also appears to be an unusually large number of announcements about coming events and conferences. The many and varied articles include a very interesting account by Trevor Thompson about his management of the only known *Alepis flavida* plants in the lower North Island. Equally interesting is the description by Lorelee Hyde of the protection of a unique area in the Upper Clutha Valley that has as many as 13 nationally threatened and uncommon plant species. The engaging story behind the new *Veronica* species, and its subsequent investigation, is told by Geoff Davidson and Peter de Lange. What an amazing story! Peter de Lange also provides us with convincing evidence of ongoing New Zealand to Chatham Islands plant dispersal. Also in this issue is the report of the first definitive list of Bay of Plenty vascular flora to be published. Congratulations to the Rotorua Botanical Society.

I must say how pleased I am to read so many and varied contributions to the newsletter. Please keep then coming in. I think there are many more members out there who could write (be it briefly) some very interesting notes about what they have observed. Such notes might just be about observations on native plants in urban gardens or native plants as food sources for birds and insects (see the

PLANT OF THE MONTH - *Rumex neglectus*



leaves, 3–5 cm x 2–3 cm. Flowers and fruits in dense clusters, arising from leaf tufts, are 1–3 cm tall.

Shore dock is easily grown in places that do not dry out for long periods, in the sun or part shade. It will tend to creep itself over to the sunnier spots. Shore dock is not nationally threatened, however, in the North Island, it is known only from the South Wellington coast.

The Network fact sheet can be found at:

http://www.nzpcn.org.nz/vascular_plants/detail.asp?PlantID=684

Plant of the month for October is *Rumex neglectus*. *Rumex neglectus* (shore dock) is an endemic rhizomatous herb, found in damp coastal turf near streams, seepages and in damp sand. It grows in the North, South, Stewart, and Chatham Islands and is also abundant on most of the sub-Antarctic islands.

The specific name *neglectus* means overlooked, and shore dock certainly can be as it creeps low across the ground, with broadly oval, green (or brown-red) fleshy

Earthlore story). We need more photographs and what better time of year is there to take a photo and send it in. It could just be your favourite native plant in flower, but I assure you that such a photograph will be of interest to other readers. Please don't be shy! The newsletter caters for all interests (native plant related that is)!

Talking of topical issues, when this newsletter is distributed, I will be in Canberra attending a Council meeting of the Environment Institute of Australia and New Zealand followed by participation in the annual EIANZ Conference. I am particularly looking forward to one of the workshops that is being run by the Special Interest Section in Ecology. This particular workshop is about the topical issue of the quality of ecological impact assessments and the competency of ecological practitioners. Why this topic? The reason is because of concern expressed by some ecologists in Australia and New Zealand about the quality of the work and the competency of the people undertaking ecological impact assessments. Although it is recognised that there are many highly competent ecological consultants, it is also said that the standards of ecological practice are varied.

I have certainly noticed that, over the last few years, there appears to be increasing concern about the quality of plant surveys, habitat assessments and, yes, plant identification! Of course this is not a new concern. Back in the 1980s there were cries of dismay in the U.K. about the fact that there were fewer and fewer courses on taxonomy, systematics and even basic skills such as using plant identification keys.

What can be done? I know of some plant ecologists who would like to see the introduction of some kind of certification or competency certificate. That is, based on their supposed area of expertise, field plant ecologists would have to show that they:

1. Are competent in identifying plant species within their chosen group.
2. Have a good understanding of the limits and bias of ecological methods.
3. Know how to design and implement a scientifically valid plant survey.

As an ecologist, I support the view that there needs to be an improvement in standards of ecological practice. To achieve that, perhaps we need to re-assess the content and the quality of ecological education and training offered by the tertiary sector. However, and as I say to my students, education does not stop at graduation. There also needs to be continuing professional development. I believe there is a role for individual certification. This would be good for the ecology profession, good for improving standards of ecological practice and of course good for the environment.

Perhaps the New Zealand Plant Conservation Network could have a role in helping to promote good standards of practice amongst plant ecologists and amongst those ecologists undertaking ecological impact assessments. The New Zealand Ecological Society may also have an interest and, if so, there may be opportunities for both organisations to work together.

No doubt the discussion about 'standards of ecological practice' will continue. So, also, will the discussion about 'ecosourcing'. This is just a reminder about the forthcoming talk 'What relevance does 'ecosourcing' have for plant conservation?' This is to be held on Thursday 12 November, 7:00-9:30 p.m. at the Stardome Observatory (Sunroom), Auckland. I know some plant ecologists who believe that it doesn't matter if the distribution of native plants is altered by human activity because, in their words 'this will help protect the species from the effects of climate change'. I am looking forward to a very constructive and interesting debate about this topical issue.

Ian Spellerberg
Lincoln University

Veronica jovellanoides – a new threatened plant from northern New Zealand

Peter J. de Lange, Department of Conservation (pdelange@doc.govt.nz)

A mysterious plant first collected by Oratia Native Plant nurseryman, Geoff Davidson, from a forest remnant near Riverhead, West Auckland in November 2007, and known since then as *Parahebe* “Bamboozle” has now been described as *Veronica jovellanoides*.

