

South Island trip to Arthur's Pass, 1 – 10 January 2012

Helen Preston Jones (editor)

Our group comprised: *Chris Ashton, Enid and Paul Asquith, Kerry Bodmin, Jan Butcher, Lisa Clapperton, Bev and Geoff Davidson, Barbara Hammonds, Leslie Haines, Peter Hutton, Cathy Jones (our Leader), Christine Major, John Millet, Viv Patterson, Helen Preston Jones, Juliet Richmond, Stella and John Rowe, Peter Scott, Val Smith, Alison Wesley, Diana Whimp, Anthony Wright, Maureen Young, and we were joined by Mario Marstel from Switzerland for several days.*

Geology

Christine Major

The uplift of the 500km long Southern Alps by the subduction of the Australian plate under the Pacific plate began c. 5 million years ago (Coates 2002). The highest peak in Arthur's Pass National Park, Mt Murchison, is 2400 m while the summit of the Arthurs Pass road is 920 m.

The sedimentary and metamorphosed sedimentary rocks of the Torlesse Supergroup comprise the majority of rocks of the alps and eastern ranges in the area and date from the Carboniferous, Permian and Triassic periods. Greywacke predominates but sandstones and mudstones are also present, and close to the alpine fault in the west the greywacke has been further metamorphosed into Haast schist. In the Castle Hill basin Tertiary limestones have been preserved in a fault-bounded valley that has dropped below the surrounding rising Torlesse and Craigieburn ranges.

In the last 250,000 years, glaciations have maximally extended as far east as the Canterbury Plains, carving wide valleys in the landscape. Since the last ice age 8,000 years ago, rapid erosion in the form of river run-off, slips, slumps and debris flows owing to a combination of high precipitation, relatively soft rock and earthquakes, has filled the valleys with vast quantities of sediment. The disturbance to the original vegetation in the eastern ranges since human occupation has increased this loss.

Day One: Arthur's Pass Township

Helen Preston Jones

We all arrived in dribs and drabs on various forms of transport to meet up at the Outdoor Education Centre in the middle of Arthur's Pass township, a large and roomy building with space for all, dominated by the steep beech-clad slopes of the 113,000 hectare national park. The Centre is run by a charitable trust whose aim is to foster appreciation of the natural history of the Arthur's Pass area. It certainly achieved that aim. Arthur's Pass was established in 1929 and

was New Zealand's third national park and the first one in the South Island. It is a park of contrasts, with dry beech/tawhai forest in the east, luxuriant rainforest on western slopes, and a historic highway and railway running through the middle. On our visit we concentrated mainly on the alpine vegetation but experienced a wide range of the park's habitats.

As we settled in on the first day, many small local excursions were made from the Centre. The scene was set with the discovery of *Peraxilla tetrapetala* (Fig. 1) on a beech tree (*Nothofagus solandri* var. *cliffortioides*) which rose out of the river gravels above drifts of multicoloured Russell lupins (*Lupinus polyphyllus*). These were so picturesque, despite being exotic and invasive. Equally eye-catching, at the micro scale were the large purple *Mazus radicans* flowers found on the pathway to the DoC Visitor Centre.

Serious field trips began the next day. We were more than ably led on these by the redoubtable Cathy Jones, with her phenomenal knowledge and willingness to share, and from whom no plant, however small, escapes unnoticed.

Day Two: Mt Cheeseman Skifield

Vivienne Paterson & Barbara Hammonds

Our day started with car park botany in the mist in the Ski Field car park where treasures were found within metres: *Epilobium*, *Raoulia*, *Kelleria*, *Leonohebe tetrasticha*, *Acaena fissistipula* with red anthers & stigmas, *Hebe pinguifolia* in flower and the highlight a flowering penwiper *Notothlaspi rosulatum*. Figures disappeared eerily in the mist, but fortunately the mist cleared for the rest of the day revealing stunning views (Fig. 2). A rocky outcrop nearby yielded an amazingly rich association of plants, a stunning juxtaposition beside the vast empty scree slopes: ferns (*Blechnum penna-marina*, *Polystichum cystostegia*, *Hymenophyllum multifidum*), *Gaultheria crassa*, *Raoulia grandiflora*, *R. mammilaris*, *Dracophyllum pronum*, *Anisotome aromatica* and other treasures. And there were plenty of lichens to interest Enid.

Higher up we saw *Geum*, *Ranunculus ensysii*, *Plantago lanigera*, *Viola cunninghamii*, an orchid (*Prasophyllum colensoi*), edelweiss (*Leucogenes grandiceps*), numerous *Celmisia* and *Epilobium* species, and the charming small cushion plant *Chionohebe pulvinaris* in flower (Fig. 3). Anthony made an intrepid traverse across a steep slope to check out a snow basin while Geoff and Vivienne found the black daisy *Leptinella atrata* (Fig. 4) and *Haastia sinclairii* up near the top of the ridge. Metallic specimens included an avalanche probe, *Sculptural rustica* and a weathered camera.

