



BOTANICAL SOCIETY

OF OTAGO

Newsletter Number 57 July 2009

BSO Meetings and Field Trips

- 11 July, 10:00 am. Field trip to Dunedin Botanic Garden.** The Dunedin Botanic Garden is an outstanding local botanical resource highly valued by Dunedinites. Botanical Services Officer and Society member Tom Myers will take us on a guided tour of the recently created Solander Trail and the impressive Native Collection. If time permits we'll also have a look through some of the natural bush areas that are part of the Garden. **SPECIAL NOTE:** Meet in the carpark next to the Botanic Garden Centre, Botanic Garden, on Lovelock Avenue.
- 22 July, 5:20 pm. Botany student colloquium talks.** Three short talks by the winners of the 2009 Botany Postgraduate Student Colloquium. These students (names to be announced) were awarded prizes for the best talks, and will be presenting their research talks to the BSO this evening. Meeting details on p. 3.
- 12 August, 5:20 pm. Botanical "Show and tell" evening.** Members are invited to bring along botanical items (for example, photographs and slides, plants, books, seeds – anything botanical that you'd like to show others!) for a show and tell evening. Meeting details on p. 3.
- 15 August, 9:00 am. Mystery fossil hunt.** A field trip led by Assoc. Prof. Daphne Lee. Leave from Botany carpark at 9 am. Backup date Saturday August 22nd 2009. Contact Daphne Lee, phone: (03) 479 7525.
- 16 September, 6:00 pm. 8th Annual Geoff Baylis Lecture. Assoc. Prof. Daphne Lee. Palms, podocarps, orchids and proteaceans: the contribution of new fossil plants from Otago and Southland to our understanding of New Zealand's vegetation history.** **NOTE SPECIAL VENUE:** Castle 1 Lecture Theatre, University of Otago. Nibbles and drinks will be available in the Castle Concourse from 5.15 pm. Contact Robyn Bridges, phone: (03) 479 8372.

- 19–20 September**, Sat–Sun trip. **Spring Fungal and Lichen Foray**. A two-day trip to collect lichens and fungi in the Catlins, following on from our very successful Autumn trip. We'll do the Catlins River walk from the Tawanui Camp Ground end on Saturday and from the Chloris Stream end on Sunday. Leaders: David Orlovich and Allison Knight. Accommodation on Saturday night will be at Nugget Point Lighthouse Keepers house (numbers limited). Day-trippers are welcome to join us on either day. To reserve accommodation or find out more contact David Orlovich by Wednesday 16 September. Leave from Botany car park at 9.00 am Saturday. Contact David Orlovich, phone: (03) 479 9060.
- 14 October**, 5:20 pm. **Beech forest fungi**. A talk by Dr David Orlovich, The University of Otago. A slide show and research talk highlighting the beautiful fungi that grow in *Nothofagus* forests in NZ. See p. 3 for meeting details.
- 17 October**, 9:00 am. **Field trip to Blueskin Farm**. Blueskin Farm is located on low hills to the west of Blueskin Bay, at 156 Manse Road. The farm supports patches of primary rimu-miro forest, secondary kanuka, a small but distinctive patch of heathland on Taratu Formation, and a LOT of gorse! Geological diversity is high, with volcanic, schist, conglomerate, and sedimentary substrates, and this has resulted in a relatively high diversity of native plants. Native birds are common and there are banded kokopu in the stream. We will be primarily looking at the native forest components, and with any luck the orchids will be out, if not flowering. About 120 indigenous plant species and 50 exotics have been recorded, and a list of these will be provided. Keen botanists are welcome to extend these lists, and we will hopefully make some forays into parts of the forest that have not yet been explored. Some parts of the forest are soft and slippery so wear appropriate footwear, and sensible, weather-proof clothing. If the weather is good we can boil the billy at lunchtime. Gorse makes excellent firewood! Your hosts will be Kelvin Lloyd and Beatrice Lee. Meet at the Botany Department car park at 9 am, or at 156 Manse Road at 9:30 am Contact Kelvin Lloyd, phone: (03) 473 9566.
- 18 November**, 5:20 pm. **Lichens**. A talk by Dr Allison Knight, The University of Otago. See p. 3 for meeting details.
- 28–29 November**, 8:00 am. **Sub-alpine lichen and plant foray, Silver Peaks**. This is a rather strenuous weekend trip to explore sub-alpine, alpine and valley lichens and plants. Only for those fit enough to carry a pack full of all-weather gear, overnight gear and food up to the 770 m top of Silver Peaks and down to Jubilee Hut on Saturday, then back again on Sunday. A one day trip could be included if someone is willing to take a trip up Silver Peak and return on Saturday. Please let us know if you can help. Phone Robyn Bridges 472 7330 or Allison Knight 478 8265 by Wed 25th Nov to arrange hut (DoC) and food details. Depart 8 am Saturday from Botany Carpark, return 6 pm Sunday.

9 January 2010, 8:30 am. Alpine plant and lichen trip. A two-day trip, staying at the Remarkables ski field. More information to come – see the next *Newsletter* or the BSO web site. Contact David Lyttle, phone: (03) 454 5470.

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/>.

Contents

BSO MEETINGS AND FIELD TRIPS	1
CONTENTS	3
CHAIRMAN'S NOTES	4
EDITOR'S NOTES	4
CORRESPONDENCE AND NEWS	5
BOTANICAL SOCIETY OF OTAGO PHOTO COMPETITION 2010 – ADVANCED NOTIFICATION.....	5
NEW RECORD FOR THE ORCHID <i>CORYBAS CHEESEMANII</i> FOR THE CATLINS, SOUTH OTAGO	6
WHAT ARE THE MOST COMMON PLANTS IN OTAGO?	6
ARTICLES	8
MISTLETOES OF STEVENSONS ISLAND/TE PEKA KARARA, LAKE WANAKA	8
MEETING AND TRIP REPORTS	10
FIELD TRIP TO THE ST MARYS RANGE, NORTH OTAGO, 12–14 DECEMBER 2008.	10
ALPINE PLANTS OF THE ST MARYS RANGE, NORTH OTAGO.	15
CAPE SAUNDERS FIELD TRIP, 14 MARCH 2009	17
VASCULAR PLANTS OF CAPES SAUNDERS (INCLUDING MATAKITAKI POINT), OTAGO PENINSULA (CENTRAL GR NZMS 260 MAP I44 336787).....	18
AGM AND PHOTOGRAPHIC COMPETITION, 22 APRIL 2009	19
FIELD TRIP TO LOWER TAIERI GORGE, 26 APRIL 2009	20
VASCULAR PLANTS OF THE LOWER TAIERI GORGE ON TRUE RIGHT OF GORGE BETWEEN TAIERI FERRY ROAD AND TAIERI MOUTH (CENTRAL GRID REFERENCE NZMS 260 MAP I45 98).....	21

Chairman's Notes

David Lyttle

In replacing John Barkla of Chairman of the Botanical Society of Otago this year I realise I have a hard act to follow. Fortunately, John has chosen to remain on the committee, so the BSO has not lost the benefit of his botanical knowledge, organisational skills and good sense.

