MOKOIA ISLAND FIELD TRIP

Paul Cashmore

On Sunday 6 August 2000 a keen group of 23 botanists revisited Mokoia Island in the middle of Lake Rotorua to re-examine the flora of the island, the ongoing vegetation changes and some of the recent threatened plant work undertaken. The recent threatened plant introductions to the island, namely mistletoe *(Ileostylus micranthus, Tupeia antarctica, Dactylanthus taylorii,* and *Rorippa divaricata*) were undertaken by DoC in 1999 as part of the implementation of an Ecological Management Strategy for Mokoia Island (Dumbell 1998) Following the completion of this strategy a plant transfer proposal was prepared (Cashmore 1999) outlining the background and justifications for the proposed transfers. This was subsequently approved by the island's owners, the Mokoia Island Trust Board in May 1999, allowing the project to proceed.

After a quick jet boat ride and a brief introduction to the island by John Marsh we wandered around towards Hinemoas Pool examining closely the scattered clumps of mahoe trees. This is the one of the sites where *Ileostylus micranthus* seed was planted in June 1999. No mistletoe plants were seen. However, a quick look around Hinemoas Pool revealed *Hypolepis dicksonioides* growing nearby.

Moving up through the kohekohe and karaka groves we branched off the summit track heading along the round the island track towards the northern side of the island. Here we passed through regenerating vegetation dominated in places by fivefinger trees. Again we searched for mistletoe here where some of the 320 *Tupeia antarctica* seeds were planted on fivefinger hosts. Again no sign of mistletoe plants emerging. The group moved on to the summit for lunch where the view over Lake Rotorua was enjoyed.

After lunch we split into an easy party which followed the main track back down to the landing while a more adventurous group headed back down the track. We had come as far as one of the main gullies leading to the coast on the northern side.

On the way down the group paused to see one of the sites where *Dactylanthus taylorii* seed was planted in June 2000. An estimated 71,000 seeds from the nearest population on the Mamaku plateau were planted in 35 plots at 7 sites on Mokoia as a significant step in the recovery programme for *Dactylanthus taylorii*. Mokoia was chosen as a site for restoration of dactylanthus for the same reasons as mistletoe - the abundance of hosts and the island's possum-free status. Mokoia is now one of only three islands in New Zealand to have dactylanthus introduced. Unfortunately while we were able to describe what was going on, there was not much to see as the seed had been well buried in the soil and we're not expecting to see any sign of dactylanthus plants appearing for a good few years yet!!

Clambering down the steep gully we reached the coast coming out in a small bay lined with pohutukawa trees. The track from here follows the coast for much of the way going in and out of pohutukawa lined bays and bracken clearings. It wasn't long before we reached the first of the stakes marking the third species to be planted on the island – *Rorippa divaricata*. This threatened species was reintroduced to the island in 1999 from seed collected from the Blue Lake population. It was originally discovered on the island during the 1990 Rotorua Botanical Society field trip where 28 plants were noted "restricted to a narrow strip within 30 metres of the lakeshore" (Beadel 1990). Unfortunately it hasn't been seen since with several unsuccessful searches, hence the plan to reintroduce the species with the planting of 245 nursery raised *Rorippa* plants. Most of the *Rorippa* plants had died off over the winter but there was plenty of evidence of seed having been produced. (Subsequent checks by DoC over summer have revealed that only a few *Rorippa* plants are surviving). It was noted that the absence of *Rorippa* since 1990 may have been due to the development of a dense understorey which out-competed the *Rorippa* plants following the removal of goats from the island in 1988.

Returning back along the flats towards the wharf obvious changes in the vegetation were noted in this area. Grazed by horses, until they were removed from the island several years ago, blackberry subsequently expanded vigorously to dominate the flats in impenetrable thickets making access to this end of the island increasingly difficult. With a tractor and mower recently introduced to the island much of this has had now been cleared and mown with exotic grassland returning. Large vines of hops (*Humulus lupulus*) which had died off over winter were noted still draped around the forest edge in this area.

We regrouped at the wharf and reboarded the jet boat for a quick exhilarating ride back to Hannahs Bay. Twenty new species, mostly exotic, were added to the original species list of Beadel and Ecroyd (1990) during this visit.

REFERENCES

Beadel, S.M. (1990). Excursion to Mokoia Island. *Rotorua Botanical Society Newsletter 20:* 15-17.

Beadel, S.M., Ecroyd, C.E. 1990. Vascular plants of Mokoia Island, Lake Rotorua. *Rotorua Botanical Society Newsletter 20:* 18-23.

Cashmore, P.B. 1999. Proposal to introduce dactylanthus (*Dactylanthus taylorii*), mistletoe (*Tupeia antarctica* and *Ileostylus micranthus*) and to reintroduce
New Zealand cress (*Rorippa divaricata*) to Mokoia Island. *Unpublished Report*, Department of Conservation, Rotorua.

Dumbell, G. 1998. Draft Mokoia Island Management Strategy. *Applied Ecology Contract Report,* Department of Conservation, Rotorua. 73pp.

ADDITIONS TO THE CHECKLIST OF VASCULAR PLANTS OF MOKOIA ISLAND (Beadel and Ecroyd 1990).

Graeme Jane and Chris Ecroyd

Acaena novae-zelandiae

Anaphaloides trinervis (on rock at shore)

Anthoxanthum odoratum

Blechnum vulcanicum

Bromus willdenowii

Cordyline pumilio

Digitalis purpurea

Lapsana communis

Microtis uniflora

Orobanche minor

Pennisetum clandestinum

Poa anceps

Polystichum vestitum

Pterostylis (probably graminea; P. cardiostigma doesnt flower till October)

Ricinus communis

Rumohra adiantiformis

Solanum nodiflorum

Tmesipteris tannensis

Vulpia bromioides

Zantedeschia aethiopica (in flower washed up on the shore)