In November 2007, Geoff Davidson and Sharon Graham discovered what they thought was *Jovellana repens* growing in a small forest reserve near the Riverhead, West Auckland. As *J. repens* had never before been recorded from the Auckland region, Geoff took a small piece to grow at his nursery. This was shown to Peter de Lange in late November; he suggested the plant was either a *Veronica* or a *Parahebe* but certainly not a *Jovellana*. When it flowered in late December 2007, its identity was clear; the flowers were very similar to those of New Zealand *Parahebe*. Images were sent to Phil Garnock-Jones who did his pioneer taxonomic work on that genus, sequences were obtained and chromosome counts made. Collectively, this information suggested that the mystery plant was a hitherto unrecognised species of *Parahebe*/*Veronica*. As several surveys during 2008 failed to find any wild plants, it was obvious that this enigmatic “new entrant” to the New Zealand indigenous flora hall of fame was also highly threatened. As a first step to achieve some certainty for its future, its exact identity needed to be resolved, and this required taxonomic clarification.

In the September issue of *New Zealand Journal of Botany* 47(3), *Parahebe* “Bamboozle” has been described as a new endemic, *Veronica jovellanoides* (Davidson *et al.* 2009). Readers may be surprised to see its placement in *Veronica* but, in the view of the authors, the real issue here is providing a name for the plant not continuing an academic squabble over generic and higher order issues. Further, this species, like *Parahebe canescens* (*V. lilliputiana*) is completely herbaceous and, aside from the magenta markings on the flowers, it fits very nicely within *Veronica* sensu stricto.

From a conservation perspective, three plants known from the wild – all in one tiny site vulnerable to weeds and trampling by people. These plants along with the one collected in November 2007, are all that remain from which to save this species from extinction. Luckily, the plant grows easily from rooted pieces and seed. As it is very attractive, it would be great to see it more widely cultivated as a safeguard against its possible loss from the wild. Further, now that the remarkable plant has been formally recognised, the Department of Conservation has prepared a management plan to improve its status in the wild.

As an aside, Davidson *et al.* (2009) also builds on the work of others in formerly reinstating *Veronica plebeia* into the indigenous New Zealand flora.



Veronica jovellanoides. Photo: Phil Garnock-Jones



Veronica jovellanoides close up. Photo: Phil Garnock-Jones

Reference

Davidson, G.R.; de Lange, P.J.; Garnock-Jones, P.J. 2009: Two additional indigenous species of *Veronica* (Plantaginaceae) from northern New Zealand: *V. jovellanoides*, a new and highly endangered species, and *V. plebeia* R.Br. *New Zealand Journal of Botany* 47: 271-279.

The story behind the new *Veronica* species

Geoff Davidson, Oratia Nursery (oratia@ihug.co.nz)

Above is the report about the new species *Veronica jovellanoides*. Here is how it came to the notice of science.

Helping little old ladies has always been a good thing, and you never know the consequences. Twenty-six years ago, Geoff Davidson was asked by Ernesta Williams if he could save her 20 hectares of forest at Riverhead, north of Auckland. Being a trustee of the NZ Native Forests Restoration Trust (NZNFRT), Geoff felt sure the Trust could do something, but then it was a fledgling organization having been formed in 1980. Geoff reports on the consequence of helping an elderly lady:

Ernesta had inherited the property jointly with her sister, Amy Norton, from their father, Ernest Morgan. His family had bought it in 1890 after it had been heavily logged by James Maxwell, who had the timber sawn at Blake's Sawmill at Riverhead. Ernest was protective of it as a block of bush and his daughters likewise looked after it all their lives. Then, in their 80s, they felt the need to "cash-in" but were happy to sell at half valuation if the bush could be protected. Together with Shirley Guilford and other trustees, I accepted the challenge of raising the \$20,000 asking price. The NZNFRT approached the Auckland Regional Authority and QEII National Trust and, collectively, the three organisations found the necessary funds. At that time, the NZNFRT had not made the decision to buy land and persuaded QEII to take ownership. As a result of buying the Morgan property in 1983, the NZNFRT put less emphasis on planting and focused on securing title to land to protect it. Since then, the NZNFRT has purchased or been given over 6,000 hectares throughout the country.

That in itself can be considered a direct result of helping little old ladies.

But wait – there is more.

Time passed and, in November 2007, I suggested to the NZNFRT's field officer, Sharen Graham, that we should visit our first purchase, although it was not in her job description. After so many years, it took some head-scratching to locate the legal right-of-way into the reserve and follow the Ararimu Stream to find the natural weir to cross into the reserve. Wandering through, we were pleasantly surprised at the healthy condition of the bush with minimal sign of possum, goats or other pests. Fences, moderately intact, were keeping out neighbouring stock and very few weed species were evident. Our delight increased as we found rare-to-Auckland species such as *Nestegis cunninghamii* and *Cyathea smithii*. There appeared to be two distinct habitat types with damp-loving broadleaf species such as pukatea and kohekohe in one catchment and conifer-dominant species, kauri, kahikatea and tanekaha, in a drier adjacent catchment. It was in the drier habitat that Sharen spied a creeping ground cover and asked, "What is that?" My response was a rather mumbled "Uummmm! Possibly *Jovellana repens*, but it can't be because it should not be here – this far north of Auckland". Taking a small rooted specimen, I said I would grow it on and get it identified.