Now we have reached the middle of the year we can record with satisfaction four very successful field trips and two outstanding talks from Ray Callaway and Alan Mark. We have been compiling plant lists from many of these trips and the lists are becoming a valuable record of the present vegetation of East Otago. Ferns, fungi and lichens have all received attention on Botanical Society trips this year.

Highlights for me were finding an unrecorded species of *Craspedia* at Cape Saunders, seeing the local rarities *Anementhale lessoniana*, *Microlaena polynoda* and *Teucrium parvifolium* in the lower Taieri Gorge and recording the winter-flowering orchid *Corybas cheesemanii* at Tawanui on the Catlins fungal foray. On the Catlins fungal foray we were able to

set up microscopes at the DOC house at Nugget Point, identify the collections on the spot and dry down specimens for the herbarium. At Tawanui, each step along the track yielded another fungal treasure for David Orlovich including (the little red *Cortinarius*) There is a good chance of seeing something rare, novel or new on a field trip and often these things are spotted by someone on the day.

The photographic competition this year was of very high standard despite attracting fewer entries than last year. This competition is keenly contested and has yielded some outstanding images for the 2010 calendar. So please keep taking those photos for next years competition and calendar.

The remainder of this years programme has something for everyone; in July a there will be trip close to home to the Dunedin Botanic Gardens and talks by the three winners of the Botany student colloquium. There will be a trip later in August with Daphne Lee to a fossil plant locality. Daphne is giving the 2009 Baylis Lecture in September so keep these dates free.

Editor's Notes

David Orlovich

Please submit copy for next newsletter by 16 October 2009.

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. 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, nor do they necessarily reflect the views of the Department of Botany, University of Otago, which is supportive of, but separate from, our society. Publishing of advertisements does not necessarily imply endorsement by this Society.

Correspondence and News

Botanical Society of Otago Photo Competition 2010 – advanced notification

The BSO photo competition has been a popular event for the last three years. There are 3 categories:

1. Botanical portrait
2. Plants in the landscape
3. Plant interactions

Each member can submit up to three photographs in total. Each photograph needs to be at a resolution of 6 × 8 inch (30.5 × 20.3 cm) and 300 pixels/inch and can be in landscape or portrait orientation. A glossy print of the same size must also be submitted. Entries are due 7 April 2010. Prizes

include category winners, top student photograph, and overall winner. Three judges will judge entries on technical and artistic merit. There will also be a members' choice prize for the photograph voted the best on the night of the awards. Each prize is \$50 (and yes, if you're one of the few students who usually enter you could win \$200!).

Entry forms can be picked up from the display shelves outside the secretary's office in the Botany Department or downloaded from the BSO web site <http://www.botany.otago.ac.nz/bs/>.



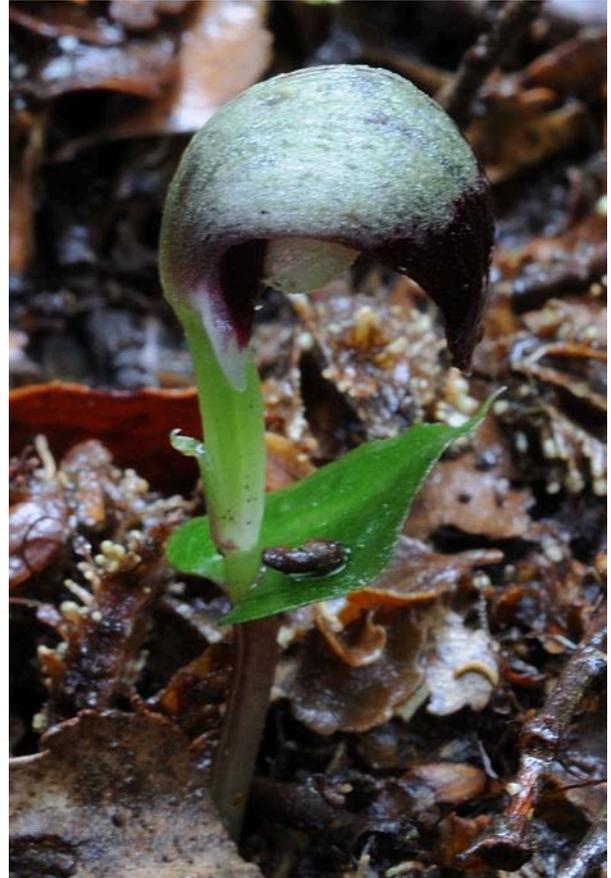
Above: *Lobelia roughii*. Highly Commended photograph from the Botanical Society of Otago Photo Competition 2009. Photo by Ken Allen.

New record for the orchid *Corybas cheesemanii* for the Catlins, South Otago

David Lyttle

During the Bot. Soc. winter fungal foray to the Catlins on the 22–23 May 2009, Arlene McDowell spotted the small winter-flowering orchid *Corybas cheesemanii* growing at Tawanui under beech. This species has been recorded from the North Island and the north-western part of the South Island but does not appear to have been recorded south of Westport or on the eastern side of the South Island.

The distinctive features of this species are its autumn to winter-flowering habit. It grows in deep drifts of leaf litter, usually in dark, very shaded sites under kanuka or beech. I have seen it before at the Oparara Arches north of Karamea where it was growing under beech and formed a large patch containing many plants. At Tawanui several scattered plants were found.



Above: *Corybas cheesemanii*. Photo by David Lyttle.

What are the most common plants in Otago?

Mike Thorsen

The most common native species in 47 plant species lists from throughout Otago = mingimingi *Coprosma*

propinqua, most common exotic species = catsear *Hypochoeris radicata*.



Above: *Ranunculus gracilipes* from the St Marys Range trip (see the report on p. 10). Photo by David Lyttle.



Above: "Pohutukawa". One of the three winners in the Botanical Society of Otago Photo Competition 2009. Photo by John Barkla.



Above: Detail from "Disease". Winner of the Student Prize in the Botanical Society of Otago Photo Competition 2009. Photo by Annika Korsten.

Articles

Mistletoes of Stevensons Island/Te Peka Karara, Lake Wanaka

John Barkla

Stevensons Island/Te Peka Karara lies in the eastern lobe (Stevensons Arm) of Lake Wanaka, 150 m from the eastern shore. It is 65 ha in area and 1.4 km long \times 0.6 km wide. It has scenic reserve status and is managed by the Department of Conservation. The island has mostly gentle slopes rising to 60 m above the lake which itself is c. 300 m.a.s.l. Soils are thin, dry, friable and very well drained. Annual rainfall is c. 680 mm.

Between November 2002 and February 2009 I spent 22 days on Stevensons Island/Te Peka Karara, carrying out various island management tasks, particularly care and monitoring of the translocated buff weka population. During this time I traversed most of the island and generated a comprehensive vascular plant list and made numerous botanical observations. I recorded 185 vascular plant species for the island comprising 116 native and 69 adventive species.



