



# TRILEPIDEA

NEWSLETTER OF THE NEW ZEALAND PLANT CONSERVATION NETWORK

No. 122.

**January 2014**

**Deadline for next issue:**  
Friday 14 February 2014

## **SUBMIT AN ARTICLE TO THE NEWSLETTER**

Contributions are welcome to the newsletter at any time. The closing date for articles for each issue is approximately the 15th of each month.

Articles may be edited and used in the newsletter and/or on the website news page.

The Network will publish almost any article about plants and plant conservation with a particular focus on the plant life of New Zealand and Oceania.

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

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NEW ZEALAND

### **PLANT OF THE MONTH, p. 2** *Hymenophyllum malingii*



## **President's message**

In this first issue of *Trilepidia* for 2014, it is with great sadness that we note the passing of Dr Colin Burrows (see the obituary below). Colin was renowned for his in-depth knowledge of the indigenous vegetation and flora of Canterbury and of New Zealand, and will be greatly missed as one of the giant trees of New Zealand ecology and botany.

It is excellent to see that our Forum is rapidly developing a life of its own, with regular posts, especially regarding plant identifications. However, an issue raised over the Christmas break regarding the sale of Russell lupin (*Lupinus polyphyllus*) (see more in-depth commentary on this issue below) indicates that there is support within the Network to take a more active role in pursuing the Network's plant conservation goals. One cause that has been proactively identified by the new committee for action is the need to push for effective legislation to protect our indigenous flora.

I hope you all had a good refreshing break over Christmas and New Year. It is always a good time for a change, whether that is going away or even just a change in daily routine. We were lucky enough to go into the back-country in the South Island, into one of the major tributaries of the Rakaia River, the Mathias, near the main divide. Although the weather prevented us from accessing the tops, the riverbed provided some good opportunities for botanising. Many of the small indigenous herbs, grasses, and shrubs on the river flats were flowering. Some of the highlights were several populations of the native mint *Mentha cunninghamii* (classed as At Risk–Declining in de Lange *et al.*, 2103), *Epilobium melanoaulon*, *Parahebe decora*, and a dwarf broom (*Carmichaelia uniflora*; also classed as At Risk–Declining).



*Carmichaelia uniflora*.

Forest remnants in the upper valley are magnificent, comprising large Hall's totara, broadleaf, with *Olearia ilicifolia* often abundant on the margins, and also establishing at the base of recent shingle slides. Several *Olearia* that we saw were in full flower. However, one of the more interesting moments of the trip was when one of our party identified the "last meal" in the mouth of a recently shot deer it comprised *Mazus radicans* and *Viola cunninghamii* (both in flower), and also some *Olearia ilicifolia* leaves.



*Olearia ilicifolia* in the Mathias Valley.

There is still plenty of summer left for some more exploring. Please share your botanical finds or your plant conservation thoughts in the newsletter.

Happy botanising

Sarah Beadel

Wildland Consultants Ltd

### Reference

de Lange, P.J.; Rolfe, J.R.; Champion, P.D.; Courtney, S.P.; Heenan, P.B.; Barkla, J.W.; Cameron, E.K.; Norton, D.A.; Hitchmough, R.A. 2013: Conservation status of New Zealand indigenous vascular plants, 2012. *New Zealand Threat Classification Series 3*. Department of Conservation, Wellington. 70 p.

## PLANT OF THE MONTH – *HYMENOPHYLLUM MALINGII*



*Hymenophyllum malingii*. Photo: Jeremy Rolfe.

Plant of the month for January is *Hymenophyllum malingii* – voted plant of the year for 2013!

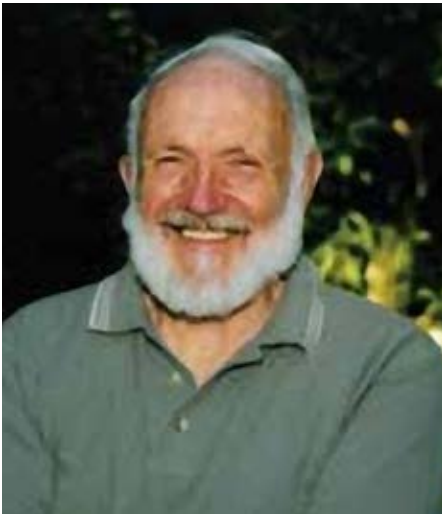
This little filmy fern is endemic to the North and South Islands from Te Moehau and Mount Pirongia south throughout the western parts of the South Island, and also around Dunedin. *Hymenophyllum malingii* is usually epiphytic, found in mountainous habitats and subalpine slopes. It forms pendulous patches, with slender, rather brittle, creeping rhizomes, usually on the dead or dying trunks of kaikawaka but also occasionally found on Hall's totara, rimu, *Halocarpus biformis*, beech trees and on moss covered rocks and cliff faces.

It is easily recognised by its preference for the trunks of dead or dying kaikawaka, its grey-white to red-brown coloured fronds and by the narrow, tubular ultimate segments of the fronds, which are densely covered in grey or red-brown stellate hairs.

