



Waikato Botanical Society Inc.

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WAIKAWAU TRIP 12-13 MAY 2007

Waikawau Wetland Survey

Over the weekend of May 12 and 13 a diverse group of plant enthusiasts converged at Waikawau, a wide bush-backed bay on the far north eastern edge of the Coromandel Peninsula. The aim of the trip was to compile a plant list for the 65 ha wetland which runs from the mouth of the estuary to a flat basin and into several narrow valleys. To cover the ground, we divided into groups each headed by a member of the Moehau Environment Group (MEG). On the estuary side of the main road which cuts through the wetland, the highly invasive *Paspalum vaginatum* has gained a strong foothold and is spreading along the shoreline and into the mangroves. More desirable turf formers such as glasswort (*Sarcocornia quinqueflora*) are still present, as are the ubiquitous sea primrose (*Samolus repens*) and *Selliera radicans*. A small island of *Spartina anglica* still persists on the south side of the estuary despite spraying. On the other side of the road, it's quite a different story altogether as salt water species rapidly give way to freshwater species. MEG's rat/stoat trapping lines have created narrow channels through the thickly vegetated swamp and fen system. Edging the road are scattered salt marsh ribbonwoods (*Plagianthus divaricatus*) and *Olearia solandri* shedding the last of the season's seeds. Further in, Mexican devil (*Ageratina adenophora*) forms thickets underneath a tall stand of Cabbage trees (*Cordyline australis*). Widespread throughout the Coromandel, the Mexican devil here showed the distinctive galls of the insect introduced in an (unsuccessful) attempt to control it.

Further along the track, the vegetation grew in an almost impenetrable tangle, one of the most dominant species being the appropriately named tangle fern (*Gleichenia dicarpa*), which reached chest height. Swamp millet (*Isachne globosa*) in flower was threaded throughout the fern; raupo made an occasional appearance as did flax. In the sheltered north-facing corner of the fen and nestled against the toe of the clay slopes, we found a cluster of stout-stemmed, bright green *Lycopodiella cernua*. Climbing out of the wetland and up the slopes, the vegetation changed accordingly with manuka and kanuka dominating, with scattered *Pomaderris amoena* and needle-leaved hakea (*Hakea sericea*).

The evening was spent sorting through the mystery objects of the day with the very occasional plant still remaining a mystery. The following day was spent listing the flora of grassland and forest sites which up until 3 years ago had been heavily grazed and damaged by possums. Fencing and trapping has resulted in a dramatic flush of vegetation, the kohekohe (*Dysoxylum spectabile*) in particular sending out lush and almost luminous new growth. Inflorescences were much in evidence though the buds were still tightly closed. This northern side of the estuary holds much history underneath the rank grass and regenerating forest. Over the years, erosion has unearthed many hearth stones only to be reburied later with soil dislodged by animal hooves. The road edge through the regenerating coastal remnant revealed a shell midden, and a confusing array of *Pteris* hybrids (*P. macilenta*, *P. saxatilis*, *P. comans* and *P. tremula*). Descending to the beach once more through a patch of regenerating nikau, we found the aptly named velvet fern (*Lastreopsis velutina*) and spied a carpet of diminutive *Bulbophyllum pygmaeum* on an old pohutukawa trunk along with small plants of *Peperomia urvilleana* and a nearby group of *Melicope ternata*. The last activity of the weekend was an attempt to locate a large-leaved milk tree (*Streblus banksii*) which John Smith-Dodsworth had encountered some years previously in the dense forest edging the estuary. While we couldn't find it, it gives a great excuse for going back!

Monica Peters

<p style="text-align: center;">KAKEPUKU MOUNTAIN HISTORIC RESERVE 26 MAY 2007</p>

Thirteen of us from Hamilton, Auckland, Coromandel, Rotorua and Taranaki assembled in the Kakepuku Reserve carpark with local restoration advocates Jan and Laurie Hoverd on a fine late-autumn morning. Kakepuku mountain (449m a.s.l.) is an old volcanic cone to the south-east of Te Awamutu and is the site of several historic pa sites. The voluntary community restoration group Kakepuku Mountain Conservation Society have been working with DOC on animal pest control since 1995 and goats have now been eradicated from the reserve. Low possum and rat numbers have allowed the reintroduction of toutoutwai, the North Island robin, in 1999 and more recently karearea (NZ falcon) have been released onto the mountain. On this botanical society trip we hoped to see the regeneration of understory species previously suppressed by goat browse and investigate whether possum control had improved the health of kohekohe and other highly possum-preferred canopy trees.

As we walked up the access-way through paddocks we noted the interesting selection of 'amenity' plantings here, some not necessarily what we could call local species: golden totara, kauri and purple varieties of akeake and flax! (nothing to do with the restoration group we were told by Jan!). We crossed into the reserve proper near the new DOC viewing platform and passed the Hoverd's paddock adjacent to the

reserve in which they have sprayed to knock back the dense cloak of tree privet and barberry, the fruits and seeds of which are spread liberally by birds. We entered the bush under a rather sparse and ragged looking mangeao canopy also with some tawa, pukatea, pigeonwood and mahoe. Weed invasion was quite evident on the bush edge with tree privet, Himalayan honeysuckle, blackberry and many herbaceous pasture weeds such as *Senecio bipannatisectus* and *Phytolacca octandra*. However, native regeneration was evident in the understorey with common hangehange, kanono, nikau, kawakawa, hen and chicken fern, and the scrambling fern *Arthropteris tenella*. As we proceeded up the summit track exotic brush wattle seedlings were common on the track edge. We also spotted the odd tarata or lemonwood seedling and would later meet the likely parent trees near the summit, the legacy of historical plantings. Jan and Laurie pointed out a single large rimu tree below the track. The mountain has been extensively logged and burnt in the past and there is also one known large totara tree left which we did not see on this trip. Plenty of kahikatea seedlings were evident by the trackside, but nothing very large was seen. *Alseuosmia quercifolia* is known to occur here (C. Purvis, DOC) but somehow our keen eyes missed it.

