

SHORT NOTE

Red-crowned Parakeet on Burgess Island

The Red-crowned Parakeet (*Cyanoramphus novaezelandiae*) is common on Hauraki Gulf islands that are free of ship rat (*Rattus rattus*) and Norway rat (*R. norvegicus*). These islands have a wide range of vegetation – grassland, coastal scrub, and coastal forest. Little Barrier also has inland softwood and hardwood forests.

The feeding and nesting habits of the Red-crowned Parakeet were studied on Burgess Island, in the Mokohinau Islands, during a visit by the Offshore Island Research Group from 27 December 1983 to 4 January 1984.

Most of Burgess Island is covered in rank buffalo grass (*Stenotaphrum secundatum*), other grasses, various herbs and bracken. Coastal forest and scrub remnants are confined to the cliffs.

Burgess Island does not appear to have been permanently occupied in pre-European times (Esler 1978). A lighthouse began operation in 1883 and the lighthouse keepers farmed the island until 1980, when the light was automated. Cattle, sheep and goats were kept on the island and farming reduced the native vegetation to a few scattered remnants on the cliffs and largely destroyed the island's natural flora and fauna.

Forest regeneration seems to be quite slow. Areas free of stock in 1957 (Gillam 1960) and 1978 (Esler 1978) show only minor changes in vegetation. Regeneration may be inhibited by the low rainfall (700-750 mm/year), salt spray and the smothering effect of buffalo grass.

Red-crowned Parakeets nested and roosted around the coastal cliffs, particularly where there were overhanging pohutukawa trees. They ranged over the whole island during the day, being easy to follow and observe, and occasionally they flew to the adjacent Knights Islets.

Parakeet feeding was observed with 8x35 binoculars. I recorded activities at 1 minute intervals throughout the day, often following birds to make feeding observations in a range of vegetation types. I recorded activity in and around three nests.

RESULTS

Feeding: Parakeets were seen to feed on a wide range of fruit, seeds and herbage (Table 1). The major components of their diet were ngaio and taupata fruit, pohutukawa flowers, flax seed and grass seed. Fruit and seed together formed over two-thirds of the diet.

Nesting: The three nests found were on steep faces on the coastal cliffs. Two nests were in dense herbaceous vegetation, under the roots of pohutukawa trees. I could not see whether the nests were in the vegetation or in rock crevices beneath the vegetation. The third nest was in a rock crevice on a rock face partly covered in pohutukawa trees.

At all three nests birds spent long periods of up to 3 hours on the nest. Often both birds were on the nest, particularly in the afternoons. In the mornings the birds made more frequent forays out from the nest to feed.

TABLE 1 — Red-crowned Parakeet summer diet on Burgess Island

		<u>Observations</u>	<u>%</u>
<u>Fruit:</u>	Ngaio (<i>Myoporum laetum</i>)	53	20.1
	Taupata (<i>Coprosma repens</i>)	29	11.0
	Pohuehue (<i>Muehlenbeckia complexa</i>)	7	2.7
	- (<i>Coprosma macrocarpa</i>)	5	1.9
	Total fruit	94	35.6
<u>Seed:</u>	*Flax (<i>Phormium tenax</i>)	32	12.1
	Unidentified grass	13	4.9
	- (<i>Cyperus ustulatus</i>)	12	4.5
	*Catsear (<i>Hypochoeris radicata</i>)	12	4.5
	- (<i>Chionochoa bromoides</i>)	11	4.2
	Sweet vernal (<i>Anthoxanthum odoratum</i>)	9	3.4
	Yorkshire fog (<i>Galium aparine</i>)	5	1.8
	Buffalo grass (<i>Stenotaphrum secundatum</i>)	2	0.8
	Total seed	96	36.4
<u>Flowers:</u>	Pohutukawa (<i>Metrosideros excelsa</i>)	56	21.2
<u>Herbage:</u>	Lichen (<i>Ramalina celastri</i>)	8	3.0
	Iceplant (<i>Disphyma australe</i>)	3	1.1
	Mercury bay weed (<i>Dichondra repens</i>)	3	1.1
	Ngaio leaves	2	0.8
	Iceplant (<i>Aptenia cordifolia</i>)	1	0.4
	Wiwi (<i>Scirpoides nodosum</i>) culms	1	0.4
	Total herbage	18	6.8
Total Observations		264	

* Seed and Seed Capsule

The birds were highly selective for certain food items. Fruit and *Cyperus* and *Chionochoa* seeds are relatively scarce on the island but made up 40% of the diet.

Grass seed was abundant during the time of our visit but made up only 17% of the diet. The most common grass, buffalo grass, was less than 1% of the diet.

Almost 85% of the parakeets' diet was native plant species, which cover less than 35% of the island. Most of the native vegetation on Burgess Island is coastal herbfield and low scrub.

DISCUSSION

There was no significant difference in summer foraging of Red-crowned Parakeets (Fig. 1) between my observations on Burgess Island and Dawe's observations (1979) on Tiritiri Matangi Island ($X^2 = 1.018$, $P > 0.05$, $df = 5$). Both islands have large areas of grassland and small remnant patches of native trees and shrubs.

Pohutukawa flowers were less important on Tiritiri Matangi, where kanuka (*Kunzia ericoides*), pohuehue, *Solanum*, *Sonchus* and inkweed

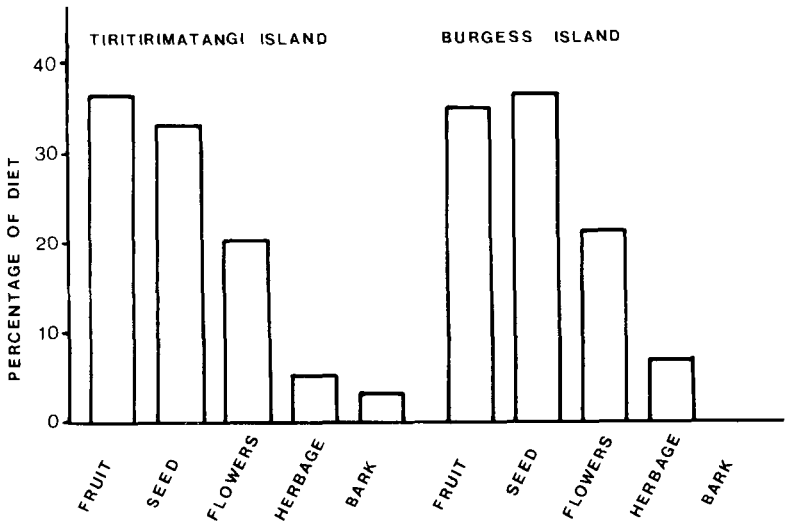


FIGURE 1 — A comparison of Red-crowned Parakeet summer diet on Tiritiri Matangi Island and Burgess Island

(*Phytolacca octandra*) flowers were also taken. This may reflect the impoverished flora on Burgess and the lack of flowers, other than pohutukawa, at the time of our visit. Major differences in flowering times precluded similar comparisons with Little Barrier Island (Dawe 1979).

Although fewer food species are available on Burgess Island, the proportions of food items taken are similar to those on Tiritiri Matangi Island. The forest and shrubland provide a major part of the parakeets' diet in summer and further regeneration on both islands can only enhance their numbers.

The scrub-covered islands of the Hauraki Gulf have a high number of succulent fruiting shrubs. They may provide habitats equal to those of more forested islands, such as Little Barrier Island, for Red-crowned Parakeet.

Nesting: As there are no trees with suitable nesting cavities on Burgess Island, the parakeets seem to be using the only suitable alternative — vegetation and crevices on the the coastal cliffs.

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