Fig. 1. A. *Ileostylus micranthus*, B. *Korthalsella salicornioides* on kanuka, C. *Korthalsella lindsayi* on *Neomyrtus pendunculata*. Photos by John Barkla.

The vegetation cover is regenerating after fire more than sixty years ago. Kanuka (*Kunzea ericoides*) forest dominates the island, forming a discontinuous canopy over most of the gentle slopes. There are many small clearings, which have a cover of grasses interspersed with mosses and lichen. The forest understorey usually includes korokia (*Corokia cotoneaster*), prickly mingimingi (*Leptecophylla juniperina*) and *Helichrysum lanceolatum*. Around the island edges, the kanuka thins out to become mixed shrub-grassland. Shrub diversity is increased in these more open areas and includes manuka (*Leptospermum scoparium*), *Coprosma crassifolia*, kohuhu (*Pittosporum tenuifolium*), *C. propinqua*, weeping matipo (*Myrsine divaricata*), *H. lanceolatum* and korokia as common

elements. Many vine species are found throughout all vegetation types. Beaches slope gently into shallow water surrounding the island and there is an extensive strand area with finer substrates and emergent macrophytes.

Mice and rabbits are present on the island while rats and mustelids are occasional and temporary visitors, controlled by trapping. Deer have been recorded on rare occasions having swum the narrow channel from the mainland. Possums are not present.

One interesting facet of the vegetation is the extraordinary abundance of hemi-parasitic mistletoes. I have not observed mistletoe concentration approaching this elsewhere in Otago. Three species are present; the conspicuous leafy *Ileostylus*

Table 1. Mistletoe hosts on Stevensons Island/Te Peka Karara.

Hosts	Species of mistletoe		
	<i>Korthalsella salicornioides</i>	<i>Korthalsella lindsayi</i>	<i>Ileostylus micranthus</i>
<i>Carmichaelia petriei</i>			•
<i>Coprosma crassifolia</i>		•	•
<i>Coprosma linariifolia</i>		•	•
<i>Coprosma propinqua</i>		•	•
<i>Corokia cotoneaster</i>			•
<i>Discaria toumatou</i>			•
<i>Helichrysum lanceolatum</i>		•	•
<i>Kunzea ericoides</i>	•		•
<i>Leptecophylla juniperina</i>			•
<i>Leptospermum scoparium</i>	•		
<i>Lophomyrtus obcordatum</i>		•	•
<i>Melicope simplex</i>		•	•
<i>Muehlenbeckia australis</i>		•	•
<i>Myrsine divaricata</i>		•	•
<i>Parsonsia heterophylla</i>			•
<i>Rubus schmidelioides</i>			•

micranthus (Fig. 1a), and the cryptic dwarf mistletoes *Korthalsella salicornioides* (Fig. 1b) and *K. lindsayi* (Fig. 1c). A list of the recorded hosts of the three species on the island is presented in Table 1. The most abundant mistletoe, *K. salicornioides*, occurs on a high proportion of kanuka, its primary host. Individual host trees commonly support many hundreds of this mistletoe. Manuka is the only other host that *Korthalsella salicornioides* is recorded on. *Korthalsella lindsayi* is hosted by a wider range of shrubs but is most commonly associated with *Myrsine divaricata*. *Ileostylus micranthus* has the widest range of hosts but is most commonly found on *Coprosma propinqua* and *C. crassifolia*. It reaches its largest dimensions however on kanuka hosts.

Some individual shrubs host two species of mistletoe. *Melicope simplex* and *Lophomyrtus obcordata* were observed hosting *K. lindsayi* and *Ileostylus micranthus*.

Under the latest threat classification revision (de Lange *et al.* 2009) *Korthalsella salicornioides* is ranked as 'Naturally Uncommon'. *K. lindsayi* and *Ileostylus micranthus* are considered 'Not Threatened'.

Reference

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). *New Zealand Journal of Botany* 47, 61–96

Meeting and trip reports

Field Trip to the St Marys Range, North Otago, 12–14 December 2008.

David Lyttle

The main St Marys Range runs approximately north-west to south-east axis more or less parallel to the Waitaki River. The highest point is Kohurau (2015 m). Other notable peaks are Mt Bitterness (1910 m) to the north and Mt Domet (1942 m) to the south. The St Marys Range is a region of transition between the greywacke mountains of South Canterbury and the schist terrain that is more typical of Central Otago. The Range consists of a series of steep-sided basins are divided by broad stony ridges and plateaux. The Awakino Ski Field where the party stayed lies in one such basin at the head of the Awakino River, which

flows into the Waitaki River just upstream of Kurow. The Awakino in turn saddles with tributary creeks of the Otematata River, which flows north into the Waitaki. The Hawkdun Range lies further to the west across a dissected tussock plateau that drains north into the Waitaki. The predominant rock type is greywacke, which erodes forming the extensive scree that are characteristic of the area. This in turn influences the type of vegetation that is present. Many northern alpines reach their southern limits here and there seems to be a considerable amount of local biodiversity within the region.



Above: Mist, St Marys Range. Photo by David Lyttle.

The trip proved to be popular with members as far a field as Christchurch, Twizel and Alexandra attending. We were fortunate in having Hugh Wood of Oamaru join us. Hugh's knowledge of the area proved to be invaluable and he guided us to many plants that we would otherwise not have found.

An advance party reached Awakino on Friday. We found Jack the Awakino skifield caretaker already in residence at the base hut preparing the hut for the weekend. By the afternoon the rain had cleared and we headed off to find *Ranunculus acraeus*. We found a thriving population in the upper basin still covered with fresh snow. Most plants were in flower and presented a magnificent sight with gold flowers dotted over the surface of the scree. The plants were growing in bouldery scree in characteristic clumps that distinguish the species from *Ranunculus haastii*. Some plant had up

to sixteen stems all in flower. The stout growing stem emerged from a thick rhizome buried in a fine debris layer several centimetres beneath the mobile surface layer. More plants were found higher in the basin.

The weather on Saturday improved as the day progressed. The mist that enveloped the Range in the morning burnt off by midday giving a clear fine day. Various parties dispersed in different directions with most people going to the main *Ranunculus acraeus* site. I joined Hugh and several others and we made our way up to the saddle on the flank of Koharau. We found a number of specimens of *Aciphylla dobsonii* in flower. *Ranunculus gracilipes* and *Cardamine corymbosa* were growing in the creek flowing down from the saddle. Among the plants growing on the sparsely vegetated scree were *Epilobium crassum* and *Pimelea oreophila*.

Further up towards the saddle were scattered plants of *Ranunculus acraeus*. These plants were not as large as those in the main colony in the western basin but were indistinguishable from them. There appears to be only one species of scree *Ranunculus* on the St Marys Range.



Above: *Celmisia* aff. *du-rietzii*.
Photo by David Lyttle.