Half the group branched off-track onto a drier ridge briefly where we found heketara, rewarewa and rangiora coming through an aging gorse canopy. We spotted the epiphytic orchid *Drymoanthus adversus* on young mangeao trees here. After a brief refreshments break (no we weren't even at the top yet) we started to get into lush looking kohekohe trees and finally found our first *Hymenophyllum* (filmy-fern) species. As we reached the old crater edge and pa site a few new tree species were seen: ramarama, horoeka and tree fuchsia. We headed off-track following our local guides down a gully (unawares we had to come back up again!) through a majestic stand of large, flowering and fruiting kohekohe trees, with scattered large volcanic basaltic rocks, evidence of the previous crater blow out to the west here. Some large king fern specimens were seen and some of the ferocious tree nettle, ongaonga, was close by apparently, but not seen as we opted to head back up to the summit.

The summit viewing platform afforded us clear views across the Waikato basin and several more weeds were added to the list in the clearing here including herb Robert, Yorkshire fog and other pasture species. We saw *Hebe stricta* and the elegant native grass *Poa anceps* for the first time here. On the return we skirted around the crater rim, where we saw parsley fern and the likely human-introduced tarata trees. We then made a relatively hasty decent down a pest control access line on the eastern slopes having been on the southern slopes coming up the marked track. The tail-end of the group made some brief searches for *Dactylanthus taylorii* around hopeful host trees but to no avail. Lower down we joined an old farm track, apparently now used by mountain bikers, brave ones at that!, and came across a few more bush-edge species such as kiokio, scented fern, crown fern, turutu, tutu, shining karamu, wineberry and a gully tree fern, *Cyathea cunninghamii*.

In comparison to 1985 Botanical Society visits species additions are minimal, although there were several more ferns added on this trip, notably king fern which may have been affected in the past by stock and goat browse. Wright in 1985 described the forest as 'generally rather open' following the Auckland Botanical Society trip and inferred this as evidence of previous grazing. The understorey is now quite diverse with a mixture of broadleaf species, having been described in 1985 by Boase on the Rotorua Botanical Society visit as dominated by kawakawa and nikau, two species not known for palatability to goats.

Species list (Liz Grove & Jane Hart)

Compiled from this visit and Auckland and Rotorua Botanical Society trips in 1985.

¹ not recorded in 1985

² recorded in 1985 but not recorded on this trip

* denotes adventive species

Ferns and fern allies

<i>Adiantum cunninghamii</i> ¹	maidenhair fern
<i>A. diaphanum</i> ²	
<i>A. fulvum</i> ²	
<i>A. viridescens</i>	
<i>Anarthropteris lanceolata</i> ²	
<i>Arthropteris tenella</i>	
<i>Asplenium bulbiferum</i>	hen and chicken fern
<i>A. flaccidum</i>	
<i>A. lamprophyllum</i> ²	
<i>A. oblongifolium</i>	shining spleenwort
<i>A. polyodon</i>	
<i>Blechnum chambersii</i>	
<i>B. discolour</i>	crown fern
<i>B. filiforme</i>	
<i>B. fluviatile</i>	
<i>B. membranaceum</i> ²	
<i>B. novae-zelandiae</i>	kiokio
<i>Botrychium bifforme</i> ¹	parsley fern
<i>Cyathea cunninghamii</i>	gully tree fern
<i>C. dealbata</i>	silver fern, ponga
<i>C. medullaris</i>	mamaku
<i>Deparia petersenii</i> ¹	
<i>Dicksonia squarrosa</i>	wheki
<i>Diplazium australe</i>	
<i>Doodia australis</i> ²	
<i>Grammitis billardierei</i> ¹	
<i>Histiopteris incisa</i> ²	water fern
<i>Hymenophyllum demissum</i> ²	filmy fern
<i>H. dilatatum</i>	
<i>H. flabellatum</i>	
<i>H. flexuosum</i> ²	
<i>H. revolutum</i> ²	
<i>H. sanguinolentum</i>	
<i>Hypolepis lactea</i> ²	
<i>Lastreopsis glabella</i>	
<i>L. hispida</i>	
<i>L. microsora</i>	
<i>Leptopteris hymenophylloides</i>	
<i>Lycopodium varium</i> ²	
<i>Marattia salicina</i> ¹	king fern
<i>Microsorium pustulatum</i>	hound's tongue fern
<i>M. scandens</i>	
<i>Ophioglossum coriaceum</i> ²	
<i>Paesia scaberula</i>	scented fern
<i>Pellaea rotundifolia</i>	button fern
<i>Pneumatopteris pennigera</i>	
<i>Polystichum wawranum</i>	
<i>Pteridium esculentum</i>	bracken
<i>Pteris macilenta</i>	
<i>P. tremula</i>	
<i>Pyrrosia eleagnifolia</i>	leather fern

