



BOTANICAL SOCIETY

OF OTAGO

Newsletter Number 62 March 2011

BSO Meetings and Field Trips

4 March 12:00 noon–2:00 p.m. **Botanical Society Barbeque.** BBQ to welcome new botany/ecology students and new BSO members. At the front lawn, Botany House Annex, Great King Street (across the road from the main Botany building). Sausage sandwiches and drinks provided free by the Botanical Society of Otago. All BSO members welcome!

16th March, 5:30 pm. **Galapagos Islands** A talk by Graeme Loh on his recent visit to the Galapagos Islands. See meeting details on p. 2.

19th–20th March Weekend field trip to Thisbe Stream, Catlins. We will stay at Thisbe Stream There is a six bed hut and good sites for camping. We will see beech forest with *Peraxilla* mistletoe, and frost hollow vegetation with the shrubs *Melicytus flexuosus* and *Coprosma elatirioides*. If we are fortunate we may see mohua; not botanical but really cool little birds. Contact leader Graeme Loh by Wednesday Wednesday 16th March, phone (03) 487 6125.

1st April Deadline for entries for the Photographic Competition. Entry form is available from the Dept of Botany office, or can be downloaded from the BSO web site.

16th April, 9:00 am. **Field trip to Akatore.** 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*, *Melicytus 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*. Contact Robyn Bridges (03) 479 8372.

27th April AGM and Photographic Competition, 5:30 pm. Judging of the 5th BSO photographic competition and a brief AGM. Entries will be on display, photographic tips given and prizes presented. See meeting details on p. 2.

7–8th May Field Trip Fungal foray to Te Anau. Location Kepler Track Rainbow Reach to Motorau Hut. Numbers may be limited so please contact the trip leader by Friday 29th April. Contact: David Orlovich. Phone (03) 479 9060; email: david.orlovich@otago.ac.nz.

18th May, 5:30 pm. **Botany of the North Hector Range**. A talk by John Barkla. After the summer camp a joint Wellington and Otago Botanical Society group traversed the northern Hector Mountains from The Remarkables Skifield to Lake Hope. John will give an illustrated talk on that trip and the diverse botany of the Hector Mountains. See meeting details on p. 2.

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, 2nd 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/>.

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Chairman's Notes

David Lyttle

This summer the Botanical Society of Otago held a joint field camp with the Wellington Botanical Society. The event was based at the Southland Boy's High School lodge at Boyd Creek in the Eglinton Valley with many people camped in tents in the adjacent clearing. An event such as this does not happen without a lot of organization and hard work by many people. Thanks for the smooth running of the camp must go primarily to Mick Parsons who dealt with every problem that arose on site and to Sheelagh Leary who organized the food and cooking rosters. John and Allison Knight provided logistical support from Dunedin. John's efforts in replenishing the firewood supply were especially noteworthy. The field trips were ably led by Brian Rance, John Barkla, Graeme Jane and Neill Simpson, whose combined botanical knowledge contributed much to the success and enjoyment of the camp by all participants.

Thanks are due to the DOC staff at Te Anau who arranged our visit to Takahe Valley and for the use of the DOC theatre where we held our talk. Special thanks is due to Alan Mark and Kath Dickinson who guided the group on Mt Burns and gave a comprehensive overview of their scientific work there. Thanks are due to Mark Hanger of Nature Quest who lent us a trailer and to Mary Anne Miller and the Botany Department, University of Otago for the loan of a number of items of equipment.

This year it has been an exceptional flowering season for alpine plants. The Gertrude Valley and Mt Burns are both outstanding locations for New Zealand alpine flowers and it was interesting being able to observe the changes in vegetation across the various localities we visited. Many aciphyllas, which often flower sporadically, were in full bloom. There is enormous variation in size and form in this genus from the intimidating *Aciphylla* aff. *horrida*

'lomondi' from Boyd Creek, *Aciphylla congesta* and *Aciphylla multisecta* on Gertrude Saddle, the floriferous cushions of *Aciphylla crosby-smithii* on Mt Burns to the curious *Aciphylla pinnatifida* that often grows in running water also on Mt Burns.

After this summer in particular, many people should have outstanding photographs to enter into the BSO photographic competition. Entries close on April 1st so please support this event. A selection of photos from the competition will be used for next year's calendar.

Editor's Notes

Please submit copy for next newsletter by 20 May 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. Electronic submission (by email to the editor: david.orlovich@otago.ac.nz) is preferred.

David Orlovich

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

BSO member Dr David Galloway awarded 2010 Hutton Medal

Dr David Galloway FRSNZ was awarded the 2010 Hutton Medal by the Royal Society of New Zealand. The medal was accompanied by a citation stating: "Awarded to David John Galloway for his significant contribution to the understanding of the New Zealand environment through

great advances in knowledge of New Zealand's richly diverse lichen mycobiota". It is gratifying to see that David Galloway was accorded this honour as he has been associated with the Otago botanical community for many years. Our congratulations to David on behalf of the BSO.

Seaweed Coastal Cleanup Sunday 6th March 2011

It's time to get your group together and join the Coastal Cleanup! Free bags and gloves from DCC Service Centre or DOC Office (77 Lower Stuart St), or use your own. Bring rubbish you've collected, from an estuary, river mouth, beach, rocky shore or harbour, to Hancock Park car park (beside the Pirates clubrooms) corner Victoria Rd and John Wilson Dr, for disposal into the Seaweed skip bin, between 12 pm and 3 pm. Giveaways courtesy of NZ Marine Studies Centre & Aquarium.