An interesting find was a plant of *Melicytus alpinus* found at about 1650 m. The plant was sprawled across an outcropping rock apparently thriving and growing out of the cracks for shelter. On the western side of the saddle there was a vegetation island set amongst the scree and fellfield. Prominent on this island were *Celmisia ramulosa*, *Hebe pinguifolia* and *Celmisia* aff. *du-rietzii* contrasting with the typical species of the adjacent fellfield and high ridges, *Aciphylla dobsonii*, *Raoulia youngii* and *Chionohebe thomsonii*. Hugh led us further down the slope to the west to a feature he called the gravel mound. At this site he had found a colony of *Raoulia petriensis*, the only place where this species has been found on

the St Marys Range. The stronghold of this unusual *Raoulia* is on Mt Ida further to the south-west. It also occurs further north across the Waitaki on the Kirkliston and Benmore Ranges. Other plants present at this site were *Haastia sinclairii*, *Leptinella atrata*, *Lobelia roughii* and *Myosotis traversii* var. *cantabrica*. The *Leptinella* and *Haastia* plants were just emerging from the scree and beginning to flower.

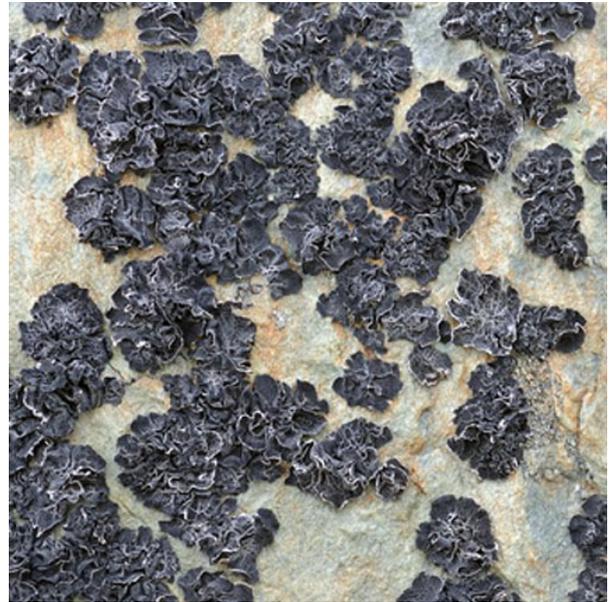
Another vegetation type was found higher up on the flank of Koharau at an altitude of 1700 m. Here snowmelt feeding a little stream had created a turfy wetland area. The course of the stream was marked by thousands of flowering plants of *Ranunculus gracilipes*. Hidden in the turf was a smaller buttercup, *Ranunculus maculatus*. This species appears to be poorly known as it is infrequently collected due to its small size and inconspicuous appearance. Another plant growing in this area was *Raoulia hectori* var. *mollis*. This species appears to be confined to alpine bogs and has softer cushions than *Raoulia hectori*, which was growing on dryer ground nearby. *Chionohebe densifolia*, *Chionohebe thomsonii* and the hybrid between the two species “*Pygmea armstrongii*” were all present. In the most recent taxonomic treatment of the *Chionohebes* (Meudt (2008) *Australian Systematic Botany* **21**, 387–421) all *Chionohebes* are returned to the genus *Veronica* and the name *Veronica x uniflora* Kirk is reinstated for the hybrid. The comment is made in the article “Because *V. densifolia* and *V. thomsonii* are fairly common throughout Otago and are found at

similar elevations it is natural to wonder why more hybrids between these two species do not exist". On the St Marys Range hybrids are not only abundant but also span the complete spectrum of variation between the two parental species. A little forget-me-not identified as by Hugh Wood as *Myosotis pygmaea* was also present in the bog. This plant has tiny flowers about 2 mm in diameter. Another *Myosotis* with a cushion habit of *Myosotis pulvinaris* was also present. It differs from *Myosotis pulvinaris* in the small size of its flowers (2 mm in diameter).

We christened the final site we visited "the Black Tor" on account of the mass of black lichens (mainly *Neuropogon ciliatus* and *Umbilicaria* sp.) covering it. It is a huge mass of rock surrounded by scree slopes that lies below the crest of the ridge. Initially, I thought it might be a schist outcrop and for this reason was more resistant to erosion but I was subsequently informed on good authority that it was greywacke. As it is the only patch of stable ground in the vicinity it has been colonised by a number of plants that find the adjacent screes inhospitable. Among the plants noted there was an unusual form of *Hebe buchananii* with red leaf margins, *Leucogenes grandiceps*, a small *Aciphylla*, tentatively identified as *Aciphylla montana* var. *gracilis*, *Hebe pinguiifolia*, *Celmisia* aff. *du-rietzii*, *Geum leiospermum* and *Chionochloa rigida*.

The screes around the base of the tor were colonised by the St Marys Range form of *Stellaria* aff. *roughii*. It forms

extensive mats several metres across on the quite unlike the erect clumps found further north in Canterbury.



Above: *Umbilicaria* sp. Photo by David Lyttle.

All and all it was a very successful trip. In particular I thank Hugh for his generous assistance in guiding people to the locations of a number of various plants and for his slide show on Saturday evening where he talked on the vegetation of the St Marys Range. We were truly fortunate in having such a knowledgeable guide. I also thank Jack our host from the ski club for looking after us – Jack the hut and facilities were very much appreciated.

Botanical Notes: The St Marys Range and the adjacent North Otago ranges seems to be a biodiversity hotspot for historical/geological/climatic reasons with a number of distinct plants some of which may eventually prove to be new species. The Range seems to have its own forms of a number of widespread species. The highlight was seeing the scree buttercup *Ranunculus acraeus* in full flower. It was described formally as a distinct species in

2006 (Heenan *et al.* (2006) *New Zealand Journal of Botany* **44**, 425–441). It is certainly a magnificent sight — there were several hundred plants in flower on the screes. It is quite widely distributed though there seems to be one main colony.

Stellaria aff. roughii. I went back to the site where I had originally collected this plant. There is a lot of it there and it was just emerging from the scree. Hugh Wood considers it to be a distinct species.

Celmisia sp. aff. du-rietzi/densiflora. This *Celmisia* forms dense cushions reminiscent of *Celmisia brevifolia* but has narrow sticky leaves. *Celmisia densiflora* is present in the grassland lower down but this species predominates on the screes and high ridges.

Haastia sinclairii. The form on the St Marys Range is different in appearance from *Haastia sinclairii* found in other localities in Otago and Southland.

Lobelia roughii. This species is near its Southern limit here though it occurs further south on the Ida Range.

Myosotis pygmaea. Hugh Wood originally identified this small forget-me-not as var *glauca* but it was growing in a bog at 1700 m. Mike Thorsen is of the opinion that it is *Myosotis pygmaea* var *drucei*.

Myosotis sp. This is a cushion species distinct from *Myosotis pulvinaris* that has tiny flowers (2 mm in diameter).

Hebe epacridea. On the St Marys Range this species has more slender branchlets than in other parts of its range.

