Lofty Heights and Little Green Mushrooms – field trip 15 June 2013 to Mt Kohukohunui, Hunua Ranges

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Fig. 1. Lunchstop in the clouds, at track junction near the summit. All photos by Joshua Salter, 15 June 2013.

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Meeting at the car park at Moumoukai Hill road at 10 am for a health and safety briefing, the group then re-packed themselves into far fewer cars to head up Mine Road. Auckland Council kindly gave permission for vehicle access through the forestry roads. The 6 km traversed by vehicle allowed more time for botanising at higher elevations and enabled the group to reach the summit of Mt Kohukohunui, a goal for the trip. At 688 m, Mt Kohukohunui is the highest landform in the Auckland mainland region, with high annual rainfall (>2400mm) and comprising unique vegetation assemblages for the Auckland Ecological Region (Tyrell et al. 1999). The temperature was cool, and the cloudy conditions seemed fitting for our destination. We were lucky the rain held off until late afternoon when the trip was over.

Reaching the second car park at 10:50 am, we were given an overview of the kokako project by Su Sinclair from Auckland Council. There are an estimated 30 pairs of kokako breeding in the area, with many of these distributed along the Kohukohunui Track ridge. This season, the first successful wild-to-wild kokako egg swap was undertaken with birds on Tiritiri Matangi. The project would not be the success it is today without the dedicated volunteers who continue to put in many hours undertaking core conservation work by controlling rats and stoats.

Before heading to the track, a scan of the vegetation around the car park discovered *Collospermum microspermum* (Pl. 1A) which was a nice introduction to cooler vegetation elements. Slender tree fern (*Cyathea cunninghamii*) was also present, providing subject matter for debate about growth form and stipe scars as it can be confused with mamaku (*Cyathea medullaris*).

At the beginning of the track, at 465 m asl, pukatea (*Laurelia novae-zelandiae*) with occasional rimu (*Dacrydium cupressinum*) are the emergents. The canopy dominants are taraire (*Beilschmiedia tarairi*) along with pukatea. Other canopy species are miro (*Prumnopitys ferruginea*), tawheowheo (*Quintinia serrata*), tawa (*Beilschmiedia tawa*), and lancewood (*Pseudopanax crassifolius*). The sub canopy and shrub layers include five-finger (*Pseudopanax arboreus*), mahoe (*Melicytus ramiflorus*), and *Coprosma grandifolia*. Ramarama (*Lophomyrtus bullata*) is common throughout the shrub layer, which is interesting because elsewhere in the region it is present usually as occasional individuals. Ground cover includes *Blechnum fraseri*, *Asplenium bulbiferum*, *Microlaena avenacea* and *Uncinia uncinata*. Of particular interest was the presence of a few small patches of an emerald green mushroom (*Gliophorus viridis*) (Pl. 1B).

Lunchtime for some was a stop at the 'kokako cafe' at 600 m asl. Others lunched at the track junction (Fig. 1), while the most energetic bolted uphill eager to make the trig (Pl. 1C). The cafe is a hut used as a base for volunteers and staff working on the kokako project. The view shaft from here is apparently stunning on a clear day. However, we were treated to misty low cloud seeping through the canopy (Pl. 1D). The tawa-dominated canopy at the 'cafe' is around 8-10 m with emergent pukatea and rewarewa to about 14 m. *Blechnum discolor* is a common ground cover here.

The forest is structurally diverse throughout, with high rainfall and often cloudy conditions providing a suitable climate for many epiphytes (Pl. 1E), and in some places it seems every available surface is clothed in the verdant green of mosses, liverworts and ferns. Old man beard moss *Weymouthia* sp. is common throughout. Other epiphytes and lianes include *Notogrammitis pseudociliata*, *Blechnum*

filiforme, *Freycinetia banksii, Rumohra adiantiformis, Astelia solandri, A. microspermum, Hymenophyllum flabellatum, H. rarum, H. sanguinolentum*, climbing ratas and *Griselinea lucida*, to name a few.

Threatened species include regionally at risk 'range restricted' species such as: *Blechnum nigrum*, *Notogrammitis pseudociliata*, *N. billardierei*, *Collospermum microspermum, Libertia micrantha*, and *Griselinia littoralis.* Other threatened species include: *Brachyglottis kirkii* var. *kirkii*, *Raukaua edgerleyi*, and hutu (*Ascarina lucida*) (Pl. 1F) (Stanley et al. 2005; de Lange et al. 2013).

Hutu is rare throughout the North Island and within the Auckland ecological region it is listed as critically threatened, with Mt Kohukohunui boasting the largest population. Research suggests that hutu may be a colonizing species (Martin 2002). Alongside disturbance such as high winds and occasional snow, there has been over a century of goat browse where goat numbers were high, however, since goat control began in earnest in the 1940s, numbers have been kept to low levels (Barton 1972). (Pl. 1G). More recent disturbance of the hutu is caused by vegetation clearance around the rain gauge at the trig (Fig. 2). Felling of large trees from an area about 35 m x 25 m occurred in 2002 and included some large diameter hutu (Martin 2002). We discovered that approximately the same area had been completely cut over again and included saplings of all species described in Martin 2002. Hutu is the canopy dominant at the trig and was present in the fresh slash we encountered. One has to ask how this management action for infrastructure affects the population in the long term.