You can see some great photos of this on the Network factsheet for *Hymenophyllum malingii* at: [www.nzpcn.org.nz/flora\\_details.aspx?ID=843](http://www.nzpcn.org.nz/flora_details.aspx?ID=843)

## Dr Colin Burrows, ecologist, paleoecologist, biosystematist and conservationist has passed away after a brief illness

Peter de Lange ([pjdelange@xtra.co.nz](mailto:pjdelange@xtra.co.nz))

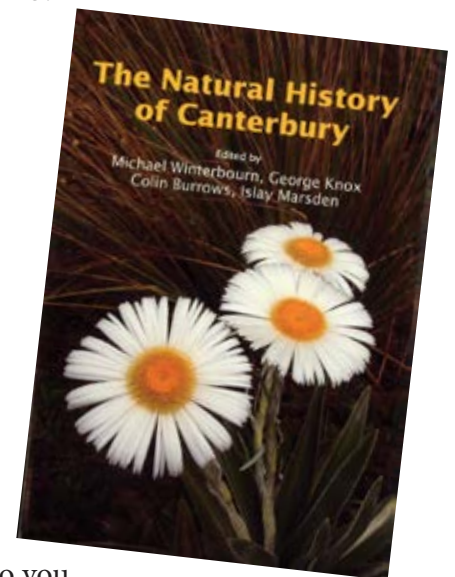


Colin Burrows first started his career undertaking an M.Sc. study on three *Pimelea* growing near the Mt Cass Field Station, Canterbury. His work resulted in the formal description of *Pimelea oreophila* and *P. pulvinaris* in one of his first papers published in 1962 in the Transactions of the Royal Society of New Zealand (Botany). Always a keen mountaineer and observer, Colin collected plants widely throughout the mountains of the eastern South Island, particularly, and always had an eye for the unusual. Despite an 'accidental' start (his words to me in 1994) into taxonomy, Colin soon switched to ecology for his PhD, from which he started his career as lecturer at the University of Canterbury in 1960 (officially retiring from there in 1993). In that position, Colin oversaw the supervision of numerous future botanists and university

academics and from there he also established himself as an expert on New Zealand Quaternary Sciences for which he was eventually awarded a D.Sc. He was renowned for his in depth knowledge of the indigenous flora and vegetation of New Zealand, for his research into alpine grasslands, wetlands, forests and glacial phenomena. He dabbled in lichens, pedology and even became an early expert on the diet of moa. He was the botanist for Arthur's Pass National Park and wrote a wide body of work on the germination behaviour of New Zealand plant species. In his later years, Colin decided to revisit *Pimelea*, a taxonomically 'tricky' genus. As a result, he added 35 new taxa to our flora though this was only after he completed a seminal work on Julius von Haast (published 2005) and helped edit the third revision of the *Natural History of Canterbury* (published 2008). In his later life, Colin received the Loder Cup (2010) of which he was immensely proud.

I first knew Colin through his pioneering work investigating the plant macrofossils preserved in peat and lake sediments. Colin proved to be an excellent mentor and sympathetic examiner of my M.Sc. into the Quaternary development and palaeoecology of the 8500 ha Kopouatai Peat Dome. Colin was always a very humble man. He was the quiet one who sat at the back and politely came up to you afterward to suggest alternatives to your scientific reasoning. He was also very old school, writing manuscripts by hand, or on a type writer, he eschewed computers, and never had email (to my knowledge). I worked with Colin briefly on *Pimelea*, during which time I was sent manuscripts that his daughter Julia had typed up; often these had maps drawn by hand and coloured in with pencil. Though we did not always see eye to eye on that difficult genus, together we described the Northland endemic *Pimelea acra* and I was able to present Colin with a range of entities, many of which he subsequently described.

During his retirement from Canterbury University, he was a major contributor to and driving force behind the Quail Island/Otamahua Ecological Restoration Trust that is working to restore the native vegetation on Quail Island in Lyttelton Harbour. The family has asked that instead of sending flowers, people make donations to the [Quail Island Restoration Trust](#).



## The mighty have yielded! A fern beats the trees to the title of New Zealand's Favourite Plant for 2013

Matt Ward, Network Council Member ([mattwardward@gmail.com](mailto:mattwardward@gmail.com))

Voting has concluded for the 2013 New Zealand's Favourite Plant and Worst Weed. From 9 to 29 December, 2013, New Zealanders from the length of the country voted for their Favourite Plant and Worst Weed. Achieving the most votes for "New Zealand's Favourite Plant in 2013" is a specialist filmy fern—*Hymenophyllum malingii*. This is the first time a fern has taken out the title.

*Hymenophyllum malingii* is an extraordinary little fern and has proven very popular with voters, most people alluding to this species' particular habit of primarily living on dying stumps of the spectacular New Zealand cedar, *Libocedrus bidwillii*, therefore making it a real privilege to find. Its popularity surely highlights the fact that New Zealanders really appreciate the delicate and specialised nature of our unique endemic native flora. Although this species is not threatened, its particular association with *Libocedrus bidwillii* makes it elusive.