Back at the ski lodge buildings we toasted the Queen with gin-and-tonics, cooled by the ice collected from Anthony's snow patch, and a bar of chocolate each, wrapped in the design of the Union Flag which Scott had taken to the Antarctic.

Stopping by a 'barren' grey scree slope beside the road down, the order came "everybody out". Ho hum - more pen wipers - we've seen lots of those today, but these were magnificent specimens. Three special plants the same grey as the rock amazed us: *Stellaria roughii* (just about to flower), (Fig. 5,) *Lignocarpa carnosula* (in flower, so we could see it was in the Apiaceae family - one plant also had a rust growing on a few leaves) (Fig. 6), and *Anisotome filifolia* (also with one plant in flower); and those who hadn't seen the *Leptinella atrata* earlier were able to get a good look at one here.

The highlights for Cathy included finding *Epilobium tasmanicum* again, (Fig. 7), the *Lignocarpa* in flower and her favourite *E. rubro-marginatum*. The scree slopes in a nearby valley looked vertical - a truly rugged environment. It was fantastic to botanise at high altitude - about 1800 m, without too much climbing.

Day Three: Dobson Nature Walk

Leslie Haines

Unlike many of our days botanising in Arthur's Pass National Park that required climbing above the tree line, the recently upgraded Dobson Walk is more or less flat, as it follows the contour on the east side of the highway between Jack's Hut and the Otira Valley Walk, approximately 4 km north of Arthur's Pass Village.

We spent the first hour in dappled sunny weather along the initial section of the track before the divergence of the Bealey Valley Track, normally a five minute walk. Here the canopy was mountain beech (*Nothofagus solandri* var. *cliffortioides*) with a variable but often fairly dense understorey, predominantly small shrubs and ground covers, including mountain beech saplings. *Astelia nervosa* with dark midvein was common in this area and the dominant understorey plant in patches, and was identified by the lack of raised secondary veins on the reverse. We had a lesson from Cathy in distinguishing *Grammitis billardierei* (with angled sori) from *G. magellanica* (with parallel sori arrangement and with a leaf narrower compared to length). *Ourisia macrophylla* subsp. *lactea*, with large hairy leaves, was in flower here, growing on the base of beech trees.

Coprosma pseudocuneata was a common understorey shrub, recognised by the retention of occasional dying yellow leaves. Other *Coprosma* here were the smelly *C. foetidissima*, and the blunt-tipped *C. colensoi* with haphazard leaf arrangement.

Pseudopanax linearis was also seen often in the understorey and has a shorter leaf than the more familiar *P. crassifolius*. The other *Pseudopanax* present was *P. colensoi*, together with the related *Raukaua simplex* with seedlings, juveniles and occasionally adult plants.

Small-leaved shrubs were *Coprosma pseudocuneata*, juvenile mountain beech, *Pittosporum rigidum* (in seed) with very distinctive stiff form, *Myrsine divaricata* with distinctive weeping form and obcordate leaves with orange glands on margins, and *Hebe canterburiensis* was occasional. A tree many commented on was *Archeria traversii*, large trees with whitish flowers and attractive orange bark, and an addition to the list. Shrubs in the daisy family that were common included *Brachyglottis rotundifolia*, *Olearia arborescens*. Orchids in flower on this part of the walk included *Aporostylis bifolia*, the odd-leaved orchid (identified, as its name suggests, by the different length of the leaves as well as fine white flowers well proud of leaves), and *Pterostylis oliveri*, with a coiled dorsal sepal.

Of the ferns, *Polystichum vestitum* was common, and *Blechnum penna-marina* occurred at most sites we visited. *Blechnum montanum* with wavy leaves was distinguished (with difficulty for some of us) from hybrids *B. montanum* x *B. procerum* which have a longer terminal pinna (for discussion of this group refer to Chambers & Farrat 1998). *Hymenophyllum sanguinolentum*, with crests on the sori which distinguishes it from hairy *H. villosum*, was also present.

The only conifers seen on this part of the track were *Phyllocladus alpinus*, *Halocarpus biformis*, and *Podocarpus cunninghamii* x *P. nivalis*. Monocots included *Chionochloa flavescens* with curled leaf bases, and sedges: *Uncinia rupestris* with very fine leaves, *U. clavata* with large leaf with pale ribs and the glume much longer than the utricle, and *Schoenus pauciflorus* with distinctive black utricles. Other monocots included *Luzula picta*, and *Phormium cookianum* which are occasional, predominantly in light gaps. As we began a short climb just before the track turnoff we came into *Griselinia littoralis*, *Coprosma pseudocuneata*, *Pseudopanax linearis*, *P. colensoi*, *Archeria traversii*, with orchids *Nematoceras trilobum* and *Stegostyla lyallii*.

