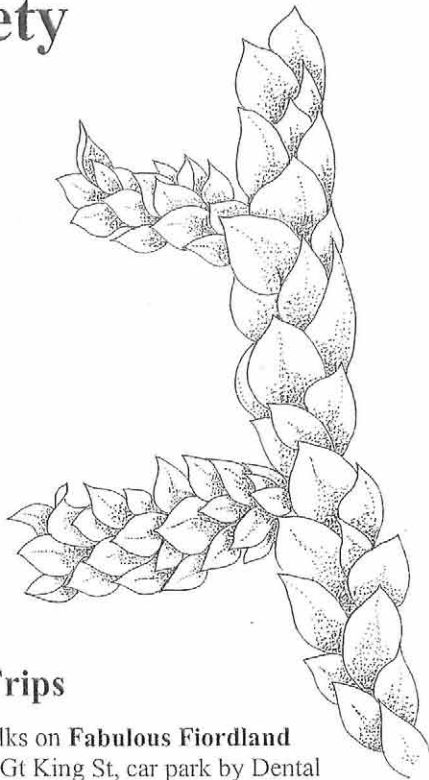


# Botanical Society of Otago Newsletter.

Number 27  
June-July 2001



## BSO Meetings and Field Trips

- 27<sup>th</sup> June, Wed, 7 pm.** Kelvin Lloyd talks on **Fabulous Fiordland**  
Seminar room, Zoology Annexe, Gt King St, car park by Dental School. Side door behind the Glassblowing Unit. Supper.
- 30<sup>th</sup> June, Sat. 12.30 pm.** Field trip to **Wairongoa Springs**. Austen Banks will give us a tour of this historic holding on the Taieri Plains, once the basis of the Thomson bottled drinks empire, and now preserved under a Q.E.II covenant. The covenant includes extensive plantings from early settlement days, including one of the largest groves of kauri in the South Island. Meet at the Botany carpark, 464 Gt King St at 12.30 pm to car pool, or at Wairongoa at 1pm.
- 21<sup>st</sup> July, Sat. 1.30 pm.** Trip led by Tom Myers. Tour of the **propagation area of the Botanic Garden**, plus a look at the **International Seed Exchange and the Garden Database**. Meet at the Botanic Gardens Visitor Centre, Lovelock Ave.
- 25<sup>th</sup> July, Wed, 12 noon.** Combined BSO/ Otago University Botany Dept seminar. Neill Simpson will talk and show slides on **Alpine and other spectacular plants from Chile and Argentina**. Union St Lecture theatre, upstairs, corner of Union St. West & Gt King St. There will be an opportunity for BSO members to go out to lunch with Neill afterwards.

Contact details for any enquiries are inside the back page

## Notes from Head Office

We are now an officially constituted Botanical Society of Otago, but our botanists have broad horizons and in this newsletter the botany is more out of Otago than in it. There is a strong South American theme over the next few months, with Barbara Anderson's plant profile and article, followed by Neill Simpson's not-to-be missed slides and talk. Ripples continue to spread from South African professor William Bond's work feeding divaricating plants to emus, which received NZPA coverage recently. We review Matt McGlone's exploration of past and future botanical scenarios. Other botanists continue to delve into the supernatural niches of elves, goblins and gremlins. (see Letters section). Last summer's field trip with the Wellington Botanical Society was in Fiordland, next summer it will be based in Twizel, but we are having some very interesting local field trips in between. It's wonderful to see the botanical interest ranging so far and wide.

*Bastow and Allison*

## Red sticker means subscription due!!

If there is a red sticker on your copy of this newsletter it means that your subscription for 2001 is overdue. If you are the secretary of a Botanical or other society with overlapping interests, we would appreciate being put on your mailing list and receiving copies of your newsletter and/or trip lists in exchange for ours. Whichever category, please fill out and return the membership form inside the last page to let us know that you wish to continue receiving our newsletter.

## Join the BSO and save money!

See the Books section for details of the 20% discount that Manaaki Whenua Press give to members of Botanical Societies.

*David Orlovich*  
*BSO treasurer.*

## Cover picture

*Lembophyllum divulgum*, microscopic detail drawn by **Inge Andrew**. Look out for a plant profile of this locally occurring moss in a future edition.

## Logo competition

BSO is holding a competition to design a logo that could be used on letterheads, posters etc. Send entries c/- Botany Dept, Otago University, Box 56, Dunedin, by 30 July.

# LETTERS TO THE EDITOR

## Request for dandelion-like specimens.

The plant genera I am mostly interested in are the genera of the **Lactuceae** introduced to New Zealand from Europe. More specifically: *Crepis*, *Hieracium*, *Leontodon*, *Picris* and *Tragopogon*.

Especially in *Hieracium* there are thousands of European (micro-)species, but so far only ten have been reported for New Zealand.

In *Leontodon* there are two species [*L. autumnalis* and *L. saxatilis* (= *L. taraxacoides*)] currently known in New Zealand. *L. hispidus* has formerly also been reported for NZ but all existing vouchers belong to other species. However, as *L. hispidus* is a very common plant in many parts of Europe and also occurs in Britain, it could be growing somewhere in NZ (especially in limestone areas) but might have been overlooked due to its superficial similarity to *L. saxatilis*.

So, I would be interested in vouchers of any "suspicious" *Hieracium* and *Leontodon* species from anywhere in NZ.

*Christian Zidorn*

email: [zidornc@crop.cri.nz](mailto:zidornc@crop.cri.nz) (My Crop & Food address will be active only until the end of June.)

My Austrian e-mail address is: [Christian.H.Zidorn@uibk.ac.at](mailto:Christian.H.Zidorn@uibk.ac.at)

Postal address:

Dr. Christian Zidorn  
Institute of Pharmacy  
Dept. of Pharmacognosy  
Innrain 52  
A-6020 Innsbruck  
Austria/Europe

Picture of *Leontodon hispidus* (rough hawkbit) from:  
The illustrated Flora of Britain and Northern Europe (1989)



Rough Hawkbit

## **The Great Drought of Summer 2000-2001 – request for observations**

As inhabitants of the eastern sides of both main islands know all too well, this summer is continuing to be one of the driest on record, and one hears many stories of death and damage to plants, native and introduced, wild and cultivated. There is little doubt that the current drought is one of those extreme events, with ecological effects that are likely to persist long after the rains return. Too often, the evidence is noted but seldom put on permanent record.

I'd like to remedy this by suggesting that any observations that you have made be communicated to a central repository. At least in the interim, until such a repository can be formally established, I am willing to act in this capacity. Therefore, I undertake to archive and make available any notes and observations that you wish to place on record. You could do this either by e-mail ([wardlep@landcare.cri.nz](mailto:wardlep@landcare.cri.nz)) or writing to me at Landcare research, PO Box 69, Lincoln.

*Peter Wardle*

## **Supernatural Beings in Forests**

### **Correction and apology**

In der letzten Ausgabe, habe ich gesagt, daß Eug. Warming ein Deutscher war. Peter Bannister erzählt mir, daß ich falsch war. Er war aus Daenemark, das, ich werde erzählt, ein völlig anderes Land ist. Ich entschuldige mich.

*J. Bastow Wilson.*

### **Elveskov : Correction and apology – reply**

Undskyldning accepteret

*Peter Bannister*

(For those who don't read foreign languages, Bastow has rubbed salt in the wound and apologised in German for having inadvertently described Warming, a Danish ecologist, as German. Peter has again attempted to redress the balance by accepting Bastow's apology in Danish – *Ed.*)

## Re: Newsletter 26 Supernatural beings in forest, pp 6-8

I greatly enjoyed the article by J. Bastow Wilson on supernatural beings in forests. But gremlins appear to have interfered with the interpretation provided regarding goblin forest.

Goblin forest on Mt Taranaki (Egmont) is a vegetation type not a place.