*Hymenophyllum malingii* "more silver than silver fern".  
Photo: Jane Gosden

Comments from voters, when asked why they had chosen this species, included:

"This fern is more silver than silver fern!... It's part of a group of wide-ranging and often over looked delicate ferns—the Hymenophyllaceae. Simply spectacular."

"It's really a sight to behold when found covering a whole stump like a silvery carpet."

"This silvery wee beauty hangs out almost exclusively on the trunks of dead *Libocedrus bidwillii* – talk about specialised!"



*Hymenophyllum malingii*, attached to its favoured habitat, a *Libocedrus bidwillii* stump.  
Photo: Mike Thorsen

"I love this fern—it's a bit mysterious and always a thrill to find it as you don't see it everywhere! It just looks so primitive and conjures up images of prehistoric NZ to me."

"Because I find this plant extremely cute and it's important that it gets the attention that it deserves."

"Its super cool."

This filmy fern has been appreciated for its peculiarity for a very long time. In 1877, T. H. Potts (Potts, 1877) wrote at length about its habitat and habit compared with any of the other ferns near Christchurch he was describing. His notes included some interesting commentary and facts: "One of the nearest habitats of this very peculiar fern is amongst the ranges of Banks Peninsula. As, under our present system of the administration of lands, the peninsula forests will probably be exterminated at no distant date, perhaps the following notes may be worth recording. From the similarity of its varying tints and shades of greens, greys, and browns, it may be easily mistaken for a patch of lichens...its thick woolly tomentum enables it to catch and retain moisture gathered from mountain fogs and mists..."

Another admirer of the 2013 favourite plant winner, whom everyone will be familiar with, was our highly regarded botanist, Leonard Cockayne. In a letter dated January 1914 (Thomson 1979), he hoped a tin of specimens of *Hymenophyllum malingii* he had sent, reached Sir David Prain at Kew in good condition. He commented: “grows only on *Libocedrus bidwillii*, especially on dead trees...as you know, it is biologically a most remarkable fern.”

The vote for your favourite New Zealand plant has been run since the New Zealand Plant Conservation Network launched its website in 2002. Last year the threatened and iconic kauri, *Agathis australis*, won the title of favourite plant; this year it was relegated to tenth place. Often, when it comes to New Zealanders’ general knowledge of their native plants it’s iconic, bright flowered and common species that most people are familiar with and can name. This is evident with the rata family featuring heavily in the 2013 top 10.

The list of New Zealand’s top 10 Favourite Plants for 2013 was:



1. *Hymenophyllum malingii*—filmy fern.  
Photo: Jeremy Rolfe



2. *Sophora chathamica*—coastal kowhai.  
Photo: Peter de Lange



3. *Metrosideros bartlettii*—rata moehau, Bartlett’s rata.  
Photo: Peter de Lange



4. *Metrosideros excelsa*—pohutukawa.  
Photo: Jeremy Rolfe



5. *Vitex lucens*—puriri.  
Photo: Jeremy Rolfe



6. *Clianthus puniceus*—kakabeak.  
Photo: Jeremy Rolfe



7. *Rhabdothamnus solandri*—taurepo, New Zealand gloxinia.  
Photo: Jeremy Rolfe



8. *Knightia excelsa*—rewarewa.  
Photo: Jeremy Rolfe



9. *Metrosideros umbellata*—southern rata.  
Photo: John Barkla



10. *Agathis australis*—kauri.  
Photo: Jeremy Rolfe

In 2012, New Zealand’s Worst Weed was added as another category and has also proved popular. The most despised weed for 2013 is Douglas fir, *Pseudotsuga menziesii*. This species did not even feature in the top ten list of 2012. Douglas fir is renowned for its appalling trait of dispersing from forestry plantations, then wilding its way throughout many of our treasured and picturesque landscapes. It’s costly to remove, and is a problem that continues to prove difficult to completely eliminate. Left unchecked this species and the other pines, which also self-seed, will modify the landscapes into which they intrude.

The Worst Weed winner in 2012 was wandering Jew, *Tradescantia fluminensis*, which in this vote also proved to be reviled coming in at third place amongst the 50 or so nominees.

The list of New Zealand’s top 10 Worst Weeds for 2013 is:



*Pseudotsuga menziesii*, this shot shows a contrast here which is obvious and unwelcome, pull it out while it’s small!  
Photo: Mike Thorsen.



