

NORTHERN MAMAKU LAGOONS

Paul Cashmore

On Sunday 6 November 10 members met at the Galaxy Rd-SH 5 junction in order to explore part of a series of lagoons and wetlands that continue from Galaxy Rd across the Mamaku Plateau to Lagoon and Roy Roads near the Tauranga Direct Rd. While the RBS has visited some of the latter in the last few years this trip focused on visiting a relatively old (at least 4,500 years by carbon dating) wetland/lagoon complex within the Mangorewa-Kaharoa Block – a much larger block of Maori land currently managed as part of an exotic pine plantation by PF Olsens Ltd.

We travelled north up Galaxy Rd North and along Airstrip Rd before turning off into the Mangorewa-Kaharoa Block through the third forestry gate. The convoy of vehicles soon reached the edge of the block, with John Hobbs confirming this with his GPS. Not being able to see the narrow old tramway cutting into the main lagoon we headed off following an old track along the edge of the native forest in a NE direction.

This was a good chance to record a range of the usual adventive grasses and other species commonly found on forest edge. It was also a good chance to view the native forest as well with a few discussions about the differences between red beech (*Nothofagus fusca*), hard beech (*Nothofagus truncata*) and even silver beech (*Nothofagus menziesii*). Trying to keep the group moving we soon reached the first wetland noting some nice colonies of *Pterostylis* aff. *montana* in open manuka shrubland on the edge of the track. We soon left the vehicle track and headed into the wetland following deer tracks through the manuka (*Leptospermum scoparium*) shrubland and scrub. Heading further into the wetland we soon came across plants of *Gabnia rigida* – very noticeable with their erect seed heads. This is a notable species in this area as it is very near its northern limit and is one of only a handful of sites in the North Island. This species is also present just to the south in the ex-FRI North Block wetlands beside SH 5. *Gabnia setifolia* and *Gabnia pauciflora* were also present in the vicinity along with *Gabnia xanthocarpa* which enabled an excellent

comparison of the differences between the species. Moving further into the wetter middle part of the wetland we were soon walking across areas of *Sphagnum* with areas of *Baumea teretifolia* and *Baumea rubiginosa* and *Lepidosperma australe* sedgeland. These areas were mostly too wet for manuka. Other species present included swamp coprosma (*Coprosma tenuicaulis*) scattered throughout and occasional patches of monoao (*Dracophyllum subulatum*). North Island fernbird were heard calling in this area.

Returning once more to the vehicle track to escape the rising water level in our gumboots we headed into the native forest on the eastern side of the road. This provided more species for botanists to note with both hard and red beech present, toatoa (*Phyllocladus toatoa*), pole rimu (*Dacrydium cupressinum*) and tawari (*Ixerba brexioides*) to name a few. There was also an abundance of tree orchids, including *Drymoanthus adversus*, present in this area, that required closer examination.

Breaking out of the forest onto a small rhyolite knob above the track provided the best view of the day over the eastern wetland from which we had just emerged. We could clearly see the areas of manuka shrubland interspersed with *Baumea* sedgeland in wetter areas. We could also see the light green canopies of grey willow (*Salix cinerea*) trees scattered throughout some parts of the wetlands and had come across several seedlings during our traverse. This was unfortunate to see as this wetland was relatively pristine and in time grey willow will continue to increase and dominate this site if left uncontrolled. In the foreground of our view was a very small area of open water surrounded by abundant *Sphagnum* and *Baumea* sedgeland. This seemed like a nice sunny spot for lunch under a beech tree which again sparked more debate about the finer points of red and hard beech taxonomy.

