



# BOTANICAL SOCIETY

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## OF OTAGO

### Newsletter Number 63 June 2011

#### **BSO Meetings and Field Trips**

**5<sup>th</sup> June** 9:00 am. Rain date 6th June. **Field Trip to Shag Point.** Meet at the Botany Department car park. Contact Bill Wilson, phone: (03) 477 2282.

**15<sup>th</sup> June** 5.30 pm. **Botanical “Show and Tell“ Evening.** Members are invited to bring items of botanical interest to the monthly meeting and talk about them. Items may be short slides shows, books, photographs, plants or any plant related object that has a story attached. See meeting details on p. 3.

**13<sup>th</sup> July** 5.30 pm. **The 2011 New Zealand Fungal Foray.** A talk by David Orlovich. The 25<sup>th</sup> New Zealand Fungal Foray visited the Taupo region, and it was one of the most productive collecting trips we’ve had for a long time. We didn’t let the wet weather inhibit our collecting too much, and were really impressed with the huge number of *Cortinarius* species we found. I will present a slide show of some of the best findings. See meeting details on p. 3.

**17<sup>th</sup> July**, 10:00 am. **Ross Creek–Woodhaugh Garden Track Network.** Come and beat the mid-winter blues with a half day trip in the heart of Dunedin. We will explore the network of tracks that begin at Woodhaugh Gardens and wind their way up the Water of Leith and into the Ross Creek Reservoir area. There’s quite a range of natural vegetation passed on the walk including kahikatea-kowhai-ribbonwood-lacebark forest through to more recent kanuka dominated successional communities. Be prepared for a couple of hours walking on well maintained tracks. The trip will start and finish at Woodhaugh Gardens. Meet at 10 am at the George Street entrance to Woodhaugh Gardens. Back about midday. Contact John Barkla (jbarkla@doc.govt.nz), phone: (03) 476 3686.

**6<sup>th</sup> August**, 9.00 am. **Field trip to Akatore** Rain date 7<sup>th</sup> August (trip originally scheduled for the 16<sup>th</sup> April but cancelled due to rain) Akatore is a remnant of diverse coastal shrubland at the mouth of Akatore Creek 45 minutes south of

Dunedin. Some special features of this site include the diversity of shrub species and threatened species such as *Coprosma obconica*, *Olearia fragrantissima*, *Meliccytus flexuosus* and *Carex littorosa* with the possibility of our discovering other threatened species. We may also visit the adjacent coast where the threatened cress *Lepidium tenuicaule* is present as well as *Myosotis pygmaea*. Depart from the Dept of Botany Carpark, cnr Great King Street and Union Street (West). Contact Robyn Bridges (robyn.bridges@otago.ac.nz), phone: (03) 479 8372.

**10<sup>th</sup> August 5:30 pm. More than megaherbs: 200 years of vegetation change on subantarctic Campbell Island.** A talk by Alex Fergus. The Campbell Island Bicentennial Expedition team stuck it out on our southernmost landmass for 10 weeks this past summer. As a member of the terrestrial ecology research group, my focus was the recovery of the plant and insect communities and the interaction between seabirds and plant diversity. The vegetation of Campbell Island has changed dramatically in the 200 years since European discovery. Burning, grazing, and the mediated effects of rats have altered species abundances and community structure. Permanent plots and photo points (dating from the 1870s) reveal vegetation damage before 1960 has given way to re-growth and range expansion. The progressive removal of European vertebrates has sparked a remarkable and rapid recovery of many of the iconic, and also the less well-known subantarctic plant species. How much of this recent change is simply recovery and how much is due to climate change is the next big question. Expect lots of pictures mixed in with a wee bit of science and even a few new discoveries for the island. See meeting details on p. 3.

**14<sup>th</sup> September 5:30 pm. 2011 Baylis Memorial Lecture: Complex relationships with friends and foes: How native plants manage the risks.** Speaker Dr Bill Lee Landcare Research, Dunedin; Joint Graduate School of Biodiversity and Biosecurity, School of Biological Sciences, University of Auckland. Plants share a world with many other organisms that represent both potential enemies and possible allies. For their enemies plants are a food source, but plants have developed numerous defences, including co-opting other animals, to protect vital organs. This involves strategic alliances, armed neutrality and active warfare. Plants also develop interdependencies with other biota for obtaining resources, assisting reproduction and dispersal, and limiting herbivory. The talk will explore what we know about these interactions in New Zealand, and discuss some of the extraordinary relationships amongst and between fungi, arthropods, birds, and plants. Emphasis will be on the strategies and tactics involved from the perspective of the plants, and how much plants are prepared to repel enemies and gain friends in natural ecosystems. At Castle 1 Lecture theatre. Nibbles and drinks from 5:30 in the Castle concourse, talk starts at 6:00 pm.

**Meeting details:** Talks are usually on Wednesday evening, starting at 5:20 pm with drinks and nibbles (gold coin donation), unless otherwise advertised. Venue is the Zoology Benham Building, 346 Great King Street, behind the Zoology car park by the Captain Cook Hotel. Use the main entrance of the Benham Building to get in and go to the Benham Seminar Room, Room 215, 2<sup>nd</sup> floor. Please be prompt, as we have to hold the door open. Items of botanical interest for our buy, sell and share table are always appreciated. When enough people are feeling sociable we go out to dinner afterwards – everyone is welcome to join in. Talks usually finish around 6:30 pm, keen discussion might continue till 7 pm.

