## **ACKNOWLEDGEMENTS**

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## UNUSUAL FEEDING OF RED-BILLED GULLS

While at Miranda, Firth of Thames, on 18 April 1981, Barbara Burch and I watched a flock of Red-billed Gulls (Larus scopulinus) feeding for half an hour in an unusual way. It was almost low water with a strong south-westerly wind blowing. The outer shellbank shelved steeply to an extensive area of thick mud covered with a thin film of water. All over this exposed flat of perhaps 400 x 600 m hundreds of squirts of water were being propelled 5 to 12 cm above the surface, creating an extraordinary sight. Gulls flew from the shore 5 or 6 at a time out to the tide's edge and, turning into wind, started to feed. Their course took them over the jets of water and diagonally back to the bank. The small flocks would make three or four round trips, returning to rest on the shell, when another group would replace them. Birds hung on the wind with wings slightly arched and legs dangling just above the surface. After each quick peck the feet would lightly pat the surface, though this was often only a token gesture, the arch in the wings would increase and the bird would move forward to peck again. We were reminded of the dancing flight of storm petrels (Hydrobatidae).

Blackburn (1962, *Notornis* 10: 42) recorded unusual feeding behaviour of Red-billed Gulls at Gisborne. He suggested that they used beating wing-tips and trailing feet as a kind of net to drive a fish forward until it sought escape by leaping from the water, when it was caught unerringly by the birds. It appeared that the trailing feet also acted as a brake to reduce the birds' speed noticeably. In the Miranda observation there was no beating of wings on the water, but both of Blackburn's suggestions on the effects of trailing feet could apply.

We could not determine what the gulls were taking. It was very small and apparently not connected directly to the myriad squirts. These squirts perhaps were disturbing small animals, which the birds were taking. The gulls were still feeding when we left. Professor J. E. Morton (pers. comm.) told me that the origin of the squirts may have been a bivalve such as *Mactra ovata*.

From 26 December 1980 to 14 January 1981, as on other holidays at Opoutere, Coromandel Peninsula, I watched Red-billed Gulls (L.

scopulinus) feeding each evening. Up to 150 birds regularly hawked insects from just after sunset until the light failed about an hour later. Mostly they flew briskly over the hillside, which rises steeply on the northern side of the narrow Wharekawa Harbour, dodging to catch prey and frequently changing direction. As the light lessened the birds swirled to a considerable height to use the last rays of the sun. I spent several evenings high on the hill watching closely through binoculars and found that they were taking small beetles. These beetles were out in plenty, especially one night when a property was being cleared of manuka and pines, which were pushed into heaps and burnt. The pattern continued on other nights over areas which were untouched, with the birds spread out more widely. The easily recognisable manuka beetle (Pyronota edwardsii) was flying during this period, as was another which was probably the pine longhorn (Navomorpha sulcatus).

A further feeding method was noted on 14 January when the excited squawking of the gulls drew my attention to the zostera-covered tidal flats at low water, where the gulls were in scattered groups. While the light lasted I watched one little flock of seven birds. They ran forward rapidly in a row but close together, calling loudly and pecking at high speed. Each burst of activity lasted 10 to 20 seconds. I suspect that the prey was a hatch of shore flies (Ephydridae).

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## BROWN DUCK AND OTHER BIRDS SEEN AT DUSKY SOUND

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From 29 March to 9 April 1981, I was in a party of five people searching for moose in the rugged bush country between Wet Jacket Arm and Supper and Shark Coves at the head of Dusky Sound. I was working mostly in the valleys.

The only lake I visited was an unnamed lake on Herrick Creek about 2 km from the mouth. Here I saw 7 Brown Duck (Anas chlorotis), 15 Scaup (Aythya novaeseelandiae), and 4 Black Swan (Cygnus atratus).

Wherever I went, I was impressed with the abundance of the Bellbird (Anthornis melanura), the Brown Creeper (Finschia novae-seelandiae), and the New Zealand Pigeon (Hemiphaga novaeseelandiae).

The other species I recorded were as follows: Black Shag, Pied Shag, White-faced Heron (1 only), Mallard, Paradise Shelduck, Grey Duck, Black-backed Gull, Black-billed Gull (1 only), Red-billed Gull, Black Oystercatcher, Weka, Kiwi (heard in Herrick Creek), Morepork, Kea, parakeet sp., Kaka, Pipit (on the open tops), Tomtit, Robin (1 in Fanny Bay, 1 in Shark Cove), Fantail (pied and black), Chaffinch, Redpoll, Blackbird (2 only), Song Thrush (2 only), Grey Warbler, Silvereye, Goldfinch (several small flocks), Yellowhead (5 in Henry Burn, 2 at head of Wet Jacket Arm), and Rifleman.

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