After lunch we continued around the wetland following the vehicle track, crossing over a small flowing stream which appeared to be the only natural outlet of the eastern wetland. After further walking we left the native forest and wetland proper and ended up in a large area which appeared to be wetland on the aerial photo. This was dominated by manuka-swamp coprosma-*Coprosma tayloriae* scrub over a large area and was probably

partly induced by logging as there were tree stumps present throughout. A decision had to be made as to whether to continue to follow the vehicle track around the northern margin or to head directly for the main lagoon. Sensing a track of sorts heading off throughout the otherwise impenetrable scrub, the decision was made to head for the main lagoon. We soon reached another forest remnant dominated by beech but could not see the lagoon on the other side.

The trip leader headed off into the toetoe (*Cortaderia fulvida*) and dense manuka on the other side in search of the elusive lagoon with the rest of the party following some hesitant distance behind. After traversing some rather dense toetoe and manuka shrubland with intermittent grassy clearings and blackberry (*Rubus fruticosus* agg.) and bush lawyer (*Rubus cissoides*) we came to a large hill covered with native forest. With no sign of the lagoon the trip leader restudied maps, aerial photos and GPS reading and then boldly concluded that climbing over this hill would bring us to the lagoon we had been searching for since we left the vehicles.

Climbing through the forest gave the botanists a chance to add some more forest species to their plant species lists as this was the first time we had entered the forest proper all day. Of note in this area were abundant patches of raukawa (*Raukawa edgerleyi*) which was pleasing to see, indicating the general low numbers and hence low impacts of browsing ungulates in this area. Toropapa (*Alseuosmia macrophylla*) and other palatable species such as kanono (*Coprosma grandifolia*) were also common throughout the understorey, as they are throughout much of the Mamaku Plateau.

Upon reaching the ridge we quickly dropped down to the much awaited lagoon. The lagoon was full of water unlike the previous time the author had visited when it was dry. It was clear there was not going to be much opportunity for botanising the lake margins or turfs as they were underwater. However the trip leader walked out through the manuka fringe to sample the aquatic plants in the lagoon. He returned with *Schoenus maschalinus* and not much else.

The party followed an old track through the forest and around the lake before branching onto a small knob with good views of the lake. Here the party descended to the waters edge to further sample the aquatics. *Baumea rubiginosa* was noted as common in places around the lagoon, and *Myriophyllum triphyllum* was present in the lagoon. A specimen of *Pittosporum cornifolium* was also noted in this area.

During the morning we had come across many *Astelia* specimens growing in the wetland and then during the afternoon came across many more growing in the forest, especially in the damper parts of the understorey. With both *Astelia fragrans* and *A. grandis* being present this led to a fair bit of debate, in particular about the differences between these two similar species.

We continued following an old track around the lagoon through a large area of manuka shrubland noticeable for a large amount of deer tracks. Here we noted some excellent populations of orchids including *Corybas acuminatus*, *C. oblongus* and *Caladenia chlorostyla*. The sundews *Drosera auriculata* and *D. binata* were also noted here. This track soon joined the main vehicle access track from road at the lake edge. With high lake levels there was limited botanising to do and only the trip leader was once again prepared to get his feet wet in the name of botany.

The party regrouped and walked up the main access track through the tunnel-like hidden cutting which provided an opportunity for a group photo to finish the day. All that was left was to find the vehicles. Much to the surprise of everyone the vehicles were parked right beside the entrance. With the narrow entrance to the cutting being overgrown with native trees and shrubs, especially kiokio (*Blechnum novae-zealandiae*) it was camouflaged enough so that no one had noticed it.

In summary, this was a valuable field trip to botanise some ecologically very old and significant wetlands which are currently little modified, despite logging and clearing of most of the adjacent forest habitats over the past decade. It was good to see wetlands in

relatively good condition with minimal weed problems, although this may not be the case forever with the presence of low numbers of grey willow.

Acknowledgements

I would like to thank Kit Richards of PF Olsens Ltd for allowing us access to the Mangorewa-Kaharoa Block to undertake this field visit.



Figure 1: Ten botanists photographed in the infamous ‘hidden’ cutting after a day of exploration around the Mamaku lagoons.