Please let Liz or Renee know where you'd like to clean up so that we get a good spread around the coast. You can also take bags to the Seaweed wheelie bins at: Waikouaiti—waterfront carpark, Beach St, by 1pm; Northern beaches—Warrington Reserve (behind surf club) by 1pm; Southern beaches—Brighton Beach carpark (next to surf club) by 1pm. Contact: Liz at lsherwood@doc.govt.nz or ph 477 0677 or Renee at rgordon@dcc.govt.nz or ph 477 4000

The Botanical Society of Otago and Department of Botany events for the International Year of Forests

The United Nations General Assembly declared 2011 as the International Year of Forests to raise awareness on sustainable management, conservation and sustainable development of all types of forests. To mark this year a number of events are being organized jointly by the Botanical Society of Otago and the Department of Botany. The Department of Botany is sponsoring a "Celebrating the year of the forest" category in the Botanical Society of Otago photography competition. Check the Botanical

Society of Otago website for more details www.botany.otago.ac.nz/bso/. Many field trips will include forest visits this year. For example the 19th-20th March Excursion Weekend field trip to Thisbe Stream, Catlins will include beech forest with *Peraxilla* mistletoe. In addition, Dr David Orlovich will be presenting a forest related seminar entitled "Friendly forest fungi: mycorrhizae of NZ native forest trees". More information on upcoming events will be available at: www.botany.otago.ac.nz.

The XVIII International Botanical Congress.



The XVIII International Botanical Congress will be held in Melbourne, Australia from 23–30 July 2011. It is being held under the auspices of the International Union of Biological Sciences (IUBS), through the International Association of Botanical and Mycological Societies (IABMS) of the IUBS.

The Convention promises to be an intellectually stimulating and socially memorable occasion and will cover all fields of botanical science, including research on plants, algae and fungi.

Venue: Melbourne Convention and Exhibition Centre, Australia

Expected attendance: Approximately 4000 delegates

Website: <http://www.ibc2011.com/>

Congress Contact: ICMS Australasia on info@ibc2011.com

Botanical Society of Otago 2011 Photo Competition



See website for categories and prizes:
www.botany.otago.ac.nz/bsoc

Entries close 1st April 2011. Must be a Botanical Society of Otago member to enter

Articles

30 Dec 2010. A patch of bush, a bend, a swamp—you'll know where you are. Yeah right.

Mick Parsons & Julia Stace

The first field day of the joint Wellington & Otago Botanical Societies' summer camp was overcast and windy. We crossed Cascade Creek dipping our toes into the waters of the Eglinton Valley botany. Plants seen on the bush edge immediately over the stream included *Aristotelia fruticosa* and *Coprosma dumosa*.

On the flood plain 1m high *Hebe odora*, in flower, and *Halocarpus bidwillii*, with cones, dotted the grassy swamp area. We saw *Geranium microphyllum* with striking red and brown leaves, *Dracophyllum prostratum* and *Androstoma* (ex *Cyathodes*) *empetrifolia*, *Lycopodium fastigiatum* and *Coprosoma elatirioides*. Also *Carex coriacei* and *Carex sinclairii*, both flowering. Underneath all the other plants grows *Blechnum penna-marina*.

A find that was a highlight for some was *Ranunculus multiscapus* and besides we found *Schizeilema haastii* and *Leucopogon fraseri*.

After crossing back over the swift stream, swollen from heavy rain on the previous days, many photographed the two large purple berries on *Coprosma atropurpurea* and the single plant of *Scleranthus brockei*.

We then entered the ancient red beech (*Nothofagus fusca*) forest nearby to follow the Lake Gunn Nature Walk.

The huge, moss covered trees that had never been logged were impressive for their height, 40 m+, their boles and their buttress roots. The reserve was littered with wind throws. The track looped past the end of Lake Gunn and its outlet, where the water level was still high and the flow strong. Excellent interpretation panels help overseas visitors take an interest in the plants but many of the plants highlighted have had their names changed since the signage was installed.

Amongst the mosses on the forest floor were many clumps of flowering orchids e.g., *Gastrodia*, *Pterostylis australis* and *P. banksii*. Trees other than red beech included *Raukawa simplex*, Hall's totara, (*P. cunninghamii*), *Halocarpis biforme*, *Olearia avicenniifolia*, *Pseudopanax colensoi*. Young pokaka, with all its diversity of foliage, grows near the water's edge.



Robyn Bridges and Marilyn Barkla beside a *Melicytus flexuosus*.

Some people watched a fledgling robin, almost fatally caught in *Uncinia*, free itself and fly off to preen.

Around 3 pm we convoyed off to the DOC campground at Deer Flat, another flat area on the same wide valley floor. Our instructions were to look for a patch of bush, a bend, a swamp. In the Eglinton Valley, how specific is that! Several mounds of unsorted rock debris deposited by the glaciers (possibly formations known as kames) are found here. Out on one of these mounds surrounded by swamp there were a number of uncommon species such as *Melicytus flexuosus* and *Carmichaelia petrei*. Three black fronted terns flew by.

