

Lastreopsis velutina

We should include at least one fern on our list of highlights. This species was a feature of the walk to Rawhiti Cave, being more abundant and luxuriant than many of us are accustomed to seeing it in the Auckland area. Two other ferns to catch our attention

were *Ophioglossum coriaceum* along the Pupu Walkway, and *Leptolepia novae-zelandiae* as a fitting finale at the last place we visited, the Riwaka Resurgence.

Acknowledgements

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For further reading

- Anon. 2005: August field trip, Moss Scenic Reserve, Riwaka Valley. *New Zealand Botanical Society Newsletter* 82:6.
- Armour, R.K.; Kennedy, D.M. 2005: Comparative palynomorph signals of vegetation changes present in an adjacent peat swamp and estuary, North-West Nelson, New Zealand. *New Zealand Journal of Botany* 43:451-465.
- Baigent-Mercer, D. 2001: The burden of Mt Burnett. *Forest & Bird* 302:18-21
- Clark, M. 2006: Pupu Power. Pupu Hydro Walking. *Wilderness Feb 2006*:47.
- Courtney, S. 2001: May field trip: Harwoods Covenant – Takaka Hill. *New Zealand Botanical Society Newsletter* 66:6.
- Davies-Colley, R.J.; Smith, D.G. 1995: Optically pure waters in waikoropupu ('Pupu') Springs, Nelson, New Zealand. *New Zealand Journal of Marine and Freshwater Research* 29:251-256.
- Jane, G. 1990: Nelson Botanical Society [reference to Cobb Valley]. *New Zealand Botanical Society Newsletter* 19:5-6.
- Jane, G. 1992: Nelson Botanical Society [reference to Moss Scenic Reserve]. *New Zealand Botanical Society Newsletter* 29:6-7.
- Jane, G. 1993: Nelson Botanical Society [reference to Pupu Walkway]. *New Zealand Botanical Society Newsletter* 31:5-7.
- Jane, G. 1994: Anzac weekend camp-Cobb Valley. *New Zealand Botanical Society Newsletter* 36:4.
- Jane, G. 1995a: Anniversary weekend camp: Collingwood. *New Zealand Botanical Society Newsletter* 39:5-6.
- Jane, G. 1995b: Labour Weekend Camp: Puponga Farm Park. *New Zealand Botanical Society Newsletter* 42:3.
- Jane, G. 1996: Anniversary Weekend Camp: Cobb Valley. *New Zealand Botanical Society Newsletter* 43:4.
- Jones, C. 2001: Anniversary Weekend Camp [27-29 January]: Cobb Valley. *New Zealand Botanical Society Newsletter* 63:6
- Jones, C. 2003: Dry River and Rawhiti Cave, 19th October. *New Zealand Botanical Society Newsletter* 74:6.
- Jones, C. 2005: Cobb Valley Weekend, 19-19 December [2004]. *New Zealand Botanical Society Newsletter* 79:6.
- Kellow, A.V.; Bayly, M.J.; Mitchell, K.A.; Markham, K.R. 2005: Geographic variation in the *Hebe albicans* complex (Plantaginaceae) – morphology and flavonoid chemistry. *New Zealand Journal of Botany* 43:141-163.
- Mitchell, G. 2001: August Field Trip: Pupu Walkway. *New Zealand Botanical Society Newsletter* 66: 8.
- Michaelis, F.B. 1977: Biological features of Pupu Springs. *New Zealand Journal of Marine and Freshwater Research* 11(2):357-373.
- Park, G. 1995: *Ngā Uruora*. Victoria University Press.
- Venter, S. 2004. *Dracophyllum elegantissimum* (Ericaceae), a new species from north-west Nelson, New Zealand. *New Zealand Journal of Botany* 42:37-43.
- Williams, P. 1992. In praise of North-west Nelson. *Forest & Bird* 23(1):22-28.
- Williams, P.A. 1993. The subalpine and alpine vegetation on the Central Sedimentary Belt of Paleozoic rocks in north-west Nelson, New Zealand. *New Zealand Journal of Botany* 31:65-90.

Trip Report: Tongariro National Park and adjoining areas, Waitangi Weekend, 3-6/02/06

J Butcher, G Donaghy, B Hammonds, K Haydock, G Jane, M Wilcox, T Williams

Summary: A group of 28 people attended this long weekend event, based at the Mangatepopo Camp School, Taurewa. Excursions were made to the Tongariro Forest Conservation Area (Taurewa Loop Track), Tongariro National Park (Silica Rapids, Whakapapanui Track, Mt Hauhungatahi, Turoa, Waitonga Falls, Soda Springs at the head of the Mangatepopo Valley), Rotokura Scientific Reserve at Karioi, and Erua Forest Conservation Area. As well as getting a general appreciation of the botanical highlights and features of the area, each person on the camp was assigned 12-14 plant species to find and observe in the field, from which an annotated list was compiled of plants seen. Nick Singers of DOC, Tongariro-Taupo Conservancy, Turangi, gave us a talk on the threatened plants and problem weeds of the area, highlighting the plight of mistletoes and certain orchids.