*Rumohra adiantiformis*²

Tmesipteris lanceolata

Trichomanes venosum

*T. endlicherianum*²

T. reniforme kidney fern

Gymnosperms

*Dacrydium cupressinum*¹ rimu

Dacrycarpus dacrydioides kahikatea

Dicot trees, shrubs and lianes

<i>Alectryon excelsus</i>	titoki
<i>Aristotelia serrata</i>	wineberry, makomako
<i>Beilschmiedia tawa</i>	tawa
<i>Berberis glaucocarpa</i> *	barberry
<i>Brachyglottis kirkii</i> (<i>Senecio kirkii</i>) ²	Kirk's tree daisy
<i>B. repanda</i>	rangiora
<i>Clematis forsteri</i> ²	
<i>C. paniculata</i>	
<i>Coprosma grandifolia</i>	kanono
<i>C. lucida</i>	shining karamu
<i>C. robusta</i>	karamu
<i>Coriaria arborea</i>	tutu
<i>Cytisus scoparius</i> * ²	broom
<i>Dysoxylum spectabile</i>	kohekohe
<i>Elaeocarpus dentatus</i> ²	hinau
<i>Erica lusitanica</i> * ²	Spanish heath
<i>Fuchsia excorticata</i>	kotukutuku
<i>Geniostoma rupestre</i> var. <i>ligustrifolium</i>	hangehange
<i>Griselinia lucida</i>	puka
<i>Hebe stricta</i>	
<i>Hedycarya arborea</i>	pigeonwood
<i>Knightia excelsa</i>	rewarewa
<i>Laurelia novae-zelandiae</i>	pukatea
<i>Leucopogon fasciculatus</i> ²	mingimingi
<i>Leycesteria formosa</i> *	Himalayan honeysuckle
<i>Ligustrum lucidum</i> *	tree privet
<i>L. sinense</i> *	Chinese privet
<i>Litsea calicaris</i>	mangeao
<i>Lonicera japonica</i> *	Japanese honeysuckle
<i>Lophomyrtus bullata</i>	ramarama
<i>Macropiper excelsum</i>	kawakawa
<i>Melicytus ramiflorus</i>	mahoe
<i>Metrosideros carminea</i> ²	carmine rata
<i>M. colensoi</i> ²	
<i>M. diffusa</i>	
<i>M. fulgens</i>	
<i>M. perforata</i>	
<i>M. robusta</i> ^{2(dead?)}	northern rata
<i>Muehlenbeckia australis</i>	
<i>Myrsine australis</i>	mapou
<i>Olearia rani</i>	heketara
<i>Paraserianthes lophantha</i> *	brush wattle
<i>Parsonsia</i> sp.	native jasmine
<i>Passiflora tetrandra</i>	native passionfruit

Pittosporum eugenioides tarata, lemonwood
*Pseudopanax arboreus*² fivefinger
P. crassifolius lancewood, horoeka
*Pseudowintera axillaris*² pepper tree
Rubus cissoids bush lawyer
*R. fruticosus** blackberry
Schefflera digitata pate
*Solanum aviculare*² porporo
Streblus heterophyllus (*Paratrophis microphylla*)² turepo
*Ulex europaeus** gorse

Dicot herbs

*Acaena novae-zelandiae*²
*Acetosa acetosella** sheep's sorrel
*Angallis arvensis**²
*Calystegia sepium*²
Carduus sp.²
Cardamine debilis
*Centaurium erythraea**²
*Cerastium fontanum**²
*Cirsium arvense** Californian thistle
*C. vulgare** Scotch thistle
*Conyza albida** fleabane
*Crepis capillaris**
*Digitalis purpurea** foxglove
*Epilobium nummulariifolium*²
*E. rotundifolium*²
Euchiton audax (*Gnaphalium audax*)²
E. collinus (*Gnaphalium gymnocephalum*)*²
*Euphorbia peplus**²
*Galium aparine** cleavers
Gamochaeta spicata (*Gnaphalium spicatum*)*²
*Geranium potentilloides**²
*G. robertianum** herb Robert
Gnaphalium audax
Haloragis erecta
*Hydrocotyle moschata*²

Monocot herbs, sedges, grasses

*Agrostis capillaris** brown top
*Anthoxanthum odoratum** sweet vernal
Astelia solandri
*Carex breviculmis*²
*C. divulsa**²
C. solandri
CollospERMUM hastatum perching lily
C. microspermum
*Cortaderia selloana**² pampas grass
*Dactylis glomerata** cocksfoot
Dianella nigra turutu
*Holcus lanatus** Yorkshire fog
*Juncus bufonis**
*J. gregiflorus*²
*J. tenuis**
*Lolium perenne**
Microlaena avenacea bush rice grass

*Hypochoeris radicata** cats ear
*Lagenifera pumila*²
*Leucanthemum vulgare** ox-eye daisy
*Lotus pedunculatus**
*Mentha pulegium** penny royal
*Mycelis muralis** wall lettuce
*Orobanche minor**²
*Oxalis exilis*²
*Physalis peruviana** cape gooseberry
*Phytolacca octandra** inkweed
*Pinus radiata**²
*Plantago lanceolata**
*P. major**
*Prunella vulgaris**
Pseudognaphalium luteo-album
*Ranunculus hirtus*² buttercup
*R. repens**
*R. sardus**
*Senecio bipinnatisectus** Australian fireweed
*S. jacobea** ragwort
*S. minimus*²
Solanum americanum
*S. pseudocapsicum**² Jerusalem cherry
*Sonchus asper**
Stachys sp.*
*Stellaria media** chickweed
S. parviflora
*Trifolium repens** white clover
*Veronica arvensis** speedwell
*Wahlenbergia gracilis*²

Monocot trees, shrubs and lianes

*Cordyline australis*² cabbage tree
*C. banksii*² forest cabbage tree
Freycinetia banksii kiekie
Rhopalostylis sapida nikau
Ripogonum scandens supplejack

M. stipoides
Oplismenus imbecilus
Poa anceps
Rytidosperma sp.²
*Sporobolus africanus**²
Uncinia banksii hook seed sedge
*U. ferruginea*²
U. unciniata
*U. zotovii*²

Orchids

*Corybas trilobus*² spider orchid
Drymoanthus adversus
Earina autumnalis Easter orchid
E. mucronata
Microtis unifolia
*Pterostylis banksii*² greenhood orchid

References

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PIRONGIA TE AROARO O KAHU RESTORATION SOCIETY 21 JULY 2007

Although the weather wasn't the greatest with showers during the afternoon we had a good turn out to help the Pirongia Te Aroaro O Kahu Restoration Society set up some permanent vegetation plots and do some general botanising around the base of Mt Pirongia. Using the FORMAK kit developed by Peter Hansford the team set up a new permanent plot to assist monitoring of possum and rat control operations. We set up a 20 m long transect, measured the dbh of all trees within 3 m of the transect, assessed canopy cover, and counted seedlings and shrubs. Although we did not venture far up the mountain we started noticing a change in vegetation from lowland broadleaf understorey species such as *Carpodetus serratus*, *Coprosma grandifolia* and *Coprosma lucida* to higher altitudinal species such as tawari (*Ixerba brexioides*), *Quintinia serrata* and *Dracophyllum* sp. We also saw some large pukatea (*Laurelia novae-zelandiae*) but kept our eye out for *Ganoderma* 'awarua' with no success. It was good to see lots of young *Alseuosmia macrophylla* indicating the absence or very low density of goats. We enjoyed hearing about the Pirongia Restoration Society's goals to eventually reintroduce kokako which has only disappeared from Pirongia within living memory of some of the trust members. It was a great day had by all and a good opportunity to get involved in an exciting project.