Those who abandoned the idea of retaining dry feet were rewarded with discovery of the rare grass *Deschampsia cespitosa* thriving in the flooded area nearby,

In the silver beeches (*Nothofagus menziesii*) hung magnificent clumps of two species of mistletoe, *Peraxilla tetrapetala* and *P. colensoi* in flower, right at camera height. Growing nearby in swampy ground, the *Coprosma propinqua* shrubs held many tiny *Korthalsella clavata* in berry. All

these mistletoes were mature plants. We saw rodent traps nearby.



Korthalsella clavata.

While returning to our vehicles people found *Olearia ilicifolia* and *Hoheria glabrata* flowering on the riverbank and one of the Otago group finally was satisfied to find a plant of *Ranunculus ternatifolius*.

As many people now record their plants of the day on their digital cameras the old system of the evening specimen table was abandoned. This was in part due to concern over the restrictions of our collecting permit. Also the lack of space and lighting at night at the Boyd Creek camp contributed to its demise.

***Hebejeebie birleyi* in the Hector Mountains**

A population of *Hebejeebie birleyi* (syn. *Veronica birleyi*, *Parahebe birleyi*) was discovered on 13 January 2011 during a traverse of the Hector Mountains from The Remarkables Skifield to Lake Hope at the head of the Wye Creek South Branch. At least

John Barkla

six plants were present on a rock face and associated rocky colluvial slope, at c. 2000 m altitude, approximately 300 m north of Lake Hope. I had not previously seen this species in the Hector Mountains but was aware of a population c.7 km to the north on the



Hebejeebie birleyi, Hector Mountains. Photo by John Barkla.

summit of Double Cone in The Remarkables. *H. birleyi*, along with *Ranunculus grahamii*, are often cited as the highest growing vascular plants in New Zealand, being found up to nearly 3000 m above sea level. *H. birleyi* is uncommon in the Hector Mountains and is probably at its eastern distributional limit there. The published distribution of *H. birleyi* is somewhat contradictory (see below). Its close relative *Hebejeebie trifida* (syn. *Veronica trifida*, *Parahebe trifida*) also occurs in the Hector Mountains and I have seen it in the headwaters of Staircase Creek, where it occupies gravelly alpine seepages.

Garnock-Jones & Lloyd (2003) give the distribution of *Hebejeebie birleyi* in New Zealand as “South Island: Main Divide from Mt Westland to northern Fiordland; also The Remarkables, Eyre Mts, and Hector Mts; but absent from the Mt Aspiring region.” Mark (1977) however lists the species as having a wide distribution within Mt Aspiring National Park (above 2000 m within the zone of permanent snow) and the type locality Mt Bonpland (Allan 1961), at the south end of the Humboldt Mountains, is close to the southern edge of Mt Aspiring National Park.

Peat & Patrick (1999) describe the Double Cone site on The Remarkables

as “its eastern limit” and a photo caption in the same publication states it “reaches its eastern limit on The Remarkables and Hector Mountains”. Its presence in the Hector Mountains is also noted in the conservation resources report for Ben Nevis Pastoral Lease which, in a section dedicated to high altitude areas of the Hector Mountains, records that *Hebejeebie birleyi* (as *Parahebe birleyi*) “grow scattered in bare areas above the fellfields” (DOC 2004).

References

- Allan HH 1961. *Flora of New Zealand Volume I*. Government Printer, Wellington.
- Department of Conservation 2004. Ben Nevis Pastoral Lease Conservation Resources Report. Unpublished report, Department of Conservation, Otago Conservancy.
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- Peat N, Patrick B 1999. *Wild Central—Discovering the natural history of Central Otago*. University of Otago Press.

The rediscovery of *Parahebe canescens* (syn. *Veronica lilliputiana*) on the Otago Peninsula

John Barkla

The Wickliffe Bay area on the southeastern side of the Otago Peninsula, with its complex of dunes and associated damp turfy dune hollows, has long been recognized as habitat for several plants with restricted distribution on the Peninsula. In this regard Allen (1994) mentions *Parahebe canescens*, *Glossostigma elatinoides*, *Elatine gratiolooides*, *Gratiola sexdentata* and *Hydrocotyle hydrophila* but notes that the first three have not been seen there in recent years. Johnson (2004) also highlights *P. canescens*, *G. elatinoides* and *E.*

gratiolooides as plants that have not been observed for several decades, along with *Myosurus minimus* subsp. *novae-zelandiae* which was recorded at Wickliffe Bay before 1940. In relation to *P. canescens* he notes “Collected at Wickliffe Bay by B.C. Aston in 1896 but not seen there in recent years.”

With those historic plant records in mind, I headed out to Okia Flats at Wickliffe Bay during October 2010 with the intention of investigating an ephemeral wetland I had previously spied. This wetland had stood out as it



Turf habitat of *Parahebe canescens*, Okia Flats.

was situated beyond the reserve boundary fence and was still subject to grazing. From a distance it appeared to still retain low turf vegetation. On close inspection the vegetation turned out to be dominated by *Lobelia perpusilla*, itself a very local plant on the Peninsula, along with *Galium perpusillum*. After a good look around I concluded it was an excellent example of ephemeral wetland turf comprised almost entirely of native species. As a final task I cut out a small divot of turf in order to grow on and eventually photograph the *Lobelia perpusilla*.