NORTHERN MAMAKU LAGOONS SPECIES LIST

Graeme Jane and John F.F. Hobbs

FERN ALLIES

<i>Lycopodium varium</i>	Hanging clubmoss; iwituna
<i>Lycopodium deuterodensum</i>	Puakarimu
<i>Lycopodium scariosum</i>	Creeping clubmoss
<i>Lycopodium volubile</i>	Waewae-koukou; climbing clubmoss
<i>Tmesipteris elongata</i>	
<i>Tmesipteris tannensis</i>	Chain fern; fork fern

FERNS

<i>Asplenium bulbiferum</i>	Hen and chickens fern; moku
<i>Asplenium flaccidum</i> ss	Hanging spleenwort; makawe
<i>Asplenium polyodon</i>	Sickle spleenwort; petako
<i>Blechnum discolor</i>	Crown fern; piupiu; petipeti
<i>Blechnum fluviatile</i>	Kiwakiwa; kiwikiwi
<i>Blechnum novae-zelandiae</i>	Kiokio
<i>Ctenopteris heterophylla</i>	
<i>Cyathea dealbata</i>	
<i>Cyathea medullaris</i>	Mamaku; korau; black tree fern
<i>Cyathea smithii</i>	Soft-leaved tree fern; katote
<i>Dicksonia fibrosa</i>	Wheki-ponga; kuripaka
<i>Dicksonia squarrosa</i>	Wheki; harsh tree fern
<i>Gleichenia dicarpa</i>	Waewaekaka; tangle fern
<i>Grammitis billardierei</i>	Common strap fern
<i>Histiopteris incisa</i>	Water fern
<i>Hymenophyllum demissum</i>	Piripiri; irirangi
<i>Hymenophyllum dilatatum</i>	Lop-sided filmy fern
<i>Hymenophyllum ferrugineum</i>	
<i>Hymenophyllum flabellatum</i>	Fan fern
<i>Hymenophyllum multifidum</i>	
<i>Hymenophyllum rarum</i>	Wire-stemmed filmy fern
<i>Hymenophyllum revolutum</i>	
<i>Hymenophyllum sanguinolentum</i>	Blood-scented filmy fern
<i>Lastreopsis hispida</i>	Hairy fern
<i>Leptopteris hymenophylloides</i>	Single crepe fern; heruheru
<i>Lindsaea trichomanoides</i>	
<i>Lygodium articulatum</i>	Mangemange; bushmans mattress
<i>Microsorium pustulatum</i>	Hounds tongue; kowaowao
<i>Paesia scaberula</i>	Lace fern
<i>Pneumatopteris pennigera</i>	Gully fern; pakau; pakauharoha
<i>Pteridium esculentum</i>	Bracken; rauaruhe

Pyrrosia eleagnifolia
Trichomanes reniforme
Trichomanes venosum

Leather-leaf fern
Kidney fern; raurenga
Veined bristle fern

GYMNOSPERMS

Dacrycarpus dacrydioides
Dacrydium cupressinum
Phyllocladus toatoa
Phyllocladus trichomanoides
**Pinus pinaster*
Podocarpus hallii
Podocarpus totara
Prumnopitys ferruginea

Kahikatea, white pine
Rimu, red pine
Toatoa
Tanekaha; celery pine
Maritime pine
Hall's totara; thin bark totara
Totara
Miro; brown pine

DICOTYLEDONOUS TREES and SHRUBS

Alseuosmia macrophylla
Aristotelia serrata
Beilschmiedia tawa
**Berberis glaucocarpa*
Carpodetus serratus
Coprosma grandifolia
Coprosma lucida
Coprosma propinqua
Coprosma propinqua x *C. robusta*
Coprosma robusta
Coprosma tayloriae
Coprosma tenuicaulis
**Cytisus scoparius*
Dracophyllum subulatum
Elaeocarpus dentatus
Elaeocarpus hookerianus
**Erica lusitanica*
Gaultheria antipoda
Geniostoma rupestre var. *ligustrifolium*
Griselinia littoralis
**Hakea salicifolia*
Hebe stricta ss
Hedycarya arborea
Ixerba brexioides
Kunzea ericoides
Leptospermum scoparium
Leucopogon fasciculatus
Leucopogon fraseri
**Leycesteria formosa*

