Trip report: Karioitahi Beach (trip modification) and Lake Otamatearoa, Awhitu 17 March 2012

Tricia Aspin

Participants (12): *Tricia Aspin (leader), Jan Butcher, Stacey Byers, Kirsty Denny, Michelle Dublon, Joe Greig, Marg Keys, Christine Major, Phillip Moll, Bryony Smart, Monique Wheat, Maureen Young*.

The original plan was to visit two more of the southern Awhitu dune lakes with the usual meeting time of 10am to be at Lake Otamatearoa followed by a visit to Parkinsons Lake in the afternoon. Unknown to Tricia (she was not "local" enough to have received a letter) all access roads were to be closed at 9.20am because of the Targa Rally. Imagine the feeling of panic when confronted by the road block and to have Maureen pull up behind! We considered options and decided to meet all at the lower end of Whiriwhiri Road and then proceed by the only open road out to Karioitahi Beach and spend the morning botanising some of the area south of the Surf Club. We could return to the lake when roads reopened after 12.30pm.

Karioitahi Beach

This area was last visited by Auckland Botanical Society in March 2000 (Cameron 2000, Haines 2000) although most of today's participants had not been there. No previous list was available on the day and we did not compile a new one. We began in the dunes and were able to observe differing male and female inflorescences of spinifex (*Spinifex sericeus*). Wind grass (*Lachnagrostis billardierei*) was also in flower as well as a few patches of yellow-flowered coastal oxalis (*Oxalis rubens*). Sand convolvulus (*Calystegia soldanella*) was noted and pohuehue (*Muehlenbeckia complexa)* displayed small greenish flowers and several swollen translucent fruits.

Generally the cliffs and hill areas are covered with wind-tolerant species and we noted low-growing pohutukawa (*Metrosideros excelsa*), houpara (*Pseudopanax lessonii*), much wind-trimmed soft mingimingi (*Leucopogon fasciculatus*) and occasional tauhinu (*Ozothamnus leptophyllus*). Flax (*Phormium tenax*), coastal toetoe (*Austroderia splendens*), coastal astelia (*Astelia banksii)* and the knobby

Fig. 1. *Pimelea* aff. *urvilleana,* Karioitahi Beach. Photo: Philip Moll, 17 March 2012

Fig. 2. ABS members observe *Blechnum triangularifolium* at Karioitahi Beach. Photo: Philip Moll, 17 March 2012

clubrush (*Ficinia nodosa)* are also common with the occasional patch of the restiad, oioi (*Apodasmia similis*) in the damper spots. In places exotic pampas grasses (*Cortaderia selloana* and *C. jubata*) grew close to toetoe and we could observe the differences.

Moving south along the cliff base we noted several plants of *Pimelea* aff. *urvilleana* in flower (Fig 1) and much sand coprosma (*Coprosma acerosa*). The coastal area of the Awhitu district still has much of this species present although it is thought to be disappearing from the more northern parts of the region (Tricia has noted much in the coastal dunes in

Woodhill Forest while orienteering). A species of paspalum, which we took to be the saltwater paspalum (*Paspalum vaginatum*), often formed small areas of thick swards excluding other species. Occasional ferns noted were *Asplenium oblongifolium, Asplenium polyodon, Pteris tremula* and *Blechnum triangularifolium.* With its triangular-shaped fronds and wingless stipe we were able to tell how this species differs from *B. novae-zelandiae* (Fig 2). Tucked in close to the cliff bases we noted *Selliera radicans* with fan-shaped flowers, coastal spinach (*Tetragonia implexicoma*) mostly with green fruits although a couple of ripening cerise fruits confirmed the species, New Zealand celery (*Apium prostratum*), *Lobelia anceps* in flower and occasionally native iceplant (*Disphyma australe*) with pale pink flowers.

Fig. 3. ABS members above Karioitahi Beach (compare *Cortaderia selloana, C. jubata and Austroderia splendens*). Photo: Tricia Aspin, 17 March 2012.