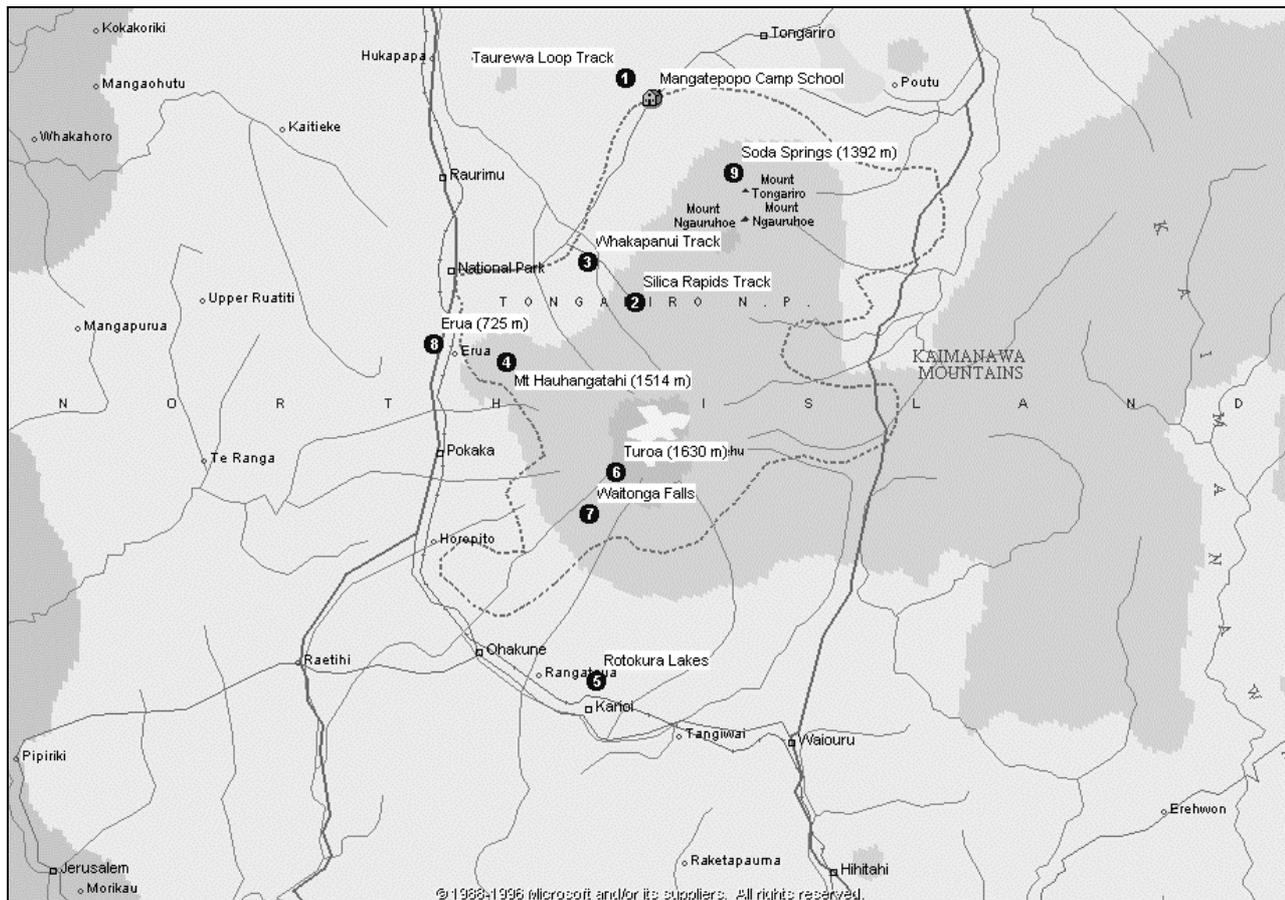
Introduction

The camp was held in perfect weather, and based at the very well equipped Mangatepopo Camp School. (alt. 770 m, E2731695, N6233659). Those attending were: Sarah Beckon, Jan Butcher, Pam Carmont, Colleen Crampton, Brian Cumber, Gael Donaghy, Barbara Hammonds, Ken Haydock, John Hobbs, Marcel Horvath, Graeme Jane, Sandra Jones, Shirley Kerr, Helen Lyons, Alistair MacArthur, John Millett, Becky Murphy, Margaret Peart, Rosslyn Prichard, Juliet Richmond, John Rowe, Stella Rowe, Clive Shirley, Val Smith, Alison Wesley, Mike Wilcox, Tony Williams, Maureen Young.

This is one of the colder, wetter inhabited regions of the North Island, the climate at the Chateau (altitude 1119 m) having a mean annual temperature of 7.1°C, a mean rainfall of 2908 mm, 141 days of ground frost, and 16.1 snow days. Our objectives were to explore and enjoy the scenic delights and plants of the area.

To ensure everyone was busily observant the trip leader assigned a dozen or so plant species for each person to specially look out for. These plant observations were in the main dutifully recorded, from

which an annotated species list was compiled (available on request from Mike Wilcox). Sites visited are shown on the Map.



Map: Sites visited

Acknowledgements

Our thanks go to Linda and Paul of the Mangatepopo Camp School for their every assistance in making our stay comfortable; to Nick Singers for species lists and his most enlightening talk on the special plants of the area; to Maureen Young for provisioning and kitchen supervision and Alistair MacArthur for help with transporting food; and to all attendees at the camp for their observations which contributed to this report.

Taurewa Loop Track. 03/02/06

Mike Wilcox

Taurewa Loop Track is a convenient walking distance from the camp, and is part of the Tongariro Forest Conservation Area. The track is much used by visitors to this and other camps nearby. Our camp was corralled by planted exotic trees – shining gum (*Eucalyptus nitens*) (in fl.), alpine ash (*E. delegatensis*) and western red cedar (*Thuja plicata*) - giving seclusion and protection.

Initially the track from the Camp School goes through scrubby vegetation in which several exotic shrubs are prominent - *Cotoneaster franchetii*, *C. simonsii*, *C. glaucophyllus*, broom (*Cytisus scoparius*), gorse (*Ulex europaeus*), cut-leaf blackberry (*Rubus laciniatus*), tree lupin (*Lupinus arboreus*), heather (*Calluna vulgaris*), silver birch (*Betula pendula*) and rowan (*Sorbus*

aucuparia). Heather was ominously abundant. We had our first meeting too, with mouse-ear hawkweed (*Hieracium pilosella*), a yellow-flowered flatweed which we were to see commonly throughout the weekend. Exotic grasses abounded – sweet vernal (*Anthoxanthum odoratum*), browntop (*Agrostis capillaris*) and tall fescue (*Schedenorus arundinaceus*).