Toropapa; shrubby honeysuckle
Wineberry; makomako
Tawa
Barberry
Putaputaweta; marbleleaf
Raurekau; kanono; mamono
Karamu; shining karamu
Mingimingi

Karamu

Broom
Monoao
Hinau
Pokaka
Spanish heath
Snowberry; tawiniwini
Hangehange; privet
Broadleaf; kapuka
Willow leaved hakea
Koromiko
Pigeonwood
Tawari
Kanuka; white teatree
Manuka; red teatree
Mingimingi; kaikaitau
Patotara
Himalayan honeysuckle

<i>Melicytus lanceolatus</i>	Narrow-leaved mahoe
<i>Melicytus ramiflorus</i>	Mahoe
<i>Myrsine salicina</i>	Toro
<i>Neomyrtus pedunculata</i>	Rohutu
<i>Nestegis cunninghamii</i>	Black maire
<i>Nestegis lanceolata</i>	White maire
<i>Nothofagus fusca</i>	Red beech
<i>Nothofagus menziesii</i>	Silver beech; tawhai
<i>Nothofagus truncata</i>	Hard beech
<i>Olearia rani</i>	Heketara
<i>Pimelea prostrata</i>	Stratmore weed; pinatoro
<i>Pittosporum cornifolium</i>	Tawhirikaro; perching kohukohu
<i>Pittosporum tenuifolium</i> ss	Black matipo; kohuhu
<i>Pittosporum tenuifolium</i> ssp. <i>colensoi</i>	
* <i>Populus nigra</i>	Lombardy poplar
<i>Pseudopanax arboreus</i>	Five finger; puhou; whaupaku
<i>Pseudopanax crassifolius</i>	Lancewood; horoeka
<i>Pseudowintera axillaris</i>	Horopito
<i>Raukawa anomalus</i>	Whauwhaupaku
<i>Raukawa edgerleyi</i>	Raukawa
* <i>Salix cinerea</i>	Grey willow
<i>Schefflera digitata</i>	Pate; patae; kotete
* <i>Ulex europaeus</i>	Gorse
<i>Weinmannia racemosa</i>	Kamahi; Towai; tawhero

DICOTYLEDONOUS LIANES

<i>Clematis paniculata</i>	Clematis; puawhananga
* <i>Lonicera japonica</i>	Japanese honeysuckle
<i>Metrosideros diffusa</i>	White climbing rata; akatea
<i>Metrosideros fulgens</i>	Scarlet rata; winter rata
<i>Metrosideros perforata</i>	Rata vine
<i>Muehlenbeckia australis</i>	Pohuehue
<i>Parsonsia heterophylla</i>	Maori jasmine; kaihu; kaiwhiria
<i>Rubus australis</i>	Bush lawyer
<i>Rubus cissoides</i>	Bush lawyer; tataramoa
* <i>Rubus fruticosus</i> agg.	Blackberry

DICOTYLEDONOUS HERBS

<i>Acaena anserinifolia</i> agg	Bidibid
<i>Acaena novae-zelandiae</i>	Red bidibid; pipiriri
* <i>Betula pendula</i>	Birch
<i>Celmisia gracilentia</i>	Dainty daisy
<i>Centella uniflora</i>	
* <i>Cirsium vulgare</i>	Scotch thistle