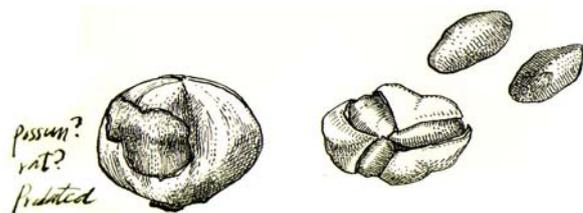
Susan Carrodus.



Alseuosmia macrophylla. Drawn by Monica Peters.

21.07.07 Pirongia some species seen from Waite Rd track adjacent to community pest control area, and just beyond² (E.Grove).

Ferns and fern allies		<i>Ixerba brexioides</i> ²	tawari
<i>Asplenium bulbiferum</i>	hen and chicken fern	<i>Knightia excelsa</i>	rewarewa
<i>A. flaccidum</i>	hanging spleenwort	<i>Laurelia novae-zelandiae</i>	pukatea
<i>A. oblongifolium</i>	shining spleenwort	<i>Litsea calicaris</i>	mangeao
<i>A. polyodon</i>		<i>Lophomyrtus bullata</i> ²	ramarama
<i>Blechnum chambersii</i>		<i>Melicytus ramiflorus</i>	mahoe
<i>B. discolour</i>	crown fern	<i>Metrosideros fulgens</i>	climbing rata
<i>B. filiforme</i>		<i>M. perforata</i>	
<i>B. fluviatile</i>		<i>Mida salicifolia</i>	mida
<i>B. fraseri</i>		<i>Myrsine australis</i>	mapou
<i>B. novae-zelandiae</i>	kiokio	<i>M. salicina</i>	toro
<i>Cyathea dealbata</i>	silver fern, ponga	<i>Nestegis cunninghamii</i> ²	black maire
<i>C. medullaris</i>	mamaku	<i>Olearia rani</i>	heketara
<i>C. smithii</i>	katote	<i>Parsonsia</i> sp.	native jasmine
<i>Dicksonia squarrosa</i>	wheki	<i>Passiflora tetrandra</i>	native passionfruit
<i>Hymenophyllum demissum</i>	filmy fern	<i>Pseudopanax crassifolius</i>	lancewood, horoeka
<i>H. dilatatum</i>		<i>Pseudowintera axillaris</i> ²	pepper tree
<i>H. sanguinolentum</i>		<i>P. colorata</i>	horopito
<i>Leptopteris hymenophylloides</i>		<i>Quintinia serrata</i> ²	tawherowhero
<i>Lindsaea trichomanoides</i>		<i>Rubus cissoides</i> ²	bush lawyer
<i>Lycopodium varium</i>		<i>Schefflera digitata</i>	pate
<i>Lygodium articulatum</i>	mangemange	<i>Weinmannia racemosa</i> ²	kamahi
<i>Microsorium pustulatum</i>	hound's tongue fern		
<i>M. scandens</i>		Gymnosperms	
<i>Pteris macilenta</i>		<i>Dacrydium cupressinum</i>	rimu
<i>Rumohra adiantiformis</i>		<i>Podocarpus hallii</i> ²	Hall's totara
<i>Sticherus cunninghamii</i> ²	umbrella fern	<i>Prumnopitys ferruginea</i>	miro
<i>Tmesipteris elongata</i>			
<i>Trichomanes reniforme</i>	kidney fern	Monocot trees, shrubs and lianes	
		<i>Astelia solandri</i>	
Dicot trees, shrubs and lianes		<i>Collospermum hastatum</i>	perching lily
<i>Alseuosmia macrophylla</i>	toropapa	<i>Freycinetia banksii</i>	kieke
<i>Beilschmiedia tawa</i>	tawa	<i>Rhopalostylis sapida</i>	nikau
<i>Clematis paniculata</i>		<i>Ripogonum scandens</i>	supplejack
<i>Coprosma arborea</i>			
<i>C. foetidissima</i> ²	stinkwood	Monocot herbs, sedges, grasses	
<i>C. grandifolia</i>	kanono	<i>Gahnia</i> sp. ²	
<i>C. lucida</i>	shining karamu	<i>Uncinia unciniata</i>	hook seed sedge
<i>C. robusta</i>	karamu	<i>Microlaena avenacea</i>	bush rice grass
<i>Dysoxylum spectabile</i>	kohekohe		
<i>Elaeocarpus dentatus</i>	hinau	Orchids	
<i>Geniostoma rupestre</i> var. <i>ligustrifolium</i>		<i>Earina autumnalis</i>	Easter orchid
hangehange		<i>E. mucronata</i>	
<i>Griselinia lucida</i>	puka	<i>Winika cunninghamii</i>	
<i>Hedycarya arborea</i>	pigeonwood	<i>Pterostylis banksii</i> ²	greenhood orchid



Predated kohekohe seeds. Drawing by Monica Peters.

And a thank you from the Pirongia Te Aroaro o Kahu Restoration Society:

“A belated thank you and your members for your assistance with the establishment of a permanent vegetation monitoring plot on Pirongia. We have now started the intensive pest control programme in that area and the plots will help us check on changes in forest condition over the long term in response to the reduction in pests.

It was fascinating for Selwyn and Dianne June to walk alongside the botanists and learn so much about the flora. We will be interested to see the species list when it is published.

We hope the participants enjoyed the outing and thank you for taking part in this initiative. Forest restoration can only thrive and continue with widespread support. Information about our activities is posted regularly on <http://mtpirongia.org.nz>.

Yours sincerely,

Clare St Pierre”

Chairperson, Pirongia Te Aroaro o Kahu Restoration Society

<p>DICKEY FLAT, KARANGAHAKE 2 SEPTEMBER 2007</p>

With improving weather forecasted, a troop of ten set out in light rain from the Dickey Flat carpark. Even before reaching the start of the track, the discovery of some healthy clusters of *Drymoanthus adversus* on the river-flat kaihikatea *Dacrycarpus dacrydioides*, augured well for the day’s botanising.