Alongside the stream *Hoheria glabrata* was the dominant plant with *Brachyglottis rotundifolia*, *Podocarpus nivalis*, *Coriaria angustissima*, *Parahebe lyallii*, *Gingidia montana*, *Olearia arborescens*, *O. ilicifolia* and *Celmisia bellidioides*. We had lunch near the bridge amongst *Anemone tenuicaulis*, *Viola filicaulis*, *Ourisia macrophylla* subsp. *lactea*, and shrubs *Olearia nummularifolia* (white), *Ozothamnus vauvilliersii* (yellow beneath leaf), *Hoheria glabrata*, and *Myrsine nummularia* (round leaf).



Fig. 1. *Peraxilla tetrapetala*, on a beech tree (*Nothofagus solandri* var. *cliffortioides*). Photo: Beverley Davidson, 2 Jan 2012.



Fig. 2. View from Mount Cheeseman Skifield. Photo: Helen Preston Jones, 3 Jan 2012.



Fig. 3. *Chionohebe pulvinaris*, Mt Cheeseman Skifield. Photo: Barbara Hammonds, 3 Jan 2012.



Fig. 4. *Leptinella atrata*, Mt Cheeseman Skifield. Photo: Vivienne Paterson, 3 Jan 2012.

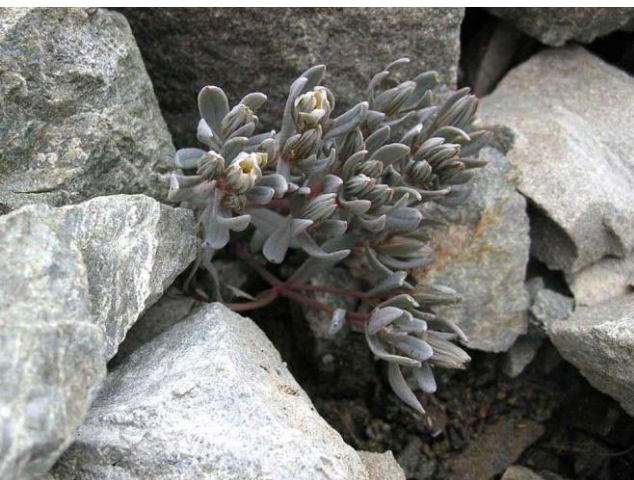


Fig. 5. *Stellaria roughii* in bud, Mt Cheeseman Skifield. Photo: Vivienne Paterson, 3 Jan 2012.



Fig. 6. *Lignocarpa carnosula*, Mt Cheeseman Skifield. Photo: Barbara Hammonds, 3 Jan 2012.



Fig. 7. Cathy Jones and Val Smith looking at *Epilobium tasmanicum*, Mt Cheeseman Skifield. Photo: Barbara Hammonds, 3 Jan 2012.



Fig. 8. *Celmisia semicordata*, near Temple Stream car park. Photo: Barbara Hammonds, 4 Jan 2012.



Fig. 9. *Alepis flavida* growing on a mountain beech, Crusher Loop Road. Photo: Beverley Davidson, 5 Jan 2012.



Fig. 10. Mount Cook Lily (*Ranunculus lyallii*) – in abundance at Temple Basin. Photo: Helen Preston Jones, 6 Jan 2012.



Fig. 11. *Haastia sinclairii*, Otira Valley Walk. Photo: Alison Wesley, 7 Jan 2012.



Fig. 12. Upper Otira Valley – *Ranunculus sericophyllis* found in the scree. Photo: Helen Preston Jones, 7 Jan 2012.

After lunch we were out of the beech canopy. Here were herbaceous *Ourisia macrocarpa* (non-hairy), *Waireia stenopetala* (syn. *Lyperanthus*), *Anisotome haastii*, *Juncus effusus*, *Hierochloe cuprea*, *Wahlenbergia albomarginata*, *Lycopodium scariosum* (upright), *Chionochloa flavescens*, *Schoenus pauciflorus*, *Blechnum penna-marina*, and *Huperzia australiana*. In the more open area were dense shrubs such as *Coprosma serrulata* (leathery leaves with ridged edges), *Dracophyllum longifolium*, *Phyllocladus alpinus*, *Pseudopanax colensoi*, *Podocarpus cunninghamii* x *nivalis*, *Lepidothamnus laxifolius*, *Hebe odora* and *Brachyglottis rotundifolia*. We moved on to a boardwalk over the wetter areas with *Brachyglottis bellidioides* (yellow), *Carpha alpina*, *Coprosma perpusilla*, *Celmisia glandulosa* (not in flower) and *Celmisia alpina* with small leaves.

