

OBSERVATIONS OF THE KURÄMOÓ (*VINI PERUVIANA*) ON AITUTAKI ISLAND, COOK ISLANDS

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The Kurämoó, or Blue Lorikeet (*Vini peruviana*), is listed by IUCN as threatened (Collar & Andrew 1988). Formerly, the species was widespread on the Society and Tuamotu Islands, but it became extinct on Tahiti, Moorea and other large islands in the Society Group early this century and is now also extinct on many other islands on which it once occurred (Forshaw 1978). Today, in French Polynesia, it apparently survives only on two small islands in the Society Group and several in the Tuamotu Group (Forshaw 1978, Kuhn 1989). Elsewhere it is only on Aitutaki Island, Cook Islands, where, although Forshaw believed numbers to be low, other visitors have described it as common (Holyoak 1980, Child 1981). Caged Kurämó may once have been carried between islands by the Polynesians, and so the species may not be native to Aitutaki Island (Pratt *et al.* 1987, Holyoak 1980). However, bones of *Vini* have been found on Mangaia Island (Rinke 1992), and so the Cook Islands were within the native range of the genus.

Three of the other four surviving species in this genus have fared no better, each being limited to one or few, mostly small, South Pacific islands, where they are vulnerable to the introduction of predators (Forshaw 1978, Rinke 1992). Except for *V. australis*, the only species that is still widespread, they generally occur on remote islands, difficult of access, so even the most thorough study of these vulnerable or endangered species (Rinke 1985), was of short duration.

Observations reported here were made between 14 and 18 February 1991. The main objective of my visit to Aitutaki, 18° 52' S, 159°48' W, was to make preliminary observations on the distribution, abundance and habitat preferences of Kurämoó and to investigate the feasibility of further research on the species.

Distribution and abundance

Although generally considered common on Aitutaki (Holyoak 1980, Child 1981), there is no published estimate of its abundance on, or distribution over, the island. I cycled or walked along roads and tracks on most parts of the island. When Kurämoó were seen or heard, I stopped, estimated numbers present, recorded habitat and, where possible, made observations on activity. The roads and tracks surveyed and the locations at which Kurämoó were seen or heard are shown in Figure 1.

Kurämoó showed a wide but clumped distribution over most of Aitutaki Island. They appeared to be most common in plantations and gardens inland of Amuri Village, along the coast north of Rapae Motel and in the Vaitupa and Vaipae districts (Figure 1). Very few were encountered in the extensive