More time passed, I doubted my guess that it was *Jovellana*, and none of my staff could name it either. Eventually, I asked DOC botanist, Peter de Lange, for his opinion and he considered it an enigma. His best guess was that it could be a *Parahebe* or – half jokingly – a *Veronica*, although it was out of the range of any of the known species of *Parahebe*. Then, in December 2007, it flowered proving it

indeed to be a *Parahebe* as we then knew them, but not a species previously recorded. Within days it was news that circled the globe and had taxonomists and botanists mystified. “Not possible”, “Highly unlikely to be a NZ native”, “Extraordinary” were some of the comments. “An exotic garden escape”, “Planted”, were some of the more ‘helpful’ suggestions.

Scepticism increased when we returned to the reserve and could not relocate the original plant despite about 80 hours of searching by four people. About then it got the nick-name “Bamboozle” because of its elusive and enigmatic nature.

In desperation, we asked the Auckland Botanical Society for help and, in “line abreast”, about 40 members searched the reserve. It did not take long before Tricia Aspin found a good-sized patch covering a couple of square metres on the steep side of a ditch, a tributary of the Ararimu Stream. Despite further searching, no other plants were found.

A perplexing aspect of the discovery, is the plant’s relationships with other *Parahebe*.

A degree of acceptance had been reached that this was indeed a new species, previously overlooked, unknown and uncollected. Then there was debate as to where it sat genetically amongst other *Parahebe*. It proved not to have the normal *Parahebe* chromosome count of $2n = 42$. Along with *Parahebe decora* and most *Hebe* species, it has $2n = 40$.

To quote:

“*The morphological features suggest that it represents an early diverging lineage from the ‘parahebe clade’, a position that is supported also by DNA sequence data from both the nuclear and chloroplast genomes*”

(Jessie Prebble, unpublished data)

It is highly distinctive and bears no close resemblance to other species in the genus. Suggestions of its nearest relatives range from European *Veronica* to *Parahebe* growing in New Guinea.

Another notable aspect of the plant is its association with other plant species within the reserve that are normally associated with colder habitats or alpine conditions. *Nestegis cunninghamii* is common in the reserve yet it is a very uncommon species in the Auckland region. Similarly, *Libertia micrantha*, *Cyathea smithii* and *Cortaderia fulvida* are all restricted to cold sites this far north. *Nertera villosa* is scarce as far north of the King Country, and *Lachnagrostis lyallii* has only once before been recorded north of the King Country. *Drucella integristipula* and *Pseudocypbellaria durietzii* are indicators of cold conditions and are more commonly associated with montane, often cloud forest, vegetation.

All the above species were found either in the reserve or along the stream-banks. This is particularly surprising because the lowland forest is only a few metres above sea level. In fact, the Ararimu Stream was used as a portage by Maori because it is the lowest passage between the Waitemata and Kaipara harbours.

Now the scientists have pronounced their conclusions and the September 2009 issue of *New Zealand Journal of Botany* has the story of its discovery and perplexing, enigmatic status. In summary, they resolved it best to name it *Veronica jovellanoides*, a name that reflects as much about the current thinking about all *Hebe* and *Parahebe* as it does to the plant’s potential as the missing link back to the Northern Hemisphere genus *Veronica*. Perhaps Forster got it right when in 1786 he named *Veronica catarractae*, *Veronica elliptica* and *Veronica salicifolia*.

So, if in the future, any or all *Hebe*, *Leonohebe*, *Heliohebe*, *Chionohebe* and *Parahebe* are reclassified as *Veronica*, it may be thanks to a couple of little old ladies in need of help.

First definitive list of Bay of Plenty vascular flora published

A group of Rotorua Botanical Society botanists recently published a checklist of indigenous and naturalised vascular plant taxa currently known to be present in the Bay of Plenty, or to have been present in the past. This is the culmination of more than five years research (Beadel *et al.* 2009).

For the purposes of this project, the extent of the Bay of Plenty was defined as including the following ecological districts: Te Aroha, Mayor Island, Motiti, White Island, Tauranga, Otanewainuku, Rotorua Lakes, Te Teko, Taneatua, Opotiki, Kaingaroa, Whirinaki, Ikawhenua, Waimana, Waiouka and Motu. There is a map of the ecological district boundaries in the report. Nomenclature of taxa generally follows names in the New Zealand Plant Conservation Network (NZPCN) website as at November 2008.

The checklist was compiled largely from written material (published and unpublished) up to 2006 and herbarium vouchers (reference with the acronym for the herbarium in which the specimen is lodged) up to 2008. In addition, references to selected publications and reports post-2006 and personal observations of some of the authors have been included. Sources for all records have been identified.

The checklist has been produced as a printed version and as a more comprehensive electronic version. These two versions are identical in terms of the species records for each ecological district. The electronic version, however, also includes herbarium voucher numbers where these exist and some additional references to written records of species occurrences. For reasons of space, these additional voucher records and references were not included in the printed version. The checklist is intended to be a working document, to inspire field botanists to discover and record more of the natural diversity of the flora of the Bay of Plenty.