Back at my Dunedin home I periodically checked the pot of *L. perpusilla* and, on one such occasion, noted a small creeping herb that I initially dismissed as a new shoot of *L. perpusilla*. Under the hand lens however I realized it was something very different, and after consulting a couple of references, determined the plant to be *P. canescens*. By late January 2011 the plant had still not flowered but I wondered if it might be flowering in the wild. On 27 January I made another trip back to Okia Flats and this time the ephemeral wetland was dotted with masses of white

Lobelia flowers. At the southwestern end though were a couple of patches of blue flowers, which, sure enough, turned out to be *P. canescens*. After looking through its potential habitat there, it seems to be present in just a strip c. 3 m × 0.5 m on the gentle slope of the wetland depression.



Parahebe canescens and *Lobelia perpusilla*, Okia Flats.

Much of the dune wetland complex on Okia Flat was formally reserved in 1991 following its joint purchase by the Yellow-eyed Penguin Trust and the Dunedin City Council. Stock grazing ceased over most of the reserve in 1991 and vegetation monitoring (Johnson 1998) has shown released growth of naturalized grasses and rushes. Johnson notes that “several of the predominant native turf herbs have shown an ability to persist, although it



Parahebe canescens, Okia Flats.

is not clear whether all of the diverse turf flora will do so in the long term.”

Although the area with *P. canescens* falls within the cadastral boundary of Okia Reserve the boundary fence line adopted has meant it is managed as part of a neighboring paddock that is heavily grazed by both sheep and rabbits. I speculate that this grazing may have been beneficial in helping maintain a dense low turf of herbaceous plants. Rogers & Wiser (2010) note that persistence of native coastal turfs may depend on disturbance-induced early successional community states and that ungulate disturbance apparently benefited the maintenance of several threatened and uncommon herbs in native turfs. If this is the case at Okia Flat then we might have rabbits and sheep to thank for the persistence of *P. canescens* at this, its

only remaining coastal site in New Zealand.

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Some novelties and a new record for Otago.

John Steel



Young *Cyrtomium falcatum* growing on a slip on Otago Peninsula

Alf Webb has a nose for oddities and has turned up a few interesting curiosities in his nosing about. His latest was a pinna from a fern he found growing in a garden on the Otago Peninsula. This turned out to be a specimen of the Asian fern, *Cyrtomium falcatum*, commonly sold in places such as Mitre 10, the Warehouse, *etc.*, as a house plant and has been recorded naturalised in the Coromandel, but not, as far as I can find out, in the South Island. Alf's specimen was a fine example planted by the house owners at least 20 years ago and which they had found growing nearby, possibly dumped as garden rubbish. What made this a little more interesting is that some juveniles have now become established on some disturbed soil close to the parent. The owners assure me there are others growing nearby so it looks like the Peninsula has another species to add to its collection.

A further addition to Peter Johnson's plant list for the Otago Peninsula is the very pretty fern, *Cystopteris fragilis*. During a sleepy moment on the recent Botany Department retreat, I spotted this growing in the mortar between the bricks on a garden wall and on a later wander found, it spreading happily round the gardens near the restaurant. Native to South Africa, South America and the northern temperate regions it looks very happy here in shaded and lime-rich habitats.



Cystopteris fragilis happily spreading in the Glenfalloch Gardens

Ali MacArthur brought in the little dog violet, *Viola riviniana*, for identification having found it growing in a couple of places on Flagstaff along Longridge Road. This has been recorded from round Dunedin before, but not, as far as I am aware, on Flagstaff. Ali thought there may have been a house here before the D.C.C. took it over many years ago for forestry purposes. My grandmother

maintained a small patch of dog violets in a corner of her garden in Scotland in memory of a relative killed in the First World War. This was also a popular memorial in Australia that recognised Violet Day in July; so maybe, just maybe, there could be a similar connection here with this little violet all that is left of a forgotten, garden corner. According to Google, Violet Day was founded in Australia in 1915 and hung on until about 1969 before it, too, passed away. Also near the Bull Ring on Flagstaff I have found its much larger relative, *Viola odorata*, straggling amongst the tussocks.



Viola riviniana amidst exotic grasses on Flagstaff (Photo: Ali MacArthur).

For a number of years, a fine *Dryopteris filix-mas* 'Cristata' adorned the edge of Sanderson Park behind Dundas Street until some builders put

paid to it. Ever since then I have kept a lookout for another and recently found a young specimen growing in the bush near the Rhododendron Dell in the Botanic Garden. I have been told that it is a spontaneous sport that pops up from time to time and is infertile (other authorities say otherwise!). It is occasionally found in garden centres and the ends of the pinnae divide into two or three further segments giving it a crested look. This is a young plant and with builders being few and far between in the Rhododendron Dell, its survival may be more assured than its forbear's.



A frond of the ornamental *Dryopteris filix-mas* 'Cristata' in the Botanic Garden bush.

References

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Lost and found: An update of the status of *Raukaua anomalus* from the Otago Peninsula.

David Lyttle

In the last BSO newsletter (December 2010) I reported the rediscovery of a single specimen of the rare divaricating shrub *Raukaua anomalus* from Sandymount on the Otago Peninsula. Following a conversation with Alf Webb who had found a mature plant and several seedlings at the same site, it became obvious that the plant I had located and photographed was not the same as the one Alf had observed. I returned to the site in mid December and found a total of four mature plants. (I had found Alf's plant earlier in the year, was unable to locate it on a second visit and subsequently found a different plant on a third occasion which I photographed and reported for the BSO newsletter.) Alf is a particularly tenacious plant hunter and

to locate the seedlings he must have been crawling around on his hands and knees through some very dense vegetation. I have recorded a total of four mature plants and three seedlings from the site, which means rather than a single plant recorded by Brian Rance in 1968, there is a small population of this species on Sandymount that is hopefully maintaining itself.