Cockayne (1928) referred to it thus:

“On Mt Egmont kamahi forest is so striking that it has received the popular and expressive name of “Goblin Forest”. It occurs as a distinct belt from the neighbourhood of Dawson Falls to North Egmont house and it probably extends right around the mountain.”

If this quote is insufficient, Cockayne’s full intent can be garnered from his 29 June 1917 field notes (MS 74 in the Auckland Institute and museum). In these notes he variously records:

P4 “*Weinmannia* branches from near the bases so that there are numerous, slightly leaning trunk-branches. As one ascends the forest gets more “goblin-like”: the branches are much mossed.”

P5 “The forest here is of the “Goblin type” but not nearly such far-spreading branches as noted near Dawson Falls.”

P5 As one proceeds the forest gets still more of the “goblin” character, the branches spreading more like extended arches”.

From the above, it is evident that Cockayne was reflecting the Taranaki usage of the term goblin forest in relation to a vegetation type not a place. This interpretation is also the one I followed in “Vegetation of Egmont National Park” (1986) and John Dawson (1988), in his book “Forest vines to snow tussocks,” uses it in relation to beech forest of similar structure and physiognomy.

If I recall correctly, others have also used the term goblin forest, for example, Greta Stevenson, in describing the high altitude kamahi-dominated forest on Hauhungatahi in the central North Island.

The term goblin forest although not as widely used as elfin forest, cloud forest, mossy forest or elfin woodland does then have a place in ecology.

*Bruce Clarkson, Waikato*

## Cockayne & the Mt Egmont ‘Goblin Forest’ – Reply

I am grateful to Dr Clarkson for enlivening and informing this discussion. He gives, in full, Cockayne’s published (1928) comment on ‘Goblin forest’ to which I referred in my article. It is clear that Cockayne is referring to a locality, not to a botanical type of forest since:

- a. Cockayne says ‘On Mt Egmont kamahi forest is so striking that it has received the popular and expressive name of “Goblin Forest”’ [following Clarkson’s transcription]. The ‘it’ clearly refers to the forest on Mt Egmont, so it is only the forest at the Mt Egmont locality that is being thus named.
- b. He uses a capital for Goblin. Locality names have capitals; forest types (like elfin forest) do not.
- c. Had Cockayne intended to coin a new forest-type name, he would certainly have made explicit that he was doing so, and he would have given a definition, however brief.

I do not believe there can be any doubt but that in this sentence from *The vegetation of New Zealand* Cockayne was mentioning a vernacular locality name, not coining the name of a new forest type. Bruce Clarkson has corrected me to make it clear that the first published misunderstanding of Cockayne was his in 1986, not John Dawson’s in 1988, and I thank him for that. It would be an interesting exercise in the sociology of science to follow the spread of this error.

I am afraid that I have not read Cockayne’s field notes. I assume that the trip described was to Mt Egmont (Dr Clarkson does not say). If so, the reference still seems to be to the vegetation of the ‘Goblin forest’ locality. This interpretation is reinforced by the intermittent capitals and by the quotation marks. If these notes are indeed from Mt Egmont, and there are no references to goblin forest elsewhere, this interpretation seems certain. In any case, Cockayne ensured there was no ambiguity when he published on the topic some years later. He did not describe any goblin forest type. Leonard Cockayne was an intelligent and widely-respected ecologist, and I am surprised that Bruce should think he would make such a mistake. (Unlike me: see separate apology.)

*J. Bastow Wilson, Otago*



‘Goblin-faced’ tree, Western Australia. *Photo by Peter Bannister*

## ARTICLES

### On South American and New Zealand Rainforests

By Barbara Anderson

Since I arrived in Concepción in November, Chris Lusk (a N.Z. expatriate who has been living in Chile for 8 years) and I have been discussing whether the Chilean forests are similar to New Zealand forests.

A question like this is always problematic because it depends how similar is 'similar', and similar in what way. Here lies the crux of the problem: while Chris is a forest ecophysiologicalist (though he doesn't like the title and prefers to be called an ecologist who looks at physiological aspects of forest species) I am merely an interloper in forest ecosystems – a passive observer. So our opinions come from different points of view. Still, who is more correct?

The first thing I noticed upon entering a piece of Valdivian rainforest (a type of humid cool-temperate southern forest) was that everything seemed so familiar. It wasn't at all like when I visited oak and hazel forests in Europe, where I could never quite get over the feeling that it wasn't a real forest. In Europe, the forests just seemed to be too full of 'exotics'. Even the understorey had blueberries, or bilberries as Bastow kept reminding me, and violets and other exotic garden species.

But I diverge. This Valdivian rainforest felt to me like a real forest should feel – I felt quite at home. It wasn't New Zealand rainforest – in my mind, when I recall New Zealand rainforest it always looks like a small piece of forest from the Catlins, or maybe somewhere near Haast. This wasn't that piece of forest! But it felt somehow related, though not exactly the same forest – like the first time I visited a North Island forest. Of course when I looked more closely, I recognised hardly any of the species, but I soon realised that I could guess most of the genera. The mosses and liverworts looked the same; there were ferns and filmy ferns; there were tall podocarps and beech trees – not those northern beeches mind but real *Nothofagus* beech trees; there was something that looked like *Aristotelia* and a tree I was sure was a *Weinmannia* and the ground was covered with beech litter.

And then I stumbled into a BAMBOO thicket!!! Dense, tall and completely bamboo, Chris says the light extinction at ground level is almost 100%, and I believe him because the bamboo is so thick even my most valiant attempts to bash through it were soundly rebuffed. Nor did I even attempt to crawl through it, and, as it was at least twice as tall as me, I couldn't climb over it. I began to suspect that Chris was right! There was nothing like this bamboo in New Zealand!!

Here the bamboo (quila or colihue pronounced key-la and co-lee-way) fills in the forest gaps, and although they all look the same to me there are different species. Whenever a tree falls in this forest, even if there's no one else to hear it, the bamboo hears it and comes running, quickly taking over, covering the floor and crowding out any other

pretenders to the throne. There it stays and grows and spreads, shading and blocking out everything else, until finally a bamboo mast year arrives, maybe once in 20 years and then all the bamboo shoots flower and die. In this short respite, if the shrubs and trees can reach above bamboo height before the bamboo returns they can take their turn in the gap – otherwise they must wait for the next bamboo mast year. (Technically it's not actually a mast year as bamboo are monocarpic so they only flower once, then die, but when they do reproduce they do it synchronously so if you are used to thinking about mast years, like I am, it seems like a mast year).

But Chris was looking for ecological equivalents, things which played the same role in the ecosystem functioning, and here he swapped sides and remarked that actually in New Zealand the tree ferns, although they don't mast, do spread clonally, sending up shoots from rhizomes and taking over gaps just as the bamboo does here.

No, according to Chris the main difference in South America is not the bamboo but the *Nothofagus*!! In New Zealand, the *Nothofagus* species are never emergent, it's the podocarps that are emergent. But here as we sat across the road drinking coffee and looking up at the Valdivian Rainforest it was clearly *Nothofagus dombeyi* (coihue pronounced coy-way) that stood with its crown far above even the tallest podocarp. So what had I to say to this? Well I wish I could say an immediate and insightful response came to mind – but it didn't. Maybe here the podocarps were acting like *Nothofagus* and *Nothofagus* was acting like a podocarp - But I don't really believe it because the podocarps still live longer, and they still look like Podocarps. Just as the *Nothofagus* still looked distinctly like a *Nothofagus*. They were just acting a different role in Chile to the one they play in New Zealand.

So I guess that it depends how you look at the forest. Based on family associations (phylogenetically) there are many similarities. According to my book (Hoffman 1997), in the Valdivian rainforest the most common tree species are *Nothofagus obliqua* (roble), *N. dombeyi*, *N. pumilio* (lenga), *Aetoxicom punctatum* (olivillo), *Laurelia sempervirens* (laurel), *Weinmannia trichosperma* (tineo) and mañío which includes most of the common Podocarps: *Podocarpus nubigena*, *P. saligna* and *Saxe-gothea conspicua*. Except for the *Aetoxicom* and the *Laurelia*, all are instantly recognisable. There are species in the Myrtaceae, Eleocarpaceae (*Aristotelia chilensis*) and Winteraceae (*Drimys winteri*).