**Field trip details:** Field trips leave from Botany car park 464 Great King Street, unless otherwise advertised. Meet there to car pool (10 c/km/passenger, to be paid to the driver, please). 50% student discount now available on all trips! **Please contact the trip leader before Friday for trips with special transport, and by Wednesday for full weekend trips.** A hand lens and field guides always add to the interest. It is the responsibility of each person to stay in contact with the group and to bring sufficient food, drink and outdoor gear to cope with changeable weather conditions. Bring appropriate personal medication, including anti-histamine for allergies. Note trip guidelines on the BSO web site: <http://www.botany.otago.ac.nz/bs/>.

## Contents

<b>BSO Meetings and Field Trips</b> .....	<b>1</b>
<b>Contents</b> .....	<b>3</b>
<b>Chairman's Notes</b> <i>David Lyttle</i> .....	<b>3</b>
<b>Editor's Notes</b> <i>David Orlovich</i> .....	<b>5</b>
<b>Correspondence and News</b> .....	<b>5</b>
Botanical Society of Otago Annual General Meeting 27 April 2011, Minutes .....	5
26 <sup>th</sup> John Child Bryophyte and Lichen Workshop .....	5
<b>Articles</b> .....	<b>8</b>
The native carrot <i>Daucus glochidiatus</i> in Otago .....	8
<i>Aciphylla dobsonii</i> (Apiaceae), Dobson's Speargrass .....	9
Boyd Creek Highlights .....	10
<b>Meeting and trip reports</b> .....	<b>17</b>
McPhee's, Rock and Pillar Range 22 <sup>nd</sup> January 2011 .....	17
Photo competition 27 <sup>th</sup> April 2011 .....	20
Learning ferns at Orokonui – Saturday 14 May .....	21

## Chairman's Notes

*David Lyttle*

The first part of the year has not been a good time for field trips. Due to a combination of circumstances and weather the March, April, and May field trips were cancelled. It is

frequently difficult juggling dates to avoid conflicts with the activities of other groups and finding leaders for BSO trips. Our cadre of trip leaders is limited and these individuals tend to be



Silver Peak ridges. Photo by David Lyttle.

very busy people. Notwithstanding this, field trips still manage to happen and the BSO owes a considerable debt to those people who are willing to contribute their time and expertise to lead these trips. At this time of year it is not always easy to get out of a nice comfortable bed in the weekend and face the vagaries of Otago weather.

At the end of April I joined John and Marilyn Barkla, Allison Knight and Robyn Bridges on a three-day trip to Jubilee Hut in the Silver Peaks. This was a trip that had been planned for last year and cancelled because of the weather. John, Marilyn, Allison and Robyn left on Friday and I joined them at the hut on Saturday

It was a perfect day as I made my way over the Silver Peaks, dead calm and clear. In the Silver Peaks you can climb up only so far before you have to descend. After a quiet steady climb with lots of stops for photos I was confronted with the descent down into the valley where Jubilee Hut is located. This particular section of track is known as the Devil's Staircase and I encountered it for the first time as a teenager still at high school (my parents were quite happy to let me go tramping

with my mates unsupervised at 16). That day, as a novice trumper, I wondered what I had struck as I arrived at the bottom weak-kneed and exhausted. All these years later, again, I arrived at the bottom weak-kneed and exhausted and had to climb an additional 100 metres up the hill to the new Jubilee Hut where the rest of the party greeted me with a welcome cup of tea. My energy levels were restored some more when John took me back up the valley to show me a solitary specimen of *Melicytus flexuosus* that had somehow survived the burning and grazing over the century or so that the valley had been farmed.

So why do I go on field trips? A day in the hills such as that Saturday was sublime. The vegetation and plants of New Zealand are unique and unlike anything else in the world. It is still possible to find undescribed plants in this country and the complex relationships within some species and genera are poorly understood. This year all the shrubs were loaded with fruit creating a tremendous visual spectacle; *Coprosma rugosa* with blue berries, *Coprosma propinqua* with blue or yellow berries, *Coprosma tayloriae* with white, pink, or orange berries and

*Gautheria antipoda* with either red or white berries. There is the anticipation of seeing something novel or different, for example a new plant or the gigantic specimens of *Chionochoa conspicua* growing at the old Green Hut site and

the challenge of identifying plants collected on the way. Finally there is the company of knowledgeable and engaging companions, people such as John, Allison, Marilyn and Robyn.

## Editor's Notes

This is my last *Newsletter*. Thanks to David Lyttle and the BSO Committee for their help with it over the last 5 years.

**Please submit copy for next newsletter by 5 August 2011.**

**Editor's guidelines:** Try to aim for a 0.5–1 page of 14 pt Times for news, trip/meeting reports and book reviews, and 1–5 pages, including illustrations, for other articles.

*David Orlovich*

Electronic submission (by email to the editor: fergus.alex@googlemail.com) is preferred. Send photos as separate files and remember to include photo captions and credits.

**Disclaimer:** The views published in this newsletter reflect the views of the individual authors, and are not necessarily the views of the Botanical Society of Otago.