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Drosera stenopetala, Livingstone Mountain, Photo by David Lyttle.

Meeting and trip reports

31 December 2010: Gertrude Saddle—Upper Section

Brian Rance and Barbara Hammonds

Above the valley floor a host of new species began to appear including pineapple shrub (*Dracophyllum menziesii*), *Coprosma serrulata*, *Astelia nivicola* and *A. petriei*, *Chionochloa ovata* (with lovely purple heads), *C. crassiuscula* (with curled leaves), *Coprosma fowerakeri*, *Olearia moschata* and *Brachyglottis revoluta*. The flower stalks of *Anisotome haastii* standing up above the surrounding vegetation along with the white flowers of *Celmisia verbascifolia* and the yellow flowers of *Dolichoglottis lyalli* and *Bulbinella gibbsii* var *balanifera* created a delightful picture against the backdrop of the almost sheer rock face at the head of the valley. On the screes were *Montia sessiliflora*, much harebell (*Wahlenbergia albomarginata*), *Celmisia bonplandii*, *Myosotis lyalli* and a patch of *Haastia sinclairii* with two magnificent flowers.



Haastia sinclairii



Alpine herbfield, Gertrude Valley.

In crevices in the scratched rock above and below Black Lake were *Ranunculus sericophyllus* in flower and *Aciphylla congesta* with tightly packed flower heads yet to come out.

Flowering plants of *Aciphylla congesta* and *A. multisecta*, were growing on the saddle itself. The vegetable sheep, *Raoulia buchananii* and *Kelleria croizatii* were present as well. *Chionochloa oreophila* grew in profusion on the snowbank areas.

Those that made it this far had great views vertically down into Esperance Valley and to Milford Sound beyond. A lucky few saw a rock wren on the scree, and the same group also had a close encounter with a kea.

1 January 2011: Key Summit

Gael Donaghy

In reasonable weather we set off from the Divide, the lowest pass across the main divide at approximately 400m. The wet beech forest (*Nothofagus menzesii* and *N. solandri* var *cliffortioides*) on the lower slopes had a variety of understory plants of interest, including the large tufted filmy fern, *Hymenophyllum pulcherrimum*, both crepe ferns (*Leptopteris hymenophylloides* and *L. superba*). There was an overhanging bank with very large, very dark maroon and very late flowering *Nematoceras macranthum* which attracted much attention from photographers. A couple of lovely *Cordyline indivisa* were spotted. *Brachyglottis buchananii* was in spectacular flower on the bank of a little stream.

The track emerged into the open on a large area that has been cleared by a fire or a slip, and this extends to the bush line. The steep zig-zag track had lovely patches of *Blechnum montanum*, with lovely bright red new fronds.

The tarns at the top of the zigzag had some cushion plants in flower. These

included *Donatia novae-zelandiae*, *Kelleria croizatii*, *Phyllachne colensoi*, and the little moss-like rushes *Gaimardia setacea* and *Centrolepis ciliata*. It took a while to identify a small plant in the bog that looked like an *Abrotanella* — the little umbelliferous *Actinotus novae-zelandiae*. The gentians were not quite in flower, and the *Oreostylidium* were mostly finished flowering. There were *Drosera arcturi* and *D. spathulata* in flower, some of which were quite tiny.

Further up the subalpine scrub was interspersed with open tussock. Here the lovely *Hebe macrantha* showcased its outsized flowers, against serrate leaves, and patches of *Dracophyllum menzesii* provided patches of dark red. *Celmisia petriei*, with its sword-shaped leaves, was common at higher altitudes. A few of the orchid *Wairea stenopetala* were also in flower.

Others who reached who reached the true tops found woody vegetation (e.g., *Olearia arborescens*) in large rock crevices where they were protected from browsing animals.

3 January 2011: Borland Saddle to Mt Burns.

We had another fantastic day, despite the ominous steady rain overnight that continued during breakfast and preparation time. However the previous day's forecast proved itself with the rain having almost stopped by the time we reached Te Anau and the

Brian Rance and Barbara Hammonds

sky clearing to the south where we were heading. At Borland Saddle we met Professors Alan Mark and Kath Dickinson.

Alan talked about the botany, ecology and geology of the area and also discussed the extensive research

history of the site. A GLORIA monitoring site is located on the Mt Burns ridge. This is part of an international research project looking at climate change.



Professor Sir Alan Mark addressing the group (Neil Simpson on the right).

The beech forest we climbed through was dripping with the lichen *Usnea articulata* and the trunks were covered with other lichens including the perforated *Menegazzia pertransida* and *Pseudocyphellaria* species.

Above the treeline we looked down to Pyramid Lake. The lake and surrounding lumpy landscape were formed by the huge Borland landslide, thought to be the largest in the world. The lake lies in a depression surrounded by red tussockland below the beech forest, i.e., an inverted treeline.

Mt Burns has a very rich flora. Of special note is the diversity of snow tussocks (7 species of *Chionocloa*) and alpine daisies (18 species of *Celmisia*). *Chionocloa teretifolia* with its very hairy leaf margins was striking in the lower tussocklands, and higher up, two forms of *C. crassiuscula* - a longer

leaved and a shorter one, which formed swards. All three of these have many curled leaves giving them a distinctive appearance.