There are not so many ferns as in New Zealand but those that are there are instantly recognisable: the most common fern species being *Lophosoria quadripinnata*, *Blechnum chilense* and *Hymenophyllum* spp.

In the shrubs (los arbustos), the most striking omission is almost all those species which would belong in the Chilean equivalent of Hugh Wilson's small shrubs of New Zealand book: the coprosmas, and *Coprosma* look-a-likes such as *Neomyrtus pedunculata* that at some stage frustrate every New Zealand botanist. In Chile they have the bamboo and a few shrubs, including the nasty spined calafate (cal-la-fa-te) and other *Berberis* spp. and of course they have the *Fuchsia* we know as a garden escape, *Fuchsia magellanica*, and



many *Solanum* species. For climbers, there is the bright red flowered copihue (co-pee-way) or *Lapageria rosea* and there are two species of lantern berry (*Luzuriaga radicans* and *L. polyphylla*): one with orange berries and one with yellow.

So in brief the debate goes:

“They look the same”.

“But they act differently”.

“But they look the same, AND they have almost the same species in them”.

“But they don’t act the same way”.

“But they look the same”

*(The views attributed to Chris Lusk are as interpreted by the author. Chris will express his own views in the next issue – Ed.)*

## Searching for Merry Hill – by Jennifer Bannister

Anyone who has looked at old herbarium packets or sheets, will have had problems with determining the location of some specimens. First of all, the handwriting might be difficult to read, but the greater problem is with place names. Sometimes a region is given as well, sometimes only a region is given ('Hawkes Bay' alone is not very helpful) but often no region is given. Problems can arise when names are no longer used (e.g., Pelichet Bay in Dunedin) or have been used in many different parts of the country (e.g., the New Zealand Atlas has more than a dozen entries for Mount Misery). A local name may never have been gazetted and may even be no longer be used by local people. In the Dunedin area, one lichen packet from the 1930's had Boyd's Bush as a location, I could find no reference to this but the packet helpfully had 'North Taieri' on it. I still could not find Boyd's Bush, but was told by a local historian that there had been a Boyd's farm in the area and I assume the bush belonged to this farm. Further problems arise when the name is from another part of the country.

Recently, in a loan from the Landcare Herbarium at Lincoln (CHR), a packet had the intriguing place name of Merry Hill, luckily it added 'near Feilding'. The packet contained a lichen called *Ramalina allanii*, named for Dr H. H. Allan. He had collected it at Merry Hill in the 1930's and then sent it to Europe for identification. It was made the type specimen of a new species, *Ramalina allanii*, however this lichen had already been named as *Ramalina australiensis*. I searched for Merry Hill but was unable to find it in any gazetteer. If the lichen had been *Ramalina celsatri*, which is widely distributed throughout New Zealand, I probably would not have tried to find the site, but *R australiensis* is found mainly on coastal rocks and nearby coastal forest in the north and north east of the North Island. Feilding appeared to be a highly unlikely site, although there is a disjunct population in Wellington Harbour.

I wanted to locate Merry Hill and see if I could find the lichen. My husband suggested that I should write to the local paper. The Otago Daily Times helpfully provided me with the name and address of the Feilding Herald and Rangitikei Mail, and I wrote a

letter, which they printed. Several people contacted me and I learnt that Merry Hill had been the name of a farm on the outskirts of Feilding. The grandson of the owner in the early part of the last century wrote to me and said the farm had been named after his grandmother, other people wrote and said they had played there as children, and one man had spread fertiliser on the farm in the 1930's. Dr H. H. Allan's connection with Merry Hill was that he had taught at the Feilding Agricultural High School and the school leased the farm for agricultural studies. One correspondent remembered being taught by him.

We were planning to visit the North Island and decided to look for the lichen now that we knew the location of Merry Hill. This was made possible by one of my contacts finding out who owned the land and arranging for us to be shown the bush on the farm, no longer called Merry Hill. It is at the back of what is now a deer farm and is not visible from the road. The bush must have changed greatly since Dr Allan collected lichens there. Part of the bush area was lost when the railway line was realigned and there has been a loss of understorey and herb layer through deer grazing and sheltering there. I could not find the lichen, so although I found Merry Hill I am still left with a problem --- why was *Ramalina australiensis* growing in bush near Feilding?

An intriguing possibility is that this is an old coastal forest as, during the Pleistocene period, the sea reached much further inland in this part of the North Island. Subsequently, falling sea levels formed new coastlines. Is this the reason *Ramalina australiensis* was found here, left behind in forest once growing on an ancient coastline? Or is this idea too fanciful, like the feeding patterns of Moa contributing to the evolution of divaricating shrubs?

## REVIEWS

### Divarication Debate – The Climate Perspective

*Review by Allison Knight*

Matt McGlone, a senior Landcare scientist, is the Royal Society of New Zealand's Cockayne Memorial Lecturer for 2001. He talked to an audience of nearly 200 in Dunedin this May, on '**Reconstructing the future: Past and present influences on the vegetation cover of New Zealand and future trajectories**'. His topic raised great expectations of an interesting debate, but there was never a mention of a moa. It was as if their influence as a dominant browsing species was irrelevant to the vegetation. Perhaps Matt was ducking for cover after William Bond's onslaught.

Apart from this notable omission, Dr McGlone gave a fascinating and thought-provoking address, extrapolating from his considerable body of work as a palaeo-ecologist. One cubic centimetre of sediment, he said, contains millions of pollen grains, and from identifying these grains, and estimating their relative prevalence over

geological time, changes in the vegetation cover, and in the climate, can be inferred. Matt explained that climate tends to swing in cycles of around 20,000 years, influenced by the earth's tilt and its elliptical orbit around the sun. He showed postulated forest cover for New Zealand starting from the last glacial maximum of 20,000 years ago. Back then the cold had driven the forest cover to the tip of the North Island. By 12,000 years ago it was still cold, but there were more patches of trees evident, and by 9,000 years ago NZ had reached a peak warm period, with pollen from sub-tropical plants like *Ascarina lucida* appearing.

By the time the Maori arrived around 800 years ago there was almost total forest cover, but then, from about 400 years ago, charcoal fragments began to appear in the geological record, and vegetation cover changed dramatically as vast areas of forest were burnt. Especially on the east coast, the pollen profile of forest trees such as mountain beech, rimu and kahikatea was replaced by that of 'fireweeds' such as bracken, manuka, matagouri, tussock, speargrass, sphagnum moss and sedges. Why burn such vast areas? Dr McGlone speculated that it was to increase ease of access to the coast and to the high country. But, as a keen tramper, I very much doubt that thick bracken or manuka, spiny matagouri or even tussocky, boggy 'cutty grass' would be easier to walk through than mature podocarp forest well tracked by large, heavy, browsing birds. To me it is much more plausible that fire was a useful tool for hunting out moa (that unmentionable word), just as fire has been used for hunting in other parts of the world.

So the forest cover when the first Europeans arrived was very much less than when the first Maori arrived, and the burning off continued, this time for farming purposes. Which brings us to the interesting point – at just what point and what climate in the past should we refer to when we talk about preserving or restoring the natural vegetation? Leonard Cockayne (1885 – 1934) was one the first ecologists to press for the preservation areas of native vegetation in New Zealand. Dr McGlone talked about the need to maintain 'Cockaynian refugia' or 'mainland islands' to preserve the species diversity of the indigenous gene pool. But he also questioned the cost and the feasibility of 'defending the Cockayne line' between native forest and encroaching farmland or exotic forest, as on Mt Egmont/Taranaki.