Hebe buchananii. I consider the plants that Hugh Wood identified as *Hebe buchananii* to be *Hebe pinguifolia*. It is relatively abundant at Awakino. However I did find some plants I would place in *Hebe buchananii*. One specimen had small leaves with red margins. It was very attractively marked and differed from the *Hebe pinguifolia* plants growing nearby.

Abrotanella sp. I have not been able to positively identify this plant. It forms a large tight cushion and may be *Abrotanella muscosa*.



Above: *Haastia sinclairii* St Marys Range form. Photo by David Lyttle.

Alpine Plants of the St Marys Range, North Otago.

Hugh Wood & David Lyttle with other BSO assistance

This list is based on a list originally compiled by Hugh Wood of Oamaru with additions and revisions by David Lyttle and others from the Botanical Society of Otago. Plants denoted with * were recorded on the Botanical Society of Otago field trip to the Awakino ski field on the 12–14 December 2008.

Ferns and Fern allies

Lycopodiaceae

*Huperzia australiana**
Lycopodium fastigiatum
Lycopodium scarioum

Blechnaceae

Blechnum montanum
Blechnum penna-marina

Dryopteridaceae

Polystichum cystostegia

Gleicheniaceae

Gleichenia dicarpa

Dennstaedtiaceae

Hypolepis millefolium

Conifers

Podocarpaceae

Podocarpus nivalis

Dicotyledons

Ranunculaceae

*Psychrophila obtusa**
*Ranunculus acraeus**
*Ranunculus gracilipes**
*Ranunculus maculatus**
*Ranunculus multiscapus**

Brassicaceae

Cardamine bilobata
*Cardamine corymbosa**

Violaceae

*Melicytus alpinus**
*Viola cunninghamii**

Caryophyllaceae

*Colobanthus acicularis**
*Colobanthus canaliculatus**
*Colobanthus strictus**
*Scleranthus uniflorus**
Stellaria gracilentia
*Stellaria aff. roughii**

Geraniaceae

*Geranium microphyllum**
*Geranium sessiliflorum**

Polygonaceae

*Muehlenbeckia axillaris**

Portulacaceae

*Montia sessiliflora**

Oxalidaceae

Oxalis magellanica

Onagraceae

Epilobium alsinoides var.
atriplicifolium
*Epilobium crassum**
Epilobium porphyrium
*Epilobium pycnostachyum**
Epilobium tasmanicum

Thymelaeaceae

*Kelleria dieffenbachii**
*Kelleria paludosa**
*Kelleria villosa**
*Pimelea oreophila**

Coriariaceae

Coriaria plumosa

Rosaceae

Acaena glabra
*Acaena saccaticupula**
*Acaena fissistipula**
*Acaena caesiiglauca**
*Geum leiospermum**

Fabaceae

Carmichaelia crassicaulis

Apiaceae

*Aciphylla aurea**
*Aciphylla dobsonii**
Aciphylla montana var.
*gracilis**
*Aciphylla scott-thomsonii**

Anisotome aromatica var.

*aromatica**
Anisotome brevistylis
*Anisotome flexuosa**
Oreomyrrhis colensoi
Schizeilema
*hydrocotyloides**

Ericaceae

*Dracophyllum muscoides**
*Dracophyllum pronum**
*Dracophyllum uniflorum**
*Gaultheria crassa**
Gaultheria depressa var.
*novae-zelandiae**
*Leucopogon fraseri**
*Pentachondra pumila**

Rubiaceae

Coprosma atropurpurea
Nertera balfouriana

Asteraceae

Abrotanella sp.
*Anaphalioides bellidioides**
*Argyrotegium mackayi**
*Brachyglottis bellidioides**
Brachyglottis haastii
*Brachyglottis lagopus**
*Brachyscome sinclairii**
*Celmisia alpina**
*Celmisia densiflora**
Celmisia gracilentia
*Celmisia laricifolia**
*Celmisia lyallii**
Celmisia ramulosa var.
*tuberculata**
*Celmisia sessiliflora**
Celmisia sp. (aff. *durietzii*)*
*Craspedia lanata**
Haastia aff. *sinclairii*
*Haastia sinclairii**
Helichrysum intermedium
Lagenifera cuneata

*Leptinella atrata**
*Leptinella pectinata**
*Leucogenes grandiceps**
*Ozothamnus leptophyllus**
*Raoulia grandiflora**
*Raoulia hectori**
Raoulia hectorii var.
*mollis**
*Raoulia petriensis**
*Raoulia subsericea**
*Raoulia youngii**
*Taraxacum magellanicum**

Gentianaceae

*Gentiana amabilis**
*Gentiana bellidifolia**

Campanulaceae

Wahlenbergia
albomarginata

Styidiaceae

*Phyllachne colensoi**

Lobeliaceae

*Lobelia roughii**
*Lobelia linnaeoides**

Lobelia macrodon/
*glaberrima**
Pratia angulata

Boraginaceae

Myosotis australis
Myosotis aff. *pulvinaris*
Myosotis pygmaea var.
*drucei**
Myosotis sp. 'cushion, tiny
flowers'*
Myosotis traversii var.
*cantabrica**

Plantaginaceae

*Chionohebe densifolia**
*Chionohebe thomsonii**
*"Pygmaea armstrongii"**
*Hebe buchananii**
*Hebe epacridea**
*Hebe lycopodioides**
*Hebe odora**
*Hebe pinguifolia**
Hebe subulata
Ourisia caespitosa var.
gracilis

