Photo: B. Enting, Dec. 1973

Te Kahaatuwai Island from Rahui Island, Lake Waikareiti. Mountain fivefinger and quintinia in foreground.

Rahui Island, Lake Waikareiti
Easter 1973

THE highlight of the Society's Easter 1973 trip to Lake Waikareiti, Urewera National Park, was without doubt the visit to Rahui Island. This forest-covered island of some 20 ha (50 acres), along with the others in the lake (alt. 885 m; 2900 ft), is one of the very few places where mountain vegetation can now be seen in New Zealand unmodified by introduced browsing animals.

We had spent the day prior to our visit to the island in walking through the animal-modified forests surrounding Waikareiti, so we were ready to appreciate any differences in the understorey of the forest on the island. And differences there certainly were. Mountain fivefinger (*Pseudopanax colensoi* s.s.), mainly of seedling and sapling size, was present in great abundance — now virtually absent from the adjacent mainland forest. Large-leaved species of *Coprosma* and three species of *Astelia* (mainly *A. solandri*) were present — all uncommon on the mainland (the bases of *A. solandri* tussocks could still be found when looked for, with a few small living leaves showing in their centres). In contrast the prostrate tree-fern, *Dicksonia lanata,* was uncommon or local — now dominant in the mainland forest. Some of our party were surprised to find the forest relatively "open", when, with browsing animals absent, they had expected it to be "thicker". This reflected the relative ease with which one could walk through the forest when the unpalatable *Dicksonia* had not taken over the lower understorey. The scarlet mistletoe *Peraxilla colensoi (Elytranthe colensoi)* was seen on silver beech *(Nothofagus menziesii),* whereas we saw none on the mainland. Hook-grasses *(Uncinia* spp.*)* were present only in very small numbers in the deep soft litter. This is in marked contrast with the situation in most mountain forests today, though in the forests surrounding Waikareiti, with *Dicksonia* so important, they were not particularly common.

We made a list of the plants we saw on the island (see below). This should be nearly complete for the forest as different groups criss-crossed the island, taking different routes. However, we were able to examine the cliffs in only a couple of places, so perhaps we have missed a few plants from there. No adventive plants were seen at all.

A comparison of the forest on Rahui Island with that of the adjacent mainland has been made by I. L. James and F. P. Wallis, of the Forest Research Institute, Rotorua, and the results are published in the *Proceedings of the N.Z. Ecological Society No. 16* (1969). I turned this up on our return from Waikareiti, and our general im-

pressions agree with their conclusions based on detailed sampling of the vegetation. Note, however, that they misidentified several of the plants they were dealing with. Thus *Pseudopanax colensoi* is the fivefinger so abundant on the island, not *P. arboreus*. Likewise the tree-dracophyllum present is *D. latifolium,* not *D. pyramidale* (= *D. traversii*). And I very much doubt the presence of *Coprosma arborea* on the island.

I will end this note with several quotations from the study of James and Wallis:

"People long associated with the area have no knowledge of introduced mammals on Rahui Island, nor was any evidence of them seen by us during the study. The possibility that deer once inhabited Rahui is remote, as steep sides and deep water make landing difficult. Past Maori occupation is not evident."

"On the mainland fresh deer and opossum droppings are abundant. Red deer were well established around Lake Waikaremoana in the 1920s . . . from six liberations between 1899 and 1918 . . . . Opossums were liberated around Lake Waikaremoana on five occasions between 1898 and 1925 . . . , and wild pigs have probably been present throughout the Urewera since 1840 . . . . Wild cattle were once numerous in the Waikaremoana area . . ."

"The forest on Rahui Island and within a similar altitudinal range on the mainland is a mixture of *Nothofagus menziesii, N. fusca,* and *Podocarpus* spp."

"The differences in understorey composition are presented . . . Within each vegetation class on the mainland there were fewer plants of animal-preferred species and more plants of less-preferred species. For example, the highly preferred *Pseudopanax* and large-leaved *Coprosma* spp. constitute 52%, 45%, and 14% of the first, second, and third woody plant classes respectively on Rahui Island but on the mainland only traces of these genera were found in each class." [Woody plant classes: 6 in to 18 in high; 18 in to 5 ft high; above 5 ft high and up to 4 in d.b.h.]

"In the fern and monocotyledon class on the mainland there were more plants of *Dicksonia* and fewer *Astelia nervosa* plants."

"The assumption that the composition of understorey on the mainland was once similar to that on the island is a basic premise of this paper. There is no evidence that it was otherwise. What changes have occurred can only be a direct and indirect result of the effects of mammals."