Plant species that survived the repeated glacial/ interglacial cycles were those that could retreat to small patches as the ice advanced, then spread out again as it receded. Climatic variation, repeatedly cutting back then opening up new niches, was, according to Matt, a major stimulus for increased speciation of forest edge plants such as *Hebe*, *Carex*, *Celmisia*, and *Coprosma*. Pollen and genetic records show that the divaricating forms of many species, unique to New Zealand, evolved in the last 2.5 million years.

Before his talk, I interviewed Dr McGlone to see whether, in the light of William Bond and Bill Lee's recent experiments, he thought that the presence of browsing moas had had any influence on the development of vegetation cover in New Zealand. Matt was adamant that he was not even going to mention the word 'moa' in his talk. He gave two reasons for doubting their influence. One was that the moa record went back for more

than 70 million years, whereas the evolution of most of the divaricating forms appears to have only happened relatively recently, in the last 2.5 million years, a period of great climatic change. The other was that so far the 14 moa gizzards that have been examined, from the 3 largest species of moa only, have contained fragments of tough twigs, as well flax and cabbage tree leaves, all of which appear to have been cut, not tugged.

## TRIP REPORTS

### Witherow & Birch Islands - by Brian Patrick

Recently-protected Birch Island (7 - 9 ha, depending on river flow!), in the Clutha River, downstream from Beaumont, has been the subject of much political debate. At the centre of this debate have been environmental columnist (ODT) Dave Witherow and local ACT MP and party spokesperson for conservation/environment Gerry Eckhoff. In a letter to the editor Gerry challenged ecologists to “visit another last remaining example just offshore from my property in the Roxburgh Gorge”. He proposed the name “Witherow Island” for it. We took up Gerry’s challenge. The chance to botanise an island that was previously unknown to us proved hard to resist.

Roxburgh locals transported thirteen BSO members, plus three Forest & Bird personnel from the Upper Clutha Branch, and Gerry, to the island on Saturday 19 May 2001. Witherow Island (G43 233 213) is about 500m long and very narrow, with two much smaller islands off its northern end. The island was created when the reservoir behind the Roxburgh Dam was filled about 45 years ago. The island has been burnt within the last 25 years, to destroy *Nassella* tussock. Although no live rabbits were evident on our visit, dead remains provided abundant evidence that they have had a part in modifying the island in the recent past.

The rocky island, with steep cliffs on its eastern margin, is mostly diverse grassland with regenerating shrubland of kanuka, *Coprosma propinqua* and *Helichrysum lanceolatum*. Woody weeds such as briar, willow, broom and gorse are present, with the enclaves of native shrubland often growing amongst the many rock outcrops. Lichens abound on the island growing on rock, vegetation and the ground. Among the latter were a *Siphula coriacea* which is under threat from *Hieracium*, and an unusual, unattached *Xanthoparmelia concomitans* not before recorded in the OTA herbarium.

A total of 64 plant species were found, of which 38 are native species typical of the drylands of Central Otago. In addition 27 species of lichen were recorded. Within the mainly exotic *Rytidosperma racemosum* grassland, the dead remains of three orchid species were common. A visit to the island in early summer would elucidate their identity, and also bring to light many herbs and grasses that by the time of our visit were undetectable.

**Plant list for 'Witherow' Island, May 2001** – Brian Patrick (Vascular natives), Alan Mark (exotics), Allison Knight and Jennifer Bannister (Lichens)

<p><b>Native</b></p> <p><b>Dicots</b></p> <p><i>Acaena novae-zelandiae</i>  <i>Coprosma propinqua</i>  <i>Discaria toumatou</i>  <i>Gnaphalium audax</i>  <i>Gnaphalium ruahinicum</i>  <i>Hebe rupestris</i>  <i>Hebe salicifolia</i>  <i>Helichrysum lanceolatum</i>  <i>Leucopogon fraseri</i>  <i>Meliccytus alpinus</i>  <i>Muehlenbeckia complexa</i>  <i>Kunzea ericoides</i>  <i>Oxalis exilis</i>  <i>Phormium tenax</i>  <i>Raoulia subsericea</i>  <i>Rubus schmidelioides</i>  <i>Senecio quadridentata</i>  <i>Sophora microphylla</i></p> <p><b>Monocots</b></p> <p><i>Carex breviculmis</i>  <i>Dichelachne crinita</i>  <i>Deyeuxia avenoides</i>  <i>Elymus apricus</i>  <i>Festuca novae-zelandiae</i>  <i>Luzula rhadina</i>  <i>Microtis unifolia</i>  <i>Poa cita</i>  <i>Poa colensoi</i>  <i>Prasophyllum colensoi</i>  <i>Rytidosperma clavatum</i>  <i>Rytidosperma unarede</i>  <i>Thelymitra</i> sp.</p> <p><b>Ferns</b></p> <p><i>Asplenium stabbellifolium</i>  <i>Asplenium richardii</i>  <i>Cheilanthes humilis</i>  <i>Pellaea calidrupium</i>  <i>Polystichum vestitum</i>  <i>Pteridium esculentum</i>  <i>Pyrrosia eleagnifolia</i></p>	<p><b>Exotic</b></p> <p><i>Agrostis capillaris</i> (browntop).  <i>Anthoxanthum odoratum</i> (sweet vernal)  <i>Cytisus scoparius</i> (scotch broom)  <i>Dactylis glomerata</i> (cocksfoot).  <i>Festuca arundinacea</i> [<i>Schedonorus phoenix</i>] (tall fescue).  <i>Hieracium pilosella</i> (mouse ear hawkweed)  <i>Hypochoeris radicata</i> (catsear)  <i>Juncus effusus</i> (rush).  <i>Lagarosiphon major</i> [lakeshore] (oxygen weed).  <i>Linaria ?purpurea</i> (purple linaria).  <i>Lupinus arboreus</i> (tree lupin).  <i>Nassella trichotoma</i> (Nassella tussock)  <i>Orobanche minor</i> (broomrape).  <i>Pinus radiata</i> (radiata pine).  <i>Plantago lanceolata</i> (narrow-leaved plantain).  <i>Rosa rubiginosa</i> (sweet brier)  <i>Rumex acetosella</i> (sheeps sorrel)  <i>Salix fragilis</i> (crack willow)  <i>Sedum acre</i> (stone crop)  <i>Teline monspessulana</i> (Montpellier broom)  <i>Thymus vulgaris</i> (culinary thyme)  <i>Trifolium pratense</i> (red clover)  <i>Ulex europeus</i> (gorse)  <i>Verbascum virgatum</i> (moth mullein).  <i>Vittadinia gracilis</i> (purple fuzzweed)</p> <p><b>Lichens</b></p> <p><i>Chondropsis semiviridis</i>  <i>Cladonia</i> spp x 4  <i>Cladia aggregata</i>  <i>Micarea</i> sp  <i>Neofuscelia</i> sp  <i>Physcia adscendens</i>  <i>Ramalina glaucescens</i>  <i>Rhizocarpon geographicum</i>  <i>Siphula coriacea</i>  <i>Teloschistes velifer</i>  <i>Usnea</i> sp  <i>Xanthoparmelia concomitans</i>  <i>Xanthoparmelia mougeotina</i></p>
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Native tussocks of *Elymus apricus*, *Dichelachne crinita*, fescue, blue and silver tussock are reasonably common together with the dryland ferns *Cheilanthes humilis* and *Pellaea calidirupium*. The exotic thyme, mouse-ear hawkweed and stonecrop are also widespread on the island. One Nassella tussock (*Nassella trichotoma*) was found and removed.

Speckled skink and common gecko were found inactive under rocks together with species of darkling and carabid beetle. It was exciting to see the survival of remnants of native dryland flora and fauna, especially the grasses, lichens, small vertebrates and invertebrates on this small island. As it would be relatively easy to keep it free of mammalian browsers and predators it could become a valuable refuge. Thank you, Gerry, for bringing it to our attention.