## Correspondence and News

### Botanical Society of Otago Annual General Meeting 27 April 2011, Minutes

*Allison Knight*

The minutes of last year's AGM, Chairman's report and Treasurers report were presented and accepted. Bastow asked about the income from the Baylis lecture. Rebecca replied that she had conferred with Mary Anne and that this income almost balanced out our photocopying and printing costs. These figures will be in next year's report. The Chairman thanked all those who had helped make the past year a success. There was no other business and the meeting finished in 12 minutes.

The Committee for 2011 is

<b>Chairman</b>	David Lyttle
<b>Secretary</b>	Allison Knight
<b>Treasurer</b>	Rebecca James
	Jean Bretherton
<b>Newsletter Editor</b>	Alex Fergus
<b>Communications officer</b>	Robyn Bridges
<b>Website manager</b>	David Orlovich
<b>Social functions</b>	Bill Wilson
<b>General Committee</b>	John Barkla
	Bastow Wilson
	Tina Summerfield
	Nicola Baines

### 26<sup>th</sup> John Child Bryophyte and Lichen Workshop

This is to be held at Matawai, New Zealand, 70 km north of Gisborne on the East Cape of the North Island. Arrive evening of 1<sup>st</sup>, depart morning of 6<sup>th</sup> December 2011.

The Workshop is open to anyone interested in mosses, liverworts, hornworts and/or lichens, from beginners to professionals. The aims are to gain and share knowledge of,



and encourage an interest in these under-recognised, yet ecologically important components of New Zealand's biodiversity. Regular attendees are very friendly and welcoming and guidance is provided for beginners.

Group accommodation will be mostly in backpacker accommodation in Matawai or in nearby cottages/shearers' quarters. Microscopes, talks, breakfast and lunch-making areas will be in the Matawai Hall.

Each of the 4 Workshop days will consist of a field trip (usually everyone

together), returning to Matawai mid afternoon for microscope work with talks & further time for work after dinner. There will be a prize covering most of the cost of the workshop for the best student presentation.

Overall workshop costs are estimated to be \$380 max. per person for all accommodation, all meals and field trip transport.

To register or obtain further information contact the organisers: Anne Redpath [wairataforestfarm@farmside.co.nz](mailto:wairataforestfarm@farmside.co.nz) or Leon Perrie [leonp@tepapa.govt.nz](mailto:leonp@tepapa.govt.nz)

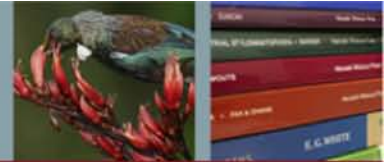


*Lycopodium scariosum*, Silver Peaks. Photo by David Lyttle.





NZ Natural History and Science Bookstore



MWPRESS EXPRESS

NEWSLETTER

## Weekend Tramping Guides from Craig Potton Publishing

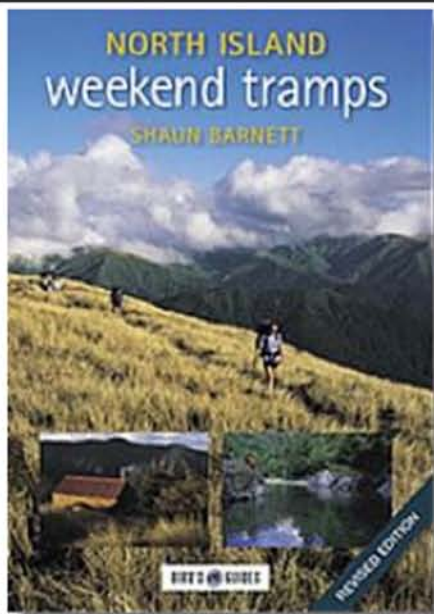
Revised and expanded, including new advanced Bird's Eye digital maps.

The reality for most trampers is that their tramping often has to be fitted into weekends. In recognition of this, these guides feature the best of the North and South Island's 2-3 day tramping trips and include a range of trips that allow plenty of scope for all abilities. Essential information on length, grade, time, suitable maps and access are provided for each tramp. This is followed by a more detailed description of the trip and what you might expect to see and experience. Each guide features 50 tramps; they are richly illustrated, with Bird's Eye style digital maps for each section, and colour photographs throughout.

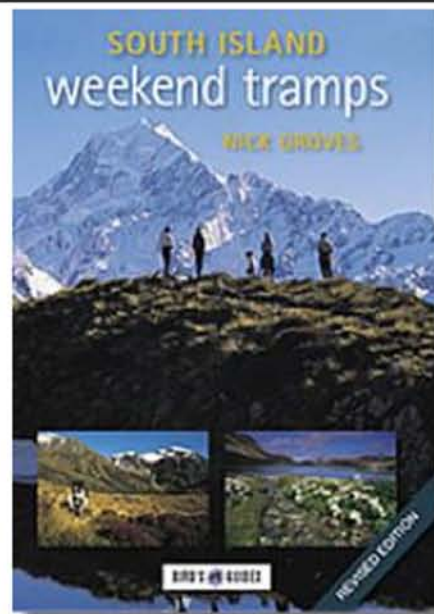
Please click on the cover images to view these books on our website, or you will also find them under the [New Listings](#) tab at the top of our home page.