*Ourisia glandulosa**
Plantago lanigera

Santalaceae

Exocarpos bidwillii

Myrsinaceae

*Myrsine nummularia**

Orobanchaceae

Euphrasia zelandica

Monocotyledons

Phormiaceae

Phormium cookianum

Asphodelaceae

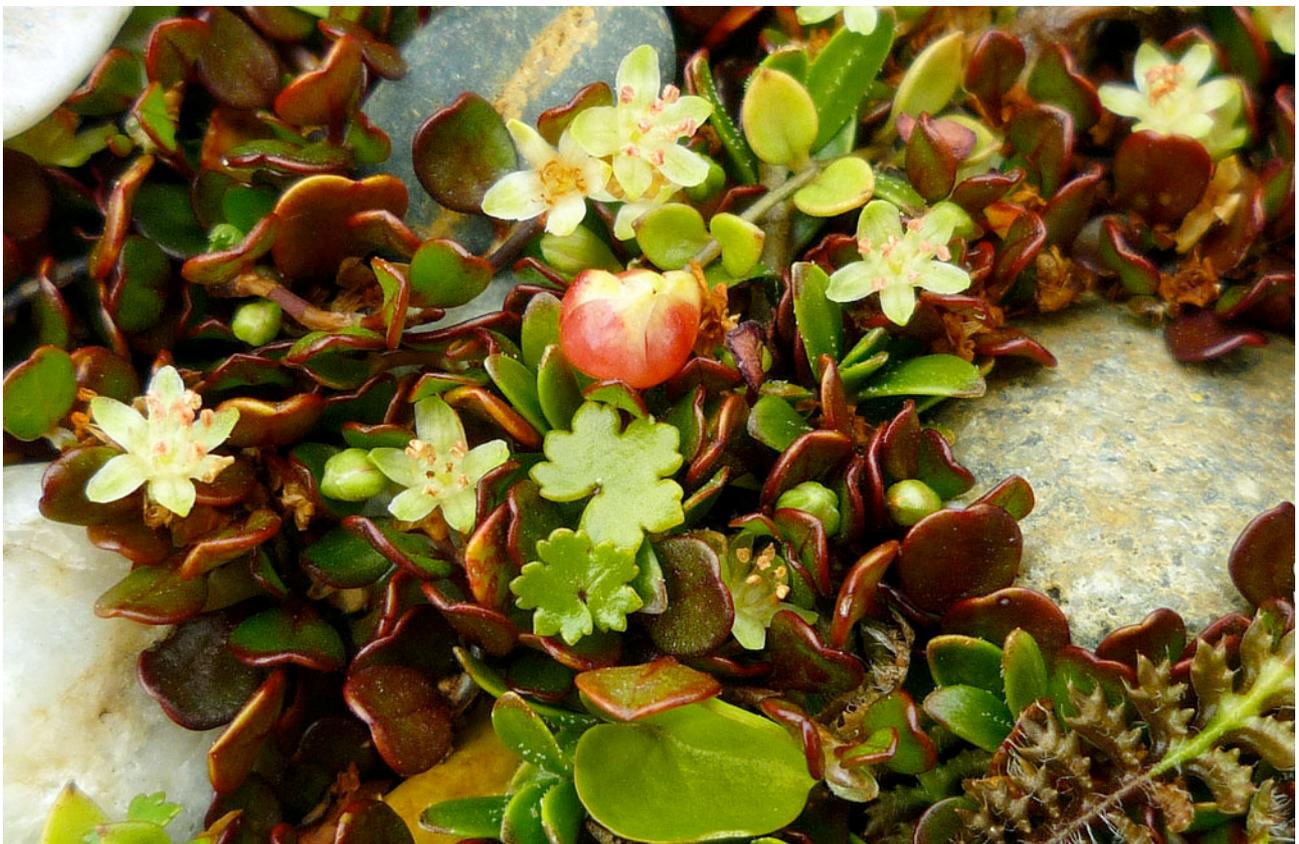
Bulbinella angustifolia

Orchidaceae

Aporostylis bifolia
Prasophyllum colensoi

Poaceae

*Chionochloa rigida**
*Poa colensoi**



Above: Detail from "Coastal shrubs". One of the three winners in the Botanical Society of Otago Photo Competition 2009. Photo by Jesse Bythell.

Cape Saunders Field Trip, 14 March 2009

John Barkla

On arrival at this impressive Otago Peninsula site we split into two parties. Alli & John Knight headed for the myriad of rocky talus, content to spend the day capturing photographic images of lichens. The rest of us began by wandering the escarpment near the road, its eroding cliff edge studded with white encrusting lichens and many cushion-forming plants.



Above: New BSO Chairman David Lyttle at Cape Saunders. Photo by John Barkla.

This occupied us for quite some time as we worked our way along its precarious edge, continually finding additional species among the cracks and crevices. Of particular interest

were the many local rarities such as the tiny buttercup *Ranunculus recens*, the equally small forget-me-not *Myosotis pygmaea* var. *pygmaea* and the unnamed carrot relative *Chaerophyllum* “minute flower.” Further along, fringing the dense mixed silver tussock/pasture, were the bidibid *Acaena microphylla* var. *pauciglochidiata* and shore cress *Lepidium tenuicaule*. Below, clinging to the cliffs, were dark green compact mounds of the Cape Saunders rock daisy, *Helichrysum selago* var. *tumidum*, an Otago Peninsula endemic.

Where the cliffs relented we worked our way down through steep slopes, coming across a woolly head (*Craspedia* sp.), which does not appear to have been recorded before on the Peninsula. Some specimens were taken for further study. Unfortunately gorse is slowly spreading from several nodes across the face. We lunched amongst the volcanic rock talus, avoiding the fierce nettle (*Urtica ferox*) that sheltered amongst the jumble.

Later we visited a rocky beach reached by a narrow winding track through *Hebe elliptica* and *Poa astonii*. Fur seals slumped on the shore and the squeals of pups and yellow-eyed penguins resonated off the towering basalt cliffs beneath Cape Saunders. Around at Matakaitiki Point we inspected the derelict house and concrete foundations associated with the lighthouse. *Lepidium tenuicaule* still grows at the base of some buildings but other populations recorded more than ten years ago

seemed to have been swamped by rank grass.

The headland itself is very exposed to salt-laden wind and is dominated by mats of the halophyte *Atriplex buchananii*. Less common were glasswort (*Sarcocornia quinqueflora*), remuremu (*Selliera radicans*) and maakoako (*Samolus repens*). The hike

back to the vehicles passed some dry shrubby cliffs with *Coprosma crassifolia*, *Helichrysum lanceolatum* and the local form of prostrate porcupine shrub (*Melicytus* aff. *obovatus* “Cape Saunders”). Many thanks to the landowner Sam Neill for allowing access to this magnificent site, and to David Lyttle for leading the group.

Vascular plants of Capes Saunders (including Matakita Point), Otago Peninsula (Central GR NZMS 260 Map I44 336787)

John Barkla & David Lyttle with other BSO assistance, 14 March 2009

* adventive

indigenous species outside natural range

^p planted

Dicotyledonous trees, shrubs and vines

Coprosma crassifolia
Coprosma propinqua
Coprosma repens#
Fuchsia perscandens
Hebe elliptica
Helichrysum lanceolatum
Helichrysum selago var.
tumidum
Melicytus aff. *obovatus*
“Cape Saunders”
Melicytus ramiflorus
Muehlenbeckia complexa
Olearia avicenniifolia
Olearia traversiorum#^p
**Ulex europaeus*
Urtica ferox

Dicotyledonous herbs (including composites)

Acaena anserinifolia
Acaena microphylla var.
pauciglochidiata
Anaphalioides bellidioides
Apium prostratum
Atriplex buchananii
**Bellis perennis*

**Cerastium fontanum*
subsp. *vulgare*
Chaerophyllum(a) (CHR
364086; ‘minute
flower’)
**Cirsium arvense*
**Cirsium vulgare*
Colobanthus muelleri
Coronopus didymus
Craspedia “Cape Saunders”
Crassula colligata
Crassula mataikona
Crassula moschata
Dichondra brevifolia agg.
Disphyma australe
Einadia allanii
Epilobium alsinoides subsp.
atriplicifolium
Epilobium komarovianum
Euchiton audax
**Geranium molle*
Geranium sessiliflorum var.
arenarium
Gunnera monoica
Helichrysum filicaule
Hydrocotyle “montana”
Hydrocotyle moschata
**Hypochoeris radicata*
Lagenifera sp.