Fig. 4. *Lilaeopsis novae-zelandiae* in flower, Karioitahi Beach. Photo: Philip Moll, 17 March 2012.

Fig. 5. *Gunnera dentata* in fruit, Karioitahi Beach. Photo: Tricia Aspin, 17 March 2012.

Where the cliffs first indented we climbed to a damp ledge to be delighted with some of the less common small herbaceous plants (Fig. 3). Here *Triglochin striata* and *Lilaeopsis novae-zelandiae*, both in flower, first took our eye (Fig. 4). A little further on good colonies of *Gunnera dentata* (regionally at risk, Stanley et al. 2005) with some plants in fruit, were observed (Fig. 5).

Another native grass was observed, the tiny mat-forming *Zoysia pauciflora* and also the west coastal carex (*Carex* "raotest"). Other larger species noted here were karamu (*Coprosma robusta*) and *Olearia solandri.* Lunch was taken with a grandstand view of the coast before returning to the cars.

Lake Otamatearoa

This lake has been extensively surveyed and fully recorded by Ewen Cameron and Tricia Aspin (Cameron & Aspin 2011). We were hoping to observe many of the uncommon species that occur here. Unfortunately the lake level is very high due to the wetter- than- usual summer and much of the lake fringe vegetation appears to have disappeared or is still inundated with what is usually the winter high. However, this changed environment has brought about the noting of a few species (mainly exotic) not formerly observed (Fig 6).

On entering at the eastern end of the lake the first thing of note was how the waterlilies (*Nymphaea alba*), which have been present since the 1950s, are revelling in the deeper water. Beds are now increasing in size. Other exotic species appear to be on the increase with *Potomageton crispus* now as common as the native *P. cheesemanii* and the swamp lily *Ottelia ovalifolia* has established in several places.

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Utricularia gibba (first noted in this lake by Corin Gardiner in Oct 2011) now has a firm hold and, in spite of Tricia, Steve Benham and Corin observing the endangered native *U. australis* just a fortnight prior, the recent gale and deep water put paid to any sightings today.

Lake Otamatearoa is subject to experimental eradication of hornwort (*Ceratophyllum demersum*). This most invasive submerged aquatic weed has been sprayed twice with the selective herbicide *Endothall = Aquathall™* under the direction and funding of NIWA and EW. The first spraying was 95% successful but the amount of this weed that we observed washed to the western bay indicates that there is still much present even after the second hit.

This western end is sheltered by the adjacent hills, and among the reedbeds we observed solid coverings of the ferny azolla (*Azolla pinnata*) occasionally intermingled with watermeal (*Wolffia australiana*). *Wolffia* species are known to be the world's smallest flowering plants and we observed the tiny keels on the undersurface of the platelets. It had not been noted at this lake before.

Fig. 6. ABS members at Lake Otamatearoa. (Note unusually high water levels.) Photo: Philip Moll, 17 March 2012

Fig. 7. Intermingling foliage of two regionally critical species, *Ranunculus macropus* and *Galium trilobum*, Lake Otamatearoa. Photo: Tricia Aspin, 17 March 2012.

A little further around on a small damp turf area the discovery of *Ranunculus macropus* and *Galium trilobus*, each with a few flowers, saved the day. Both species are listed as regionally critical (Stanley et al. 2005) (Fig. 7).

The margins of the lake are subject to stock grazing and on the northern side the landowners have fenced off a small beach area for recreational use. Rampant growth of Mercer grass (*Paspalum distichum*) and to a lesser extent, kikuyu grass (*Pennisetum clandestinum*) has now covered what was a sandy area and is forming a floating raft smothering areas formerly occupied by *Myriophyllum propinquum* and the alga (*Nitella hyalina*).

As we completed the circuit (this was a race course around the lake from 1950s to mid 1980s) we noted the stand of *Baumea arthrophylla* (regionally sparse) and, as the day had been full, decided to forgo the intended visit to Parkinsons Lake.