### North Island Weekend Tramps

### South Island Weekend Tramps



RRP \$39.99  
 Author: Shaun Barnett  
 176 pages  
 First published 2002, revised edition 2008



RRP \$39.99  
 Author: Nick Groves  
 184 pages  
 First published 2003, revised edition 2008, reprinted 2010



## Articles

### The native carrot *Daucus glochidiatus* in Otago

John Barkla

While carrying out fieldwork in the Upper Clutha valley in early November 2010, a colleague asked for an identification of a *Leptinella* sp. that he had dug up from outside his house near Poison Creek. I was able to put a name to that plant but was more intrigued by an accompanying herbaceous plant that had conspicuous ellipsoid fruit covered in stiff bristles. While I had a suspicion as to its

identity I wanted to see plants growing in-situ. Later in the day we returned to the Poison Creek site and were able to find many plants in flower and fruit, some of which I photographed and collected for a herbarium specimen (CHR 614104). The plants were growing on a dry hillslope with drought-tolerant native and exotic grasses and mats of *Raoulia* spp.



*Daucus glochidiatus*, photo John Barkla.



Back at the office I identified the plant as *Daucus glochidiatus* (Labill.) Fisch., C.A.Mey. et Ave-Lall. and this was subsequently confirmed by Landcare Research at Lincoln. *Daucus glochidiatus* is in the carrot family (Apiaceae), occurs throughout New Zealand, and is also found in Australia. The species seems to have undergone a rapid decline in the last few decades and is thought to have become extinct over large parts of its former range. Reasons for its decline are unclear although competition from adventive plants is likely to be a key factor (de Lange et al. 2010). Its conservation status has been assessed as Nationally Critical with the qualifiers DP (Data Poor) and SO (Secure overseas) (de Lange et al. 2009).

The species epithet refers to the glochidia (barbed hair or bristle) that adorn the young green fruits. On maturity the fruits turn red-brown to dark brown. It is likely the plants are annual in the relatively harsh conditions of Central Otago; on a later visit to the site in late November many of the plants were dried out and dead.

Although this is the first time I have seen the plant, a check of the Allan

Herbarium database at Lincoln revealed two earlier collections from Otago. The first, in 1950, was made by I A McNeur along the banks of the Hawea River near the lake outlet bridge and the second, in 1964, by D Given on moraine at the south end of Lake Hawea. I would be pleased to hear of any other Otago records that Society members may be aware of.

#### *Acknowledgement*

I thank staff at the Allan Herbarium at Landcare Research Lincoln, for confirming the identity of my specimen and for providing data on other Otago records of *D. glochidiatus*.

#### *References*

- de Lange PJ, Norton DA, Courtney SP, Heenan PB, Barkla JW, Cameron EK, Hitchmough R, Townsend AJ 2009. Threatened and uncommon plants of New Zealand (2008 revision). *NZ Journal of Botany* 47, 61–96
- de Lange P, Heenan P, Norton D, Rolfe J, Sawyer J 2010. *Threatened Plants of New Zealand*. Canterbury University Press.

### ***Aciphylla dobsonii* (Apiaceae)—Dobson’s Speargrass**

This prickly relative of the humble carrot is by no means a push over. It is in fact an impressively resilient and horrendously spiky beast that is very unforgiving when presented with a tired trampler’s hand.

#### *Rowan Hindmarsh-Walls*

It is found in fell-field areas (high altitude scree areas, with lots of freeze-thaw action), especially exposed ridges, of the high alpine regions of south Canterbury and parts of Otago. I encountered it for the first time while tramping in the Ohau Range, near the

Mackenzie Basin. I was pretty impressed by the kind of environment that this plant manages to live in, and as a guy who has a passion for gardening I was also amazed by its visually pleasing form and colour.

The plants we encountered were growing in coarse greywacke scree high up on a ridge at an altitude of around 1700 m. The plants grow in rosettes consisting of many three-bladed leaves that form large orangey-green cushions up to 1 metre in diameter. These cushions, as they get larger in size look like they are flowing over the substrate from which they are growing, as the rosettes tend to hold themselves as close to the ground as they possibly can. This is probably a mechanism to prevent snow damage by crushing, as many of these plants must be covered by metres of snow for at least 5 months of the year. Although I

did not see any, as it was the wrong time of year, this species has short flower stems, topped with round flower-heads of yellowish flowers.

There is only one other species of *Aciphylla* that could be confused with this species, and that is *Aciphylla simplex*. This species forms smaller clumps, and has only one blade on each leaf, rather than three as in *A. dobsonii*, hence the name '*simplex*'.

I'm not sure if there are any examples of this species in the Dunedin Botanic Gardens, but if you would like to view this species in its natural environment, some good places are: Ohau Range, South Canterbury; Grampian Range, South Canterbury; and the St Bathans and Hawkdun Ranges, Central Otago.

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*Aciphylla dobsonii*. Photo by Rowan Hindmarsh-Walls.

## Boyd Creek Highlights

David Lyttle

The combined Wellington and Otago Botanical Societies summer camp this past summer allowed visits to several localities in Northern Fiordland in what was an exceptional flowering year for alpine plants. On wet days when the weather makes visiting the tops an uncomfortable and generally unpleasant experience we were able to grovel in bogs in the Eglington Valley, around lake margins and in little patches of forest. On the first day in a swamp on the Eglington Flats I photographed *Dracophyllum prostratum*, the widespread attractive *Dracophyllum* with glaucous leaves that is confined to bogs, and *Coprosma atropurpurea* with its stunning wine-coloured berries also favouring damp areas. Other plants I observed were the common grassland buttercup *Ranunculus multiscapus*, *Scleranthus brockiei* distinguishable from *Scleranthus uniflorus* by its paired flowers on the peduncle and *Muehlenbeckia axillaris* spreading through the gravel. In the forest round the margins of Lake Gunn were great swathes of *Pterostylis australis* in flower. The curious saprophytic black orchid *Gastrodia cunninghamii* was plentiful as was the bird orchid *Simpliglottis cornuta* (formerly *Chiloglottis cornuta*). *Lobelia angulata* was growing amongst the leaf debris on the forest floor. Another find was a mushroom identified as a species of *Lactarius* as it oozed a milky juice from its gills. Four species of mistletoe were seen at various places, *Peraxilla colensoi* in flower, *Peraxilla*

*tetrapetala*, which was not, *Alepis flavida*, also flowering and the tiny *Korthalsella clavata* parasitising *Coprosma propinqua*.