We were treated to a lovely sunny day and little wind allowing the party great botanising. Most of the group made it up to the upper, rocky, summit ridge (around 1600 metres).

We were also lucky with it being a very good flowering year. Plants putting on a great show included *Celmisia*, *Chionocloa* and *Aciphylla*. Most impressive were the various *Aciphylla* species: *A. lyalli*, *A. pinnatifida*, *A. congesta* and *A. crosby-smithii* on the way to the summit ridge. Also impressive were the flowering of *Ranunculus buchananii*, *Dolichoglottis scorzoneroideus* and the tiny *Euphrasia integrifolia* in the rocky valley below the summit.



Ranunculus buchananii

Astelia linearis was putting on a good show with many jelly bean fruits visible in the sward among the *Chionocloa*. It was interesting to see *Grammitis poepiggiana* growing in mats on rocks high up in the tussocklands.

The rich diversity of habitats provided for a rich flora. Major habitats included wetlands, shrub tussock, tussocklands, rockfields, herbfields, fellfields and rocky ridge/slope. The fellfields on the solifluction terraces along the upper ridge of Mt Burns are an interesting feature. The Gloria site is located on these, and was chosen as it is the lower altitude limit for several alpine plants.

Some of the alpine plants flowering on these terraces and the banks between them were *Leptinella goyenii*, *Raoulia hectorii*, *Chionohebe ciliolata* var. *fiordense*, *Celmisia hectorii*, *C. sessiliflora*, *Geum uniflora*, *Kelleria croizatii*, *Phyllachne colensoi* and *Hectorella caespitosa*. Lichens up here included the black hairy *Gowardia nigricans* and mats of brown *Cladia aggregata*.



Raoulia hectorii

Alan and Kath were visiting the site to download a year of data from the 4 soil temperature and one air temperature data loggers, which record the temperature each hour. The project now has 8 years of records, with 2 more to go before the data is analysed.

Brown creepers were active in the beech forest on the way down.

3 January 2011: Eglinton River Delta and lower Boyd Creek

John Barkla

Those who decided to forgo the Mt Burns exodus settled on a trip closer to camp, to the mouth of the Eglinton River. Rain further west had greatly boosted river flows and our hopes of exploring the shingly delta were soon curtailed on arrival. A churning discoloured torrent discharged into the blue waters of Lake Te Anau carrying with it small trees, branches and associated debris. Never-the-less we explored the river-side margins within reach, at first recording mostly adventives from this highly disturbed site but also noting reddish clumps of *Carex buchananii* with a backdrop of *Phormium tenax* in flower.

Probing further into the fringe of manuka we discovered considerably more indigenous diversity than was first apparent. Seedlings and saplings of woody species included *Coprosma tayloriae*, *C. rigida*, *Carpodetus serratus*, *Griselinia littoralis*, *Pittosporum tenuifolium*, *P. eugenioides*, *Gaultheria antipoda*, *Hebe salicifolia*, *Dracophyllum longifolium*, *Myrsine australis*, *Lophomyrtus obcordata* and *Olearia ilicifolia*. Perhaps the most unexpected find was a few plants of fine-leaved parsley fern *Botrychium bifforme*. By lunchtime our numbers had dwindled,

seduced by the promise of lattes and cell phone coverage in Te Anau.

The remainder returned to Boyd Creek, spending the afternoon investigating the beech forest margin near the access road to the camp. The creek is scenic and drops over a series of small cascades, with flowering *Hoheria glabrata* extending out over the water. More *Botrychium* generated interest

along with *Gastrodia* orchids. Curiously, a few plants of the speargrass *Aciphylla subflabellata* defended some grassy riparian clearings.

The final highlight of the day occurred back at camp at 10 pm when a bat swooped low and circled over the multitude of tents nestled amongst the beech and bog pine.

4 January 2011: Boyd Tops Track

We set off from the edge of Boyd Camp through mountain beech forest encountering red and yellow mistletoe on the way until we reached a large open bog area, a must stop place returning memories of middle earth and for some of the party the extent of the day's march. Further on, above the bush line lies a large basin backed by screes leading up to the southern summit of the Countess Range. The floor of the basin has extensive wetlands to the north side and hummocky country in the south. The basin also contains a diversity of scattered wetlands and tarns.

Wetland cushion bog species included: *Donatia novae-zelandiae*, *Oreobolus pectinatus*, *Dracophyllum prostratum*, *Androstoma empetrifolia*, *Pentachondra pumila*, *Drosera arcturii* and *Abrotanella caespitosa*. The largest tarn in the upper portion of the basin contains many interesting plants around its margin including *Deschampsia caespitosa*, *Stenostachys laevis*, *Isolepis basilaris*, *Acaena*

Margaret Herbert and John Barkla
fissistipula and *Rorippa palustris*. Red tussock (*Chionochloa rubra* subsp. *cuprea*) grew on the wetter sites within the basin and narrow-leaved tussock (*Chionochloa rigida* subsp. *rigida*) grew on the drier upper slopes. On the slopes below the screes *Podocarpus nivalis*, *Coprosma cheesemanii*, *Dracophyllum rosmarinifolium*, *Gaultheria crassa*, *Olearia cymbifolia*, *Myrsine nummularia*, *Hebe odora* and *Hebe rakaiensis* were found. Plants growing on the screes included *Epilobium pycnostachyum*, *Stellaria roughii*, *Cardamine* 'scree race' and *Haastia sinclairii*. Amongst the plants found on the rocky summit were *Hebe epacridea*, *Hebe petriei*, *Epilobium crassum*, *Leptinella pectinata* subsp. *willcoxi*, and *Chionohebe thomsonii*.