1. *Pseudotsuga menziesii*—Douglas fir.  
Photo: Colin Ogle



2. *Asparagus scandens*—climbing asparagus.  
Photo: Jeremy Rolfe



3. *Tradescantia fluminensis*—tradescantia.  
Photo: Peter de Lange



4. *Convolvulus arvensis*—convovulus.  
Photo: Mike Lusk



5. *Agapanthus praecox* subsp. *orientalis*—agapanthus.  
Photo: Jeremy Rolfe



6. *Ehrharta erecta*—veldt grass.  
Photo: Jeremy Rolfe



7. *Ulex europaeus*—gorse.  
Photo: Jeremy Rolfe



8. *Pinus radiata*—radiata pine.  
Photo: Jeremy Rolfe



9. *Ligustrum lucidum*—tree privet.  
Photo: John Barkla



10. *Hedera helix* subsp. *helix*—ivy.  
Photo: Jeremy Rolfe

1. *Pseudotsuga menziesii*—Douglas fir
2. *Asparagus scandens*—climbing asparagus
3. *Tradescantia fluminensis*—tradescantia
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6. *Ehrharta erecta*—veldt grass
7. *Ulex europaeus*—gorse
8. *Pinus radiata*—radiata pine
9. *Ligustrum lucidum*—tree privet
10. *Hedera helix* subsp. *helix*—ivy

The New Zealand Plant Conservation Network [website](#) has 27,000 images of native and weed species which you may wish have a look at and vote for this year. Any species featured on the site can be voted for including native and non-native orchids, ferns, trees, shrubs, vines, herbs, grasses, sedges, bryophytes, lichens and algae. The Network's focus is to promote and highlight the protection of threatened plants and their environs. The more information about plants we as a Network can share can only benefit people and flora in the future.

If you would like to be personally notified about the timing of the vote for the 2015 ballot, or would be interested in putting up a promotional poster in your workplace, please contact Matt Ward ([mattwardward@gmail.com](mailto:mattwardward@gmail.com))

## References

- Potts, T.H., 1877. Notes on Ferns. *Transactions and Proceedings of the Royal Society of New Zealand* 10: 359-360.  
 Thomson, A.D., 1979. Annotated summaries of letters to colleagues by the New Zealand botanist Leonard Cockayne-1. *New Zealand journal of botany* 17: 389-416.

## Recent activity on the Network Forum

The New Zealand Plant Conservation Network (NZPCN) Forum is now rapidly developing a life of its own with regular posts for plant identifications an especially popular activity. However, one issue raised over the Christmas break has highlighted the view that the Network should have a more active role in pursuing its conservation goals. One forum correspondent noted that the seeds of Russell lupin (*Lupinus polyphyllus*) were being sold at Auckland Zoo by McGregors (a seed company) as "Classic New Zealand Roadside Colour", and that this aggressive, serious threat to the New Zealand environment was being marketed 'subtly' alongside other similarly packaged indigenous plant seeds as 'native'. Concerns raised with the Auckland Zoo were spectacularly productive, with the seeds being pulled from the display immediately. Well done Auckland Zoo! It transpired that those

concerned had been fooled, they did not know Russell lupin is a pest species; they had thought that the packaging meant that they were indigenous plant seeds.

While that response resolved the initial issue, the forum trail continued with members and non-members raising a range of concerns about weed species being mistakenly profiled on clothing and in films as part of the New Zealand natural environment or—worse—proudly displayed as native species, e.g., pampas grass (*Cortaderia selloana*) on a Tee-shirt supposedly depicting the endemic grass toetoe (*Austroderia toetoe*). We all know this happens, and we all believe that in most cases it's simply a sad case of well-intentioned marketing but mistaken identity.

Sure, it may be a far fetch to push film makers into depicting only 'pure' New Zealand landscapes – a desire that smacks of ecofacism but it still seems worthwhile pointing it out. Some years ago, Network founder member John Sawyer raised the same issue with the media after watching the first instalment of the Lord of The Rings films 'Fellowship of the Ring' where he was disgusted to see Gandalf and Frodo on a horse-drawn cart wheeling their way through a mass of wandering Jew (*Tradescantia flumenensis*). He felt that Peter Jackson could have done better. {Probably he could but more likely he, too, was simply ignorant of the fact that his landscape set was being smothered by weeds.}

However, in the case of McGregors it has been suggested that this company should know better, after all they are supposedly plants people, and that the Network should be more proactive in lobbying our cause against the sale of this and other weed species, e.g., foxglove (*Digitalis purpurea*). Some correspondents feel that Network members should be encouraged to express their concerns through McGregor's website – <http://www.mcgregors.co.nz/contact-us>. Though not everyone agreed on this course of action, it does highlight the view felt by many Network members that, as an organisation, we need to be more proactive in pushing our causes – such as pushing for effective legislation protecting our flora.

In the case of Russell lupin, it seems a sensible solution that concerned members write to or visit McGregors website and express their concerns at the sale of this pest plant and foxglove, especially in the 'native' species part of the catalogue. Obviously, it's not all bad since McGregors is selling a large number of genuinely indigenous plant species' seed and this should be applauded. However, the selling of pest species, which threaten our eastern South Island dryland and riverine landscapes and are believed to be a factor in the ongoing decline of the critically endangered kaki (*Himantopus novaezelandiae*), needs to be condemned.

## **Pitt Island School and Chatham Island toetoe**

*Philip Graydon, Principal, Pitt Island School*

About four years ago the Department of Conservation and Pitt Island School started a native nursery on our school site. The department provided all the potting mix, seedling trays and PB3s and our school provide the man power to do the work and keep everything weeded and watered.