Soon we were amongst interesting native vegetation with plentiful *Pittosporum colensoi*, *Coprosma tayloriae*, *C. propinqua*, manuka (*Leptospermum scoparium*), broadleaf (*Griselinia littoralis*), *Gaultheria paniculata*, *G. antipoda*, *Hebe stricta*, *Pseudopanax colensoi*, toetoe (*Cortaderia fulvida*), flax (*Phormium tenax*), holy grass (*Hierochloa redolens*), *Poa anceps*, *Poa cita*, *Deyeuxia avenoides*, *Festuca novaezelandiae*, *Rubus*

schmidelioides, tutu (*Coriaria arborea*) and *Coriaria pteridioides*. A *Gleichenia dicarpa* – *Empodisma minor* wetland had some nice associates such as *Drosera binata*, *Viola cunninghamii* and *Prasophyllum colensoi*, and shady banks had *Ourisia macrophylla* subsp. *macrophylla*. It was not long before we found our first clump of eyebright (*Euphrasia cuneata*) – surely one of the loveliest plants on show at this time of year.



Euphrasia cuneata [all photos: Mike Wilcox unless otherwise stated]

More treasure awaited us, and we still had not reached the native bush. The grassy approaches had *Helichrysum filicaule*, *Acaena microphylla* (much admired for its brilliant red spines), *Gentianella grisebachii*, *Aporostylis bifolia*, *Epacris alpina*, *Gonocarpus aggregatus* *Lagenifera cuneata*, *Celmisia gracilentia*, *Muehlenbeckia axillaris*, and *Uncinia rubra*. A little tufted herb growing on the side of the track had the party puzzled, but eventually it was found to be *Oreostylidium subulatum*. The capsules on one of the plants retained the glandular pubescence that is

typically present on the flowers. As well as the very abundant heather, some broom and gorse, and numerous young *Pinus contorta* rearing their heads, there were bushes of bog pine (*Halocarpus bidwillii*) and mountain toatoa (*Phyllocladus alpinus*) forming a transition zone between scrubland and tall forest.

The forest features large Hall's totara (*Podocarpus hallii*) and matai (*Prumnopitys taxifolia*), some miro (*Prumnopitys ferruginea*), kahikatea (*Dacrycarpus dacrydioides*), and plentiful large pokaka (*Elaeocarpus hookerianus*), broadleaf and black maire (*Nestegis cunninghamii*). Bush lawyer (*Rubus cissoides*) and *Parsonsia capsularis* are prominent vines, and in the understory are horopito (*Pseudowintera colorata*), raurekau (*Coprosma grandifolia*), stinkwood (*C. foetidissima*), putaputaweta (*Carpodetus serratus*), tree fuchsia (*Fuchsia excorticata*), cabbage tree (*Cordyline australis*), *Melicope simplex* and *Astelia fragrans*. Ferns were a highlight, especially the wonderful colonies of Prince of Wales feather (*Leptopteris superba*) and also *L. hymenophylloides*, crown fern (*Blechnum discolor*), kiokio (*B. novae-zealandiae*), *Hymenophyllum bivalve*, *H. pulcherrimum*, hen and chickens (*Asplenium bulbiferum*) and hanging spleenwort (*A. flaccidum*) – a common epiphyte – and Maureen spotted two large spikes of *Gastrodia cunninghamii* in perfect flower, growing in the shade, and, unusually for this saprophytic orchid, were not in beech forest. Mosses, too, were in abundance, with *Weymouthia mollis* festooning almost every tree, *W. cochlearifolia* on tree trunks, and lovely carpets of the umbrella mosses *Hypopterygium rotulatum* and *Hypnodendron comatum* on the forest floor.

Silica Rapids Track. 04/02/06

Ken Haydock

We woke to a fine but chilly morning at the Mangatepopo Camp School, which boded well for the day's weather for the walk along the Silica Rapids Track in the Tongariro National Park. Leaving the camp shortly after 8.00 am, the convoy of cars met at the car park outside the visitor's center of the park at Whakapapa Village. After leaving three vehicles behind we all made our way in the remaining vehicles to the commencement of the track at 1266 m part way up the Bruce Road. We were above timberline here in red tussock (*Chionochloa rubra*) shrubland and a slow start was made as we tried to identify all the many species in this alpine zone. As I had been up this road many times when I had lived at Turangi, though having never walked this particular track my first impression was that the majority of the flowering was over for the year although we did see some

magnificent displays of *Euphrasia cuneata*, *Forstera bidwillii* and *Gentianella bellidifolia* throughout the length of the track, especially above the bush line. The first *Hebe* to be spotted was *Hebe odora* and members of the party were kind enough to tell me how to differentiate between this species and *H. venustula* by looking at the sinus in the leaf bud. It was here we saw the hebe lookalike, *Pimelea buxifolia*. Later on we saw quite a number of the whipcord *H. tetragona*, some just finishing flowering.

As we progressed along the track we observed monoao (*Dracophyllum subulatum*), *D. recurvum* and inaka (*D. filifolium*). There were also numerous hybrids of these three species as well so sometimes it was difficult to put a definite name to what one was looking at. Then we stopped at several shrubs that I

would have called *Aristotelia fruticosa*, but being very rusty in botanical names having not been out with more knowledgeable people for a number of years I was not sure I was correct. After some discussion it was decided it was indeed *A. fruticosa*. Here, too, were good examples of *Coprosma cheesemanii*, *C. pseudocuneata* and *C. tayloriae*. At about this stage two fernbirds were seen busily going about their business in the *Brachyglottis bidwillii* scrub quite oblivious to us on the track just a few metres away. One plant that was still flowering rather profusely along the track was a prostrate form of manuka. Numerous *Leucopogon fraseri* were seen on the banks of the track with their colourful orange berries as well as *Androstoma empetrifolia* and *Pentachondra pumila*. As the track climbed large patches of snow totara (*Podocarpus nivalis*) were seen all covered in bright orange-red fruit. It must have been a good fruiting season for this podocarp. At one particular patch it was a race between those that wanted to take photographs and those who wanted to eat the fruit.