The twitter and screech of many a bird, bountiful twittering rifleman, curious robin, shy tomtit, chattering kaka and screeching long-tailed cuckoo accompanied us along the route through the beech forest.

6 January 2011: Milford Sound, The Chasm and Homer Nature Walk

Val Smith

A drive to Milford Sound was appropriate for what was forecast to be a wet official last day of the camp. Most of the group opted to take the recommended 1.5-hour cruise to the Discovery Centre and Deep Water Observatory. After experiencing the famed Fiordland scenery in the rain: shrouded tops, thundering waterfalls and tantalizing vegetation on sheer cliff faces, we observed some of its marine life from the observatory discretely located in a hidden bay. As a result of the high annual rainfall and narrowness of the fiord, a layer of dark fresh water accumulates over the sea, creating a deep ocean environment at a much shallower depth than usual (deep water emergence). A spiral staircase descends over 10 metres to the viewing chamber from which we saw anemones, sponges and corals, including the delicate-looking black coral which appears white due to its coating of other organisms, and fish species free to come and go.

The short Lookout Walk yielded the shrub *Archeria traversii* with an accessible raceme of waxy pink flowers, which the photographers under their umbrellas tried desperately to record. The genus, which has around five species in Tasmania and two endemic to New Zealand, is named after William Archer (1820–1874), a Tasmanian architect, politician, botanical artist and plant collector, who for two years assisted Sir Joseph Hooker at Kew. William Travers

(1819–1903) collected in Nelson and Marlborough and helped establish the Wellington Botanic Gardens.

On the way back to camp we joined the tourists at the Chasm on the Milford side of the Homer tunnel, and managed to extend the stated 20-minute walk into more than an hour. The dramatic views and thunder of the swirling Cleddau River, and the dripping forest draped in ferns, mosses and lichens were overwhelming. In contrast, the East Homer Nature Walk at the eastern portal of the tunnel is an open alpine landscape of rock and scree carved from the surrounding mountains by glacial action—and we had it almost to ourselves! The names of many of the shrubs and herbs, like *Archeria traversii* earlier in the day, commemorate people, some of them well known to New Zealand botanists and others less familiar. The large glossy foliage of the giant buttercup (*Ranunculus lyallii*) and the distinctive bronze tapered leaves of pineapple scrub (*Dracophyllum menziesii*) were easily recognised. Other species pointed out and identified included the South Island leatherwood *Brachyglottis buchananii* (syn. *Senecio bennettii*), low growing, spreading *Coprosma fowerakeri* (previously included in *C. pseudocuneata*), the now rather rare *Astelia petriei* and the daisies *Celmisia walkeri*, *C. du-rietzii* and *C. bonplandii*. It was an enchanting place in spite of (or perhaps because of) the rain.

Boyd Creek Lichen Report

Allison Knight

Nestled among bog pine and beech trees, and within easy striking distance of Lake Te Anau in one direction the main divide between east and west in the other, the summer camp based at the Southland Boys High Lodge at Boyd Creek, gave access to a cornucopia of lichens. This is a very selective list, because my main focus was on photographing common and widespread lichens for an illustrated Introductory Field Guide to Lichens. Perhaps the most beautiful of these was a magnificent specimen of the red-fruited *Cladonia pleurota*, closely followed by the bright orange mushroom-fruited *Lichenomphalia umbellifera*. Two lichens that formed pale clumps around the camp were, on closer examination, the beautiful white lacy *Cladia retipora*, with its distinctive network of holes. From a distance this is easily confused with the creamier, finely branched *Cladonia confusa*, which was often growing alongside

The long, pale yellow ‘old man’s beard’ lichen dangling from trees is now called *Usnea articulata*. Growing amongst it I was surprised to find *Usnea xanthapoga*, previously only recorded as far north as Stewart Island. Another fine, hair like lichen that was brought back from Mt Burns and the ridge above Boyd Creek tops was a tangle of the sub-alpine black, sunburned *Alectoria nigricans*, which has recently has its name changed to *Gowardia nigricans*. Caught up in it

were strands of the white, wormy lichen, *Thamnolia vermicularis*.

Other new records for Southland that I happened across were the tiny *Topeliopsis subdenticulata* on mossy tree roots, and the little foliose *Xanthoparmelia xanthomelaeana* on a water-worn stone. A little jelly lichen, *Collema subundulation*, found on a rock outcrop at Boyd Creek tops has been previously recorded from just one location in Otago, while in a damp hollow among the tussock I found an undescribed species of *Lichenomphalia*, with a very white stem and an areolate thallus of distinct little hummocks.

I spent a lot of time searching on windfalls for good specimens of widespread white paint splash lichens, which are so common on the branches and trunks of forest trees. In the process I came across the tiny orange-red fruit of *Pyrrhospora laeta*, which has recently changed name to *Ramboldia laeta*. On twigs was the most exciting find of all—two specimens of *Pertusaria* that are new to New Zealand, *Pertusaria sublacerans* and *Pertusaria thwaitzii*. Both occur in Australia.

Many thanks to all the members of the Wellington and Otago Botanical Societies who helped make this such an excellent summer camp, to Southland Boys High School for the use of their lodge and to the Department of Conservation for permission to collect specimens (essential for identifying lichens).