Then about three years ago, two men (*Editor's note: Network members Peter de Lange and Peter Heenan, see following article*) told me that there were only 146 Chatham Island toetoe plants in the world—most of which were in Judy and Dorse's swamp. They also told me that they were similar to mainland toetoe, but have a more wispy flower head and are a distinct species. Later they said that there were 147 plants, since we had one growing down our school driveway!

So, after the driveway plant flowered, I went with the students and gathered in the seed. I checked with Chatham DOC plant staff about what to do. They said to put them in a seed tray, with the department's potting mix and cover it in very fine gravel. From the seed tray we grew 76 toetoe plants. We planted some around the school grounds and gave the rest away to Pitt Islanders in groups of 10–15, to try to establish other sites for them.

When at the DOC Chathams office the next year, I saw another 81 toetoe that they had propagated at the department's plant nursery at Motukarara (near Christchurch). The following year we tried again, doing the same thing, but grew only another 12 plants. This year, we tried again (still from the same original plant down our drive) and grew 25 more.

We currently have about 20 Chatham Island toetoe in our school grounds, in two different sites. And just about three weeks ago (*Ed's note: late November early December*) our original crop flowered for the first time. We're most excited!

In 2013, I was awarded the Chatham Islands Conservation Award for volunteer effort towards conservation on the Chatham Islands. In 2014, I leave Pitt Island to be the principal of Runanga School (near Greymouth) so I hope that the new principal and locals can continue the good work.

## Study reveals low levels of genetic diversity in Chatham Island toetoe

Peter de Lange Department of Conservation

First published online at [www.chathams.co.nz/index.php/naturalheritage/131-study-reveals-low-levels-of-genetic-diversity-in-chatham-islands-toetoe](http://www.chathams.co.nz/index.php/naturalheritage/131-study-reveals-low-levels-of-genetic-diversity-in-chatham-islands-toetoe) 15 October 2012

A study just published in *Pacific Conservation Biology* reveals that the Chatham Island toetoe (*Austroderia turbaria*) populations have very little significant genetic variation (Houlston *et al.*, 2012). The discovery comes as somewhat of a worrying surprise to plant conservationists. Previously, without the ability to check levels of genetic variation, the Department of Conservation has taken pains to maintain Chatham and Pitt Island populations of toetoe distinct, particularly by making sure not to mix them in cultivation or in translocations on the islands. As a further measure, plants from Ocean Bay, north-west Chatham they also kept distinct because these had a different growth habit to those seen elsewhere on the Chathams.



Chatham Island toetoe.

The study used a range of DNA markers and modern DNA fingerprinting techniques to examine a range of fresh tissue samples collected from the Chathams in 2008, as well as seedlings raised at the Landcare Research campus, Lincoln, from samples provided by the Department of Conservation. The discovery suggests that either the Chatham Islands toetoe has always existed as a species with very low genetic variation or that the species' gene-pool has already been so severely fragmented that all we are left with is a residual level of genetic diversity. Available evidence suggests that both situations probably apply, though it cannot be doubted that there has been tremendous loss of toetoe habitat following the colonisation of the islands by people and this has been a key factor in the genetic erosion of the species.

Whatever the cause, rather like the Chatham Islands black robin, conservation managers now have to make the best of what they have. In this respect the good news is that, if needed, we can translocate (establish) new populations of toetoe in more secure sites without risking damaging existing populations. So, for example, if needed, we could move plants from Chatham Island to Pitt Island, or vice versa whereas, previously, as a precautionary measure, this was not done for fear of damaging those islands' gene pools of this species.

Currently, Chatham Island toetoe remains a seriously threatened plant, though its status has improved from past listings as Nationally Critical to Nationally Endangered thanks to dedicated management and protection of wild populations by islanders and the Department of Conservation.

### Reference

Houlston G.J., Dawson M.I., de Lange P.J., Heenan P.B. 2012. Using AFLP markers to inform population management of the endemic Chatham Island toetoe, *Austroderiaturbaria* (Poaceae). *Pacific Conservation Biology* 18: 33–40.



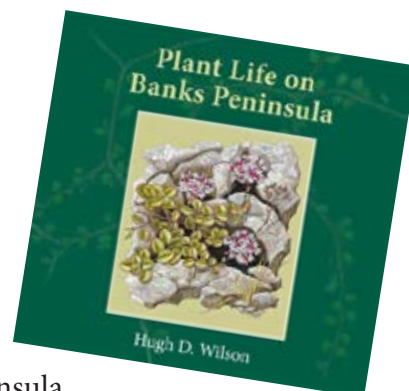
## Book review

### *Plant life on Banks Peninsula*

by Hugh Wilson (Published by Manuka Press, Cromwell, New Zealand, 2013, hardback, colour photos and drawings, 412 pages, 265 × 245 mm. ISBN 978-0-9583299-6-5. \$NZ90.00)

Murray Dawson ([dawsonm@landcareresearch.co.nz](mailto:dawsonm@landcareresearch.co.nz))

The legendary Hugh Wilson needs little introduction to botanists, conservationists, ecologists and readers of his field guides. For over 30 years, Hugh has been managing Hinewai Reserve on Banks Peninsula, Canterbury. Hinewai is a 1230 hectare reserve of regenerating native bush that is privately-owned and open to the public. Following his precursor work, *Natural history of Banks Peninsula* (Wilson, 2009), Hugh is uniquely qualified to write this more extensive offering, *Plant life on Banks Peninsula*, which focusses on plants rather than overviewing the flora and fauna in his earlier title.