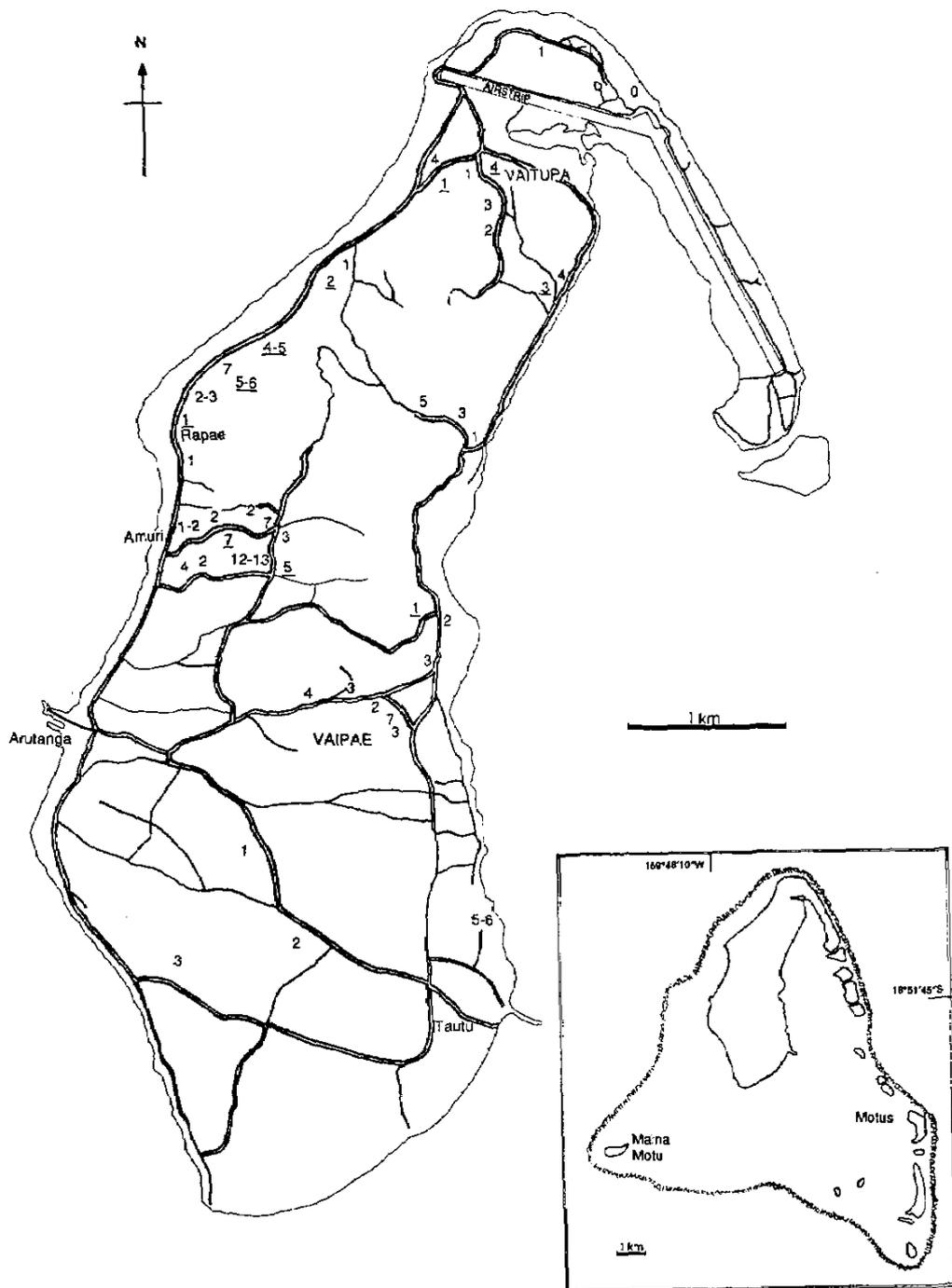


FIGURE 1 — Map of Aitutaki Island showing roads and tracks surveyed (double lines) and the locations where Kurāmoó were located. Where roads were surveyed more than once, sightings from subsequent surveys are underlined.

hibiscus (*Hibiscus tiliaceus*) forests in the south of the island and only one in the open woodland near the airport. None was seen or heard during three hours on Maina Motu on 16 February. I was told (T. Bishop & G. McCormack, pers. comm.) that Kurāmoó are not on any of the motus.

In total, 136-142 Kurämoó were seen or heard during this survey, but as some roads and tracks were surveyed more than once, the total becomes 106-111 if only the highest count is taken for those areas. It is not possible to make an accurate estimate of the total population from these figures. To encounter over 100 birds on such a survey suggests that the total population must be at least several hundred. Whenever I stopped and searched out birds, I generally located 1.5-2 times the number originally estimated. As I tended to concentrate on what I thought were suitable habitats, total numbers are likely to be below 1000.

Two previous unpublished surveys were made by C. Pollard in 1984 and by R. Hay on 9 October 1987. Hay was able to survey only half the island. Both apparently surveyed roads by motorbike. Both found a similar pattern of distribution to that of my survey, the birds being few in the south but spread unevenly over the northern two-thirds of the island. All three surveys showed Kurämoó to be common inland from Amuri Village and along the coast between Rapae Motel and Vaitupa district. Pollard saw or heard 88 Kurämoó and estimated there were more than 200 on the island.

Habitat

I noted the habitat in which most Kurämoó were seen. When a bird moved from one habitat to another, each habitat was scored once, regardless of how long it spent in the respective habitats or whether it returned to the original habitat.

All but one of 132 observations were made in wooded areas (Table 1). Coconut (*Cocos nucifera*) appeared to be the preferred species (18.2% of observations), with an additional 34% of observations in plantations or gardens containing both coconuts and bananas (*Musa* sp.). The few records (11.4%) from the extensive coastal hibiscus forests were all in areas with an admixture of coconut, suggesting this habitat was generally avoided.

TABLE 1 — Habitat use by Kurämoó on Aitutaki Island, February 1991

	Number Observations	Percent
Megaherb-grassland	1	0.8
Garden with banana and coconut	9	6.8
Banana plantation (<i>Musa</i>)	7	5.3
Banana, coconut with other tree species	36	27.3
Coconut grove (<i>Cocos nucifera</i>)	24	18.2
Mango tree (<i>Mangifera indica</i>)	6	4.5
Flame tree (<i>Delonix regia</i>)	4	3.0
Tall forest	29	22.0
Coastal hibiscus forest (<i>Hibiscus tiliaceus</i>)	15	11.4
Open woodland	1	0.8
	132	

Only 5.3% of observations were in banana plantations. In the 34% of observations which were in habitats containing both banana and coconut plants, my subjective impression was that the birds made greater use of

coconuts than bananas. The only observation in a non-treed area was of a single bird feeding on unidentified flowers in a megaherb-grassland area.

