

Arthropodium cirratum lc, P  
 Astelia banksii a, P  
 Avena barbata \* c  
 Bromus arenarius \* r, AKU 22033  
 B. diandrus \* c  
 B. hordeaceus \* o  
 Carex breviculmis o-lc, AK 200591  
 Deyeuxia billardierei o, P  
 Dianella nigra r, P  
 Dichelachne crinita o  
 Isolepis nodosa c, P  
 Lachnagrostis filiformis var. littoralis o, AKU 22478  
 Lolium rigidum \* c, AKU 22034 22479  
 Microlaena stipoides l  
 Oplismenus hirtellus ssp. imbecillis o  
 Parapholis incurva \* o, AKU 22475-77  
 Paspalum dilatatum \* o  
 Poa anceps ssp. anceps c, P  
 P. annua \* o  
 Rytidosperma racemosum \* c, AKU 22472  
 Sporobolus africanus \* o, P  
 Stipa stipoides lc, P  
 Thelymitra longifolia o, P  
 Trisetum antarcticum o, AKU 22032 & 22480  
 Vulpia bromoides \* a, AK 200603, AKU 22039  
 V. myuros \* c, AKU 22473

Bryophytes (2 - incomplete list)

Thuidium sp.

Triquetrella papillata AKU 72236

**Vascular flora of Kawetoto Reef, Waikawau Bay,  
Coromandel Peninsula**

E.K. Cameron

The rocky Kawetoto Reef is composed of dacite with an andesite dike intrusion of about mid Miocene age (Skinner 1976). It is located at the north end of the sandy Waikawau Bay, north-eastern Coromandel Peninsula (grid ref. NZMS 260 T10 366093) (Fig. 1). It is in the Colville Ecological District. The reef is attached to the mainland and runs into the sea from a rocky headland for some 200 m. Apart from one islet (c. 11 m asl) the reef is low (c. 2 m asl) and wave-washed or submerged. The islet is 50 m out from the mainland and is joined by the reef, more or less at high tide level, with channels across it which are dry only at low tide. Vascular plants on the reef are only present on this islet which is steep and not much wider than tall. Behind the rather open adjacent headland there is still a good cover of native forest. I visited the islet on 23 January 1991 for about 1 hour.

VEGETATION OF THE ISLET

Most of the islet is bare eroding rock, with about one quarter covered with vegetation, most of it being on the more sheltered western side.

The summit is crowned with a 3.5 m tall pohutukawa (for binomials see Appendix), shrubs of karo (about 12) and pohutukawa fringe the summit, especially on the west side. Astelia banksii clumps and prostrate taupata are common on the more sheltered lower half of the islet. Flax clumps are occasional here. Low down on the exposed eastern side glasswort and Samolus repens are common with occasional taupata. Lichens are common on the bare rock, including crusts, Ramalina sp., Stereocaulon sp., Usnea sp. and others.

#### VASCULAR FLORA

Thirty-two species of vascular plants are listed in the Appendix of which 69% are native. No species present were unexpected, although needle tussock (Stipa stipoides) was very common on the adjacent mainland cliffs and was absent on the islet.

Similar to an islet in the Inner Hauraki Gulf (Cameron & Taylor, 1992) the Asplenium haurakiense varied form convincing plants to ones more similar to the closely related A. flaccidum s.s. with an unpronounced secondary pinna at the base of primary pinna. Once again hybridism is suspected.

#### FAUNA

A few black-backed gulls were nesting on a small stack joined to the south-east side of the islet. No evidence of petrels or rats was seen.

#### DISCUSSION

Taupata, NZ ice plant and glasswort were absent or very rare on the adjacent mainland cliff of similar geology, and yet all were common on the islet. In fact much of the islet taupata was covered in ripe orange fruit. From observations around the Auckland coastline (Cameron and Taylor 1991, Cameron 1991, pers. ob.) Graeme Taylor and I suspect rats (particularly ship rats) may eliminate succulent plants (such as NZ ice plant, glasswort, taupata) where there is a fresh water shortage. Although rats could easily reach Kawetoto Reef islet there may not be an incentive for them to establish on such a small, dry islet, virtually lacking nesting birds and lacking a sea moat at low tide. This is another example of islet/island biota surviving better than that on the adjacent mainland.

I thank Jessica Beever for identifying the mosses.

#### REFERENCES

- Cameron, E.K. 1991. Paratahi Island - Karekare, West Auckland. Auck. Bot.Soc. Journal 46(2): 84-85.
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- Cameron, E.K. & Taylor, G.A. 1992. Flora and vegetation of an islet off Ponui Island, Hauraki Gulf, Auckland. Auck.Bot.Soc.Journal 47(1): this edition.
- Skinner, D.N.B. 1976. Sheet N40 Northern Coromandel. Geological map of New Zealand 1:25000. DSIR, Wellington.

#### APPENDIX Species list for plants on Kawetoto Reef

a = abundant  
c = common

\* = adventive species  
AK = voucher in Auckland Museum

o = occasional  
 l = local  
 r = rare (less than 5 plants)

herbarium  
 AKU = voucher in University of  
 Auckland, Botany Department  
 herbarium

Ferns (1)

*Asplenium ?haurakiense* lc AK 200577

Dicotyledons (21)

*Anagallis arvensis* s.s. \* c  
*Apium prostratum* s.s. c  
*Coprosma repens taupata* a  
*Crassula sieberiana* o  
*Dichondra repens* o AK 200578  
*Disphyma australe* NZ ice plant o-c  
*Leontodon taraxacoides* \* o  
*Lobelia anceps* c  
*Lotus sauevolens* \* c  
*Metrosideros excelsa* pohutukawa o  
*Peperomia urvilleana* lc

*Pimelea urvilleana* r  
*Pittosporum crassifolium* karo o  
*Polycarpon tetraphyllum* \* c  
*Pseudognaphalium luteoalbum* agg. o  
*Pseudopanax lessonii* r  
*Sagina apetala* \* o  
*Samolus repens* c  
*Sarcocornia quinqueflora* s.s.  
 glasswort c  
*Senecio lautus* s.s. c  
*Sonchus oleraceus* \* o

Monocotyledons (10)

*Astelia banksii* lc  
*Bromus hordeaceus* \* r  
*Catapodium rigidum* \* o  
*Deyeuxia billardierei* r  
*Isolepis nodosa* c

*Lachnagrostis filiformis* var.  
*littoralis* c  
*Lagurus ovatus* \* a  
*Parapholis incurva* \* c  
*Phormium tenax* NZ flax o  
*Poa anceps* s.s. o

Mosses

*?Hymenostomum patulum* AKU 72237  
*Thuidium furfurosum* AKU 72238

*Sematophyllum homomallum* AKU 72239

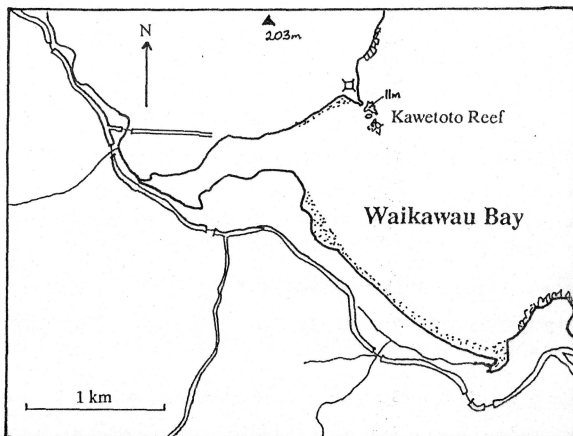


Fig. 1. Location of Kawetoto Reef.