As these books tell us, Banks Peninsula is a volcanic landform jutting into the Pacific on the doorstep of the South Island's largest city, Christchurch. Once forested, Banks Peninsula was stripped of nearly all its trees and much of its original wildlife by two consecutive waves of human colonisation, Polynesian and European. However, the Peninsula remains a unique, biodiverse landscape.

Publisher Manuka Press has a long association with Hugh Wilson. It previously produced his popular field guides: *Small-leaved shrubs of New Zealand* (1993), *Field guide: Stewart Island plants* (1994), and *Wild plants of Mount Cook National Park* (1996). As stated on its website, Manuka Press is a small publishing company producing books primarily with a botanical theme from a home office in the publisher's spare time. In my view, the high production values and lack of typographic errors in this latest offering puts the proofreading of some larger New Zealand natural history publishing companies to shame.

The layout of *Plant life on Banks Peninsula* really is superb and the author and publishers have opted for a larger format (dare I say coffee-table style book?) than Hugh's portable field guides. This was a great decision; each page is laid out mainly in two columns, with text on the left and drawings on the right, but with enough flexibility to display Hugh's fantastic artwork at its best. Richard Broadhead and Colin Webb of Manuka Press should be thoroughly congratulated for translating Hugh's clear (originally handwritten!) text and drawings into a near flawless work.

As opposed to a photographic account of a local flora, such as those displayed so nicely in *Plants of Pukeiti Forest* (MacKay, 2011), Hugh has prepared his own botanical drawings. Some black and white line drawings have been recycled from his earlier field guides, but the majority of his colour drawings are new. There are apparently over 500 botanical drawings, of which over 160 are in colour. To my admittedly untrained eye, the quality of Hugh's artwork seems at least as good as Audrey Eagle's (e.g., Eagle, 2006, 2013). Hugh displays a rare talent as an artist and botanical writer – it is an amazing achievement to have produced so much original artwork, especially for this book, and to have written an extensive text for it, while also being fully committed to the management of Hinewai Reserve. Over 60 photographs are also included, taken by Hugh and those contributing images to the book.

I recognise some of the introductory chapters from *Natural history of Banks Peninsula*, expanded for this current work and entirely appropriate as a similar story needs to be told—the eyewitness accounts of fires and chronological figures (3.1–3.5) of deforestation are particularly sobering. Likewise, species distribution maps and checklists have been adapted from the earlier title and located towards the rear of *Plant life on Banks Peninsula*. The addition of ticks in these checklists shows which species are illustrated compared with a total vascular flora of >1100 species, more or less equally divided between native and naturalised, to be found on Banks Peninsula.

After the first 47 introductory pages covering natural history (e.g., Banks Peninsula past and present, human influences, altitude, climate, rainfall and soils), the main body of the book profiles species groups arranged by chapter (pp. 48–338). This arrangement works well; there are the usual groupings you would expect (e.g., trees, shrubs, climbers, ferns, grasses, rushes and sedges, native orchids), and also some less orthodox groupings that nevertheless make sense for Banks Peninsula (e.g., chapters entitled “Gaudy succulents from Mediterranean climates”, “Plants on rock outcrops – bastions of biodiversity”, “Nowhere else—endemic to Banks Peninsula”). Cryptogams, the non-vascular plants including mosses, liverworts, lichens and fungi, are not overlooked and have a chapter dedicated to them.

It’s great to see inclusion (in a chapter entitled “Rare, going, gone”) of the rediscovery in February 2012 of *Pittosporum obcordatum* on Banks Peninsula, after a gap of 170 years (p. 314). *Piptochaetium depressum* (Chilean rice grass), a new grass weed for New Zealand, found at Camp Bay on Banks Peninsula, is also listed (p. 372). Discoveries and rediscoveries such as these on Banks Peninsula are documented by Hugh Wilson in a recent *New Zealand Botanical Society Newsletter* article (June 2013, No. 112, pp. 18–20).

Text at the beginning of each chapter makes for fascinating, and at times entertaining, introductions to the species entries that follow. Species are numbered according to their order of appearance, with naturalised species prefixed by asterisks. Species are followed by their family name in brackets. Meanings of the binomials are usefully provided underneath, first for the genus and, on the next line down, for the species (and indented to line up with the species epithet). Common and Māori names are right justified. Underneath these names are concise botanical descriptions followed by a paragraph (in smaller font) on habitat and distribution notes of each species found on Banks Peninsula. This is much the same style as Hugh’s field guides (Wilson, 1994, 1996). Some botanical names used follow a conservative taxonomic approach (e.g., *Hebe* instead of *Veronica*, and some older genus names for the orchids); the alternative names are provided in brackets.