The vegetation changes closer to the trig, where sub-montane species such as *Pseudowintera colorata*, hutu, heketara (*Olearia rani*) and tawheowheo become the canopy dominants. Towards the trig, canopy height decreases with altitude to around 5 m. (Pl. 1C).

We all headed down hill and were back at the lower car park by 4:30 pm. The goal was attained and the group enjoyed seeing the unique vegetation at the trig. No doubt there were lots of personal highlights along the way that I have not captured. My personal favourites were the little green mushrooms and briefly hearing a kokako. This trip added 15 species to a list from a 2001 trip (McCraith 2001) which did not reach the trig.

Acknowledgements
Thanks to: Ali Meade, Senior Conservation Ranger for Southern Parks, Auckland Council for facilitating vehicle access, without which I doubt anyone would have made the trig at the usual botanical pace; Christine Major for the fungal identification; Su Sinclair, Auckland Council Ecologist, who gave us an overview of the kokako project; Josh Salter for pulling together the images.

Fig. 2. Large cleared area for rain gauge and other instruments, near the trig.

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Plate 1: Field trip to Kohukohunui, Hunua Ranges

Plate 1A. *Collospermum microspermum*, with *Raukawa edgerleyi* and *Olearia furfuracea* in foreground.

Plate 1B. *Gliophorus viridis* with pukatea seedling.

Plate 1C. Trig vegetation includes tawheowheo, hebe, and hutu.

Plate 1D. Emergent trees in shifting clouds – view from the 'kokako café'.

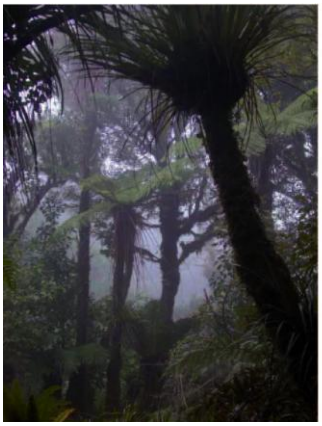

Plate 1E. Tree ferns (*Cyathea smithii*) and tall emergents with diverse epiphytes.

Plate 1F. *Ascarina lucida*, beside the track, nearing the summit.

Plate 1G. Goat damage to a large *Coprosma grandifolia* tree, in low forest, near summit.

Plate 2: Field trip to Mercer Bay Loop Track and Comans Track, Waitakere Ranges

Plate 2A. *Carmichaelia australis* in semi-shade on ridge near Farley Point. Photo: VS, 16 Nov 2013.

Plate 2B. The tiny *Ichthyostomum pygmaeum* growing on adult rewarewa trunk. Photo: VS, 21 Dec 2013.

Plate 2C. *Dichondra repens* flower, Mercer Bay Loop Track, near the car park. Photo: VS, 21 Dec 2013.

Plate 2D. *Centella uniflora,* in flower, Mercer Bay Loop Track. Photo: VS, 21 Dec 2013.

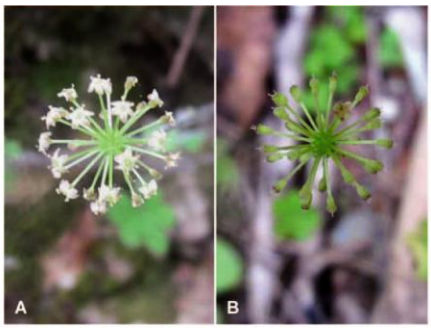

Plate 2E. *Hydrocotyle elongata*. A: Flowers. B: Immature fruits. Photo: VS, 21 Dec 2013.

Plate 2F. *Myosotis pansa* on a clay bank, still flowering, on 2nd visit. Photo: VS, 21 Dec 2013.

Plate 2G. *Lagenophora pumila* at head height on dry bank, Comans Track. Photo: VS, 21 Dec 2013.

Plate 2H. Ngaio (*Myoporum laetum*) on steep rock/clay ledge. Note leaf glands. Photo: VS, 21 Dec 2013.

Plate 2J. *Corokia cotoneaster* juvenile leaves. Sapling under mature korokio, Comans Track. Photo: VS, 21 Dec 2013.

Plate 2K. *Ripogonum scandens* in flower. This specimen around base of a tree, Farley Point ridge. Photo: Neil Davies, 16 Nov 2013.

Plate 2L. *Calystegia tuguriorum*, climbing over a young nikau. Photo: Neil Davies, 16 Nov 2013.

Plate 2M. *Phormium cookianum* greeting us, both at the start and at the end of the trip. Photo: VS, 21 Dec 2013.