Publication was sponsored by Wildland Consultants Ltd, Department of Conservation, Natural Talent Design, and Environment Bay of Plenty.

Some of the key findings are:

- The total number of vascular plant species recorded in the Bay of Plenty is 2053, comprising 1036 native and 1017 exotic naturalised species, i.e., there are only marginally more native plant species than exotic species in the region. The number of exotic species will continue to increase over time as more exotic weed species escape from cultivation and establish in the wild. In the near future, exotic species will surpass native plant species in terms of numbers.
- The highest diversity of plant species (both native and exotic) is in the Rotorua Lakes Ecological District; 1310 species. This reflects the diversity of habitats present – freshwater lakes, rivers, forest and recently-formed volcanic landscapes.
- The lowest diversity of plant species (both native and exotic) is on islands, namely Motiti Ecological District (which includes Karewa Island off Matakana Island and nearby Motunau (Plate Island)), White Island Ecological District (which includes Rurima Island and Moutohora (Whale Island)), and Tuhua (Mayor Island). This low diversity is a combination of the small size of these areas relative to the much larger ecological districts on the mainland, coupled with fewer native and exotic species able to colonise them due to distances from the mainland.
- The highest diversity of native plant species is in the Motu Ecological District – 621 species, reflecting the range of habitats present, from the coast to the mountain tops of the Raukumara Ranges.

- The highest diversity of exotic plant species is in the Rotorua Lakes Ecological District – 714 species, followed by the Tauranga Ecological District – 525. For Tauranga and Rotorua, this reflects the large number of exotic species that have become naturalised (wild) from these large urban centres. This number is likely to continue expanding, particularly for Tauranga City, as urban areas continue to expand.
- The highest ratio of native to exotic plant species was in the Te Aroha Ecological District, 79% of the total flora is native species. Whirinaki Ecological District is close behind on 78%.
- Four ecological districts have more naturalised exotic plant species than native species: Motiti, Tauranga, Te Teko, and Rotorua. For Motiti and Te Teko, this result reflects the high degree of modification for agriculture, with few areas of indigenous vegetation remaining. For Tauranga and Rotorua, it reflects the large number of exotic species that have naturalised (wild) from garden escapes.

Copies of the report can be obtained from the Rotorua Botanical Society for \$25 plus postage and packaging. Refer to the website <http://www.wildlands.co.nz/botanical.htm> or contact Sarah Crump, ph: 07 3497–412, email: scrump@doc.govt.nz.

For further information contact Sarah Beadel, email: sarah@wildlands.co.nz, ph: 021 924 476.

Reference

Beadel S.M., Ecroyd C., de Lange P., Cashmore P., Shaw W., and Crump S. 2009: Checklist of indigenous and naturalised vascular plants in the Bay of Plenty. Rotorua Botanical Society Special Issue No. 2. 99 pp.

Introducing Earthlore

Gordon Thompson, *Earthlore*, Owaka (gordonandjanine@ihug.co.nz)

Situated near Owaka in The Catlins, EARTHLORE is evolving into a unique eco-tourism business that been purposefully designed to instil an appreciation of and awareness for the wide array of fascinating insects native to New Zealand. By encouraging individuals and businesses to sponsor the planting of native plants, we are creating a series of interlinked habitats to support as many of New Zealand's native insect species as possible. An example of a habitat for copper butterfly would be the planting of stands of *Olearia hectori* interspersed with kowhai and Southland tussock. Between these habitat areas, we are planting corridors of *Muehlenbeckia astonii* to provide an additional food source to encourage the different sub-species of coppers into the same area for study and observation.



Olearia hectori flowering. Photo: John Barkla

To aid the quick establishment of the bush habitats we are adding charcoal and compost to the soil, replicating the terra preta soils of South America. Then to ensure the permanent protection of the bush, we have lodged an application for a QEII covenant. This is currently being considered.

As loss of habitat is the main reason for insect population decline, the key to this project is the selection of plant combinations; many of New Zealand's insects rely solely on a specific host plant for their survival and therefore, at Earthlore, we are equally involved in the conservation of New Zealand's unique plant life. By planting rare and endangered species of trees and shrubs and erecting informative signage, we aim to educate people coming on the property about the plight of New Zealand's unique flora and fauna. Neither Janine nor I are entomologists. Rather, our aim at Earthlore is to create an awareness and understanding of the hugely important role played by insects in maintaining the balance of life on Earth. We realize biodiversity of both plant and animal life must be preserved to ensure our very survival and therefore support the excellent work being undertaken by the New Zealand Plant Conservation Network. We would like to take this opportunity to offer our assistance to the NZ PCN and let your members know we would welcome any suggestions for working towards our common goals. We are currently redeveloping our website to include a character called Inspector Insector. Though this is aimed at interesting children in "bugs"; the Inspector could also inform kids about fascinating plant facts, so please feel free to contact us with suggestions, facts or figures or if you are interested in learning more about what we are doing.