The first part of the track was a log-jam of species, and consequently it was a typical botanical crawl. There was a good and varied range of ground and climbing fern species of *Blechnum*, *Asplenium*, *Lastreopsis*, *Polystichum*, *Microsorium*, *Pteris*, *Leptopteris* and *Hymenophyllum* predominantly. With tree ferns, the shrub layer was also varied, including some intriguing juvenile *Streblus heterophyllus*. This mix, along with vines, was reminiscent of the lower slopes of Mt. Te Aroha. However the presences of some large matai *Prumnopitys taxifolia*, with their blood-red flaked bark spots (enhanced by the wet) was an obvious difference.

The undulating track continued to follow the river, and the pattern of plants reflected the earlier tawa *Beilschmiedia tawa*/podocarp forest, until about 3/4s of the way to the river crossing. Here we came into a kauri *Agathus australis*/tanekaha *Phyllocladus trichomanoides* mix, and the feel was of a more Coromandel ecosystem. This was reinforced by a shrub layer of *Alseuosmia macrophylla* and *Pseudopanax discolor* plus *Brachyglottis kirkii* var *angustior* and infrequent *B. myrianthos*. There was also a good growth of *Dawsonia superba* providing a solid ground cover in many areas. However the real dramatic change didn't take place until after the river crossing. All but one chose to cross the Waitawheta River and due to some good scouting, the river level was more like knee deep, rather than waist deep!

After the dip, we entered an almost pure-growth kauri forest on the south side of the river. The density of the trees, ranging from seedlings, to classic rickers and a smattering of mature forms, was a rare treat. Amongst the kauri were tanekaha, rimu *Dacrydium cupressinum* and *Pseudopanax crassifolius*, plus a dense ground growth of *Astelia trinervia*.

It took us 2 and a 1/2 hrs to achieve our goal for the day and with a lunch break, we were out at the carpark at about 3.15pm. It was a great day botanising in a varied and interesting area and we were pleased to have experienced all the track had to offer.

Doug Ashby

Species List (Janica Amooore)

* <i>Cardamine</i>	<i>sp</i>	<i>Drymoanthus</i>	<i>adversus</i>
* <i>Miscanthus</i>	<i>nepalensis</i>	<i>Dysoxylum</i>	<i>spectabile</i>
* <i>Selaginella</i>	<i>kraussiana</i>	<i>Earina</i>	<i>mucronata</i>
<i>Adiantum</i>	<i>cunninghamii</i>	<i>Earina</i>	<i>autumnalis</i>
<i>Adiantum</i>	<i>viridescens</i>	<i>Elatostema</i>	<i>rugosum</i>
<i>Agathis</i>	<i>australis</i>	<i>Freycinetia</i>	<i>baueriana</i>
<i>Alectryon</i>	<i>excelsus</i>	<i>Gahnia</i>	<i>lacera</i>
<i>Alseuosmia</i>	<i>macrophylla</i>	<i>Gaultheria</i>	<i>antipoda</i>
<i>Aristolelia</i>	<i>serrata</i>	<i>Geniostema</i>	<i>rupestre</i>
<i>Asplenium</i>	<i>bulbiferum</i>	<i>Gleichenia</i>	<i>microphylla</i>
<i>Asplenium</i>	<i>flaccidum</i>	<i>Gonocarpus</i>	<i>incana</i>
<i>Asplenium</i>	<i>oblongifolium</i>	<i>Grammitis</i>	<i>sp</i>
<i>Asplenium</i>	<i>polyodon</i>	<i>Haloragis</i>	<i>erecta</i>
<i>Astelia</i>	<i>solandri</i>	<i>Hebe</i>	<i>stricta</i>
<i>Astelia</i>	<i>trinervia</i>	<i>Hebe</i>	<i>corriganii</i>
<i>Beilschmiedia</i>	<i>tawa</i>	<i>Hedycarya</i>	<i>arborea</i>
<i>Blechnum</i>	<i>filiforme</i>	<i>Huperzia</i>	<i>varia</i>
<i>Blechnum</i>	<i>fluviatile</i>	<i>Hydrocotyle</i>	<i>dissecta</i>
<i>Blechnum</i>	<i>chambersii</i>	<i>Hymenophyllum</i>	<i>demissum</i>
<i>Blechnum</i>	<i>membranaceum</i>	<i>Hymenophyllum</i>	<i>dilatatum</i>
<i>Blechnum</i>	<i>novae-zelandiae</i>	<i>Ixerba</i>	<i>brexioides</i>
<i>Blechnum</i>	<i>fraseri</i>	<i>Knightia</i>	<i>excelsa</i>
<i>Brachyglottis</i>	<i>kirkii</i> var. <i>angustior</i>	<i>Lastreopsis</i>	<i>hispidia</i>
<i>Brachyglottis</i>	<i>myrianthos</i> ???	<i>Lastreopsis</i>	<i>glabella</i>
<i>Brachyglottis</i>	<i>repanda</i>	<i>Laurelia</i>	<i>novae-zelandiae</i>
<i>Carex</i>	<i>geminata</i>	<i>Leptopteris</i>	<i>hymenophylloides</i>
<i>Carpodetus</i>	<i>serratus</i>	<i>Leucopogon</i>	<i>fasciculata</i>
<i>Chionochloa</i>	<i>flavicans</i> ??	<i>Lindsaea</i>	<i>trichomanoides</i>
<i>Collospermum</i>	<i>hastatum</i>	<i>Litsea</i>	<i>calicaris</i>
<i>Coprosma</i>	<i>robusta</i>	<i>Lycopodium</i>	<i>deuterodensum</i>
<i>Coprosma</i>	<i>grandifolia</i>	<i>Lycopodium</i>	<i>cernuum</i>
<i>Coprosma</i>	<i>arborea</i>	<i>Lygodium</i>	<i>articulatum</i>
<i>Coprosma</i>	<i>rhamnoides</i>	<i>Macropiper</i>	<i>excelsum</i>
<i>Coprosma</i>	<i>lucida</i>	<i>Melicytus</i>	<i>ramiflorus</i>
<i>Cordyline</i>	<i>banksii</i>	<i>Metrosideros</i>	<i>perforata</i>
<i>Cordyline</i>	<i>pumilio</i>	<i>Metrosideros</i>	<i>diffusa</i>
<i>Corybas</i>	<i>sp</i>	<i>Metrosideros</i>	<i>fulgens</i>
<i>Ctenopteris</i>	<i>heterophylla</i>	<i>Microlaena</i>	<i>avenacea</i>
<i>Cyathea</i>	<i>dealbata</i>	<i>Microsorium</i>	<i>scandens</i>
<i>Cyathea</i>	<i>medullaris</i>	<i>Microsorium</i>	<i>pustulatum</i>
<i>Leptecophylla</i>	<i>juniperina</i>	<i>Mida</i>	<i>salicifolia</i>
<i>Dacrycarpus</i>	<i>dacrydioides</i>	<i>Morelotia</i>	<i>affinis</i>
<i>Dacrydium</i>	<i>cupressinum</i>	<i>Muehlenbeckia</i>	<i>australis</i>
<i>Dianella</i>	<i>nigra</i>	<i>Myrsine</i>	<i>australis</i>
<i>Dicksonia</i>	<i>squarrosa</i>	<i>Nertera</i>	<i>dichondraefolia</i>
<i>Doodia</i>	<i>novae-zelandiae</i>	<i>Olearia</i>	<i>rarii</i>
<i>Dracophyllum</i>	<i>latifolium</i>	<i>Oplismenus</i>	<i>hirtellus</i> var. <i>imbecillis</i>
<i>Drosera</i>	<i>auriculata</i>	<i>Pallaea</i>	<i>rotundifolia</i>