Acknowledgements

Thanks to landowners Geoff and Terri Muir for access to Lake Otamatearoa.

References

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Appendix: Additions to the species list for Lake Otamatearoa of Cameron & Aspin (2011).

(PA/SB) = addition by P. Aspin and S. Benham, 29 Feb 2012
(ABS) = addition by Auckland Botanical Society, 17 March 2012
* = exotic species

Dicotyledons
*Callitriche stagnalis** (ABS)
*Lythrum hyssopifolia** (ABS)
*Mentha pulegium** (ABS)
*Persicaria maculosa** (ABS)
*Ranunculus scleratus** (ABS)
*Utricularia gibba** (PA/SB)

Monocotyledons
*Juncus bufonius** (PA/SB)
Juncus planifolius (ABS)
*Ottelia ovalifolia** (PA/SB)
Wolffia australiana (ABS)

Kermadec Biodiscovery Expedition 2011
The Southern Kermadec Islands Group

P. J. de Lange

This account is the second part of the May 2011 Kermadec Biodiscovery Expedition whose objectives were outlined in my first of a series of articles describing the expedition's landings in the Northern Kermadec Islands group (see de Lange 2011a-d). This account, derived from my field diary, describes the landings Warren Chinn and I made on the islands of the Southern Kermadec group (Fig.1). Photos taken during the expedition were by Warren Chin (WC), Malcolm Francis (MF) or myself (PdL).

During our night journey to Macauley from Raoul Island (see de Lange 2011d) I slept so badly I was able to gauge, from the change in motor pitch of the *RV Braveheart*, when we were nearing Macauley Island. This, along with the welcome smell of breakfast wafting through our bunk room, encouraged me to get up. It was well worth it too, as above deck I was greeted by the most glorious sunrise in which Macauley was nicely framed.

Macauley Island (Plate 1A) resembles an overcooked Pavlova, the burned base of which is made of dark black tholeiitic basalt lava, while the island's pinkish grey dacitic cliffs resemble the cracked meringue of the rest of the burned Pavlova. This dacitic ignimbrite is mostly unwelded, thus freely eroded, so that in places the cliffs are broken by gullies, deep ravines and canyons. In a few places the ravines are partially choked with more recent scoria and basalt lava flows that probably originated from the Macauley Crater, part of the twin crater complex that is centred on Mt

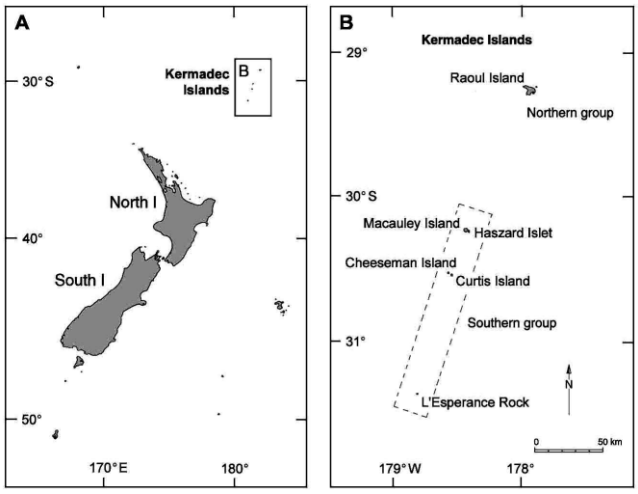

Fig. 1. Location of the southern group of the Kermadec Islands. Map modified by Josh Salter.

Haszard. To continue with the Pavlova analogy one then has only to imagine that your overcooked dessert has sagged slightly to one side (in this case the east). For the Macauley plateau is gradually sloped from the west down to Windy Point. There, east of Windy Point, separated by c.220m of very turbulent water (Boat Passage) are the two satellite islands of Macauley, Haszard and the smaller, seemingly unnamed one we jokingly called "Haszardette" (Fig. 2). Haszard is deemed unclimbable and the only landings that I know have reached the island's summit have been made by helicopter. For the sake of brevity I will not recount