The vegetation then changed around the Temple Stream car park area, with cushion flats of *Euphrasia cockayneana*, *Anisotome aromatica*, *Gaultheria rupestris*, *Pentachondra pumila*, *Celmisia glandulosa*, *C. discolor*, *Coprosma perpusilla*, *Brachyglottis bellidioides* with dark leaf edges, *Blechnum penna-marina*, *Rytidosperma nigricans* (dark glumes, pale utricle), *Carpha alpina*, *Aporostylis bifolia*, *Donatia novae-zelandiae* (distinguished by pointed cupped petals and sharp leaf ends and appeared to have ants pollinating it), *Drosera arcturi*, *Oreobolus pectinatus* (comb-like), *Euphrasia cockayneana* (with bright yellow flowers) and *Dracophyllum rosmarinifolium*. Other vegetation in this area included *Chionochloa rubra*, *Dolichoglottis scorzoneroideis* (white flower), *Celmisia armstrongii*, *Celmisia semicordata*, (Fig. 8), male and female pygmy pine (*Lepidothamnus laxifolius*), *Dracophyllum longifolium*, *Oreobolus strictus* and *Forstera tenella*.

Another boardwalk took us over a rocky field with *Hebe subalpina*, *Dracophyllum rosmarinifolium*, *Chionochloa rubra* (with a thin, rolled leaf that is red when wet), *Phormium cookianum*, *Wahlenbergia albomarginata*, *Dolichoglottis lyallii* (yellow flower and narrow leaf), *Pittosporum anomalum*, *Leptinella squalida* subsp. *mediana*, *Lobelia angulata* (white flower with yellow centre), *Ourisia macrocarpa*, *Prasophyllum colensoi*, *Ranunculus lyallii*, *Muehlenbeckia axillaris*, and butterflies (with gray margins) were seen apparently pollinating *Celmisia semicordata*.

The diversity of plants on this track was partly the reason it took us most of the day to do a 30 minute walk. The majority of the party returned on the same track in order to look at plants on the Bealey Valley Track, while others were shuttled back to camp from the old track entrance, which meant that we didn't cover the section of original track to the junction with the Otira Valley Track. We were working from a 2002 plant list from Graham Jane, with recent additions from the Nelson Botanical Society fieldtrip of the

extended Dobson Nature Walk. The additions we made to this list are *Archeria traversii* (appears to be accidentally left off the list), *Simpliglottis cornuta*, *Prasophyllum colensoi*, *Uncinia clavata*, *Forstera tenella*, *Peraxilla tetrapetala* and a correction from black beech to mountain beech (*Nothofagus solandri* var. *cliffortioides*).

Day Four: Punchbowl Falls Track

Bev and Geoff Davidson

Indecision ruled, then Cathy over-ruled, leading some of us along Crusher Loop Road to inspect *Alepis flavida* (Fig. 9) flowering low on a nearby mountain beech tree, before returning to camp to lead all of us through the village in the manner of a Pied Piper. Of course that did not last long, as she was diverted by roadside botany, while many of us walked briskly to beat the chill wind. Arriving at the Bealey River flat, the frontrunners paused to reconnoitre and enjoy the breaking sun's warmth. An hour later, all obvious species had been identified, and Cathy with her entourage had still not left the main road.

Progressing another 100 m to the river bridge the slow-moving 'front-runners' were two hours ahead. And so the day advanced – slowly. High cirrus cloud reflected the high winds, continuing the chill factor. The fluffy fields of *Coriaria plumosa* / *C. angustissima* flanked the river, interspersed with lawns of *Muehlenbeckia axillaris*. A short diversion led to the historic ruins of the hydropower station that supplied electricity to the railway's tunnellers. Now the ruins provide crevices for *Gingidia montana* and *Pterostylis oliveri*.

Ascending the impressive DoC stairway we enjoyed a literary experience, reading the works of New Zealand poets etched into the risers of each step. As Hone Tuwhare wrote:

"We are stroking, caressing the spine of the land.
We are massaging the ricked back of the land.
With our sore but ever-loving feet: Hell, she loves it!
We love her."

Before we reached the Punchbowl Falls there were many photos shot of *Myosotis pygmaea* var. *drucei* (*M. drucei*) and *Dracophyllum traversii*. At the falls, the now blazing sun flared in many lenses as we tried to capture their essence amidst wisps of spray. The light-fringed beech trees framed and towered over the drenched foliage and we counted the white flowers of as many as nine different species: *Parahebe linifolia*, *Hebe subalpina*, *Gingidia montana*, *Gaultheria rupestris*, *Celmisia bellidioides*, *Anaphalioides bellidioides*, *Ourisia macrophylla* subsp. *lactea*, *O. macrocarpa* and *Olearia arborescens*. Time had now (almost) passed the 'yard arm' and with the village pub only a brisk 20 minute walk away, the thirstier botanists adjourned for G&T. As you do, when you can.