Forstera bidwillii

Then the party wound down to cross the footbridge over the Tawhainui Stream where there could be seen what I used to call "Hells Bells" or *Helichrysum bellidioides* when I lived at Cobb River but was told by Maureen that it was now known as "Anna Bells" or *Anaphalioides bellidioides*, then somebody told us these plants were actually another species, *A. alpina* as they had larger flowers than plants that grew at lower altitudes. These changes in plant names make it difficult to get one's head around at times especially as one gets older. It was here also where the orchid *Prasophyllum colensoi* was seen in flower and photographed. After the climb out from the stream crossing and passing tourists on the way we came across a bog beside the board-walk where there was *Drosera spatulata* and *D. arcturi* growing side by side. Also in this bog was *Craspedia minor* both in flower and in seed, which was found in numerous other places, much *Celmisia gracilentia*, *Carpha alpina*, *Potamogeton suboblongus*, *Isolepis crassiuscula*. It is all a matter of getting one's eye in.



Carpha alpina, Silica Track

Then the object of our walk, the Silica Rapids came into view. The bed of the stream being covered with different colours between a creamy white and a greenish colour by the silicates deposited there from the springs. Here was spent a pleasant interlude for an early lunch and enjoying the scenery. While there I photographed a nice clump of *Thelymitra cyanea* that was unfortunately not out in full flower as well as the fruit of snow totara. There were spectacular tussocks of the sedge *Gahnia procera* at the rapids. Then it was off on the track to follow the stream from the Silica Rapids a tributary of the Tawhainui Stream down to where it joined the main stream at the Punaruku Falls. By now we were in mountain beech (*Nothofagus solandri* var. *cliffortioides*) forest with scattered cedar (*Libocedrus bidwillii*) and pink pine (*Halocarpus biformis*). I noted that the trunks of the trees were liberally coated with filmy ferns, particularly *Hymenophyllum multifidum* and *H. sanguinolentum*, and lantern berry (*Luzuriaga parviflora*) was in flower. We also noted beech trees ringed with aluminium bands to stop the depredations of possums on the mistletoe that was growing on them. Along the forest track there were many herbs of great interest: *Viola filicaulis*, *Lagenifera pumila*, *L. strangulata*, *Gentianella chathamica* subsp. *nemorosa*, *Parahebe lanceolata*, *Acaena anserinifolia* and *Uncinia rupestris*.

Then there was a change of direction as we headed back towards the Chateau crossing the Tawhainui Stream by footbridge before crossing an open area dominated by *Gleichenia dicarpa* but including grasses and sedges. Back now into the mountain beech we went, with a magnificent yellow-flowered daisy (*Senecio rufiglandulosus*) prominent on the left hand side of the track and a number of *Cordyline indivisa* on both sides of the track. Our track soon joined the Whakapapanui Walk Track before coming out again on the Bruce Road after crossing the Whakapapanui Stream. When all the party had joined up those with vehicles ferried the owners of vehicles up to the Silica Rapids car park. Then it was down to the bottom end of the Whakapapanui Track for a brief foray, before all going back to the School Camp. A most enjoyable day

was had by all made even better by the weather being kind to us. Also our thanks must go to the leader on the day, Mike Wilcox for the great organization and for

all those knowledgeable people who helped with plant identification.



Gentianella chathamica ssp. *nemorosa*, Silica Rapids

Whakapapanui Track. 04/02/06

Barbara Hammonds

After a thorough look at the plants and fungi on the Silica Rapids walk, slightly diminished numbers set out on this lower altitude walk in Tongariro National Park. We started at the lower end, and because of time constraints, only went part way up before turning around and returning. From the bridge at the start there was a view of a lovely bank of *Sticherus cunninghamii* above the river. Just past the bridge Mike found a small patch of a European eyebright, *Euphrasia nemorosa*, with small mauvy-pink flowers, the identification later confirmed by Nick Singers. We continued through mountain beech forest, seeing a bank of *Oxalis magellanica* before the first of several trees with mistletoes, some mysteriously only banded above the plant. This created much amusement and speculation.

Myrsine divaricata was abundant, as was *Raukaua anomalus*, giving us the opportunity to see the striking difference in habit – the former weeping, the latter, branching almost at right angles and not at all weeping. Some of us were shown a distinguishing feature for *Astelia nervosa* and *A. fragrans* – on the bottom of the leaf, the secondary nerve is raised on *fragrans*, and not on *nervosa*. It was also interesting to see *Blechnum vulcanicum* and *B. procerum* side by side, as the differences were then very obvious. *Cordyline indivisa* was a feature, with one particularly striking grove, before the track opened out on to a board-walk over a frost flat with the usual lovely combination of *Gleichenia dicarpa*, *Empodisma minus*

and bog pine (*Halocarpus bidwillii*), and a view of the lower slopes of Ruapehu below the cloud layer.

Off the board-walk, and into forest with more cedar and mountain toatoa, as well as mountain beech continuing in abundance. It was very soft underfoot thanks to the fallen beech leaves. The distinctive grey-green *Hymenophyllum malingii* was seen on several large cedar trunks, and was much photographed.



Cordyline indivisa, Bruce Rd, Ruapehu

A flowering *Thelymitra* "Whakapapa" was another photo opportunity, as was a *Myosotis*, possibly *M. forsteri*, flowering by the trackside. A young German woman photographing the *Myosotis* was very interested in finding out more about NZ plants, and

was given the NZ Plant Conservation website as a way of seeing what field trips might be coming up with other Botanical Societies. Mike got a chocolate fish for spotting a hybrid between *Raukaua anomalus* and *R. simplex* – not flash to look at, but it was unusually spindly and about 2m tall. The leaves had the joints, dark base & notches of *R. anomalus*, but were larger. At the northern edge of the swamp, just before the start of the board-walk, and about 2m from the track, is a *Pittosporum anomalus*, pointed out by Sandra. It

has a very distinctive divaricating habit with stout tightly interlaced branches, and small shiny bright green leaves with red margins. One green fruit was found by some sharp eyes. Not far away from this, on the way back to the cars, there was a wonderful patch of *Hymenophyllum malingii*, with fronds up to 6cm long, covering the south & west sides of a cedar stump about 2m high. Riflemen were heard, and a robin and a male tomtit were seen.