Later in the afternoon we drove to south of Beaumont and were transported to Birch Island, which is crowded with tall trees, appropriately enough two species of beech, black (mountain) and silver. Its under-storey is dense, and rich with shrubs, seedlings, ferns, herbs, lichens and mosses. Fallen logs are everywhere slowing the journey and providing moist habitat for noteworthy invertebrates for which the island is famous such as peripatus and springtails.

We traversed the island from one end to the other, noticing the abundance of broadleaf, matai, miro, totara, kahikatea and pokaka seedlings together with under-storey species *Pseudopanax anomalus*, *Corokia cotoneaster* and *Cyathodes juniperina*. The significantly higher rainfall, and the decreased browsing pressure here nurtures an abundance of forest fungi, moss, lichen and ferns.

Although fallow deer can swim to Birch Island, they appear to have little impact on the island's vegetation. This makes Birch Island important as a much less disturbed forest ecosystem than the surrounding forested slopes.

Within half an hour we had traveled between two starkly contrasting ecosystems – both islands in the Clutha, but that is where the similarity ended. (*Perhaps both islands are worth preserving as refuges such as Leonard Cockayne advocated* – Ed.)

## **Final Reports from the Otago and Wellington Botanical Societies' Summer Field Trip**

This 10-day field trip was based at Borland Lodge, on the eastern boundary of Fiordland National Park, between Lakes Manapouri and Monowai. It ran from 29 Dec – 7 Jan. Newsletter 25 covered reports of visits to Pukerau Red Tussock Reserve, Green Lake Landslide, Hope Arm & Back Valley– Lake Manapouri, Clifden Limestone, Eldrig Tops, Otataru Reserve, Bushy Point and Threatened Plant Nursery, and South Borland Burn. Newsletter 26 covered visits to Kepler and Borland Mires, McKercher Creek and Dean Forest. To finish we have reports from the first and last days, on the upper and lower slopes of Mt Burns, plus a report on two of the *Ranunculus* hybrids found there.

## Mt Burns (30 Dec) - by Beatrice Lee

With only a light dusting of snow on the peaks on Saturday morning, but more likely within 24 hours, it was decided that the first field trip of the week would be to Mt Burns. With Prof Alan Mark as guide we drove to the Borland Saddle, then headed off up the hill to the left on foot. The track climbs for a couple of minutes through beech forest (where the lichenologists immediately peeled off from the rest of us), then opens out into tussock country.

Looking down into the Grebe Valley on our right, the rubble of the 12000 year old Green Lake Slip was quite obvious, when pointed out (geologists had missed it for years). It fills the whole Grebe Valley floor.

Mt Burns is home to a relatively rich Fiordland flora. Alan Mark told us of a PhD botany student, Lionel Solly, who came to this area to set up experiments to study the effects of deer vs takahe grazing on *Chionochloa* species. This was partly because of the easy accessibility of the site and partly because a large number of *Chionochloa* species grow on Mt Burns – species we saw included *C. crassiuscula* spp *torta*, *C. ridgida*, *C. teretifolia*, *C. pallens*, and *C. ovata*. (One of Lionel's results was that *C. pallens* recovers much faster from takahe grazing, where the tussock tillers are pulled out from the root, than from deer grazing where the leaves are cropped off half way down.)

As we reached the tarns, *Celmisia haastii* was pointed out as a snowbank indicator species, the yellow flowers of *Ranunculus enysii* were seen and the odd shaped flowers of *Psychrophila obtusa* (once called *Caltha*) were examined. No flowers of the latter could be found here, so it was not known if the plants were male or female.

Past the tarns, someone spotted a beautiful orange and brown coloured, shiny weta, about 50mm long, that was trying to burrow into the tussocks. Nearby were *Celmisia holosericea*. These plants reward curious fingers with the lovely feel of their leaves – thick and firm, with silky smooth, white undersides.

*Astelia linearis* is common all around these mid-level slopes but sharp eyes were needed to spot the red “jelly bean” fruits on the female plants.

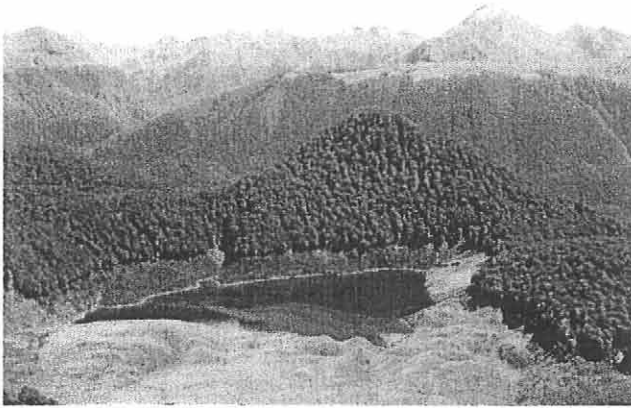
Further up above the lunch spot, clumps of *Aciphylla crosby-smithii* and *A. congesta* were growing, as was the shrub *Brachyglottis revolutus*. Smell the leaves of this plant next time you see it – it has a lovely strong smell, variously described by people I asked as sage, turpentine or lemon.

Reaching the ridge line where one can see east to Mt Eldrig, *Hectorella caespitosa* was pointed out. It is the only species in this genus in New Zealand and where it originated from is still debated – Prof. Mark suggests an Antarctic continent origin. *Euphrasia integrifolia* was also seen. This woody subshrub is one of only two *Euphrasia* species, out of the 27 species in New Zealand, to have entire leaves. The leaves under a hand lens look fleshy, a bit like an ice plant's leaves, someone said.

The snow from here up to the top of Mt Burns made further exploration up the ridge impractical so, after a quicker trip back down the slopes to the cars, we drove further along the Borland Road as far as the South Arm of L. Manapouri. The highlight of the drive was undoubtedly the first spectacular view one gets over the cliff edge into the Grebe Valley from the lookout beside the road. Nearly everyone hanging over the

lookout railings also spotted the peculiar rings of the reed *Eleocharis sphacelata* around the edges of the ponds on the valley floor.

Many people could have spent more time on Mt Burns, but at least we had relatively good weather for what we did see. More snow came in the night.



'Pyramid' Lake, at the start of the track to Green Lake, was formed by the Green Lake landslide. *Photo by Alan Mark.*

### 'Pyramid' Lake (6 Jan) - by Barbara Mitcalf

While climbing Mt Burns on the first day, and again from Borland Saddle later on, we saw far below us an immense tussock basin, with tarns mirroring the steep, forested slopes above. A hairpin road led to the start of the track to Green Lake. This led through a short stretch of silver beech forest, grading at the margin into small-leaved *Coprosma* species. Here we looked out over a sea of red tussock with *Hebes* scattered on the drier, rounded hillocks, and all around the forest frost inversion line very clearly drawn. We spread out, squelching over this unique landform, some bent to the ground botanising and some bent on botanising the biggest tarn ('Pyramid Lake') while having their first swim of the year. Ted found a *Myosotis* in the process.

A very striking *Ranunculus* with jet black, hairy stems was in flower beneath the tussocks. I believe it to be *R. multiscapus*. Further south and on a slightly higher level were sphagnum tarns with spectacular colours, fringed by silver beech and wet-loving shrubs such as the dainty, sprawling *Dracophyllum (prostratum?)* and a pale green, tousled tussock which I believe is *Chionochoa crassiuscula* subsp. *torta*.

A population of flowering *Olearia* shrubs puzzled us then and later, when, with microscopes, we tried to identify it. Graeme was certain it was *O. bullata*, but Pat and I couldn't see why, since it didn't have bullate leaves. Afterwards we had to agree with Graeme, because it didn't key out to be anything else, and bullate leaves are not, after all, a key characteristic.



# BOTANICAL REPORT *Ranunculus* hybrids on Mt Burns

Alan Mark reports collecting two *Ranunculus* hybrids from Mt Burns, as follows:

*R. lyallii* × *R. buchananii* plants were relatively common, and flowering, in early January this year, localised in the snowbank on the eastern aspect slope just below the main summit ridge and directly above the large cirque lake at about 1500 m. Such hybrids apparently are not uncommon throughout the shared range of the two species according to Fulton Fisher (1965).