You are very welcome to visit Earthlore. Our physical address is:

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Threatened species in a Central Otago 'originally rare' ecosystem protected

Loralee Hyde, QEII National Trust (Lhyde@openspace.org.nz)

The QEII National Trust helps landowners to identify and protect significant natural features on their land. An open space covenant, a legal protection agreement registered on the title of the land, is the most common means of protection. In April 2009, on an outwash terrace of the Clutha River, Beau and Ann Trevathan protected a rare combination of habitats with lag gravels, saline patches, sand dunes, consolidated sands and shallow stony soils with a 4 ha QEII covenant. The area is unique to the Upper Clutha Valley with 13 nationally threatened and uncommon plants including *Leptinella* "Clutha River" and *Daucus glochidiatus* (both Nationally Critical), *Isolepis basilaris* (Nationally Endangered) and *Luzula celata*, *Raoulia monroi*, *Muehlenbeckia ephedroides* and *Convolvulus verecundus* (all Declining). The covenant also protects the habitat of nine moth species, some now nationally uncommon, and six undescribed plants.



The outwash terrace has high botanical and entomological values.
Photo: Brian Molloy

Little fern provides cryptic proof of ongoing New Zealand to Chatham Islands plant dispersal

Peter J. de Lange, Department of Conservation (pdelange@doc.govt.nz)

Hooker's spleenwort (*Asplenium hookerianum*) is not a particularly common fern on the Chatham Islands. By far the largest population the Department of Conservation knows about is one that was discovered in November 2008 along the banks of the Waipaua Stream, Pitt Island.

Hooker's spleenwort looks superficially like a smaller version of hen and chickens fern or pikopiko (*Asplenium bulbiferum* and the allied *A. gracillimum*), which is abundant on both Chatham and Pitt Islands. Aside from its size, Hooker's spleenwort differs in the absence of "chickens" – small plantlets that develop on the frond, which, if dislodged, are capable of growing, stalked pinnules – and, depending on which form of Hooker's spleenwort you have, fronds with fewer, less-divided pinnules or fronds with more finely divided pinnules. Both forms have been called different species at one time – *Asplenium hookerianum* for the less divided frond race and *A. colensoi* for the more finely divided type – but nowadays many botanists prefer to treat them as varieties or even as the one species *A. hookerianum*. As in New Zealand proper, on the Chathams both forms occur and usually grow side by side.



Hooker's spleenwort (*Asplenium hookerianum*) plants growing amongst hoho (*Pseudopanax chathamicus*) root plate with two other ferns - maidenhair fern (*Adiantum cunninghamii*) and *Rumohra adiantiformis*, Waipaua Stream, Rangiauria (Pitt Island). The plants in this image represent both the finely divided frond race sometimes known as Colenso's spleenwort (*A. colensoi* or *A. hookerianum* var. *colensoi*) and the more common less divided frond race of Hooker's spleenwort (*A. hookerianum* or *A. hookerianum* var. *hookerianum*). Peter J. de Lange

In 2007, fern researchers at Te Papa Tongarewa Museum of New Zealand asked if it might be possible to collect some fresh fronds of Hooker's spleenwort from the Chatham Islands. In a previous study (Shepherd *et al.* 2007) the researchers found that Hooker's spleenwort samples spanning the North and South Islands had 25 distinct haplotypes (meaning DNA polymorphisms that are inherited as a unit). What, they wondered, would be the situation on the Chatham Islands?

As a result of their request two fronds were collected in September 2007 by Peter de Lange (Ecosystems and Species Unit, Department of Conservation) and Peter Heenan (Allan Herbarium, Landcare Research), one each from the Tuku-a-Tamatea Nature Reserve, Chatham Island and from the Ellen Elizabeth Preece Conservation Covenant (Caravan Bush), Pitt Island. Following DNA analysis, it was found that the frond from the Tuku-a-Tamatea represented a unique "Chatham Island" haplotype that was related to those largely confined to the central and eastern North Island. The frond from Pitt Island matched haplotype Q of Shepherd *et al.* (2007), the most common and widespread haplotype in the rest of New Zealand proper. These results have just been published in the international *Journal of Biogeography* (Shepherd *et al.* 2009).

The haplotypes provide clear evidence that Hooker's spleenwort has colonised the Chatham Islands at least twice (since the 2007 collections, two new populations have been discovered and these have not yet been analysed). Though on some levels this is hardly earth shattering news – it is common knowledge that plants and animals have naturally reached New Zealand from Australia, and also the Chatham Islands from New Zealand, e.g., spur winged plover and welcome swallow, very few published studies provide some insight into the frequency of long distance dispersal (LDD). For

the Chatham Islands, we now have published evidence for within-species LDD in both Hooker's spleenwort (Shepherd *et al.* 2007) and shield fern (*Polystichum vestitum*) (Perrie *et al.* 2003), and both de Lange and Heenan are working on a revision of Cook's scurvy grass (*Lepidium oleraceum*) in which they have evidence of multiple New Zealand to Chatham Island colonisations, as well as subsequent speciation into local endemics. For the Chathams, we know that possibly as many as 50 vascular plants are unique (endemic) to the islands, which is about 12% of a total indigenous Chatham flora of about 410 taxa. Though this figure reveals the importance of the islands as a global hot spot of diversity, one feature that is frequently overlooked is the status of the remaining 360 or so taxa that are shared with New Zealand and Australia. Many of these plants, like Hooker's spleenwort, are very uncommon on the islands. Is this because they were formerly more widespread and have declined because of habitat loss, or is it because they have only recently colonised from New Zealand, or both? Currently we just don't know. It may not seem important either but what about plant and animal pests that are capable of LDD. The Chatham Islands may seem remote by world standards but if indigenous plants and animals are capable of naturally colonising it, so too can "problem children" that Chatham Islanders don't want. Studies to ascertain the levels of natural LDD colonisation using many of the plants shared between New Zealand and the Chatham Islands (including weed species) would provide a very useful guide as to the levels of LDD and subsequent genetic divergence of both native and introduced plants.