<i>Parsonsia</i>	<i>capsularis</i>	<i>Ripogonum</i>	<i>scandens</i>
<i>Peperomia</i>	<i>urvilleana</i>	<i>Rubus</i>	<i>cissoides</i>
<i>Phormium</i>	<i>cookianum</i>	<i>Rumohra</i>	<i>adiantiformis</i>
<i>Phyllocladus</i>	<i>trichomanoides</i>	<i>Schefflera</i>	<i>digitata</i>
<i>Phyllocladus</i>	<i>glaucus</i>	<i>Schoenus</i>	<i>sp</i>
<i>Pittosporum</i>	<i>tenuifolium</i>	<i>Schoenus</i>	<i>tendo</i>
<i>Pneumatopteris</i>	<i>pennigera</i>	<i>Thelymitra</i>	<i>sp</i>
<i>Podocarpus</i>	<i>totara</i>	<i>Tmesipteris</i>	<i>lanceolata</i>
<i>Podocarpus</i>	<i>taxifolia</i>	<i>Tmesipteris</i>	<i>elongata</i>
<i>Polystichum</i>	<i>richardii</i>	<i>Tmesipteris</i>	<i>tannensis</i>
<i>Pseudopanax</i>	<i>crassifolius</i>	<i>Toronia</i>	<i>toru</i>
<i>Pseudopanax</i>	<i>arboreus</i>	<i>Hymenophyllum</i>	<i>nephrophyllum</i>
<i>Pseudopanax</i>	<i>discolor</i>	<i>Uncinia</i>	<i>uncinata</i>
<i>Pteris</i>	<i>macilenta</i>	<i>Weinmannia</i>	<i>silvicola</i>
<i>Pterostylis</i>	<i>sp</i>	<i>Winika</i>	<i>cunninghamii</i>
<i>Pyrrosia</i>	<i>eleagnifolia</i>	<i>Lycopodium</i>	<i>volubile</i>
<i>Quintinia</i>	<i>serrata</i>	<i>Prumnopitys</i>	<i>taxifolia</i>
<i>Rhapdothamnus</i>	<i>solandri</i>	<i>Stebulus</i>	<i>heterophyllum</i>
<i>Rhopalostylis</i>	<i>sapida</i>		

THE NZ BIODIVERSITY RECORDING NETWORK

The New Zealand biodiversity recording network is a web-based system to record and view your natural history observations (birds, plants, butterflies, mushrooms, reptiles, frogs and mammals). They are looking for natural history reports. The network will only work if people start putting stuff in - commonplace as well as the unusual. Many improvements have been made but there are many more still to make. It does take a bit to learn it so it is important to read the instructions/manual before proceeding too far.

So to get you started: www.nzbrn.org.nz. Read the instructions first (link on front page) as there are some quirks that can lead you up the garden path!

Getting started example: click on the bird icon; show records; type bell bird in the name box and enter and click on the generic bell bird name; click on '2007' to remove the date in the 'your choice' statement; present records; hit zoomable map option; click next smallest small red box above the one highlighted (right of map) then on the middle of Canterbury where most records are currently recorded - and you'll see a fair sprinkling of bell bird observations through the province.

To enter records you need to sign up and you'll immediately be sent a password so you can log in.

A NEW BOOK: ORCHIDS OF THE LOWER NORTH ISLAND

Although the book targets the area from the Manawatu to Wellington it provides the first comprehensive and updated set of descriptions for 72 of New Zealand's 104 indigenous orchids, field recognition tips, and a simplified "plant finder" to enable easy keying out in the field. All orchids are illustrated in colour, notes on taxonomy, and conservation are also provided.

WETLAND GUIDE BOOK: AN UPDATE

Wetland plant identification field guide

What: The committee has started looking into our next big project as a society and we have identified a strong need for a user-friendly Freshwater Wetland Plant Guide. The field guide will cater for those with some botanical expertise as well as non-specialists. Developing an accessible field guide with photographs, drawings and diagrams supported by easily read text will expand community knowledge and appreciation of wetland plants.

Why: Waikato has nationally and internationally important wetlands!! Existing resources comprise Wetland Fact Sheets with un-illustrated planting lists produced by Council, locally specific guides, more general wetland habitat descriptions and technical guides aimed primarily at botanists. The Freshwater Wetland Plants Field Guide will assist with biodiversity enhancement in wetland restoration projects in the Waikato through providing visual material to compliment resources such as restoration fact sheets and planting plans. The Wetland Field Guide could be used in other regions as many of the species found in the Waikato are found elsewhere in the North Island and South Island.