I have always considered that descriptions are notoriously difficult to present in a popular work—they need to be technical enough to accurately describe a species, but simple enough to be understood by the majority of readers. Hugh achieves this balance brilliantly and seemingly effortlessly. Hugh’s descriptions are never dry and his clear and easy writing style always presents the information needed.

Differences between similar species are explained clearly and concisely throughout and demonstrate Hugh’s remarkable knowledge of the local (and wider) flora. For example, I took a recent photograph of a poroporo in flower at Hinewai. Hugh’s book explains that two very similar species occur on Banks Peninsula—*Solanum aviculare* and *S. laciniatum*. He clearly explains and illustrates the floral differences that distinguish them—*S. aviculare* has smaller flowers that are a paler blue, and star shaped, with pointed petals, whereas *S. laciniatum* has bright purple blue flowers that appear frilled and are notched at the top of each petal (p. 91).

Similarly, I have photographed a *Parsonsia* (a native jasmine) growing at Orton Bradley Park on Banks Peninsula. Due to leaf variability and lack of flowers, I was not confident to assign it to a species. Hugh’s book confirms that both *P. capsularis* and *P. heterophylla* grow on Banks Peninsula, and “Although highly variable in leaf shape nationwide” he reassures us that “*Parsonsia capsularis* differs from *P. heterophylla* on Banks Peninsula in the very narrow ... wavy-edged adult foliage...”. He then clearly illustrates these differences by colour drawings (p. 105).

The concluding chapters present plant distribution patterns and maps (pp. 339–348), checklists of plants (native and naturalised vascular plants, and hybrids; pp. 349–380), a reference list focussed on Banks Peninsula literature (pp. 381–382), glossary (pp. 383–388), and an index of botanical, Māori, and common names (pp. 389–411).

Hugh's previous field guides to Stewart Island and Mount Cook are regularly used by people identifying native and naturalised plants from other regions in New Zealand because the majority of species treated are not confined to the regions in the guides. The same is true for the Banks Peninsula flora, so this new book has wider utility.

This excellent book is a rare fusion of science, art, clear writing style, and flawless layout. Moreover, *Plant life on Banks Peninsula* provides an indispensable guide to appreciate the special plants of the peninsula adjacent to the “car infested swamp” of Christchurch that “invades the lower spurs of the Port Hills” – to use Hugh's sentiments – and the flora beyond.

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## Sole Chatham Islands endemic lichen discovered on south Otago Coastline

Peter J. de Lange, Department of Conservation

Despite a remarkable level of endemism in the Chatham Islands vascular plant flora (e.g., clubmosses, whisk ferns, ferns, and flowering plants) (de Lange *et al.*, 2011), the islands have virtually no endemic non-vascular plants (e.g., hornworts, liverworts, mosses) (de Lange *et al.*, 2008). Currently, botanists accept one endemic species of moss (*Macromitrium ramsayae*) and one endemic variety of liverwort (*Plagiochila arbuscula* var. *rekohuensis*) (de Lange, 2011a). The taxonomic status of the moss is currently under review and it seems likely that this species will at some stage be relegated to the synonym of another widespread New Zealand *Macromitrium* (A.J. Fife, pers. comm.).



*Caloplaca maculata*, collected from type locality, south of Waitangi Wharf, Chatham Islands.  
Photo: Allison Knight.



Rock outcrop at mouth of Akatore River—New Zealand location for *Caloplaca maculata*.  
Photo: Ulrik Søchting.



*Caloplaca maculata* growing on rock ledge, Akatore River mouth.  
Photo: Ulrik Søchting.

The Chathams have at least five endemic fungi (Johnston & Beaver, 2008). Then, of course, fungi are not plants though botanists have often (incorrectly) regarded them as such. A special group of fungi are lichens and these too have often been treated by botanists as plants. Strictly speaking, lichens are fungi which have formed a symbiosis (relationship) with green or blue green alga (“plants”)—to make this distinction mycologists often call them lichenized fungi. The mycobiota (fungi and lichens) of the Chathams is still very poorly known. Nevertheless, aside from the five endemic fungi, one lichen, *Caloplaca maculata*, discovered by New Zealand botanist Peter Johnson, just south of the Waitangi Wharf, Chatham Island has been regarded as endemic to the islands.

Last summer, Dr Ulrik Søchting of Copenhagen, Denmark, a world expert on the lichen genus *Caloplaca*, was visiting New Zealand. Although keen to visit the Chatham Islands, because of time commitments and budget constraints, Ulrik was unable to do so. Nevertheless he examined specimens of *Caloplaca maculata* held by the Auckland Museum Herbarium and agreed that it was a distinct species.

During Ulrik's visit, he had intended to explore a portion of the Otago coastline, an area rich in lichens, and especially *Caloplaca*. Accompanying him on that field trip was Dr Allison Knight (a lichenologist based in Dunedin). Whilst wandering near the mouth of the Akatore River, Allison noticed a *Caloplaca* growing on a rock overhang, and this, much to Ulrik's surprise, turned out to be *Caloplaca maculata*.