References

- Perrie, L.R.; Brownsey, P.J.; Lockhart, P.J.; Large, M.F. 2003: Morphological and genetic diversity in the New Zealand fern *Polystichum vestitum* (Dryopteridaceae), with special reference to the Chatham Islands. *New Zealand Journal of Botany* 41: 581–602.
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***Alepis* restoration**

Trevor Thompson, Riversong, Mt Bruce (forestprotectors@xtra.co.nz)

Kia ora, fellow Network members.

I thought this article might be of interest to members. I have been actively managing the only *Alepis flavida* plants known in the lower North Island; eight plants on three black beech trees in a remote part of Wairarapa called Ngahape. Of these eight plants, six were in a large beech in serious decline and the remaining two plants on trees at possible risk from being undercut and toppled by the Kaiwhata River. In 2009, these trees were protected by a life covenant plus an area of possible host trees also vulnerable to 100 year floods. A further open space covenant over a small patch of remnant forest was also made with the intention of restoration planting and establishing a relatively flood-safer area with local black beech introduced on the edges. It was also important that new populations of *A. flavida* were established in other locations.



Alepis flavida. Photo: John Barkla

In 2007, I harvested 105 seeds and succeeded in getting one new plant established at the home site and two new plants on black beech at another site getting year-round quality pest control for possums and rats. One of these subsequently suffered some invertebrate browse and, as so often happens, disease then took hold and the young plant died leaf by leaf. I have observed this many times over the last 19 years that I have worked with *Peraxilla tetrapetula* and, to a lesser extent, *Peraxilla colensoi* in the Tararua Ranges.

(We blame possums for mistletoe decline, and the lack of pollinators in forests ravaged by exotic predators, but some of our best specimen plants exist outside any Tb control area. There is much more to mistletoe decline than possums, but back to *Alepis* at Ngahape.)

Rat and possum control using pindone and protection from stock when new owners took over still saw some serious browse occur, mainly from deer, so more fencing was erected but the plants produced only a very small quantity of seed; no new plants are known from the 2008 fruiting year. In 2009, partly due to a rest from browse and probably because of a bumper year of fruit being due cyclically, over 500 seed were harvested. The trees at the Ngahape site were saturated with seed; the two sites identified as the only areas in the Wairarapa having year-round quality pest control were also given significant planting on suitable trees. Results from this year's planting are still coming in but marked seed at the Ngahape site show 30% are still attached to the host tree and have root contact with the host. Many years of planting *Peraxilla* taught me that only when four or more true leaves are present can some long-term establishment hope for the new plant be assumed.

As stated earlier, the black beech with six of the eight plants was in serious decline; on 28 August 2009, in the big winds, this tree snapped off close to the ground. On examining the trunk, there was very little sound wood holding the tree up. The big effort to protect and artificially plant every seed produced in the three years I have managed this project means all is not yet lost, one plant that produces a small amount of seed remains, with another high in the canopy that has not produced seed in the past. It will take at least six years (and quite possibly 10 years) for any of the planted seed to produce seed if no set backs occur.

As a point of interest, though *Alepis flavida* was known historically from this area, no one had ever approached local people to ask if they had seen anything unusual. If they had, the landowner could have shown them the plants 10 years earlier and we would now be in a less difficult situation. The same Ngahape property also has *Tupaia antarctica* growing on tree lucerne in the back garden and, just down the road, there is totara with plenty of *Illeostylis micranthus*, so this is heaven for a mistletoe nut like me.

Help urgently needed from members for the Network website

The Network's website has been one of its major successes but no organisation can afford to rest on its laurels. To that end, a revision and expansion of the website has been developed. We now need assistance from members in two areas:

- Volunteers to test the new website features – if you find a gap, subsequent offers to help fill it would be very gratefully accepted.
- Offers of images with which to illustrate the 'Ecosystems' section of the new website. Implicit in any offer would be that permission was given to the Network to publish the image.

Please contact the Network (info@nzpcn.org.nz) if you are willing and able to test the site and/or send ecosystem images to be used on the site.

Network plant conservation awards for 2009

The Network is now calling for nominations for its 2009 Plant Conservation Awards. The nomination form is available from the Conservation info/Awards area of the website. The awards will be made at this year's AGM to be held at the Stardome Observatory in Auckland, from 7.30 to 9.00 pm on Thursday 12 November. There are six categories: Individual, School, Community Group, Plant Nursery, Territorial Local Authority and Young Conservationist. Please send your nominations with any accompanying information by 4 November to PO Box 16-102, Wellington or email to info@nzpcn.org.nz or contact us for more information.