*R. lyallii* × *R. ensyii* plants were present on the steep western aspect slope dominated by midribbed snow tussock on the "trail" to the summit below the main stream. Such hybrids were not reported by Fisher (1965) which may not be surprising since their area of overlap is limited and this location is close to the western limit of *R. ensyii*.

Specimens of both have been lodged in OTA.

**Reference:** Fisher, F.J.F. (1965) *The Alpine Ranunculi of New Zealand*. Botany Division, DSIR Bulletin 165, New Zealand.

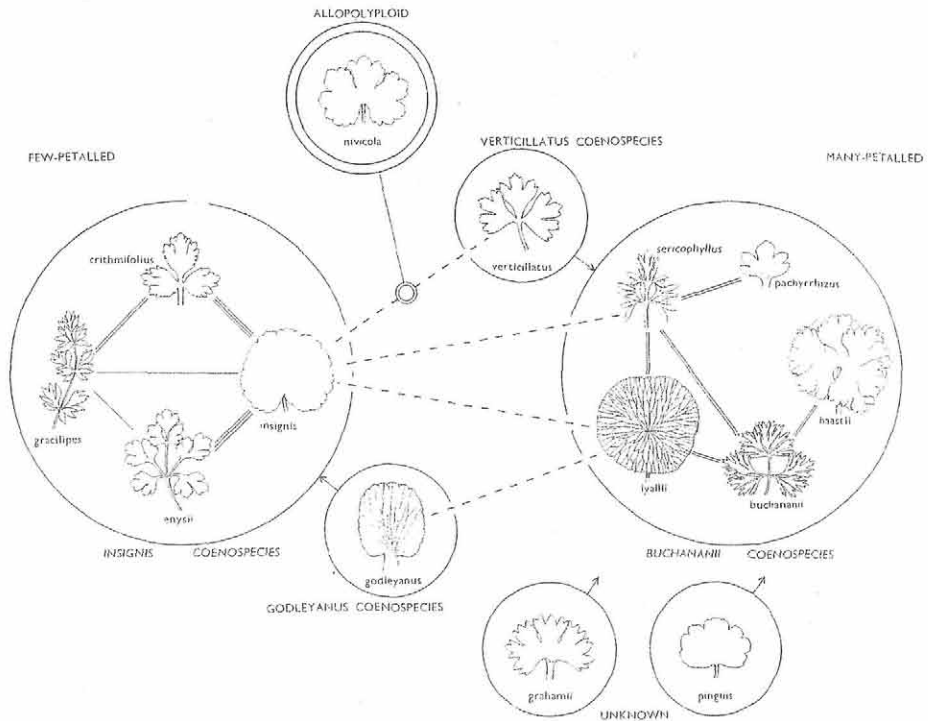


Fig. Breeding relations of the alpine *Ranunculi* according to Fisher (1965). Broken lines connect sterile hybrids. Degrees of fertility between coenospecies are indicated by the number of connecting lines. Arrows indicate probable combinations suggested by morphological affinities.

## Plant profile:

### *Erythrina crista-galli* L.

By Barbara Anderson<sup>1</sup> and Juan Pablo Guerschman<sup>2</sup>

<sup>1</sup>University of Otago. <sup>2</sup>Universidad de Buenos Aires

**Family:** Leguminosae

**Common name:** seibo (or sometimes ceibo)



*Erythrina crista-galli* or seibo is the national flower of Argentina. The specific epithet *crista-galli* is Latin in origin meaning cock's comb and obviously referring to the bright red flowers.

*Erythrina* L. is a large pantropical genus with about 104 species. The genus generally has red or orange flowers and in fact the most striking thing about the seibo are the large (~4cm long) bright red flowers, perhaps similar at first glance to our native kaka beak (*Clianthus puniceus*).

The legumes of seibo are multiseeded and similar in appearance to the seedpods of our native *Sophora* species though, as the trees were still flowering, I (BJA) only saw pictures of the fruits while I was in Buenos Aires. Seibo is a medium sized tree (4-10m tall), with a trunk which may reach 1m in diameter, and has a rough grey bark.

The leaves are pinnate with 3 large (3-11cm long) glabrous leaflets. The leaflets are elliptical-ovate and entire.

The most amazing thing about the seibo is perhaps that the wood was used in the 1800's and into the early part of last century as paving or cobblestones on the streets of Buenos Aires. Sometimes it is still possible to see the wood on the streets where the asphalt has cracked and broken which is a very common thing in Buenos Aires.

Although the seibo is a common ornamental in the streets and gardens of Buenos Aires this is the southern limit of its distribution, which extends into Brazil, Paraguay, Uruguay and northern Argentina. The seibo is most common in the Delta between the River Paraná and the River Uruguay, which forms the western and southern border between Uruguay and Argentina.

**Reference:** Cabrena, A.L. and Zardini, E.M. (1978) *Manuel de la Flora de los Alrededores de Buenos Aires*, 2nd Edition, Editorial Acme S.A.C.I., Buenos Aires

## BOOKS

### Book review – by John Steel

**Brownsey, P.J.; Smith-Dodsworth, J.C. 2000. *New Zealand ferns and allied plants*. Revised edition. 168 pp. H/back. David Bateman. \$89.95.**

This is a revised edition of the excellent, 1989 issue and brings it up to date with many of the discoveries and changes of the last twenty years. The authors were apparently under some publishing constraints which means the book is really a re-issue of the earlier edition with changes added.

There have been a few major changes in this time. The Blechnaceae and Aspleniaceae have been updated and a number of name changes implemented, especially useful for the former. Unfortunately the publishing constraints could not allow for changes in the Lycopodiaceae to be included. This is an extensive treatment, which divided the family into three genera from the previous one, renamed many of the New Zealand species and distributed them among the new genera. The new names are included as synonyms, which may give the impression that the old names still have priority. Patrick does not accept the changes in the Hymenophyllaceae and this now puts us out of step with the Australians who do (Bostock, P.D.; Spokes, T.M. 1998). A major addition, is the inclusion of ten new exotic species. The dust jacket is essentially that of the first edition (ignoring the somewhat insipid, coloured photograph on the front which replaces the much more dramatic and effective earlier one!) and continues with the claim that every one of the species is illustrated. Don't try looking for illustrations of the new exotics, however, you'll be wasting your time!

The authors persist with the use of subspecies on the basis of morphological similarity – while showing photographs and drawings highlighting their dissimilarity. I accept that my dislike of subspecies is a personal foible and this may be less of an irritation to others.

The book retains the original, effective layout, style and format. One welcome change is the replacement of the black background of the coloured photographs with a white one making them stand out more. At \$90 it is, in my opinion, a bit on the expensive side and may discourage some would be pteridologists, and even deter many from binning their old, still useful, earlier edition. It is still the only publication of its kind and good to have it back in print.

**Reference.** Bostock, P.D.; Spokes, T.M. 1998. Hymenophyllaceae. In *Flora of Australia. Volume 48. Ferns, gymnosperms and allied groups*. McCarthy, P.M. Ed. CSIRO, Canberra.

There is a flyer enclosed from the publishers offering \$10 off the list price. This book is also available from Manaaki Whenua Press, which offers a 20% discount to current Botanical Society members. With just one purchase you could more than recoup the cost of your Botanical Society subscription.

## FIELD GUIDES

3 books written  
by Hugh Wilson,  
with the support of the  
Koiaata Botanical Trust.



There is a yellow flier in this newsletter to remind everyone of the 3 excellent field guides written and revised by Hugh Wilson with the help of the trust, which is a botanical trust worth supporting.