Mt Hauhungatahi. 05/02/06

Gael Donaghy & Graeme Jane

After a brief wander along the railway line and a push up through scrub which had regenerated in the last 20 years or so, we entered dense podocarp forest (750 m). On the lower slopes there were scattered very big rimu (and in places, dense stands) with associated matai, miro and kamahi which gradually changed to black maire at mid slope. Some trees of maire looked completely red with ripe fruit. This was damp cool, forest where tree ferns (especially *Cyathea smithii*) were dominant in the understorey, and featured the shrubs *Pseudopanax colorata*, *P. axillaris*, *Alseuosmia pusilla*, *A. turneri*, *Coprosma foetidissima* and *C. tenuifolia*. The "trunkless" *Cyathea colensoi* (the trunk actually runs along the ground, and is usually buried) was growing side by side with juvenile *C. smithii*, allowing comparisons to be made. There was also *Dicksonia lanata* and *D. fibrosa*. Here *Microsorium novae-zelandiae* perched on trees was a feature. It usually starts up the tree whereas *M. pustulatum* or *M. scandens* usually begin in the ground. Another feature was *Hymenophyllum pulcherrimum*, usually on broadleaf. Oddly too, *Blechnum colensoi* was present away from its usual stream banks. The most noteworthy ground plants were *Astelia fragrans*, *A. nervosa*, *Luzuriaga parviflora* (base of tree trunks), *Libertia micrantha*, *Myosotis forsteri*, *Urtica incisa*, *Viola filicaulis*, *Cardamine debilis*, and *Stellaria parviflora*. *Microlaena avenacea* and *Uncinia uncinata* were abundant in dead kamahi areas.



Myosotis forsteri, Whakapapanui Track



Astelia fragrans, Hauhungatahi, 1350m.

As the slope steepened (alt. 800-900 m) the forest changed into Hall's totara/cedar forest with broadleaf, and including the odd big alpine toatoa to 20 cm diameter. Pink pine (*Halocarpus biformis*) became abundant towards the bush line. On the ground the forest gentian *Gentianella chathamica* subsp. *nemorosa* was abundant and in flower. A few plants of *Myosotis forsteri* were also in flower. Throughout the forest perching plants were almost solely *Collospermum microspermum* and orchids were almost absent, represented only by *Earina autumnalis*. Just before the bushline there were thickets of *Neomyrtus pedunculata*.

At the forest edge (1147 m) we stopped in the sun to gather together. Here we sat on *Abrotanella fertilis* (a recently described species) amongst red tussock, and

the locally ubiquitous *Euphrasia cuneata*. Out into red tussock interspersed with patches of *Halocarpus bidwillii*, *Phyllocladus alpinus*, *Dracophyllum longifolium*, *Olearia nummulariifolia*, *Ozothamnus vauvilliersii*, *Hebe odora* and *Raukaua simplex*, then a hard slog through peaty heather/*Gleichenia*/wire rush and a wide variety of rushes and sedges including *Carex demissa* prominent along the track. Shrubs here included abundant *Olearia virgata* near the forest edge, some *Coprosma decurva*, and scattered *Pittosporum anomalum* and elsewhere extensive patches of silvery *Celmisia incana*. Over the first ridge there was lunch for some (others at the summit). Here *Liparophyllum gunnii* was abundant (and in flower) in the tarns. Other interesting plants were the tiny *Euchiton laterale* in soft mud areas, *Drosera arcturi*, *Gentianella grisebachii*, and *G. bellidifolia*.

extensive patches of holy grass (*Hierochloa redolens*), a few *Ranunculus verticillatus*, much *Wahlenbergia pygmaea*, *Forstera bidwillii*, *Anisotome aromatica* and *Ourisia vulcanica*, and the creeping *Uncinia rubra* here. Heather was fortunately scarce. *Pterostylis humilis* and *Aporostylis bifolia* were found hiding in the bushes of bog pine or alpine toatoa. At the summit (1519 m) a search around rocks revealed abundant *Hymenophyllum multifidum* and odd plants of *Carex acicularis* strangely perched on the rocks.



Mt Hauhungatahi

On the final ascent to the summit the ground becomes drier and species more varied. Here there was a low carpet of snow totara, *Coprosma perpusilla*, *Dracophyllum recurvum*, *Kelleria dieffenbachii*, *Pentachondra pumila*, *Hebe tetragona*, *Gaultheria colensoi* (a NI endemic), and *Myrsine nummularia*, with some patches of *Celmisia glandulosa*. There were



Liparophyllum gunnii, Mt Hauhungatahi

After a hasty retreat to vehicles where we found John Hobbs eagerly awaiting a lift: his fare a find of numerous *Spiranthes novae-zelandiae* in flower in a wet area close to the vehicles. Another notable plant nearby was *Elatine gratiolooides*.

Rotokura Ecological Reserve. 06/02/06

Tony Williams

Waitangi Day began under a cloudless sky and at the ecological reserve we were fortunate in being able to celebrate the day appropriately with a snapshot view of what New Zealand was like before the Treaty. There is short bush walk up to the first lake, the track then follows the eastern side of the lake and then makes a loop right around the upper lake. DOC has made ample provision for birdwatchers with a number of raised platforms along the open side of the first lake. From there dabchick, grey duck, coot, grey teal, grebe and pukeko were seen (as well as dragonflies) and the call of a spotless crane was heard. In the bush

fantail, tomtit, whitehead and warbler were seen and heard.

At 700m the reserve gives a good example of mid-altitude forest. It is red beech (*Nothofagus fusca*) dominant – but with black and silver beech also present, together with totara, rimu and some very large black maire. The upper lake area contains some very impressive old red beech with massive buttresses. An earlier opportunity appreciated by the camera brigade (digital and otherwise) was an extensive glade of *Blechnum discolor* often forming extensive colonies

by means of its stoloniferous habit in open beech forest' – to quote Brownsey & Smith-Dodsworth (1989).