At Deer Flat in the Eglington Valley on an elevated mound of unsorted glacial debris surrounded by swamp we found a single specimen of *Melicytus flexuosus* growing adjacent a specimen of another shrubby species of *Melicytus*. These two distinct plants had given rise to numerous hybrids that were growing at the same location. *Melicytus flexuosus* tends to be a species restricted to open alluvial flats which are frost hollows; *Melicytus alpinus* sens lat is more widespread occupying a variety of habitats often dry rock outcrops. Another plant present at this location was the New Zealand mint *Mentha cunninghamii* bearing conspicuous white flowers.

The Gertrude Valley is one of New Zealand's premier locations for alpine plants as it is far enough west to receive the benefit of Fiordland's abundant rainfall. It is a true alpine environment subject to rockfall and snow avalanches, which restrict the growth of beech forest on many sites. The first view was of *Hebe subalpina* flowering profusely, together with the large speargrass *Aciphylla horrida* with its conspicuous spikes of yellow flowers. Growing amongst the subalpine shrubland and snow tussock that covers the glacial moraine and rock fall debris were two species of large *Celmisia*, *Celmisia verbascifolia*





Looking down the Gertrude Valley from Black Lake. Photo by David Lyttle.

and *Celmisia semicordata* subsp. *semicordata*. These two species give rise to an attractive hybrid with white, furry tomentose leaves. Other herbaceous species prominent in these shrublands were *Ranunculus lyallii*, *Dolichoglottis lyallii*, *Dolichoglottis scorzoneroides* and their hybrids, *Bulbinella gibbsii* var. *balanifera*, *Anisotome haastii* and *Ourisia macrocarpa*. Higher up in the valley where there is more scree and bare rock different plants appear. Among these were *Ourisia caespitosa*, *Celmisia hectorii*, *Celmisia bonplandii*, *Celmisia durietzii*, *Haastia sinclairii* and *Euphrasia petriei*. Colour in *Celmisia* flowers is rare but some of the *Celmisia hectorii* specimens were distinctly cream-coloured. The little forget-me-not *Myosotis lyallii*

illustrated in Mark and Adams from a plant collected from Gertrude Saddle was present and flowering. Growing in the crevices in the slabs on the way to Black Lake was *Ranunculus sericophyllus*, a high alpine snow bank species, *Aciphylla congesta* and *Celmisia vebascifolia*. Gertrude Saddle itself is covered with sward of *Chionochloa crassicaulis* subsp. *torta*. Prominent amongst the tussocks were a number of low-growing cushion plants including *Kelleria croizatii* the western counterpart of *Kelleria childii* of the Central Otago Ranges, *Coprosma perpusilla* and *Celmisia sessiliflora*. In many places any vegetation is replaced by rock slabs swept bare by avalanches. Numerous plants of the high alpine speargrass *Aciphylla multisecta* were growing on the lip of

the vertiginous snowgrass bluffs falling several thousand feet to the Gulliver Valley. This species was also present

lower down in the Gertrude Valley together with a fourth species of speargrass *Aciphylla crenulata*,



View of Mt Christina and Mt Lyttle from Key Summit. Photo by David Lyttle.

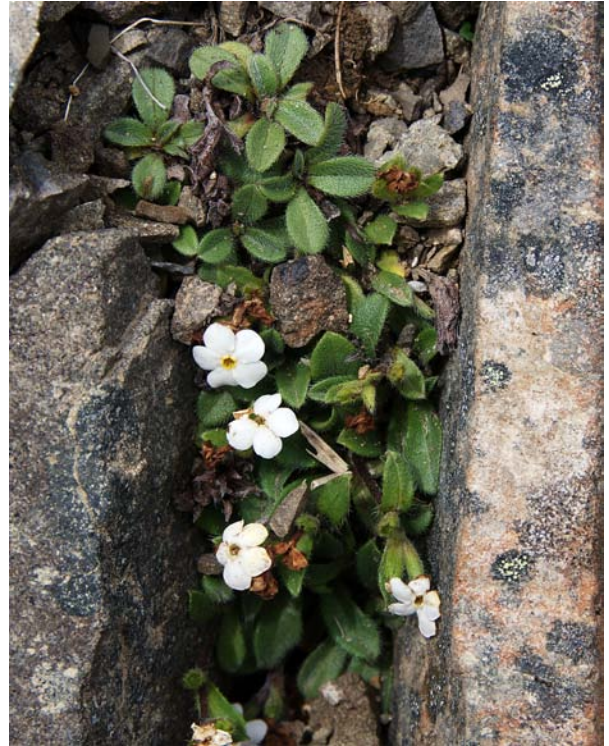
Key Summit and the Northern end of the Livingstone Range provided a contrast to the Gertrude Valley. It is further east and comparatively dryer and is much gentler terrain. The track up from the Divide to Key Summit passes through beech forest. There were a few specimens of *Cordyline indivisa* growing in the forest and higher up were several plants of the large *Dracophyllum*, *Dracophyllum fiordense* that superficially resembles a miniature cabbage tree. Colonies of *Ourisia crosbyi* and *Viola filicaulis* grew along the edges of the track. Where the track opens out into alpine scrub *Aciphylla horrida* was again