Post-prandial botanising resumed (or continued, for the majority who had not diverted) and we headed up the Bridal Veil Track. Here a number of the day's favourites were seen: *Dracophyllum traversii*, *Libocedrus bidwillii*, *Raukawa simplex*, *Archeria traversii* and *Hymenophyllum rufescens*. Bird-watchers were rewarded with the sight of large groups of rifleman and brown-creepers, plentiful red polls and tomtits, while at the lookout point they had a view of a falcon. It was there that those with their eyes on the ground got excited by *Exocarpus bidwillii*. Well, that was the consensus, after much debate as to the possibility of it being a *Carmichaelia* species. The turning point at Jack's Hut displayed a lawn of *Mazus radicans*. Those with remaining energy walked back to town via the Dobson Track.

Day Five: Temple Basin Ski Field

Kerry Bodmin

A cushion bog not far from the car park held a trove of treasures for the wetland, lichen and cushion plant enthusiasts. A green river of *Donatia novae-zelandiae* flowed down the seepage with white foam flecks from its flowers, interspersed with small clumps of orange-red *Chionochloa rubra*. Closer examination of the green in the cushion bogs yielded *Pentachondra pumila*, *Kelleria dieffenbachii*, *Centrolepis ciliata*, *Lycopodium fastigiatum*, all no more than 5 cm tall, interspersed with *Carpha alpina*, *Rytidosperma nigricans* and the crimson red of *Drosera arcturi* and *D. spatulata* with dewy insect-catching droplets. Reindeer lichen and *Stereocaulon* species had Enid squealing with delight. Wetland margins were flanked by woody shrubs (*Dracophyllum longifolium*, *Podocarpus alpinus*, *Brachyglottis rotundifolia*, and *Coprosma fowerakeri*) and Geoff's 'pineapple plant' *Celmisia armstrongii*.

Walking up the mountain road led to drier alpine finds, including the *Dolichoglottis* hybrid with its cream flower. A stony red carpet was actually about a hundred *Drosera spatulata* and a dozen or so *D. stenopetala*. Ski huts at the end of the track were a welcome lunch stop, with a gorgeous view of two valleys at the summit to explore. The main valley had a field of *Ranunculus lyallii*, its radiant white flowers and yellow centres still in their prime and a real treat (Fig. 10). Scree slopes, ridges, a waterfall and basin in the left valley tempted a smaller party to explore.

Chocolate fish contenders were the small but vibrant red-coloured *Drosera stenopetala* (with long insect-catching sticky hairs), and Anthony's 'new to science' *Dracophyllum pubescens*, with its glaucous foliage hugging the high alpine slopes. However, Vivienne took the chocolate fish prize for the find of the day. Her keen eyes spotted *Haastia sinclairii* on the return journey home nestled in amongst the rocks on the track.

Day Six: Upper Otira Valley–

Alison Wesley and Juliet Richmond.

The Otira Valley walk originates from the main Arthur's Pass road to Otira and follows the river up the valley and allows climbers access to Mt Rolleston and Mt Philistine. We set off in misty rain which restricted our view of the valley and focussed our eyes on our surroundings. Each turn of the track presented a 'Zen' garden of the subalpine scrub species with which we had become familiar over the previous days, such as *Podocarpus nivalis*, *Phyllocladus alpinus*, *Dracophyllum longifolium*, *Olearia rotundifolia* and *Coprosma serrulata*, which were particularly common. Unlike on other day's walks, *Archeria traversii* was quite uncommon. Again, the orchids *Aporostylis bifolia* and *Waireia stenopetala* were found amongst this subalpine scrub.

The first part of the track was a typical alpine track, and easy to follow. The track is well above the river but as you progress up the valley the river and track are almost adjacent until you reach a small foot bridge. From here the track is less formed, rocky and crosses scree slopes and fell fields. The track in this valley had not been developed to the same extent as others we had visited, and therefore seemed a more natural part of the landscape. Some weeds, such as *Trifolium* and *Hieracium*, were noted and were no doubt brought in during the track development. Beyond the foot bridge and after a scramble over quite large rocks we were greeted with a veritable garden of *Ranunculus lyallii*, *Ourisia macrocarpa* and some *Dolichoglottis scorzoneroideis*.