These observations appeared to reflect habitat preference and not habitat availability, but in the time available I could not test this impression.

Previous records of habitat use by Kurāmoó have been general in nature but agree with my observations. The most commonly listed habitat is coconut; gardens, bananas, scrub and woodland are also mentioned (Forshaw 1978, Holyoak 1980, Child 1981). Pollard (unpublished) noted Kurāmoó were absent from large coconut plantations except where shade trees were present.

Foods

Members of the genus *Vini* feed mainly on nectar and pollen (Forshaw 1978). Kurāmoó have been recorded eating pollen and nectar from coconut flowers (Forshaw 1978, Muhlhaus 1984), coconut, banana, hibiscus and mango (*Mangifera indica*) flowers (Child 1981, Pollard unpublished), young leaf shoots of mango (Pollard unpublished), soft fruits and some insects (Holyoak 1980, Pratt *et al.* 1987, Kuhn 1989). I made only 11 observations on feeding: a flock of six birds feeding on mango flowers; a group of three eating nano (*Morinda citrifolia*) fruits and two birds feeding on large unidentified red flowers (both birds nipped through the base of the flower as if gathering nectar).

Flock size

Whenever I saw or heard Kurāmoó I estimated the number of birds in each group. For some groups, I could count the flock accurately during extended observation. For other groups I could only estimate the number of birds. In all, 63 groups were encountered, ranging from lone birds (18 observations) to flocks of seven birds (three observations). The mean group size was 2.6 birds (Table 2).

TABLE 2 — Group size of Kurāmoó on Aitutaki Island, February 1991

Group Size	No. of Groups Observed
1	18
2	16
3	12
4	11
5	3
6	0
7	3
Number of Groups	63

Previously, Kurāmoó has been described as gregarious (Kuhn 1989), occurring in 'pairs, single birds or groups of three' (Holyoak 1980) or in flocks of up to 10 (Pratt *et al.* 1987).

Age ratio

Adult and immature Kurāmoó can be distinguished in the field by the throat and upper breast, which are white on adults and greyish blue on immatures (Forshaw 1978). Of 35 Kurāmoó I aged, 7 (20%) were immatures. The age at which immatures attain adult plumage is not known.

Conservation and further studies

Parrots as a group are vulnerable to introduced predators, and human-induced threats such as habitat loss and hunting (Collar & Andrew 1988). Polynesian lorikeets appear to be dependent on islands remaining free of *Rattus rattus* (Rinke 1992). Thus it seems surprising that a threatened lorikeet remains on an island as modified as Aitutaki. A priority must be to determine the presence of rats on Aitutaki and its motus, and whether Kurāmoó, or suitable nest sites occur on those motus. A further trip to Aitutaki is planned to answer these questions and acquire further information on the ecology of the birds.

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LITERATURE CITED

- CHILD, P. 1981. Birdlife of Aitutaki, Cook Islands. *Notornis* 28: 29-34.
 COLLAR, N.J.; ANDREW, P. 1988. Birds to Watch. The ICBP World Check-list of Threatened Birds. ICBP Technical Publication No. 8. Washington: Smithsonian Institution Press.
 FORSHAW, J.M. 1978. Parrots of the World. Second edition. Melbourne: Lansdowne.
 HOLYOAK, D.T. 1980. Guide to Cook Islands Birds. D.T. Holyoak.
 KUHN, B. 1989. Status und Gefährdung der Gattung *Vini* (Lesson) im Pazifischen Ozean. *Gefiederte Welt* 113: 147-150.
 MUHLHAUS, G. 1984. Der Saphirlori (*Vini peruviana* P.L.S. Muller, 1776). *Trochilus* 5: 62-69.
 PRATT, H.D.; BRUNER, P.L.; BERRETT, D.G. 1987. A Field Guide to the Birds of Hawaii and the Tropical Pacific. New Jersey: Princeton University Press.
 RINKE, D. 1985. Zur Biologie des Blaukäppchens (*Vini australis*), mit Bemerkungen zum Status der Maidloris (Gattung *Vini*). *Trochilus* 6: 29-40.
 RINKE, D. 1992. Status and conservation of parrots on tropical Pacific islands. Pages 14-18 in L. Joseph (ed.), *Issues in the conservation of parrots in Australasia and Oceania; challenges to conservation biology*. RAOU Report No. 83.

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