Thus, for now at least, the Chathams no longer have an endemic lichen. What is remarkable though is that with the Akatore River mouth being so accessible to Dunedin it is perhaps one of the most intensively explored portions of the Otago coastline by lichenologists. It's truly amazing that no one has hitherto recognised *Caloplaca maculata* from there.

As for the Chathams, though lichens remain poorly known (de Lange, 2011b), it is interesting how many lichens were first described from there only to be found back in mainland New Zealand. Also, being such an isolated island group, with such a high level of vascular plant endemism, one assumes that, at some stage, the islands will prove to have a range of endemic non-vascular plants as well. Only time, dedicated collecting and expert attention will tell.

### Acknowledgements

I thank Drs Ulrik Søchting and Allison Knight for passing on the news of their discovery, and Ulrik for allowing the use of his images.

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## UPCOMING EVENTS

If you have important events or news that you would like publicised via this newsletter please email the Network ([events@nzpcn.org.nz](mailto:events@nzpcn.org.nz)):

### National Wetland Restoration Symposium 2014 – “Wetlands and Water - From Droughts to Storms”

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**Auckland 12–14 February:** Registrations close on Waitangi Day, Thursday 6 February 2014.

**Registration details and draft programme:** [www.wetlandtrust.org.nz/symposia.html](http://www.wetlandtrust.org.nz/symposia.html)

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### Auckland Botanical Society

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**Field trip:** Saturday 15 February to Saddle Island, Mahurangi.

**Leader/Contact:** Ewan Cameron.

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## Rotorua Botanical Society

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**Field trip:** Sunday 2 February to Umurua Scenic Reserve and Lake Rotohokahoka, Mamaku Plateau. **Meet:** the car park Rotorua 8.30 a.m. or 9.00 a.m. at Mamaku School (South Road). **Grade:** easy to medium.

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**Leader:** John Hobbs, ph: 07 348 6620, email: [jffhobbs@clear.net.nz](mailto:jffhobbs@clear.net.nz)

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## Wellington Botanical Society

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**Field trip:** Saturday 15 February to East Harbour Regional Park. **Meet:** 9.45 a.m. on Muritai Rd, Eastbourne, just South of Titoki St.

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**Co-Leaders:** Chris Horne, ph: 04 475 7025; and Barbara Mitcalfe, ph: 04 475 7149.

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**Meeting:** Monday 17 February 2014 at 7.30 p.m. for a talk by Carol West of the Department of Conservation titled 'What the new DOC means for conservation'.

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**Venue:** VUW Lecture Theatre M101, Murphy Building ground floor, west side of Kelburn Parade.

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## Nelson Botanical Society

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**Field trip:** Friday 31 January to Monday 3 February for the Anniversary Weekend camp at Pedallers' Rest, Waima Valley, South Marlborough.

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**Register:** with Cathy Jones, ph: 03 546 9499, email: [cathy.jones@xtra.co.nz](mailto:cathy.jones@xtra.co.nz) by 24 January.

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**Field trip:** Sunday 16 February to Staircase Rd, Mt Patriarch, Mt Richmond Forest Park.

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**Leader:** Cathy Jones, ph: 03 546 9499, email: [cathy.jones@xtra.co.nz](mailto:cathy.jones@xtra.co.nz)

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## Canterbury Botanical Society

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**Meeting:** Friday 31 January at 7.30 p.m. for a talk by Elise Arnst about native and exotic plants at Birdlings Flat. **Venue:** Room P7, High School Block, Dovedale Campus (College of Education) (Note change of venue)

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**Contact:** Gillian Giller, ph: 03 313 5315, email: [ggillerma1@actrix.gen.nz](mailto:ggillerma1@actrix.gen.nz).

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**Field trip:** Thursday 13 to Sunday 16 February for the summer camp at Charleston. **Accommodation:** cabins have been blocked booked (\$26/adult/night; see <http://charlestonmotorcamp.yolasite.com/>), please contact Alice; for a motel, book directly: <http://www.charlestonmotel.co.nz/>.

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**Further information:** Alice Shanks, ph: 03 337 1256, email: [Ashanks@openspace.org.nz](mailto:Ashanks@openspace.org.nz)

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## Botanical Society of Otago

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**Meeting:** Wednesday 19 February at 5.20 p.m. for a talk by Ulf Molau, University of Gothenburg. **Title:** 'Climate Change: Impacts on Plants and Ecosystems in the Arctic'

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**Venue:** Benham Lecture Theatre, room 215, second floor, Zoology Department, 346 Great King Street; entry at the back of the Zoology car park.

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**Field trip:** Saturday 22 February Trip to Omaui, Invercargill. Meet: at 7.30 a.m. at the Botany Department car park. Leader: Brian Rance.

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**Contact:** in order to arrange transport, please contact David Lyttle, ph: 03 454 5470, email: [djlyttle@ihug.co.nz](mailto:djlyttle@ihug.co.nz)

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