prominent as it is further west in the Gertrude Valley. On Key Summit itself the terrain opens out to extensive areas of peat cushion bog and small tarns. There were stunning views across the Hollyford Valley to the Darrans on a picture postcard perfect day. *Donatia novae-zelandiae* formed extensive hard cushions studded with small white flowers. Three species of sundew were present, *Drosera arcturi*, *Drosera spathulata* and the larger *Drosera stenopetala*. The little creeping shrub *Myrsine nummularia* was common and covered with purple berries. Other shrubs present in wet areas were *Lepidothamnus laxifolius* and



*Dracophyllum prostratum*. The orchid *Waireia stenopetala* was also abundant. Further along the ridge where the ground became drier snow tussocks became a more dominant feature of the vegetation. The two most common large *Celmisias* found in this area were *Celmisia semicordata* subsp. *semicordata* and *Celmisia petriei*. I photographed a *Celmisia* that at the time was recorded as *Celmisia walkeri* but I am not convinced that this is correct. It is a mat forming plant with distinct tufted rosettes resembling those of *Celmisia hectorii* whereas in *Celmisia walkeri* the leaves are distributed continuously along the stem. *Dracophyllum menziesii* dominated rock outcrops and clefts that form as the result of gravity faulting where it was associated with *Coprosma cheesmanii*, *Podocarpus nivalis*, *Hebe odora* and *Dracophyllum longifolium*. A final find was *Hebe macrantha* in flower. It has the largest flowers of any *Hebe*.

The next site of interest was Boyd Creek itself. The head basin of Boyd Creek rises to the Countess Range which is actually south and slightly to the west of Key Summit. It is a lot drier than Key Summit and has undergone more disturbance and has most likely been burnt at some time in the past. Much of the head basin of Boyd Creek lies below the natural bushline and contains many tarns and their associated wetlands. The wetter areas are dominated by red tussock *Chionochloa rubra* subsp. *cuprea* and *Chionochloa rigida* is dominant on the drier slopes. The slopes of the Countess Range form a series of screes



*Myosotis* sp., Boyd Creek. Photo by David Lyttle.

that descend to the basin. *Aciphylla horrida* is no longer present. It is replaced by *Aciphylla* aff. *horrida* 'lomondii' a truly formidable speargrass that is found further to the east in the Eyre Mountains and around the Wakatipu Basin. The male inflorescence is brown coloured rather than yellow as in *Aciphylla horrida*. *Celmisia semicordata* subsp. *semicordata* is replaced by *Celmisia semicordata* subsp. *stricta*. This subspecies has very striking grey-coloured upright leaves. Again it occurs further east in the Eyre Mountains. There were small fragments of subalpine herbfield on stable ground surrounded by screes. Plants growing on these refuges included *Celmisia brevifolia*, *Hebe hectorii* subsp. *hectorii*, and *Brachyglottis revoluta*. On the screes themselves a number of specialised





*Ranunculus buchananii*, Mt Burns. Photo by David Lyttle.

plants were present; *Stelleria roughii* the scree chickweed was abundant as was *Epilobium pycnostachyum* and *Gingidia decipiens*. A small robust *Cardamine* known prosaically as *Cardamine* 'scree race' was present as well. There was also a spectacular undescribed large *Myosotis* species growing low down on the screes and a second smaller *Myosotis* species higher up. Growing on the rock outcrops that formed the crest of the ridge was *Hebe petriei*, *Hebe epacridea*, *Schizeilema haastii*, *Chionohebe ciliolata* subsp. *fiordensis* and *Anisotome pilifera* the latter growing well out of the reach of the hares that infest the area.

Mt Burns is comparable to the Gertrude valley in terms of the richness and variety of its alpine flora. It is approached from Borland Saddle via a short climb up through beech forest up a leading spur that opens out on to a series of swampy basins containing numerous small tarns. A further climb leads up to a hanging valley from which the summit may be gained by following up a leading ridge. The summit drops very steeply to the north to the Borland Valley and to the south in a series of broken bouldery slopes down to more large tarns. The snow tussock *Chionochloa teretifolia*, which is distinguished by having many fine hairs on the leaves, is common there. At least six other species of





*Aciphylla crosby-smithii*, Mt Burns. Photo by David Lyttle.