Lepidium tenuicaule
Leptinella dioica subsp.
dioica
Linum monongynum s.s.
**Marrubium vulgare*
Myosotis pygmaea var.
pygmaea
Oxalis exilis
**Plantago coronopus*
Plantago raoulii
**Polycarpon tetraphyllum*
Pseudognaphalium luteo-
album
Ranunculus foliosus
Ranunculus recens
Raoulia australis s.s.
**Sagina procumbens*
Samolus repens
Sarcocornia quinqueflora
Scleranthus uniflorus
Selliera radicans
Senecio carnosulus
Senecio minimus
Spergularia media
**Stellaria media*
Tetragonia implexicoma
**Trifolium repens*
Wahlenbergia rupestris

Grasses

**Anthoxanthum odoratum*
Cortaderia richardii
 **Critesion murinum*
Elymus solandri s.s.
 **Lolium perenne*
Poa astonii
Poa cita agg.
Poa colensoi s.l.

Rushes and Sedges

Carex appressa
Carex coriacea
Carex testacea

Ficinia nodosa
Isolepis cernua
Luzula banksiana var. *acra*

**Monocotyledons
(other)**

Cordyline australis^p
Libertia ixioides
Phormium tenax s.s.

Ferns and Allies

Asplenium appendiculatum
 subsp. *appendiculatum*
Asplenium lyallii

Asplenium obtusatum
 subsp. *obtusatum*
Blechnum blechnoides
Blechnum fluviatile agg.
Blechnum penna-marina
Blechnum procerum
Ctenopteris heterophylla
Hypolepis ambigua
Microsorium pustulatum
Polystichum neozelandicum
 subsp. *zerophyllum*
Pyrrosia elaeagnifolia

AGM and Photographic Competition, 22 April 2009

Allison Knight

This year the AGM took 9 minutes. John Barkla, the outgoing Chairman, and Lyn Bentley, the retiring Treasurer, were applauded for their fine efforts over the last few years and the following were elected unopposed: Chairman, David Lyttle; Secretary, Allison Knight; Treasurer, Rebecca James, Web manager and Newsletter publisher, David Orlovich; Communication, Robyn Bridges, Trip co-ordinator, Mike Thorsen. Committee: Abe Gray, Bastow Wilson, John Barkla, Tina Summerfield, Max Crowe.

Members voted for their choice of the 32 prints entered in the BSO Photo Competition, then Rod Morris presented the electronic versions on the big screen. He had something helpful to say about each image, and commented that the high standard of the entries, plus the personal preferences of the three judges made it extremely difficult to decide the winners. He also noted the different impact and colour range of the print and electronic images, and suggested

that next year the judges use the electronic images to make their decisions.

The judges' top 3 choices were: by John Barkla's Pohutukawa (see p. 7), Jesse Bythell's Coastal sub-shrub community (see p. 16), Gretchen Brownstein's Walking in the woods (see p. 22). The Student prize went to Annika Korsten for Disease (see p. 7). Then followed three Very Highly Commended images: Ken Allen's *Lobelia roughii* (see p. 5), Mike Thorsen's Hidden symmetry and Jesse Bythell's *Salicornia australis*. Four more images were Highly Commended: Mary Anne Miller's Foveaux jewels, Lyn Bentley's *Clematis* infected with *Puccinia*, Mike Thorsen's Illumination and Allison Knight's *Thamnolia*. The Members' choice prize went to Ken Allen for *Lobelia roughii*, with the Members' runner up being one of the judges top three, Gretchen's Walking in the woods.

All the prints were put on display in the Botany Dept foyer for a month. The

BSO committee has voted for the images to go in the BSO Calendar for 2010 and a stunning new calendar is well in progress. Last year we were overly optimistic on the print run and made a loss, so please support it well

this year. It's a wonderful thing to send to botanical friends and family and to home-sick kiwis overseas — and to hang on your own home and office wall.



Above: *Cardamine corymbosa* from St Marys Range. Photo by David Lyttle.

Field Trip to Lower Taieri Gorge, 26 April 2009

Robyn Bridges

On Sunday 26 April we spent a relaxing day botanising the sides of the Millennium Walkway. This walkway sidles the Taieri River as it flows through the gorge between Henley and Taieri Mouth, the river's entrance to the Pacific. It was a brilliant sunny autumnal day and much warmer than many of us had anticipated. We were frequently reminded of the time of the year though, when we moved from the hot sun baked areas of the track into bush-lined hollows where the temperature instantly plummeted several degrees.

Our time was spent looking at an interesting and varied flora. Podocarps included kahikatea, miro, matai, and totara. There were good examples of *Cyathea dealbata*, the Silver Fern at its southern limit. Two excellent specimens of *Hoheria angustifolia*, sentinel like by the track leading to a sunny grassy patch on the side of the river, where we had lunch.

Other plants of interest included *Dicksonia fibrosa*, the threatened *Teucrium parviflorum*, the NZ

Verbena, *Carmichaelia petriei* with a particularly slim morphology, a very blue *Wahlenbergia* that fooled a few of us and a large variety of *Coprosmas*, including *C. taylorii*. Though neither endangered nor threatened, the display of *Coprosma lucida* berries against a blue sky, almost incandescent in the sun, was stunning. As well we found *Calystegia tuguriorum*, *Scandia geniculata*, *Pseudopanax ferox* and *crassifolium* in a picture perfect side-by-side position, *Plagianthus divaricatus*, the salt marsh ribbonwood and the rare *Olearia fragrantissima*, the fragrant tree daisy. There was a great display of the golden lichen *Xanthoria parietina*, *Aseroe rubra*, the flower fungus, also known as the stink horn fungus, in a cool dark hollow and near a large wet patch of black mould or algae (possibly *Nostoc*?) on the side of the bank.

On behalf of those on this field trip I thank John Barkla for leading the trip and for once again so willingly sharing his knowledge. It was a truly splendid day!

Vascular plants of the lower Taieri Gorge on true right of gorge between Taieri Ferry Road and Taieri Mouth (Central Grid Reference NZMS 260 Map I45 98)

John Barkla & David Lyttle with other BSO assistance, 26 April 2009

Gymnosperms

Dacrycarpus dacrydioides
Dacrydium cupressinum
 **Pinus radiata*
Podocarpus hallii
Podocarpus totara var.
totara
Prumnopitys ferruginea
Prumnopitys taxifolia

**Dicotyledonous trees,
 shrubs and vines**

Aristolotelia serrata
Calystegia tuguriorum
Carmichaelia petriei
Carpodetus serratus
Clematis foetida
Clematis paniculata
Coprosma areolata
Coprosma crassifolia
Coprosma foetidissima
Coprosma lineariifolia
Coprosma lucida
Coprosma obconica subsp.
obconica
Coprosma propinqua
Coprosma rhamnoides agg.
Coprosma rotundifolia
Coprosma rubra
Coprosma tayloriae
Coprosma virescens
Corokia cotoneaster agg.
 **Cotoneaster simonsii*
 **Crataegus monogyna*
 **Cytisus scoparius*
Elaeocarpus hookerianus
Fuchsia excorticata
Gaultheria antipoda
Griselinia littoralis
Haloragis erecta subsp.
erecta
Hebe salicifolia
Helichrysum lanceolatum
Hoheria angustifolia
 **Hypericum androsaemum*
Kunzea ericoides s.l.