**Small-leaved Shrubs of New Zealand** (1993) deals with all the small-leaved tangle-branched 'divaricating' shrubs and juvenile forms that are so unique to New Zealand. The introduction is still very topical, summarising the debate over the relative influences of climate and moa-browsing in the evolution of these puzzling forms, and giving references to the original papers. Hard cover.

**Field Guide: Stewart Island Plants** (reissued with amendments, 1994). This book contains many of the plants, native and introduced, that occur in the lower half of the South Island, and so has wide general use. Soft cover.

**Wild Plants of Mount Cook National Park** (2<sup>nd</sup> ed., 1996) is complementary to the previous book in that it contains more of the drier inland and higher alpine plants, as well as the *Nothofagus* species missing from Stewart Island. This book is highly recommended for the summer field trip based at Twizel! Hard cover.

All 3 books are illustrated by clear line drawings, with plants that look alike placed together to aid identification. The covers are durable and easy to wipe clean. All are available at the very reasonable cost of \$35 each from Manuka Press, PO Box 12179, Christchurch. Phone +64 3 351 2152, Fax +64 3 351 2158.

They are also available from Manaaki Whenua Press, at 20% off \$35 (= \$28, including post and packing if you are a member of BSO, and tell them).

Email: [MWPress@landcare.cri.nz](mailto:MWPress@landcare.cri.nz).

Online ordering website: <http://www.mwpress.co.nz>.

Post: Manaaki Whenua Press, PO Box 40, Lincoln 8152, NZ.

Tel +64 3 325 6700, Fax +64 3 325 2127

## NEWS

### **Browsing of native forest by emus suggested** - ODT 14.05.01, from *Landcare Media Release*

The debate on the origin of New Zealand's unusual divaricating plants has gone public with this NZPA article describing the browsing experiments carried out recently in Dunedin by Prof William Bond and Dr Bill Lee.

'About ten percent of our native shrubs and trees are divaricate - a rare form in all other countries. These plants, like some Coprosmas, have small, widely spaced leaves on wiry interlaced branches that grow in zig-zag directions. The strength of these thin branches is unique to New Zealand. Some divaricate plants like lowland ribbonwood and kowhai change form as they mature, starting life with tough, shrubby divaricate growth, and then swapping to straighter branches and bigger leaves from about two and a half metres high'.

Some scientists, (like Dr Matt McGlone), believe these forms are adaptations to extreme climate conditions. But Landcare Research scientist Dr Bill Lee and Professor William Bond from Cape Town University say that the very strong branches and small leaves are defences against browsing moa. They believe the birds fed by plucking or stripping leaves and clamping and tugging shoots. The thin convoluted branches also create a zig-zag pattern that produce a spring-like recoil when tugged. All of these features reduce the moa's ability to remove plant material.

Dr Lee and Professor Bond say most moa beaks did not have a secateur action, and therefore could not cut through branches and shoots. The larger leaves and easier-to-snap branches only appear from about 2.5 metres up the tree, above the reach of most browsing moa. They fed the emus and ostriches typical juvenile shoots from wiry divaricate plants, as well as adult-phase material from high in the canopy. The juvenile foliage survived the ravages of the emus and ostriches relatively unscathed, whereas the adult foliage and branches were stripped bare.

The same plants were fed to a goat. These animals with their strong biting action, large muscular tongue and flexible lips demolished the divaricate plants, which withstood the attempted ravages by emus and ostriches.

The theory that some native woody plants have developed anti-moa defences is not new. In 1977, Michael Greenwood and Ian Atkinson developed the idea that the characteristic cage-like structure of divaricates limited the impact of moa foraging. Their views were controversial and disputed by some scientists who claimed that divaricates' small leaves within a dense twiggy canopy were a defence against frost and wind, and that trees that change shape half way up do so in response to climatic changes.

But Professor Bond thinks otherwise. "We believe that although weather patterns are a factor, these plants evolved primarily as protection against moa feeding. Back in the seventies, Atkinson and Greenwood did not have access to emu and ostrich farms, so they were not able to demonstrate the link and mechanism as thoroughly as we have". Dr Lee says as well as shedding new light on the moa's role in the environment, the findings have important conservation implications for today. "If plants in New Zealand have adapted to protect themselves against tugging rather than cutting, they will be especially vulnerable to mammalian browsers, like deer and goats".

"Another question this study raises is whether moa feeding performed useful functions that we should look at restoring, if we want to return these wiry plants to native ecosystems. For example, should we introduce emus and ostriches to some protected natural forest or scrubland areas to restore important biotic processes?"

Professor Bond has other reasons as well for finding interest in this study. "The moa is the most recent large-animal extinction in the world: it only died out three or four hundred years ago. The last large-animal extinctions before that happened three to four thousand years ago. New Zealand's plant life is unique, and is still adapting to life without the moa"

## **Five new species of kowhai named** - ODT 18.05.01; Landcare Media Release

Scientists Peter Heenan (Landcare) and Peter de Lange (Department of Conservation) have just published the names of 5 new species of kowhai in the New Zealand Journal of Botany.

Until this, only 3 species were recognised here; *Sophora tetraptera*, a large-leaved, North Island tree, *Sophora prostrata*, a sprawling, small-leaved South Island tree, and, *Sophora microphylla*, which covered everything else in between.

The new species are:

- *Sophora longicarinata*, which grows on limestone and marble in NW Nelson;
- *Sophora godleyi*, found growing on sandstone, siltstone and mudstone in areas like Rangitikei, Wanganui, Taihape and eastern Taranaki;
- *Sophora molloyi*, which grows on dry, exposed headlands around Cook Strait, Kapiti Island, and parts of the lower North Island. Like its namesake, Dr Brian Molloy, it is 'tough as old boots and hardy in all extremes of weather';
- *Sophora fulvida*, which grows on basalt and other volcanic outcrops from Marlborough to Waikato, and has particularly hairy leaves;
- *Sophora chatamica*, which grows mainly in western coastal areas of the northern North Island, and also around Wellington and on the Chatham Islands. Dr Heenan speculates that this species does not occur naturally in Wellington and the Chathams, but was moved there around 300 years ago by the Waikato and Taranaki Maori, who regard it as a taonga, a treasure.



*Sophora tetraptera*

*Sophora microphylla* agg.

*Sophora prostrata*

Relative leaf sizes of 3 species of kowhai growing in Dunedin gardens, May 2001 – Allison Knight

## ON-LINE NEWS

More information and pictures from the previous two and other **Landcare** press releases can be found on the web at:

[http://www.landcare.cri.nz/information\\_services/media/](http://www.landcare.cri.nz/information_services/media/)

The **New Zealand Ecological Restoration Network** has a web page at:

<http://www.bush.org.nz>

This has details of restoration planting projects and native plant nurseries.

## International plant names index

Over 1.3 million names for seed plants are now listed on the International Plant Names Index (IPNI), as part of a collaboration between the Royal Botanic Gardens, Kew, UK, the Harvard University Herbaria, USA and the Centre for Plant Diversity Research, Canberra, Australia. New names continue to be published at a rate of up to 6,000 a year as new species continue to be described. This is the first freely available, comprehensive global database of plant names linked to bibliographic sources.

For more information, and access to the International Plant Names Index, see

<http://www.ipni.org>

## BOTANICAL DIARY.

**Australasian Bryological Workshop**, 20 –26 September, 2001. Blue Mountain, NSW. The sixth of a series of informal workshops, with the aim of providing a forum for bryologists to get together for an interchange of ideas, to compare and contrast the bryoflora of different areas of Australia and to develop skills in recognising taxa in the field. Elizabeth Brown, email: [rbgsyd.nsw.gov.au](mailto:rbgsyd.nsw.gov.au)

**NZ Moss Foray**, 22 – 27 Nov, 2001. The 17<sup>th</sup> John Child Bryophyte Workshop will be held at the **Tauherenikau** Race Track, near Featherston, an hour north of Wellington. More details on Botany Dept noticeboard or contact Barbara Polly, email: [barbarap@tepapa.govt.nz](mailto:barbarap@tepapa.govt.nz), Post: Te Papa, PO Box 467, WELLINGTON

**Botanical Society Summer Field Trip**, 27 Dec – 5 Jan, **Twizel** area. Keep these dates free. Otago members are welcome to join the Wellington Botanical Society on their summer field trip. A base at Twizel should provide good access to alpine plants at surrounding skifields and alpine areas. There are also some interesting valleys to explore at the heads of nearby lakes. More details next newsletter.