*Chionochloa* have been recorded there. The large *Celmisias* are represented by *Celmisia verbascifolia*, *Celmisia semicordata* subsp. *semicordata*, *Celmisia petriei*, *Celmisia coriacea* and *Celmisia holosericea*. Other species present were *Celmisia alpina*, *Celmisia bonplandii*, *Celmisia haastii*, *Celmisia hectorii*, *Celmisia laricifolia*, *Celmisia ramulosa*, *Celmisia viscosa* and *Celmisia walkeri*. There were massive clumps of *Aciphylla crosby-smithii* in full flower as well as clumps of *Aciphylla congesta*. *Aciphylla pinnatifida* favours damper areas and is happy growing in running water. *Aciphylla lyallii* is a species with a few grassy leaves and is difficult to find amongst the snowgrass when it is not

flowering. *Astelia linearis* forms huge colonies on boggy sites and has large bright red fruit. A second larger species of *Astelia*, *Astelia nivicola* was also common. There was an abundance of *Dolichoglottis scorzoneriodes* and its hybrids with *Dolichoglottis lyallii* with variants showing all shades of colour between the white flowered and yellow-flowered parents. *Hebe murrellii* a southern endemic *Hebe* was present and flowering. Other plants of note were *Kelleria croizatii*, *Chionohebe ciliolata* subsp. *fiordensis*, *Myosotis pulvinaris*, *Geum uniflorum* and *Gaultheria nubicola*. Both *Raoulia hectorii* and *Raoulia hectorii* var. *mollis* were found there. *Raoulia hectorii* var. *mollis* forms distinctive

slightly golden cushions and was found on the exposed ridge crest leading to the summit. A puzzling species of *Anisotome* was growing there as well. It has features that might be attributed to *Anisotome imbricata*, *Anisotoma flexuosa* or *Anisotome capillifolia* but it does not conform to any of these species. By far the most spectacular plant on the mountain was *Ranunculus buchananii*. This plant occurs in great drifts on the bouldery southern face of the mountain where it emerges from the snowbanks and produces white petalled flowers with contrasting yellow stamens all set above soft glaucous-green foliage. Further noteworthy plants from Mt Burns were *Euphrasia integrifolia*, a tiny eyebright that produces masses of white flowers, the very rare *Abrotanella rostrata*, *Ourisia remotifolia*, something that may or may not be *Schizeilema exiguum* and a small form of *Celmisia sessiliflora*. This short account does not exhaust the botanical riches of Mt Burns; it is like a little piece of Central Otago translocated further west into Fiordland.

We were fortunate to be given permission to visit Lake Orbell in the Murchison Mountains closed takahē area. The valley is gained by a steep climb through the forest up from the lake from the Te Anau glow-worm caves. The Tunnel Burn, which drains Lake Orbell and forms the caves, disappears into the ground about half down from the lake. The lake itself is below bushline and is surrounded by a mixture of shrubland and red tussock grassland. There are some large limestone bluffs above the lake that are home to the limestone endemic *Chionochoa spiralis*. There was not a lot of time for botanising that day as we had a boat to catch and were restricted as to where we could actually go but it was a rare privilege being allowed to visit the valley. The takahē did not put in an appearance but their distinctive droppings were all along the lakeshore. My final plant of note is *Aciphylla takahea* growing in *Hebe odora* shrubland at the outlet of Lake Orbell.

## Meeting and trip reports

### McPhee's, Rock and Pillar Range 22<sup>nd</sup> January 2011

*Nicola Baines & Linda Lane*

Arriving at the Botany Department on a dull, drizzly morning was not the most inspiring start to our field trip. However, it was encouraging to see a good turnout of enthusiastic participants. As our journey progressed, the clouds parted and the precipitation ceased, providing us with

dry conditions in which to botanise at the rock.

The majority of the group walked the track to the rock with just a few opting to fast track in David's four-wheel drive. For Linda & I this was our first visit to the area, and we were keen to explore. No sooner had we set off





Loganburn Reservoir from McPhee's Rock. Photo by Nicola Baines.

down the track than our eyes were diverted to the verges on either side where we discovered a plethora of low growing herbaceous plants intermingling with each other in the undergrowth. Leaning down low, brushing the grasses aside we discovered a richness of colour in foliage and fruit, dotted with tiny white flowers of *Pentachondra pumila*.

Cameras out and snap happy we easily whiled away forty minutes before realising that the rest of the group had long gone and we still needed to reach the rock. In a slightly brisker fashion we meandered toward our destination whilst being constantly distracted by *Celmisias*, leek orchids (*Prasophyllum colensoi*), tiny *Anisotome* and *Brachyscome* to name but a few.



*Prasophyllum colensoi*. Photo by Nicola Baines.





*Gentianella divisa*. Photo by Nicola Baines.

Nearing the base of McPhee's Rock, eyes cast downward in exploration mode we encounter a good many spiky *Aciphylla hectorii* in seed, soft looking *Polystichum cystostegia*, fronds curling

between the rocks; some marvellous lichens, *Thamnolia vermicularis* with its pale tendrils all a-tangle, along with curious black tipped *Azonia* clinging to the rocky outcrops.



Alpine grasshopper. Photo by Nicola Baines.

Looking back the way we came we marveled at the stunning views over Loganburn surrounded by golden tussocks, punctuated by grey rocky tors, deceptively bleak but aesthetically pleasing. At this point Linda & I split into separate directions, she taking the high road up and over the rock, I the low road, skirting around the base. Linda joined a group making their way down the far side toward the rumoured bog area where they discovered dense mats of *Anisotome* along with *Drosera* and a sheep skeleton!

I was delighted to see *Gentianella divisa* in flower; plentiful mounds of *Raoulia* and *Celmisia*, including

*Celmisia ramulosa* perched atop a rock and helpfully pointed out by Bill. Returning to the vehicles and rejoining stragglers on the way, I happily stalked an alpine grasshopper, unsuspecting and posing nicely in its camouflaged nook. After regrouping at the cars we had enough time to swap notes before heading off back to Dunedin. It was an enjoyable trip to a lovely location with plenty to see.