On the trackside many of the coprosma were a mass of berries: *Coprosma lucida*, *C. grandifolia*, *C. microcarpa* (easily recognised with its planar pattern of branching). Of some interest by the lakeside was *C. robusta* x *C. propinqua* with parent species in the area. This is a well known cross and stimulated discussion about the F₂ generation. Further variety was introduced with the sighting of the above-surface stalk of a 'vegetable caterpillar' – the remains of the fruiting stage of a parasitic fungus *Cordyceps robertsii*.

A number of pair-studies were possible: hinau (*Elaeocarpus dentatus*) and pokaka (*E. hookerianus*) - the latter with its small, indented juvenile leaves: the two pongas – *Dicksonia fibrosa* and *D. squarrosa* – the first with its skirt of dead fronds, the second skirtless: *Gaultheria antipoda* and its relative *G. macrostigma*

(previously *Pernettya macrostigma*) the first an erect shrub, the second prostrate, but both having white and red fruiting forms.

We revelled in the biodiversity: from the turbid waters of the upper lake (slightly sulphurous and perceptibly warmer, suggesting a high phytoplankton population) to *Lycopodium volubile*, *Carex secta* and *Astelia fragrans* at the lake edge, the beech mycorrhizal *Armillaria*, shrubs, trees and epiphytes – *Alseuosmia turneri*, *Pittosporum colensoi* (also known as *P. tenuifolium* subsp. *colensoi*), the epiphytic fern *Microsorium novae-zelandiae* and its large asteliad companion *Collospermum microspermum* and one sighting of the yellow beech mistletoe *Alepis flavida* still in flower. There was great excitement right at the finish to find a primitive parsley fern *Botrychium australe* – until we arrived back at the car park to find them in abundance, and for good measure, carrot fern (*Botrychium bifforme*) - how did we miss them the first time?

Reference

Brownsey, P.J; Smith-Dodsworth, J. 1989. New Zealand Ferns and Allied Plants, 1st ed. David Bateman, Auckland.

Turoa. 06/02/06

Mike Wilcox

We had lunch at the DOC visitor centre at Ohakune. Here we saw several *Alepis flavida* growing on black beech - artificially attached as seed as part of the conservation programme for this rather threatened mistletoe. Then it was on and upwards along the mountain road, through podocarp forest and then beech, until we reached the top of the road at the Turoa Ski Field at 1630 m. The weather was very chilly, but we immediately headed down into the alpine plants growing beside a stream. And what delights there were. *Parahebe hookeriana* was in full flower, and quite common. *Ranunculus insignis* grew in colonies, though flowering was long over. In quick

succession we encountered *Geum cockaynei*, *Ourisia vulcanica*, *Kelleria laxa*, *Euchiton lateralis*, *Craspedia uniflora*, *Celmisia glandulosa*, *Ucinia viridis*, and large colonies of *Epilobium macropus*. The familiar *Schoenus pauciflorus* and *Carpha alpina* abounded, along with *Drosera arcturi*. Both *Chionochloa rubra* and *C. pallens* were present, and *Montia fontana* was abundant and in flower along wet channels. We explored a drier, rocky site and recorded *Neopaxia calycina* and the ever-present *Gentianella bellidifolia*.

Waitonga Falls Track. 06/02/06

Mike Wilcox

This walk starts down the Turoa Road at an elevation of 1143 m, and traverses both forest and alpine wet tussock. The dominant forest tree is mountain beech, with a considerable admixture of mountain toatoa, pink pine, cedar, and silver pine (*Manoao colensoi*). This latter conifer was plentiful and we had a good opportunity to observe its ripe fruit. Prominent understorey shrubs were *Coprosma foetidissima*, *Coprosma colensoi*, *Olearia arborescens* and *Raukaua simplex*. A common forest herb beside the track was *Viola filicaulis*.



Waitonga Falls Track

The track becomes a boardwalk as it crosses extensive mountain wetlands. Here there was a succession of small tarns in which *Potamogeton suboblongus*, *Liparophyllum gunnii*, and *Myriophyllum pedunculatum* were growing. The star attraction, though, was the very abundant insectivorous plant, mountain

bladderwort (*Utricularia dichotoma*), its little flowers dotted all over the place, accompanied by *Celmisia gracilenta* and *Craspedia minor*.

As we neared the falls we passed some bluffs with a fine population of *Parahebe lanceolata*.

Erua: Monday 6 February

Mike Wilcox

To cap off a busy day, we took advantage of Ken Haydock's expert guidance to visit a population of the heteroblastic Turner's kohuhu or tentpole tree (*Pittosporum turneri*) adjoining the Waimarino Stream in the Erua Conservation Forest. The species is a Category B threatened plant in the Tongariro-Taupo DOC conservancy in which region various small populations reside. We saw just a couple of decent sized *Pittosporum turneri*, both narrow spindly specimens of intermediate age. There were also numerous seedlings in the vicinity. This cold valley (alt.

725 m) has a vegetation of *Phormium tenax*, *Coprosma propinqua*, *Olearia virgata*, *Corokia cotoneaster*, *Hebe stricta*, *Phyllocladus alpinus*, *Pittosporum colensoi* and *Gonocarpus aggregatus*, as well as extensive *Empodisma-Gleichenia* bogs with some *Lycopodiella lateralis*. One of our target shrubs, leafless mahoe (*Meliclytus flexuosus*) was also sought out here, on the advice of Nick Singers, but we failed to find any.