On the more stable scree areas, clumps of *Leucogenes grandiceps* were notable because of their frequency and size, many in full flower. These were interspersed with *Lobelia macrodon* scenting the air – especially when close up. The find of the day for Juliet and others was the cryptic *Haastia sinclairii*, pinkish grey in colour, covered in a whitish to buff tomentum matching the surrounding scree and tending to be thicker in low rainfall areas (Fig. 11).

The plants of the day – perhaps for more discerning botanists such as Maureen and Anthony – were the very large *Anisotome pilifera* (a stout, usually glaucous herb with leathery and quite broad lobed leaves). In some localities the leaflets may be highly divided. It usually grows in rocky sites between 1100 and 2100 m. In the upper Otira valley it was often the centerpiece of an elegant arrangement which included *Muehlenbeckia axillaris*, *Leptinella pyrethrifolia* and other species scrambling over the scree.

The more intrepid members of the party walked as far as the snow cascading down the scree slopes

(Fig. 12) and were rewarded with seeing the yellow-flowering *Ranunculus sericophyllus*, a large feathery-leaved buttercup with flowers 25–40 mm in diameter, only seen in the higher alpine places. Although the day started with misty rain, everyone returned to the starting point in bright sunshine and the day was enjoyed by all.

Day Seven: Lake Lyndon and Castle Hill

Val Smith

Lake Lyndon (3 x 0.5 km) occupies a valley-head depression at the southwest end of the Castle Hill basin, and the Acheron River flows from it to the Rakaia River. The lake shore exposed by relatively low summer lake levels has patches of lake-edge turf in gravelly ground, partly vegetated by weedy colonist herbs. But it was the bird species – pied oystercatcher, banded dotterel, scaup and crested grebe – that first attracted attention on a cool, damp morning spent in the vicinity of the public shelter at the lake's northern end. Then it was down to earth, hands-and-knees botanising, to study the little plants, *Epilobium komarovianum* (its distinctive coppery-bronze dimpled leaves lying flat to the ground), and cryptically coloured *Leptinella maniatoto* (with a flower almost too small to see with the naked eye). Away from the area of heavy public pressure, more obvious species seen included a yellow-flowering plant of the cress family (*Rorippa palustris*), native dock (*Rumex flexuosus*) a small white star-flowered pratia (*Lobelia perpusilla*) and a nationally endangered cudweed (*Pseudognaphalium ephemerum*). Many unfamiliar species were researched further that evening.

As the weather was unsuitable for the suggested climb of Foggy Peak, we joined the tourists and rock climbers at Castle Hill Scenic Reserve, part of the spectacular karst landscape of Kura Tawhiti Conservation Area. Once covered in totara (*Podocarpus totara*) and tall shrubs, the area was cleared 600 years ago by fire and has been grazed for almost 150 years. Not surprisingly, native species are few and far between, and were easily missed amongst the grass or nestled under rock overhangs. Plants seen that were new to some of us were the broad rosette-forming *Plantago spathulata* subsp. *spathulata*, the fern *Asplenium lyallii* in a rock crevice, *Vittadinia australis* (a daisy with toothed pale green leaves, which apparently is quite widespread in depleted tussockland east of the main divide), and a heavily browsed but prolifically flowering broom, identity uncertain, for it was somewhat taller than expected for *Carmichaelia monroi*. Adjacent to the scenic reserve, but inaccessible to us, is the site of the longest-running plant monitoring project in New Zealand, initiated by Dr Lance McCaskill in the early 1950s for the Castle Hill buttercup (*Ranunculus paucifolius*).

Day Eight: Lake Brunner

Lisa Clapperton and Jan Butcher

Lake Brunner is the largest lake in northwest South Island covering 40 square km, the Maori name Kotuku Moana meaning "Sea of Herons". It is a very popular place for water sports with numerous boats towing skiers or boards. Our walk for the day was described as 'low podocarp forest' and we were prepared to deal with the sandflies and wet feet, but neither materialized. The warmer temperature was a marked change compared with Arthur's Pass. We started on Te Ara O Te Kinga track to the Mt Te Kinga trig which stated a 6-7 hour return.

On the perimeter of the bush some weed species were noted – Himalayan honeysuckle (*Leycesteria formosa*), *Buddleja salviifolia*, broom (*Cytisus* sp.) – but otherwise the bush appeared to be free of weeds. The canopy was dominated by kahikatea (*Dacrycarpus dacrydioides*) giving way to stands of tall rimu (*Dacrydium cupressinum*) higher up. The understorey was dominated by kamahi (*Weinmannia racemosa*) with hinau (*Elaeocarpus dentatus*), tawherowhero (*Quintinia serrata*) and the occasional horopito (*Pseudowintera colorata*) and southern rata (*Metrosideros umbellata*). *Metrosideros diffusa* was also prominent, at times becoming a high ground cover. *Cyathea smithii* was the dominant tree fern.