Network Annual General Meeting announcement for 2009

The Network's Annual General Meeting will take place in Auckland at the Stardome Observatory (Sunroom) from 7.30 pm till 9.00 pm on Thursday 12 November 2009. This meeting will include a debate entitled: "What relevance does 'ecosourcing' have for plant conservation?" Guest speakers include Wayne Bennett (Ecosourcing coordinator in the Waikato and Network Award winner), Leon Perrie (Plant Scientist at Te Papa Tongarewa) and Danielle Hancock and Chris Ferkins (Waitakere City Council) and others still to be confirmed. These presentations will be followed by a discussion regarding the setting of national standards for ecosourcing. A new national Council will be elected and the annual plant conservation awards will be presented. We hope that many Network members will be able to attend. To find the venue here is a link to the location: <http://www.stardome.org.nz/contact/locationmap.asp>

or type the following text into Google maps: "stardome observatory 670 Manukau Rd, Auckland, 1023". For more information, please contact the Network: info@nzpcn.org.nz. Please RSVP to info@nzpcn.org.nz if you will be attending the AGM (for catering purposes).

Botanical Society of Otago 2010 calendar available

Copies of the Society's 2010 calendar are now available; \$20 each or two for \$36 (please add \$2.50 for postage and packaging). For electronic payment, please email: bsot@botany.otago.ac.nz with your name and address and payment details will be sent to you. All proceeds go to the Botanical Society of Otago (www.botany.otago.ac.nz).

Lincoln Envirotown Trust native biodiversity calendar available

The 2010 native biodiversity calendar produced jointly by Lincoln Envirotown Trust and Lincoln University is now available; \$10 each. Profits go to the Trust; get you copy and help support the activities of the Trust. Copies are available from the Lincoln township library, LET caravan (Saturday mornings), Lincoln University book shop and many other outlets in Lincoln or by contacting Sue Jarvis, ph: 03 329 5858, email: sue.jarvis@lincoln.ac.nz. Only \$10.00 and such good native biodiversity info that you won't want to throw it away! See www.lincolnenvirotown.org.nz for further information.

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):

Auckland Botanical Society

Meeting: Wednesday 4 November at 7.30 p.m. a talk by Alison Wesley, titled "Wild flowers of Namaqualand" followed by a talk by Jessie Prebble titled "Wahlenbergia". **Venue:** Unitec School of Natural Sciences Gate 3, Building 023, Room 1018.

Contact: Maureen Young (email: youngmaureen@xtra.co.nz).

Field trip: Saturday 21 November to the Reserves at Mahurangi West.

Contact: Maureen Young (email: youngmaureen@xtra.co.nz).

Picnic: Saturday 5 December the End-of-year pot-luck picnic is at Tawharanui Regional Park, *Danhatchia* hunt, picnic lunch, then seaweeds at Phoenix Reef.

Contact: Maureen Young (email: youngmaureen@xtra.co.nz).

Summer camp: 9-15 January- Bannockburn Camp, Central Otago.

Contact: Maureen Young (email: youngmaureen@xtra.co.nz).

Waikato Botanical Society

Field trip: Saturday 31 October a working bee in the Threatened Plant Collection garden. Please bring gloves, old clothes and boots for weeding, planting and propagating activities. **Meet:** 9.45 a.m. at Waikato University Gate 9, Hillcrest Rd.

Contact: Liz Overdyck, ph: 07 846 0965, email: eg3@waikato.ac.nz.

Field trip: Saturday 14 and Sunday 15 November to Pureora Waihora Lagoon and Mt Pureora. If the weather's good (and if we botanize fast enough!) we should have some great views from the summit. **Meet:** at Pureora village cabins Saturday 10.30 a.m. There will be an option to head down on Friday night to stay in the park, either at the cabins or at the nearby DoC campground (no facilities).

Contact: Monica Peters for cabin/campground bookings and carpooling, ph: (office) 07 859 3725, mobile: 021 049 2036, email: monica.peters@landcare.org.nz.

Tane's Tree Trust

The Trust's 10th year conference "Managing Native Trees" will be held at Waikato University, in S Block from 18 to 20 November. A wide range of guest speakers involved. For further information

Contact: Ian Barton, ph: 09 239 2049, email: lbtrees@wc.net.nz or see the website: www.tanestrees.org.nz.

Rotorua Botanical Society

Field trip: Saturday 7 November (Sunday 8 November optional) to East Cape (revisit #3).

Meet: the car park at 7.30 a.m. or Opotiki DOC Area Office (Cnr Elliot & St John Street) at 9.15 a.m. **Grade:** medium. A bach on a QEII covenant at Whanarua available for the Saturday night for the first 6 takers only, but plenty of room for camping.