* <i>Crepis capillaris</i>	Hawkesbeard
* <i>Digitalis purpurea</i>	Foxglove
<i>Drosera binata</i>	Scented sundew
<i>Drosera peltata</i> ssp. <i>auriculata</i>	
* <i>Duchesnea indica</i>	Indian strawberry
<i>Euchiton limosus</i>	Swamp cudweed
<i>Gamochaeta spicata</i>	Purple cudweed
<i>Gonocarpus micranthus</i>	
<i>Hydrocotyle heteromeria</i>	Wax weed
<i>Hydrocotyle microphylla</i>	Hydrocotyle
<i>Hydrocotyle pterocarpa</i>	Hydrocotyle
* <i>Hypochoeris radicata</i>	Catsear
<i>Lagenifera petiolata</i> ss	Papataniwhaniwha
* <i>Leontodon taraxacoides</i>	Hawkbit
* <i>Lotus pedunculatus</i>	Lotus major
<i>Myriophyllum triphyllum</i>	Water milfoil
<i>Nertera depressa</i> agg	Common nertera
<i>Nertera scapanioides</i>	
* <i>Plantago australis</i>	Swamp plantain
* <i>Plantago lanceolata</i>	Ribwort; narrow-leaved plantain
* <i>Plantago major</i>	Broad-leaved plantain
<i>Pratia angulata</i>	Panakenake
* <i>Prunella vulgaris</i>	Selfheal
* <i>Ranunculus flammula</i>	Spearwort
* <i>Ranunculus repens</i>	Creeping buttercup
* <i>Senecio jacobaea</i>	Ragwort
* <i>Taraxacum officinale</i>	Dandelion
<i>Viola filicaulis</i>	Forest violet

MONOCOTYLEDONOUS TREES, SHRUBS AND LIANES

<i>Cordyline australis</i>	Cabbage tree; ti-kouka
<i>Freycinetia banksii</i>	Kieke
<i>Ripogonum scandens</i>	Supplejack; kareao

ORCHIDS

<i>Caladenia chlorostyla</i>	
<i>Chiloglottis cornuta</i>	Green bird orchid
<i>Corybas acuminatus</i>	Spider orchid
<i>Corybas oblongus</i>	
<i>Drymoanthus adversus</i>	
<i>Earina autumnalis</i>	Easter orchid; raupeka
<i>Earina mucronata</i>	Spring orchid; peka-a-waka
<i>Microtis unifolia</i>	Onion orchid
<i>Orthoceras novae-zeelandiae</i>	

Pterostylis "aff. montana"

Thelymitra carnea

Thelymitra pauciflora

Thelymitra pulchella

Winika cunninghamii

Bamboo orchid

GRASSES

* *Agrostis capillaris*

* *Anthoxanthum odoratum*

Cortaderia fulvida

Hierochloa redolens

Microlaena avenacea

* *Miscanthus nepalensis*

Rytidosperma gracile

* *Rytidosperma penicillatum*

Browntop

Sweet vernal

Kakaho; toetoe

Sweet-scented holly grass

Bush rice grass; oat grass

Himalayan fairy grass

Forest fairy grass

SEDGES

Baumea rubiginosa

Baumea tenax

Baumea teretifolia

Carex geminata "large"

* *Carex demissa*

Carex dissita

* *Carex ovalis*

Eleocharis gracilis

Gahnia pauciflora

Gahnia rigida

Gahnia setifolia

Gahnia xanthocarpa

Lepidosperma australe

Morelotia affinis

Schoenus maschalinus

Uncinia rupestris agg

Uncinia uncinata

Giant sedge

Four square

Watu

RUSHES

* *Juncus articulatus*

* *Juncus effusus*

Juncus pallidus

Juncus planifolius

* *Juncus tenuis*

* *Luzula congesta*

* *Luzula multiflora*

Jointed rush

Soft rush

Wi

OTHER MONOCOTYLEDONOUS HERBS

<i>Astelia fragrans</i>	Bushflax; kakaha
<i>Astelia grandis</i>	
<i>Astelia solandri</i>	Kowharawhara
<i>Astelia trinervia</i>	Kauri grass
<i>Collospermum hastatum</i>	Kahakaha
<i>Dianella nigra</i>	Blueberry; turutu

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