How: We have gained support for the concept from Department of Conservation, Environment Waikato, University of Waikato, Waipa District Council, The Wetland Trust and others. We will be approaching such groups for publication and printing costs, and although the book will be produced voluntarily by society members some 'in kind' input from relevant groups will be sought and acknowledged.

When: Our present time frame is completion of a draft book by mid 2008, with an idea to publish at the end of 2008.

Currently the working title is-

Freshwater Wetland Plants – A Waikato Field Guide

Content will follow the format of an introduction including freshwater wetland types (e.g. peat bog, fen, swamp) with Waikato examples presented and labelled transect diagrams of plant associations in freshwater wetland types. The main body of the guide will be plant descriptions for approximately 48 native and endemic wetland species, emergent to terrestrial and 12 common exotic weed species. We will also include information for wetland restoration planning- where to go for plants and whom to contact for ecological information. It is envisaged the guide will be comprehensive in mentioning all freshwater wetland species recorded for the Waikato region, but only the more common species will be illustrated with notes on distinguishing other species.

What next? If you would like to be involved in production of the field guide please contact committee member Monica Peters email: monica.peters@landcare.org.nz tel. 858 3725. We need help with writing plant descriptions, gathering high quality photos, images etc. We are interested in any advice or contacts you may have for publication, graphic design assistance.

SCIENCE FAIR BOTANICAL SOCIETY AWARD

We received a lovely email from Sophie Allen Nairn, winner of the Botanical Society Award at the recent Science Fair. She says:

Here is a short article for the newsletter! I have attached a photo of my project too. Recently I completed a project for the NIWA Science Fair. I was very pleased to win the Botanical Society Award and I'm delighted with my book and membership.

For my project I did an observational study on Waikato Fungi. I went to the Taitua Arboretum and found and photographed 15 different types of fungi. I then used field guides to identify the fungi and I wrote about where I found them, their appearance and features that helped them thrive in their environment. I found my project very interesting to do and I learnt a lot from my study.

Congratulations Sophie!



WAIKATO FOREST AND BIRD TRIPS

October 14 Sunday Tramp – Mapara

Mapara is the first mainland island, and has some of the heaviest concentration of 1080 and other poisons used to help save the endangered kokako. A DoC officer will join us to talk about how the reserve has done just that, and on all our trips in the past we have seen kokako and this time, hopefully, will be no different. A good trip for all the family, and especially for those with concerns about the use of 1080: come and

see the results. We will walk uphill until we see and hear the kokako, and return via a loop track. Leave Hamilton at 8.00, travel on Te Kuiti to Taumaranui highway, and at the top of the first steep hill after branching off the highway to Taranaki (past the scenic waterfall) is Aratoro Scenic Reserve. At the southern end of this, turn left and travel downhill to Mapara South Road, on your right. Drive up this road and meet at the information boards and bridge at the reserve at 9.30. Level: Easy / Average.

Leader: Philip Hart prhart@wakato.ac.nz <<mailto:prhart@wakato.ac.nz>> 07 856 7992.

Don't forget too, Rotorua Forest & Bird has reserved Te Kauri Lodge from Friday, 19 October to Monday morning, 22 October. Botanical Society members are invited to join in a special weekend of camaraderie, learning, exploration, and relaxation. Call Delight at 357 2575 or e-mail her at wallight@paradise.net.nz with any queries.

FUTURE MANAGEMENT OF INTRODUCED GAME ANIMALS IN NZ

A panel appointed by the Minister of Conservation has just released a consultation document on 'how to manage deer, chamois, thar and pigs in a way that improves the conservation of native habitats but also recognises the importance of the four species to recreational hunters'. This topic may be of interest to botanical society members given the observed impacts of these species on native vegetation. The consultation document may be viewed online at www.gameanimalpanel.org.nz and submissions close on 6th November 2007.

BOTANICAL PUBLICITY BOON

Recently the society had a small article in the Waikato Times promoting the threatened plant garden. We received several responses regarding the threat status or identification of species and one phone call which has lead to a quite significant botanical find here in Hamilton. Geoff Green saw the article and contacted us because he had some old plant specimens (quite a lot!) collected by his grandfather A.W. Green who worked at Ruakura Research Farm in its early days. A preliminary quick look at the collection by Toni Cornes from the Waikato University Herbarium and myself has revealed the collection dates from around 1905 to early 1920s and contains some well labelled and preserved exotic and native plant specimens (with additional notes) from the region, very exciting! A.W. Green was evidently an avid botanist!

We are very grateful to Geoff Green and his mother Jean for bringing this collection to the attention of the botanical society and thank them for agreeing to have the specimens sorted and lodged at the Waikato Herbarium. There is much work ahead for Toni and we look forward to further details on the contents of the collection.

Liz Grove

WAIKATO UNIVERSITY STUDENT PRIZE

Congratulations to Trevor Connolly the recipient of the Waikato Botanical Society graduate prize this year for his top result in the MSc plant ecology course. Trevor received \$250 and a year's membership to the botanical society.

THREATENED PLANT GARDEN UPDATE

The threatened plant collection is looking a bit sad now coming out of winter. We collected seed from *Rorippa divaricata* and *Picris burbidgei* before they died back although plenty of *Rorippa* seedlings are popping up below the plants. We may have lost one of the two *Lepidium oleraceum* (Cook's scurvy grass) plants over winter and will look to sow more seed as soon as possible.

Recently *Pimelea arenaria* has germinated successfully in the glasshouses. These seeds were collected by DOC from Matarangi and Cooks Beach on the Coromandel Peninsula. Lynne has carefully re-potted these into a sandy well-draining soil mix as we were concerned about losing these to fungal infection as happened with the *P. tomentosa*.

The threatened tree daisy *Olearia pachyphylla*, also from the east coast (see plant profile this newsletter), will be planted out at the next working bee. This species was last recorded in Waikato Conservancy in 1992, despite a good search made by Waikato Botanical society members on a fieldtrip to Cooks Beach in 2005. The specimens we have ready to plant are from the type locality at Opape, near Opotiki and will be planted in the garden once we have constructed a small rock wall (i.e. coastal cliff!).