Mangatepopo Valley and Soda Springs: Tuesday 7 February

Jan Butcher

This track is the start of the Tongariro Crossing and a side trip to Mt Ngauruhoe summit from the saddle, and as a result we had a lot of foot traffic passing us. After 30 minutes of passing through what had now become familiar plants, we came to a board-walk with one of those little plants with narrow blade-like leaves which had us puzzled. A decision was put on hold at that stage (it turned out to be *Neopaxia calycina*). At this transition stage, there were lovely clumps of golden *Podocarpus nivalis* covered with red fruit. Around the corner we came to the "moonscape", old lava flows covered with bryophyte "vegetable sheep" (*Racomitrium lanuginosum*) and lichens, with gravelly flats colonised by *Rytidosperma setifolium* and the silvery scabweed, *Raoulia albosericea*, with some mats of *Raoulia tenuicaulis*. Damper areas had the tiny sedges, *Isolepis aucklandica* and *I. crassiuscula*. About this stage Alistair spotted a little action from the steaming vents on Mt Ngauruhoe. Finally we got to our destination, the Soda Springs (1392 m) that are nearly at the head of the Valley. There was a gentle fall of water over about a 25m high face providing an oasis in this "moonscape" and a sulphur smell to the air. A sward of *Epilobium macropus* was at the top falling over the edge. Various mosses and grasses, including mid-rib snow tussock (*Chionochloa pallens*) provided a mosaic. Once again we saw the *Hierochloa redolens* in abundance that we had been introduced to on the first day. *Ranunculus insignis* had finished flowering with the *Ourisia macrophylla* showing the occasional head of flower. The filmy fern, *Hymenophyllum multifidum*, was common along stream banks and at the base of

shrubs. There were other little delights: *Parahebe hookeriana*, *Grammitis patagonica*, *Neopaxia calycina* with its attractive white flower, colonies of *Montia fontana* with tiny white flowers, and *Coprosma perpusilla* with most interesting very long stigmas. Of course there were still plenty of *Euphrasia cuneata* flowers with its exquisite little faces that continue to delight me. Tony Williams actually missed the turnoff to the Springs, and instead went right up to the Saddle, where he reported seeing *Ranunculus nivicola*.



Soda Springs [Photo: Alistair MacArthur]

I will take this opportunity to thank Mike and Maureen for their tireless and unfailing help in putting together a memorable wonderful weekend.

Report on Fungi Hunting in Tongariro National Park, 3-7 Feb 2006

Clive Shirley & Shirley Kerr

While everyone else on the Auckland Botanical Society Trip to Tongariro National Park were busy looking at green plants, we had our attention focused elsewhere – we were looking for fungi. While the mixed podocarp-broadleaf forest behind the camp provided enough variety on Friday afternoon to whet our appetites, it was the beech forests on the slopes of Ruapehu that provided the greatest numbers and variety of fungi over the weekend. Even the botanists couldn't help but notice fungi on their walk around

Rotokura, especially the *Russulas* which have a mycorrhizal association with beech and *Leptospermum*. The podocarp/broadleaf slopes of Hauhungatahi were notable for their lack of fungi, although it was the only site where the parasitic vegetable caterpillar *Cordyceps robertsii* was found. Over the weekend 42 species were identified, but there were a few more that names could not be put to.

List of Fungi found on Auckland Bot Soc Trip to Tongariro National Park, 3-7th Feb 2006

Amanita australis
Amanita nothofagi
Amanita pekeoides
Armillaria novaezelandiae
Aseroe rubra
Astrosporina sp.
Bovista sp.
Clavicornia piperata
Cordyceps robertsii
Cortinarius caryotis
Cortinarius castoreus
Crepidotus sp.
Daldinia childiae
Entoloma decolorans
Entoloma deceptivum
Entoloma perzonatum
Entoloma tristifucum
Grifola sp.
Humidicutis pura
Humidicutis lewellenae
Humidicutis multicolor
Hygrocybe miniata
Hygrocybe cantharellus
Gliophorus chromolimoneus

Chamonixia pachydermis
Lactarius clarkei
Lactarius tawai
Lepiota sp.
Paurocotylis pila
Paxillus nothofagi
Pluteus concentricus
Pluteus velutornatus
Russula albolutescens
Russula atrovirens
Russula griseobrunnea
Russula griseostipitata
Russula inquinata
Russula multicystidiata
Russula pilocystidia
Russula roseostipitata
Russula tawai
Russula umerensi
Hypoxylon sp.
Thaxterogaster porphyreus
Tremella lutescens
Tylopilus formosus
Xerocomus macrobbi

Birds noted on the Volcanic Plateau, 3-7 February 2006

Stella & John Rowe

Birds were recorded in a variety of habitats from lakes and forest to tussock, alpine scrub and herbfields. A highlight for many would have been close views of fernbird in alpine scrub on the Silica Rapids Track, on the Mangatepopo Track and in tussock herbfields almost to the summit of Mt Hauhungatahi. Waterbirds

were seen on Lake Rotokura and Dry Lake although fewer species than are normally present there. Spotless crane were probably lying low. Long-tailed cuckoo and whitehead – their host species – were in good numbers around the Mangatepopo Camp.

N.Z dabchick	kereru	blackbird	tui
mallard	kaka	thrush	yellowhammer
grey duck	kakariki	fernbird	chaffinch
grey teal	long-tailed cuckoo	whitehead	greenfinch
N.Z. scaup	kingfisher	grey warbler	redpoll
harrier	rifleman	fantail	house sparrow
pukeko	skylark	tomtit	starling
Australian coot	welcome swallow	N.Z. robin	Australian magpie
spur-winged plover	N.Z. pipit	silvereeye	
black-backed gull	dunnock	bellbird	