A. P. DRUCE.

INDIGENOUS VASCULAR PLANTS OF RAHUI ISLAND

(unc) — uncommon
(cliff) — on cliffs only

(Note: no adventive plants were seen)

GYMNOSPERM TREES

Phyllocladus glaucus
Podocarpus ferrugineus
P. hallii

DICOT TREES

Dracophyllum latifolium
Elaeocarpus hookerianus
Griselinia littoralis
Ixerba brexioides
Nothofagus fusca
N. menziesii
N. solandri var. *solandri* (unc, cliff)
N. fusca × *N. solandri* var. *solandri* (unc, cliff)
Pseudopanax colensoi s.s.
P. crassifolius (unc)
P. edgerleyi (unc)
P. simplex var. sinclairii
Quintinia serrata (incl. *Q. acutifolia* and *Q. elliptica*)
Schefflera digitata
Weinmannia racemosa var. *racemosa*

DICOT SHRUBS

Alseuosmia pusilla
Brachyglottis repanda var. *repanda* (unc)
Coprosma australis
C. colensoi (incl. *C. banksii*)
C. foetidissima
C. lucida s.s.
C. robusta (cliff)
C. tenuifolia (unc)
C. sp. (unnamed; included in *C. parviflora* by Oliver and others) (lf undersurface not minutely hairy as in *C. parviflora;* drupes clear, or tinged pink or pale yellow) (unc)
C. colensoi × *C. foetidissima* (unc)
Coriaria arborea var. *arborea* (unc, cliff)
Cyathodes fasciculata var. (common erect var; lvs linear lanceolate, mostly < 2.5 mm wide)
Gaultheria antipoda
Myrsine divaricata (unc)
Neomyrtus pedunculata
Peraxilla colensoi (unc)
P. tetrapetala (unc)
Pseudowintera colorata
Senecio kirkii

DICOT LIANES

Metrosideros diffusa (unc, cliff)
M. perforata (unc, cliff)
Muehlenbeckia australis (unc)
Rubus cissoides (unc)

PSILOPSIDS AND LYCOPODS

Tmesipteris sp. (*T. tannensis* agg.) (synangia 3-5 mm long, boat-shaped ends pointed) (unc)
Lycopodium varium (incl. *L. billardieri* and *L. novae-zelandicum*) (unc)
L. volubile (unc)

PERNS

Asplenium bulbiferum (unc)
A. falcatum (unc)
A. sp. (*A. flaccidum* agg.) (common forest epiphyte)
Blechnum chambersii (cliff)
B. discolor
B. procerum
B. sp. (a) (*B. capense* agg.) (common sp.; lower pinnae reduced in length)
B. sp. (b) (*B. capense* agg.) (bog sp.; lower pinnae reduced, but fronds narrower than in common sp.) (unc)
Cardiomanes reniforme
Dicksonia lanata s.s.
D. squarrosa (unc)
Grammitis billardieri
Histiopteris incisa (unc)
Hymenophyllum bivalve
H. demissum (unc)
H. dilatatum
H. flabellatum
H. multifidum (unc)
H. pulcherrimum
H. rarum
H. revolutum (unc)
H. sanguinolentum (incl. *H. villosum*)
Hypolepis rufobarbata (unc)
Phymatodes diversifolium
P. novae-zelandiae
Pyrrosia serpens (unc)
Todea hymenophylloides
T.h. × *T. superba* (unc)

ORCHIDS

Corybas trilobus (unc)
Dendrobium cunninghamii (unc, cliff)
Earina autumnalis
E. mucronata

GRASSES AND SEDGES

Microlaena avenacea (unc)
Carex secta (unc)
Gahnia setifolia (unc)
Uncinia gracilenta
U. rupestris (unc)
U. zotovii

HERBS (OTHER THAN GRASSES AND SEDGES)

Astelia fragrans
A. solandri
A. sp. (unnamed; aff. *A. nervosa)* (lvs not conspicuously white adaxially as in *A. nervosa)*
Collospermum microspermum
Luzuriaga parviflora
Nertera sp. (unnamed; aff. *N. dichondraefolia)*
Pratia angulata (cliff)

The following plants are recorded in error from Rahui Island by James and Wallis:

RECORD	CORRECT IDENTITY
Astelia nervosa	*A.* sp. (unnamed)
Coprosma arborea	(?)
Dracophyllum pyramidale	*D. latifolium*
Pseudopanax arboreus	*P. colensoi* s.s.

The following recollections have been contributed by Graham Petterson:

I had known Mrs Scott distantly since boyhood, for she assisted her husband, the local chemist. In the mid-1950's my wife and I heard through a mutual friend that Mrs Scott was very interested in our native flora, so we approached her and were able to introduce her to the Botanical Society. Since she had no car, we and others with botanical interests were able to share in picnic excursions and one-day tramps to many places in the Golden Bay area. In fact, spurred on by the knowledge that if we did not take Mrs Scott out at reasonable intervals we would have to face both looks and words of reproach, we went to many areas we otherwise might never have made the effort to visit.

Mrs Scott and her husband had kept a neat garden, but on her own she had over the years reduced her section to lawn, trees and shrubs, with great beds of daffodils each spring. At heart she remained a gardener, and her treasures were marshalled around her back door, on the shady side of the house, in an assortment of pie dishes, baking dishes, plates, saucers, punnets and plastic bags. These held precious ferns, orchids etc. and little ecological gardens collected on her forays into the valleys and hills, swamps and pakihi of Golden Bay. I do not remember ever seeing a label, but Mrs Scott knew where the contents of each dish had been dug up in its own sod.

Our children were young in those days, and they still recall with delight the large sweet pies she baked as her contribution to the picnic lunches. Mrs Scott has left this family with many happy memories, and we are glad we were able to share and take pleasure in our common interest.