On entering the bush, *Coprosma rotundifolia* was plentiful at the start of the track. We noted that some species seemed to have very large leaves, notably the hairy forest species of *Nertera villosa* and those on the *Rubus cissoides* were very wide. After walking under towering 8-10 m tall tutu (*Coriaria arborea*), the back bunch took a short side walk to a sandy cove on the lake side to have morning tea. Shortly after, on the main track at a small footbridge, a bristle fern, *Trichomanes strictum*, was spotted in the hollow of an old mound/stump and nearby was a hutu (*Ascarina lucida*), *Gastrodia cunninghamii* and a nice patch of flowering *Lobelia angulata*. As we started to climb uphill, the undergrowth became sparse, possibly due to goats whose bleating was heard after lunch. We were delighted to see a few *Leptopteris superba* and a good clump of *Leptolepia novae-zelandiae*. Most of us got up to the lookout point with the view of the lake. On the far shore was a block of remnant kahikatea (*Dacrycarpus dacrydioides*) and the lake edge was fringed with oioi (*Apodasmia similis*). The surrounding land is now very modified with grass pastures.

We headed down to the town to fill up with petrol and ice creams and homewards again. This trip down from Arthur's Pass gave us a look at the Otira viaduct and the gorge itself. We were a bit early for the mass flowering of the rata (*Metrosideros umbellata*) but a few flowers were seen.

The Orchids

Anne Fraser

Representatives of many of New Zealand's orchid genera were recorded on our wonderful alpine and Lake Brunner walks. The terrestrial genera included *Pterostylis* (three species); *Thelymitra*, *Waireia*, *Nematoceras*, *Simpliglottis*, *Prasophyllum*, *Aporostylis*, *Stegostyla*, *Gastrodia*, *Microtis*, and the epiphytes, *Winika* and *Earina* (two species). Names follow Burrows et al. (2007).

Pterostylis oliveri was the first species seen on a pretty track behind our accommodation. With its soft green oval leaves and galea tip curled onto its chest, it was seen on the Dobson Nature Walk, luxuriously in the concrete of the old power station at the foot of the Punch Bowl track, near the falls there and on the Otira Valley track. A second *Pterostylis* species, *P. irsoniana*, with red veined narrow leaves was identified by Cathy from the small black knob at the tip of the labellum. This species was also seen on the bush track from Lake Brunner, and, at the lookout there a third *Pterostylis* species (different from those already seen) was without flowers so it could not be determined.

Our wonderful mentor, Cathy, reported a *Thelymitra* species near the Punchbowl Track and the special sight for me was *Waireia stenopetala*, on the Dobson Nature Walk. I had not previously seen it, thinking I would have to venture to the sub-antarctic islands to do so, and there it was, captivating and beguilingly secretive with the striped dorsal sepal covering the yellow-green flower. This species was also plentiful at the beginning of the Otira Gorge track, again a delight.

The 'spider' orchids, *Nematoceras trilobum* (formerly *Corybas*) were seen in shaded bush areas of most of our walks. *Simpliglottis cornuta* (formerly *Chiloglottis*) likes similar sites and was seen in flower on a couple of walks. The pretty white flowers of *Aporostylis bifolia*, two leaves odd-sized and sometimes flecked with brown, appeared everywhere, mostly by the shaded tracks but also in the open tussocks. *Stegastyla lyallii*, the largest of our former *Caladenia* species, was also seen in both habitats, some flowers of both species [which two?] high in Temple Basin at more than 1600 m.

The alpine species *Prasophyllum colensoi* was common on the open high country and a nice little group was seen at Castle Hill and in the garden in front of the DoC Centre. Also in the garden here were nice *Gastrodia cunninghamii*, determined from the short column and knobby surface of the flowers. A plant was also reported near the Bealey River. This is a saprophytic species, and it often appears where gardens are mulched with bark. A couple of *Microtis* plants were seen in pasture near the Castle Hill

Reserve and from a distance were assumed to be *M. unifolia*.

The epiphytic species, *Winika cunninghamii*, *Earina mucronata* and *E. autumnalis* were recorded on the walk at Te Kinga above Lake Brunner. It was altogether a satisfying number of orchid species in a particularly enjoyable place of awesome views and wonderful flowers.

Birds of Arthurs Pass

Paul Asquith

Whilst alpine botany was the prime focus of the trip south of the Bombay Hills in the minds of the majority of the participants, the chance perhaps to see some of the South Island's alpine bird species as well created some interest and discussion. Not to be disappointed, most of us on arrival were greeted by at least one of the Arthur's Pass Village resident keas. A good start.