Linda Lane was on a two-month volunteer work placement at the Dunedin Botanic Garden. She is a horticulturalist from Vancouver, Canada.

### Photo competition 27th April 2011

There was plenty of anticipation in the air as members circulated with drinks and nibbles and voted for the best print of the 49 on display.

After the brief AGM Peter Johnson presented the judges comments on the electronic entries. The other two judges, Kelvin Lloyd and Rod Morris sent their apologies for the evening with assurances that they were happy to continue to be judges. This year 17 entrants put in 49 images. Peter described some of the features the judges looked for in judging the electronic images, including composition, texture, lighting, contrast, tones, focus, depth of field, setting, overall appeal and, importantly, whether they told a story.

In the Plant Portrait section, with 20 entries, the judges admired, among

*Allison Knight*

others, an anthropomorphic woolly bear *Haastia recurva*, a *Drosera* with clear glandular hairs, a silvery *Celmisia*, a fern underside with sori and sweeping bays, the strong lines of a *Dicksonia* unfurling, exposed heartwood like open-heart surgery, white daisies, back view and front, a jolly *Aciphylla*, some bright purple fungi, a *Pulsatilla* with lovely soft colours, a bold red *Swainsonia* and finally a *Euphrasia* between a rock and a grassy place.

**Plant Portrait winner:** David Lyttle, *Euphrasia integrifolia*, Mt Burns.

**Student Prize:** Rowan Hindmarsh-Walls, Close-up of a daisy.

There were 11 entries in the Plants in the Landscape section, and Peter commented that the judges did not like



too much pale sky, and did like having the plant(s) in the foreground and the landscape in the background. He thought that ‘End of summer’, with dying gentians, was a brave photo, and among others liked the strong-butressed tree, the evening light on flax and the strong lines of horizontal light and shade in the winning entry.

**Plants in the Landscape winner:** John Barkla, *Celmisia haastii*, Wye Creek.

There were only 6 entries in the Plant Interaction section. Judges liked the three depths in ‘Waiting to dry’, the nicely cropped Silver Peaks tussock, the good story of pollination in ‘Pollen face’, the still life of ‘Mix lightly’ and the territorial lichen abstract.

**Plant Interaction winner:** Allison Knight, Territorial Imperative.

Of the 12 entries celebrating the year of the forest Peter commented on the curling *Grevillia* in front of the eucalypt forest, the kauri king of the forest, the depth and vertical elements in ‘Guardians’, the light and depth in ‘Light in the Woods’, the flatness of ‘Foraged forest’ and of ‘West coast

Giants’, the full skirt of the *Dicksonia* tree fern, the difficulty of getting enough depth of field in mosses, the timeless, primeval forest of South Westland, the lovely light in East Matukituki, the story in ‘Possum-free rata’ and the misty depth in the unusually framed ‘Podocarp Dream’

**Year of the Forest winner:** Fergus Sutherland, Podocarp dream.

**Overall winner,** across all categories: Fergus Sutherland, Podocarp dream.

The audience votes were so well spread that nearly every print got a vote and by a narrow margin...

**Members’ choice winner:** Allison Knight, Bloody lichen—*Haematomma alpinum*.

**2012 Calendar:** All the prints were put on display in the foyer of the Botany Department. The standard of entries seems to get higher every year and the committee had a hard job narrowing down a selection for next year’s calendar. Watch out for this vibrant 2012 calendar, and be in quick, because we are printing a smaller run this year.

## Learning ferns at Orokonui – Saturday 14 May

*Alex Fergus*

Many thanks go out to John Steel for offering up another rare opportunity for botanical training. 13 fern-curious types converged on the Orokonui Ecosanctuary for the “Which fern is that?” workshop last Saturday (May 14). The short course was in part an

extension of John and Maia Mistral’s summer school paper “Which plant is that?” – sadly no longer offered by the University of Otago. Thanks also must go to Maia who assisted John with running Saturday’s workshop. John started off by introducing us to both the

life cycle of ferns and the necessary terminology for employing his key to the ferns and fern allies of Dunedin. This key has been honed over the years by John while enduring the inquisitions of baffled students struggling with their fern identification. We put the key to the test, first inside on a selection of potted ferns and later in the ecosanctuary itself. Before we stepped outside we took the chance to examine a mix of microscopic fern features including the tiny trumpet-like indusia of *Polyphlebium venosum*. With the aid of John and Maia we took our key to

the paths of the ecosanctuary. After exploring relatively dry habitat dominated by *Asplenium*, *Blechnum*, *Hypolepis* and *Lycopodium* species, we sunk into deeper forest in search of *Tmesipteris tannensis*, *Hymenophyllum demissum* and *H. atrovirens*. The five-hour workshop offered a great mix of life history, taxonomy and field botany. The enthusiasm of the neat wee group of people who took part made the workshop all the more enjoyable. Thanks again to John and Maia and to the Orokonui Ecosanctuary for hosting the event.



*Hebe odora* growing amongst red tussocks (*Chionochloa rubra* subsp. *cuprea*), Boyd Creek basin. Photo by David Lyttle.

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Please submit copy for next newsletter to Alex Fergus by 5 August 2011

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