### More Dates for your Diary, [BSO events in boxes – details front page](#)

**2 June, Sat, 1.30 pm.** DNFC walk. **North Dunedin – Ann Ford.** Meet Queen St entrance to Woodhaugh Gardens.

**12 June, Tues, 7.45 pm.** F&B. **Kevin Smith**, Conservation Director. **Today's Conservation issues.** Plus AGM. Hutton Theatre, Otago Museum.

**16 June, Sat, 2 - 4 pm.** DNFC AGM. Reminiscences, pot-luck afternoon tea. **St Peter's Church Hall**, Eastbourne St, South Dunedin.

**20 June, Wed, 7.30 pm** Friends of the Botanic Gardens AGM and Pot Luck tea, plant auction and talk by **Jayson Kelly – Plant Hunting in Nepal.**

**27 June, Wed, 7pm.** BSO talk. **Kelvin Lloyd** entertains and enthralls with slides of his adventures in **Fabulous Fiordland.** Zoology Department Annexe. Supper

**28 June, Thurs, 5.30 pm.** Otago Institute speaker. **Prof MacDiarmid, 2000 Nobel Laureate in Chemistry for the discovery and development of conductive polymers.** Glenroy Auditorium, Dunedin Town Hall.

**30 June, Sat, 10.30 am.** DNFC trip. **Hocken Library – Beth Bain.** Conducted Tour.



**30 June, Sat, 1 pm** BSO Field trip to **Wairongoa Springs**. Details on front page.

**2 July, Mon, 7.30 pm**, Red Lecture Theatre, Medical School, Gt King St. Dunedin Naturalists Field Club Meeting. **Report on Blenheim Study Tour**.

**14 July, Sat, 1 pm**. DNFC walk. **University Campus – Anne Slieker**. Meet by the Captain Cook Tavern, cnr Albany and Gt King St.

**17 July, Tues, 7.45** F&B talk. **Marc Schallenberg**, Zoology Dept. **A limnologist's view of the Waipori/Waihola Lake wetland complex, past and present**. Hutton Theatre, Otago Museum.

**18 July, Wed, 12 noon**. Otago Institute Lecture. **Prof. Ailsa Gaulding** "Fracture prevention should begin in early childhood" Hutton Theatre, Otago Museum.

**18 July, Wed, 7.30 pm**. Friends of Botanic Garden talk. **Lesley Cox – Alpine plants**.

**21 July, Sat, 1.30 pm**. Trip led by **Tom Myers**. Tour of the **propagation area of the Botanic Garden**, plus a look at the **International Seed Exchange and the Garden Database**. Meet at the Botanic Garden Visitor Centre, Lovelock Ave.

**25 July, Wed, 12 noon**, combined BSO and Botany Dept seminar. **Neill Simpson - Alpine and other spectacular plants of Chile and Argentina**. Union St Lecture Theatre, upstairs. Opportunity for BSO members to go to lunch with Neill at 1pm.

**28 July, Sat, 2 pm**. DNFC trip. **OU Geology Museum – Alun Baines**. Meet at the University Bridge in St David St.

**1 August, Wed, 12 noon**. Botany Dept seminar. **Cathy Rufaut**  
**Invertebrates in tussock grasslands**.

**6 August, Mon, 7.30 pm**. DNFC meeting. **Dr Gary Blackman**  
**Natural and unnatural History of North East Valley**.

**8 August, Wed, 12 noon**, Botany Dept seminar: **Bronwyn Lowe**, Charles Sturt University, NSW, Australia: **Ecological benefits of environmental flows**.

**11 August, Sat, 9.30 am**. DNFC trip. **Dunback – Pam Jones**. Bus \$15

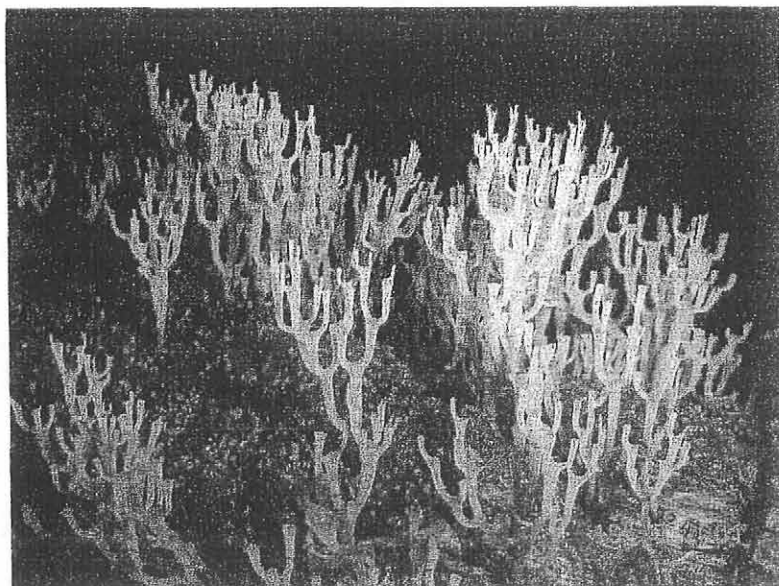
**University of Otago Botany Dept Seminars are on Wednesdays at 12 noon, upstairs in the Union St Lecture Theatre (formerly Botany School Annexe), in the red-brown bldg, Cnr Union St West & Great King St.**

**Dunedin Naturalists' Field Club (DNFC) Meetings are on the first Monday of the month, in the Red Lecture Theatre, Scott Building, Medical School, Great King St. Their field trips leave from the Citibus Depot, Princes St. Visitors are welcome. Contact: Beth Blain, President, 455 0189, email: [bethblain@ihug.co.nz](mailto:bethblain@ihug.co.nz)**

**Dunedin Forest and Bird (F&B) meetings are on Tuesday, at 7.45 pm in the Hutton Theatre, Otago Museum. Field trips leave from Otago Museum Gt King St entrance, 9am, Saturday. Secretary: Paul Star 478 0315**

**Friends of the Botanic Garden meet on the third Wednesday of the month at 7.30 pm in the Education Centre, Lovelock Ave. Secretary: Mrs Betty Wolf, 488 1550**

**Otago Institute contact: Michelle McConnell, secretary, phone 479 5729  
email: [michelle.mcconnell@stonelaw.otago.ac.nz](mailto:michelle.mcconnell@stonelaw.otago.ac.nz)  
web page: <http://otagoinstitute.tripod.com/>**



One of the many fungi growing on the forest floor on Birch Island – *photo by Allison Knight*

## Botanical Society of Otago: whom to contact

Submissions for the diary and new members, subscriptions or donations to:

Trish Fleming

‰ Botany Dept., University of Otago, P. O. Box. 56, Dunedin

Phone (03) 479 7579

email [trish@planta.otago.ac.nz](mailto:trish@planta.otago.ac.nz)

Submissions for the newsletter email Allison Knight: [hotsocotago@botany.otago.ac.nz](mailto:hotsocotago@botany.otago.ac.nz)

Ideas for activities to:

Bastow Wilson,

‰ Botany Dept., University of Otago, P. O. Box. 56, Dunedin

e-mail [bastow@otago.ac.nz](mailto:bastow@otago.ac.nz)

Phone (03) 479 7572 work, 473 9300 home.

For information on activities:

the trip leader

or Trish (contact above),

or Bastow,

or see our webpage: <http://www.botany.otago.ac.nz/bsoc>

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## Membership form: Botanical Society of Otago, 2001

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