Liz Grove

THREATENED PLANT PROFILE:

Olearia pachyphylla Cheeseman, thick-leaved tree daisy

Status: Nationally Endangered

Qualifier: Human induced decline

Family: Asteraceae

Distribution: Endemic to the northern North Island, from Coromandel Peninsula to East Cape; very uncommon in the Waikato. It was known from rock outcrops near the summit of the main range dividing Coromandel township from Whangapoua Harbour, and more recently (1992) it has been collected from bluffs near Cook's Beach.

Habitat: Strictly coastal. Growing amongst low scrub on steep cliffs and along stream banks.

Features: Shrub up to 3 x 2 m. Trunk stout, loosely clad in greyish-brown to silvery grey bark, this flaking in short curling strips. Branches spreading, leafy toward branchlet tips. Branchlets 4-angled, initially covered in fine, appressed, brownish-white indumentum, this becoming greyish and patchy with age. Petioles stout, deeply grooved 4-15 mm long. Leaves coriaceous, 70-145 x 50-70 mm, dark green to glossy green above, undersides clad in fine, appressed silvery-white to brownish-grey indumentum, broad-oval, oval to ovate-oblong, base obtuse, though often oblique, apex obtuse, lamina margins sinuate-undulate, otherwise entire or very finely but irregularly toothed. Inflorescence corymbose, borne on stout peduncles up to 300 mm long. Pedicels stout, 20-30 mm long. Capitula numerous, 20-30 mm long; involucre bracts 35-40 (rarely more), 1-6 mm long, 10-seriate, densely imbricate, increasing in size toward capitula apex; involucre bract undersides densely invested in long, silky, grey to grey-white hairs, upper sides glabrous, glossy, resinous yellow. Florets 7-10. Ray florets 1-4 per capitula, irregularly spaced, ligule white. Disc florets yellow.

Cypselas (seeds) deeply grooved, silky pubescent, pappus hairs of varying lengths, rigid, yellow-grey, apices fimbriate.

Similar Species: *Olearia furfuracea* (A.Rich.) Hook.f. and *O. townsonii* Cheeseman both grow taller (up to 5 m) but the best way to distinguish them from *O. pachyphylla* is by the number, shape, and ornamentation of the scales (involucral bracts) that enclose the base of the flower heads. *O. pachyphylla* has 35–40 of these scales arranged in 10 tiers enclosing the capitula while *O. townsonii* has these in tiers of 3–4 and *O. furfuracea* in tiers of 2–3. The scales of *O. pachyphylla* are very diagnostic. Their undersides are densely covered in long, grey silky hairs.

Flowering: January - April.

Fruiting: March - May.

Threats: Habitat loss through coastal development, and weed encroachment. Goats are believed to be the main reason for this species extinction at one of its eastern Bay of Plenty sites.

Source: www.nzpcn.org.nz and Threatened Plants of Waikato Conservancy by Brandon, de Lange and Townsend, 2004.



Olearia pachyphylla Cheeseman (Photo: J. Smith Dodsworth)

**WAIKATO BOTANICAL SOCIETY
PROGRAM 2007**



In the event of bad weather, please contact the trip leader on the morning of field trips if you are unsure if they will go ahead and don't want a wasted trip to the meeting point. It is always helpful to notify the trip leader of your intention to attend a trip in case you are late to the meeting point or for last minute changes of plan. Please be prepared on all trips with your own lunch, drink, sturdy footwear, and clothes for all seasons. We encourage carpooling for longer distances and suggest a contribution is made toward those ever increasing petrol costs for the driver.

Saturday 13th October
Tawarau Forest, Northern King Country

A trip into Tawarau forest along the Gorge Track. Leaving from Were Road - the track crosses farmland then follows the Tawarau River through a spectacular limestone gorge. The track is mostly level and takes 3 hours return (without any botanising).

Meet: Waitomo Cave Museum at 9am.

Contact: Kerry Jones 07 855 9700 (home) 086 500 595 (pager)

Saturday 10th November
Opuatia wetland

Concentrating on the northern segment of the wetland, which is owned by the regional council, we will botanise the fen vegetation and mineralised edges that border the wetland. Several threatened species are known to occur at the south end of the wetland but the northern end has received less attention so this trip will aim to fill some gaps in our knowledge.

Meet: Rangiriri Tavern car park at 9 am. To carpool from Hamilton contact Andrea.

Contact: Andrea Brandon abrandon@doc.govt.nz ph 07 858 1018 (wk)

Sunday 25th November
Botanical Society Threatened Plant Collection Working Bee #7

A working bee in the threatened plant garden. Please bring gloves, old clothes and boots for weeding, planting and propagating activities.

Meet: 9.45 am at Waikato University Gate 9, Hillcrest Rd

Contact: Liz Grove eg3@waikato.ac.nz ph 07 846 0965 (hm).

Sunday 2nd December
Kakahu Stream Kauris, Kaimai-Mamaku Forest Park
(combined trip with Rotorua Botanical Society)

This field trip will cross private farmland to access the rarely visited southern most naturally occurring kauri trees growing in forest on the margins of the Kakahu Stream on the south-western edge of the Kaimai-Mamaku Forest Park. If time permits we may also explore other forest remnants in the vicinity including kahikatea stands and some tawa dominated forest areas with emergent rimu present.

Contact: Paul Cashmore 07 348 4421 (hm), 349 7432 (wk)

Meet: 8am Landcare Research carpark Gate 10 Silverdale Rd, Hillcrest to carpool or 8:45 am at Okoroire Hall on cnr SH 28 and Okoroire Rd

Grade: Medium

SUBSCRIPTIONS

The 2007-08 membership year began in March. Please complete and return the form at the end of the newsletter to continue your subscription. Please note we had a technical amendment to our subscription categories at the recent AGM which means that the \$5 subscription now applies to all unwaged persons e.g. retired, not only students. If people want to use internet banking to credit the society please contact Jan Butcher jjbutcher@ps.gen.nz .

WAIKATO BOTANICAL SOCIETY

Membership form

Please return with your subscription to: Membership
Waikato Botanical Society
c/o Department of Biological Sciences
Waikato University
Private Bag 3105
Hamilton

Please print clearly

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Phone:(day)(evening)

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