Leader: Tim Senior, ph: 0800 368 288 ext 6010 or 07 315 7371, email: tim.senior@envbop.govt.nz

Field trip: Saturday 21 November for an Okareka Mistletoe Restoration Project weed control/plant releasing work day. **Meet:** Ex Okareka store 8:45a.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

Wellington Botanical Society

Field trip: Saturday 7 November: to Matiu/Somes Island. See the results of Lower Hutt Forest and Bird's revegetation efforts since 1981. Transport: catch East by West ferry, Queens Wharf 10.00 a.m., or Days Bay 10.30 a.m. Return 3.10 p.m., or 4.25 p.m., to Queens Wharf or Days Bay. Let the leader know if you are coming, to help us make a block booking to safeguard our seats.

Leaders: Leader-in-the-field: Brent Tandy; deputy leader: Sunita Singh, ph: 04 387 9955, mobile: 027 405 2987.

Meeting: Monday 16 November talks by Phil Garnock-Jones' research students. Speakers: Benjamin Magana Rodriguez: Spatial patterns in the distribution of grassland plants - scale-occupancy relationships; Danilo Coelho de Almeida: Roles of chance and determinism in structuring ecological communities; Peter Martin: Taxonomy and phylogeography of the brown algal genus *Lessonia* around NZ and the sub-Antarctic islands; and Samantha Jamieson: Biodiversity of restored rear sand dune systems. **Venue:** Victoria University, Wellington, Lecture Theatre 101, Murphy Building, Kelburn Parade.

Field trip: Saturday 21 November to the Dench garden to carry out weeding. **Meet:** from 9.30 a.m. at 37 Lyndfield Lane, Newlands. Bring weeding tools, kneeler, gloves and food; hot drinks provided.

Co-Leaders: Arnold Dench, ph: 04 4490, and Eleanor Burton.

Nelson Botanical Society

Field trip: 23-26 October, the Labour Weekend Camp to Kaihoka Lakes-Westhaven Inlet.

Contact: Shannel Courtney email: scourtney@doc.govt.nz, for details.

Field trip: Sunday 15 November to a privately covenanted, lowland, hill country beech forest in the Wangapeka catchment.

Contact: Sally Warren ph: 03 546 6637 for details.

Canterbury Botanical Society

Meeting: Friday November 6 a talk by Hazel Chapman, Biological Sciences, Canterbury University, titled 'Nigerian Forest Research' and a student talk by Becky Bell on *Fuchsia excorticata*.
Venue: Room A5 University of Canterbury.

Show Weekend Camp 2009: 13–15 November, South-Eastern Bays, Banks Peninsula.

Contact: Gillian Giller, ph: 03 313 5315, for further information.

Summer Camp 2010: 15–22 January at the Glen Mary Ski Club, Lake Ohau.

Contact: Gillian Giller, ph: 03 313 5315, for bookings or further information.

Botanical Society of Otago

Meeting: Wednesday 14 October at 5.20 p.m. a talk by Dr David Orlovich titled "Beech forest fungi". **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 Orlovich](#), ph: 03 479 9060.

Field Trip: Saturday 7 November to Swampy Summit. **Start:** Botany car park 9.00 a.m. **Leader:** Dr David Lyttle.

Contact: [David Lyttle](#), ph: 03 454 5470.

Meeting: Wednesday 18 November at 5.20 p.m. a talk by Dr Allison Knight titled "Lichens Illustrated". **Venue:** Zoology Benham Building, 346 Great King Street, behind the Zoology car park by the Captain Cook Hotel. Use the main entrance of the Benham Building to get in and go to the Benham Seminar Room, Rm. 215, 2nd floor. Please be prompt as we have to hold the door open.

Contact: [David Orlovich](#), ph: 03 479 9060.

NZ Plant Radiation Network

Inaugural conference: 17 November 2009 at Lincoln University, Lincoln. The one-day conference will discuss evolution, systematics, phylogeny, and adaptive radiation in the New Zealand flora. A conference dinner will be held in the evening at 7.00 p.m. Cost \$65; includes lecture room hire, morning and afternoon tea, and lunch.

Workshop: 18 November 2009 at Landcare Research, Lincoln. Discuss future activities of the NZPRN, and issues and themes for future research in plant evolution, phylogeny, and systematics in New Zealand. Limited to 40 participants to encourage active discussion and participation by all present. Cost \$40; includes morning and afternoon tea, and lunch.

The registration deadline has passed but for **Enquiries:** Heidi Meudt (heidim@tepapa.govt.nz) or Claudia Voelckel (c.voelckel@massey.ac.nz).

The Island Invasives Conference

This conference is being held in Auckland, in February 2010. Registrations are now open. See: <http://www.cbb.org.nz/conferences.asp> to read the updated information and proceed to the payments page. If you are considering presentation of a paper, the deadline for abstracts is 31 August. Details about abstracts and papers are on the web page and files attached to it. Please pass this information on to as many people as possible. **Conference Manager:** Dick Veitch email: dveitch@kiwilink.co.nz.

4th National Wetland Restoration Symposium

The symposium will held in Rotorua on March 3-5, 2010. The theme is: "Wetland Management and Restoration (Freshwater and Estuarine)". **Online registration:** www.wetlandtrust.org.nz; earlybird registrations opened 1 June 2009. **Contact:** National Wetlands Symposium 2010, The Organiser, ph: 07 343 1732, email: theorganiser@RotoruaNZ.com.