For further reading

- Anon. 1996. *Common Alpine and Forest Plants of Tongariro National Park - a field guide*. Tongariro Natural History Society.
- Atkinson, I.A.E. 1975. Tongariro National Park. *New Zealand's Nature Heritage* Part 85:2371-2377.
- Atkinson, I.A.E. 1981. *Vegetation map of Tongariro National Park*. New Zealand DSIR, Wellington.
- Beever, J. 1986. Tongariro National Park – 1986. *Auckland Botanical Society Newsletter* 41(2): 62-64.
- Beever, J. E. 1986. Mosses of Tongariro National Park – a bryologist's view of the Botanical Society trip to Mt Ruapehu, January 1986. *Auckland Botanical Society Newsletter* 41(2):65-69.
- Butler, L. W. 1968. Ohakune trip, 20-29/1/1968. *Auckland Botanical Society Newsletter* 25(2):3-11.
- Chapman, H. M.; Bannister, P. 1990. The spread of heather, *Calluna vulgaris* (L.) Hull, into indigenous plant communities of Tongariro National Park. *New Zealand Journal of Ecology* 14:7-16.
- Clarkson, B; Whaley, P.; Whaley, K. 1997. The effect of recent Mt Ruapehu eruptions on the subalpine and alpine plants. *New Zealand Botanical Society Newsletter* 47:13-14.
- Druitt, D.G.; Enright, N.J.; Ogden, J. 1990. Altitudinal zonation in the mountain forests of Mt Hauhungatahi, North Island, New Zealand. *Journal of Biogeography* 17:205-220.
- Gabites, I. 1987. *Roots of Fire - A Guide to the Plant Ecology of Tongariro National Park*. Tongariro Natural History Society.
- Gibbs, J.G. 1966. Studies of the importance of plant species in vegetation. 1. Above timber-line on north-west slopes adjoining Bruce Road, Mt Ruapehu, Tongariro National Park. *Tuatara* 14(1):19-29.
- Horrocks, M.; Ogden, J. 1994. Modern pollen spectra and vegetation of Mt Hauhungatahi, central North Island, New Zealand. *Journal of Biogeography* 21:637-649.
- Irwin, B.; Scanlan, E.; Fraser, A.; McConachie, D. 1999. Pokaka 1998. *New Zealand Orchid Group Journal* 70:40-43
- Lund, A.S. 2003. Threatened plant survey in Kaimanawa Forest Park and Tongariro National Park. *DOC Science Internal Series* 117.
- Lusk, C. Ogden, J. 1992. Age structure and dynamics of podocarp/broadleaf forest in Tongariro National Park, New Zealand. *Journal of Ecology* 80:379-393.
- Ogden, J.; Fordham, R.A.; Horrocks, M.; Pilkington, S; Serra, R.G. 2005. Long-term dynamics of the long-lived conifer *Libocedrus bidwillii* after a volcanic eruption 2000 years ago. *Journal of Vegetation Science* 16:321-330.
- Scanlan, E. 2001. Helicopter survey for *Pterostylis micromega*. *New Zealand Orchid Group Journal* 80:15-17.
- Scott, D. 1977. Plant ecology above timberline on Mt Ruapehu, North Island, New Zealand. 1. Site factors and plant frequency. *N.Z. Journal of Botany* 15:255-294
- Stevenson, G. 1975. The three forest belts of Hauhungatahi. *Forest & Bird* 19:7-10.
- Thomson, A.D. 1999. *Calluna vulgaris* in Tongariro National Park. *New Zealand Botanical Society Newsletter* 58:13.
- White, P. 2005. The 19th New Zealand fungal foray, Ohakune. *Auckland Botanical Society Journal* 60(2):89-97.

Field Trip: Mahurangi East Regional Park. 18/2/06

Maureen Young

"We caught a boat to the mainland, and walked to an island," said Mike, and this was what we did. First we caught a water taxi from Scotts Landing to the Mahurangi East Regional Park, which can only be accessed by boat, and on returning we walked across the now exposed causeway to Casnell Island.

Continuing a recent tradition of holding the February field trip in a Regional Park, on this day we again took advantage of a hot day, the shade of the coastal forest and the proximity of the warm sea. The park occupies the southern portion of the Mahurangi Peninsula, excluding the southernmost tip and the point to the north of Lagoon Bay, these two blocks being in private ownership.

After walking along the shore to Lagoon Bay, the party broke up into several small parties and each did their own thing, which for many included a swim. As a result of earlier occupation several exotic plants were prevalent on previously cleared areas - among these were pampas (*Cortaderia selloana*), quince (*Cydonia oblonga*) pawpaw (*Carica pubescens*) and *Furcraea selloa*. This latter species, a member of the Agavaceae, has naturalised on Kawau Island from original plantings by Governor Grey, and has subsequently found its way to several points around Kawau Bay. Thanks to work carried out by the ARC, weeds such as privet, cotoneaster, macrocarpa and pine are not as common in the park, as they are in adjacent areas (pers. comm. Alastair McArthur).

Included among the salt-marsh vegetation around the small lagoon at Lagoon Bay were several clumps of sea blite, *Suaeda novae-zelandiae*, with reddish, succulent leaves. Some mangroves also grew there. On the more exposed shores of Big Bay grew *Spinifex sericeus*, *Carex pumila* and *Calystegia soldanella*.

The slopes of the park had areas of kunzea scrub, with, in the gullies and on the cliffs, mature broadleaf forest. Pohutukawa (*Metrosideros excelsa*), of course, was a dominant species, with most of the very large trees festooned with clumps of *Collospermum hastatum* and *Astelia banksii*. Also present were puriri (*Vitex lucens*), kohekohe (*Dysoxylum spectabile*), karaka (*Corynocarpus laevigatus*), rewarewa (*Knightia excelsa*), tawaroa (*Beilschmiedia tawaroa*), taraire (*B. tarairi*) and tawapou (*Pouteria costata*). In some places mangeao (*Litsea calicaris*) was plentiful, the dominant species of coprosma was the coastal *Coprosma macrocarpa*, and *Sophora chathamica* is the kowhai found growing around the Mahurangi. One tree of ngaio (*Myoporum laetum*) was seen, but a large number of Tasmanian ngaio (*Myoporum insulare*) have been planted in a gully.

Some ferns of interest were *Arthropteris tenella*, the dainty *Adiantum diaphanum*, and *Doodia mollis*. These latter two species are often found growing in close proximity. On the trunk of a pohutukawa which was hanging over the shore could be seen the thick, leathery fronds of *Asplenium haurakiense*.