Pannoparmelia angustata. Photo by Allison Knight.

Boyd Creek Lichen List

Allison Knight

Otago & Wellington Botanical Societies Summer Trip to Fiordland, 31 Dec 2010 – 6 Jan 2011

Lichen	Site(s)	Comments
<i>Alectoria nigricans</i> (now <i>Gowardia</i>)	BT, MB	
<i>Baeomyces heteromorphus</i>	BC, KS	
<i>Bunodophoron insigne</i>	BC	
<i>Bunodophoron ramuliferum</i>	KS	
<i>Candelariella coralliza</i>	BT	
<i>Cladia aggregata</i>	everywhere	
<i>Cladia retipora</i>	BC	
<i>Cladia sullivanii</i>	KS	
<i>Cladonia confusa</i>	BC	
<i>Cladonia pleurota</i>	BT	
<i>Cladonia scabriuscula</i>	BC	
<i>Cladonia incerta?</i>	BC	

<i>Cladonia</i> spp.	widespread	
<i>Collema subundulatum</i>	BT	NS ¹
<i>Dibaeis absoluta</i>	BC	
<i>Dibaeis arcuata</i>	BC	
<i>Haematomma babingtonii</i>	ML	
<i>Haematomma hilare</i>	BC	
<i>Hypogymnia lugubris</i> var. <i>compactior</i>	BC	
<i>Hypogymnia lugubris</i> var. <i>lugubris</i>	MB	
<i>Hypogymnia lugubris</i> var. <i>sublugubris</i>	BT	
<i>Hypogymnia mundata</i>	BC	
<i>Hypogymnia pulchrilobata</i>	BC	
<i>Lecanora caesiorubella</i>	ML	
<i>Lecanora flavidomarginata</i>	BC	
<i>Lecidella elaeochroma</i>	ML	
<i>Leifidium tenerum</i>	BC	
<i>Lepraria lobificans</i>	BC	
<i>Leptogium malmei</i>	PB	
<i>Lichenomphalia</i> sp.	BT	Undescribed
<i>Lichenomphalia umbellifera</i>	BC	
<i>Megalaria pulverea</i>	BC	
<i>Megalospora gompholoma</i> subsp. <i>gompholoma</i>	PB	
<i>Menegazzia neozelandica</i>	BC	
<i>Menegazzia nothofagii</i>	ML	
<i>Menegazzia pertransita</i>	BC	
<i>Ochrolecha pallescens</i>	BC	
<i>Pannoparmelia angustata</i>	BC	
<i>Paraporpidia leptocarpa</i>	BT	
<i>Parmelia signifera</i>	BT	
<i>Parmelia tenuirima</i>	PB	
<i>Parmeliella nigrocincta</i>	ML	
<i>Peltigera nana</i>	BC	
<i>Peltigera</i> sp.	ML	
<i>Pertusaria novaezelandica</i>	BC	
<i>Pertusaria psoromica</i>	BC	
<i>Pertusaria sublacerans</i>	BC	NZ
<i>Pertusaria thamnolica</i>	BC	
<i>Pertusaria thwaitzii</i>	BC	NZ
<i>Pertusaria truncata</i>	BC	
<i>Pertusaria velata</i>	BC	
<i>Placopsis perrugosa</i>	widespread	
<i>Placopsis trachyderma</i>	BT	
<i>Psoroma fruticosum</i>	BT	
<i>Psoroma geminatum</i>	ML	

<i>Psoroma pholidotoides</i>	BC	
<i>Pyrrhospora laeta</i> (now <i>Ramboldia</i>)	BC	
<i>Sagenidium molle</i>	BC	
<i>Sphaerophorus stereocauloides</i>	BC	
<i>Stereocaulon caespitosum</i>	BT	
<i>Stereocaulon colensoi</i>	KS	
<i>Stereocaulon corticatulum</i>	BT	
<i>Stereocaulon ramulosum</i>	widespread	
<i>Ramalina glaucescens</i>	ML	
<i>Tephromela atra</i>	BC	
<i>Thamnolia vermicularis</i>	BT, MB	
<i>Thelotrema lepadinium</i>	PB	
<i>Topeliopsis subdenticulata</i>	BC, PB	NS
<i>Umbilicaria hyperborea</i>	BT	
<i>Usnea articulata</i>	BC	
<i>Usnea ciliifera</i>	BC	
<i>Usnea inermis</i>	ML	
<i>Usnea xanthopoga</i>	BC	NS
<i>Xanthoparmelia glabrans</i>	BT	
<i>Xanthoparmelia xanthomelaeana</i>	ML	NS
Lichenicolous fungi (!) on:		
<i>!Dibaeis absoluta</i>	BC	
<i>!Hypogymnia mundata</i>	BC	
<i>!Pertusaria</i> sp.	BC	

Key: Sites. BC - Boyd Creek, BT - Boyd Creek Tops, KS - Key Summit, ML - Mistletoe Lake, PB - Pleasant Bay

New Locations and comments: NS—New to Southland, NZ—New to New Zealand, UD—Undescribed

¹previously know from just one location in Otago.



Celmisia sessiliflora and *Coprosma perpusila*, Gertrude Saddle. Photo by David Lyttle.



Aciphylla takahea, Lake Orbell, Murchison Mountains. Photo by David Lyttle.

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