Leptospermum scoparium
 agg.
 **Leycesteria formosa*
Lophomyrtus obcordata
Melicope simplex
Melicytus aff. alpinus
 (coastal)
Melicytus ramiflorus
Metrosideros diffusa
Muehlenbeckia australis
 agg.
Myrsine australis
Myrsine divaricata
Olearia arborescens
Olearia fragrantissima
Parsonsia heterophylla
Pennantia corymbosa
Pittosporum eugenioides s.s.
Pittosporum tenuifolium
Plagianthus divaricatus
Plagianthus regius
Pseudopanax colensoi var.
ternatus
Pseudopanax crassifolium
Pseudopanax ferox
Pseudowintera colorata
 **Ribes uva-crispa*
 **Rubus fruticosus* agg.
Rubus cissoides
Rubus schmidelioides var.
schmidelioides
Rubus squarrosus
Scandia geniculata
Schefflera digitata
 **Solanum dulcamara*
Solanum laciniatum
Sophora microphylla
Streblus heterophyllus
Teucrium parvifolium
 **Ulex europaeus*
Urtica ferox

**Dicotyledonous herbs
 (including composites)**

Acaena juvenca
 **Anagallis arvensis* subsp.
arvensis var. *arvensis*

Australina pusilla
 **Centaurium erythraea*
 **Cirsium arvense*
 **Cirsium vulgare*
Crassula sieberiana
Dichondra repens agg.
Einadia allanii
Euchiton audax
 **Geranium molle*
Hydrocotyle moschata
Hydrocotyle novae-zeelandiae
 **Hypochoeris radicata*
Lagenifera sp.
 **Lepidium africanum*
Leptinella dioica subsp.
dioica
 **Lotus pedunculatus*
 **Mycelis muralis*
 **Plantago lanceolata*
Oxalis exilis
Pseudognaphalium luteoalbum
Ranunculus reflexus
Samolus repens
Schizeilema trifoliatum
Selliera radicans
Senecio biserratus
 **Senecio jacobea*
Senecio minimus
Senecio quadridentatus
 **Solanum nigrum*
 **Sonchus asper*
Stellaria parviflora
Tetragonia implexicoma
Urtica incisa
 **Verbascum thapsus*
Wahlenbergia rupestris

Grasses

**Agrostis capillaris*
Anemanthele lessoniana
 **Anthoxanthum odoratum*
Dichelachne crinita
Echinopogon ovatus
Elymus solandri s.s.
Hierochloa redolens

**Holcus lanatus*

Microlaena avenacea

Microlaena polynoda

Poa colensoi s.l.

Poa matthewsii/P. *Imbecilla*

Rytidosperma sp.

**Schedonorus phoenix*

Rushes and Sedges

Apodasmia similis

Carex forsteri

Carex secta

Uncinia banksii

Uncinia uncinata s.l.

Monocotyledons (other)

Astelia fragrans

Cordyline australis

Dianella nigra

Libertia ixioides

Phormium tenax s.s.

Pterostylis sp.

Ripogonum scandens

Ferns and Allies

Asplenium appendiculatum

subsp. *appendiculatum*

Asplenium bulbiferum subsp.

bulbiferum

Asplenium flabellifolium

agg.

Asplenium flaccidum subsp.

flaccidum

Asplenium hookerianum

Asplenium polyodon

Blechnum chambersii

Blechnum colensoi

Blechnum discolor

Blechnum fluviatile agg.

Blechnum montanum

Blechnum novae-zelandiae

Blechnum procerum

Cyathea dealbata

Cyathea smithii

Dicksonia fibrosa

Dicksonia squarrosa

**Dryopteris filix-mas*

Histiopteris incisa

Hymenophyllum flabellatum

Hymenophyllum rarum

Hypolepis ambigua

Lastreopsis glabella

Lastreopsis microsora

Leptolepia novae-zelandiae

Leptopteris

hymenophylloides

Lycopodium volubile

Microsorium pustulatum

Pellaea rotundifolia

Polystichum neozelandicum

subsp. *zerophyllum*

Polystichum vestitum

Pteridium esculentum

Pyrrhosia elaeagnifolia

Trichomanes venosum



Above: Detail from “Walking in the woods”. One of the three winners (and Student Prize Runner Up) in the Botanical Society of Otago Photo Competition 2009. Photo by Gretchen Brownstein.

Botanical Society of Otago: PO Box 6214, North Dunedin 9059, NZ
 Patron: Audrey Eagle <http://www.botany.otago.ac.nz/bs/>

Committee 2009–2010

Chairman: David Lyttle	djlyttle@ihug.co.nz
Secretary: Allison Knight	alli_knight@hotmail.com
Treasurer: Rebecca James	jamre398@student.otago.ac.nz
Communications: Robyn Bridges	robyn.bridges@otago.ac.nz
Program Manager, Trips: Mike Thorsen	mthorsen@doc.govt.nz
Web & Newsletter editor: David Orlovich	david.orlovich@otago.ac.nz
Committee:	
John Barkla	jbarkla@doc.govt.nz
Max Crowe	croma101@student.otago.ac.nz
Abe Gray	graab419@student.otago.ac.nz
Tina Summerfield	tina.summerfield@otago.ac.nz
Bastow Wilson	bastow@otago.ac.nz

Please submit copy for next newsletter to David Orlovich by 16 October 2009

This Newsletter was published on 7 July 2009. ISSN 0113-0854

Membership form: Botanical Society of Otago, 2009

This form is also available on our website;

<http://www.botany.otago.ac.nz/bs/>

Preferred title: _____

Name: _____

Mailing Address

(work or home) _____

E-mail address:

_____ Electronic Newsletter only? Yes/No

Phone: work () _____ home () _____

Annual Subscriptions are due by the beginning of each calendar year.

Only \$5 Concessional (student /unwaged), [\$20 for 5 years]

\$15 Full (waged/salary/philanthropist) [\$60 for 5 years],

\$20 Family (2 adults + children) [\$80 for 5 years]

Please circle amount paid. Donations are welcomed

Cheques to: "Botanical Society of Otago".

Post to: Treasurer, BSO, P.O. Box 6214, Dunedin North 9059, New Zealand

Correct amount of cash may be lodged at the Department of Botany Office

BOTANY DEPARTMENT
UNIVERSITY OF OTAGO



Botanical Society of Otago, PO Box 6214, North Dunedin 9059, NEW ZEALAND



BOTANICAL SOCIETY

OF OTAGO