The walk to the Punchbowl Falls followed by the track to the Bridal Veil Falls perhaps gave, in one day, the best sightings of a good range of alpine birds. Most people saw one or more groups of riflemen and quite often they were in close proximity to family groups of brown creepers. On one occasion a group of ten riflemen were counted on one tree trunk. The lookout bluff close to the Bridal Falls provided a spectacular view of a New Zealand falcon, first of all swooping round the falls themselves and then taking off in one long glide right across the valley in front of us.

Lake Lyndon provided a change to water birds, with good numbers of banded dotterel very close on the shore edge, close to the parking area, and a couple of New Zealand pipits running along the gravel track in front of the group. Out on the water were several scaup, mallard and New Zealand dabchicks and, best of all, we were treated to several magnificent displays of 'paired water skiing' by two crested grebes.

The trans-located greater spotted kiwi were quite vocal most nights close to the accommodation block and, according to the ranger, an active burrow with a chick had been discovered just behind the Ranger Station in Arthur's Pass Village. Other birds of note seen most days were a few robins and tomtits, plenty of bellbirds, redpolls (new to some), dunnoek, New Zealand pigeon and kea but despite some active searching in all the right places right up to the snow line the hoped for sighting of the elusive and rare rock wrens did not happen. What better reason for another visit to this spectacular and delightful location!

Highlights

Enid Asquith

The vast sweeping lines of the scree slopes plunging down the mountain sides looked starkly bare and

inhospitable from a distance, but on exploring merely around the edges of the ski-field car park on Mount Cheeseman we saw how different reality was from perception, for contrasting with this grandeur was such delicate and minute detail in the alpine plants tucked into any crevice that offered adequate shelter.

Scattered within this inhospitable, barren looking scree was the occasional rocky outcrop, one of which harboured in its shelter a wonderful association of plants such as *Gaultheria crassa* with its profusion of creamy flowers, *Dracophyllum pronum* with flowers in pairs and *D. rosmarinifolium* with single flowers. Tucked in behind some tussock was a *Celmisia lyallii* with stripey-backed leaves, making it look like the aciphylla next to it. There was a *Hebe pinguifolia* that held a glistening drop of water in every cupped leaf all the way down each stem; there was a black *Leptinella atrata* and an *Anisotome filifolia* that looked like a bunch of black twine caught in amongst the grey stones; there were enough penwiper plants (*Notothlaspi rosulatum*) with creamy, perfumed flowers, a rosette of rock-coloured, felty leaves, even some brown, heart-shaped seed capsules, to keep all the photographers frenziedly busy. But for me, the find of the day was the amazingly cryptic *Lignocarpa carnosula* with its spiky and deeply cut, silver-grey leaves looking so much like the cracks between the small silver-grey rocks in which it was growing. A stunning plant, a stunning day – and just the first day of six!

So many highlights:- There were four orchids in one day (*Stegostyla lyallii*, *Aporostylis bifolia*, *Waireia stenopetala* and *Pterostylis oliveri* with its very curled hood); three ferns growing together (*Hypolepis millefolium*, *Leptopteris superba* and *Polystichum vestitum*), the perfect situation for comparisons and learning identification features; two different *Ourisia*,

many of both in full flower; and there was the 'fun-to-find' plant, *Archeria traversii*, with leaves like manuka, flowers like *Gaultheria* and bark like *Fuchsia*! There were cushion bogs of *Donatia novae-zelandiae*, one harbouring *Utricularia dichotoma* (with brilliant purple flowers) and two species of sundew, and another with bog pine and pigmy pine sheltering orchids and edelweiss and heaps of huge cushions of the lichen *Cladia retipora*, with dark maroon tips to its branches making it appear an even more inviting, 'fluffy'-looking cushion. I resisted the temptation to sit awhile – there was too much more exploring to do! Lichens were in riotous abundance encrusting grassy banks and path sides, foliose and fruticose species, sometimes for many metres.

However, by far the most outstanding highlight of the many that Arthur's Pass offered for our pleasure – possibly even the ultimate of all our South Island visits – was, at last, the delight of finding in flower the iconic Mount Cook lily. There in a hollow at the corner of the car park was a huge mound of the fascinatingly plate-like leaves of *Ranunculus lyallii*, with flowers emerging from the leafy hillock a pristine white in the gentle sunlight. 'Wondrous!' as our wondrous leader had told us they would be. I came home in a haze of highlights that will stay with me for a very long time!

Acknowledgements

Helen Preston Jones

My thanks to all the contributors to this write up, and for the photographs provided. I volunteered to pull these contributions together and have thoroughly enjoyed experiencing the ten day trip again. Also thanks to all the organisers, drivers and our leader Cathy Jones with whom it was lovely to botanise again in the Southern Alps.

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