

are known to have crossed the Tasman Sea to New Zealand. The most significant record is that of a Grey Teal ringed at Lara, Victoria, on 12/5/57 and shot on L. Whangape on 7/5/59. If Grey Teal flew the Tasman, why not Shovelers, too? The two species commonly associate both in the lower Waikato and on the Mangere ponds, where the first Shovelers were seen in 1958 and the first Grey Teal in 1959. If this hypothesis is valid, there are two races of Shoveler in New Zealand, *Anas rhynchos variegatus* and *Anas rhynchos rhynchos*. And it may be that in the north, stimulated by an infusion of new trans-Tasman blood, the Shovelers are predominantly of the duller Australian race.

For naturalists and conservationists the important thing is that a fine species, formerly rather scarce but now apparently expanding, has quickly adopted a man-made suburban refuge, where it is now both a resident breeder and an abundant autumn visitor; and it appears to be thriving in what may seem to some people an unsavoury habitat provided by a system which dilutes and purifies the waste of a great city.

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RECORDS OF COOK'S PETRELS AND BLACK PETRELS FROM GREAT BARRIER ISLAND

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Over many years records of small unidentified *Pterodromas* were obtained from Great Barrier Island. Bell and Brathwaite (1964) summarized these in *Notornis* 10, pp. 363-383. Observations made by D. V. Merton (*Notornis* 10, p. 382), P. D. G. Skegg (pers. comm.), and M. J. Hogg (pers. comm.) indicated that these birds might nest in the Mt. Hobson area. I spent two nights investigating these birds at the summit of Mt. Hobson (2038 ft.) in November-December, 1966.

Examination of six small *Pterodromas* caught at the top of Mt. Hobson, and measurements of another two cat-killed birds from the lower slopes, showed that these petrels were typical Cook's Petrels (*Pterodroma c. cooki*). An upper mandible measurement of 36.8 mm from one of these specimens compared well with an average of 34.6 mm (range 33.5-36.2) for the equivalent measurement taken from six Little Barrier Is. specimens in the Auckland Museum. Eighteen Cook's Petrel skins from various localities were examined in the Auckland Museum. The wing length of the second Great Barrier Is. specimen (A.V. 148.27) was 244 mm, the tarsus was 30.9 mm, and the toe, 38.8 mm. These measurements agree fairly well with an average length for the wing of 235.8 mm (range 228-246 mm), for the tarsus of 31.2 mm (range 30.4-32.8 mm), and for the toe of 38 mm (range 37.0-39.6 mm) for the eighteen Auckland Museum skins.

The calls of Cook's Petrel during nightly arrival are noticeably harsher than those of the related Pycroft's Petrel (*Pterodroma pycrofti*), and they can be heard from almost any part of Great Barrier Island.

In the early evening, large numbers (up to fifty at one time) of this species can be heard circling the summit of Mt. Hobson, calling and engaging in aerial courtship in the manner described by Turbott (*N.Z.D.S.I.R. Bull* 137, pp. 136-175, 1961).

On Little Barrier Is. the species lays its egg in early November (Reischek, 1885, *Trans. N.Z. Inst.* 18, pp. 87-96). This, coupled with the fact that all birds which I captured in the summit area had down-covered brood patches, strongly suggests that these birds were non-breeders. No burrows were found in the summit area.

The discovery of six cat-killed birds on the track at a relatively low altitude suggested a solution to this problem. These birds were found together on the track above 'Kauri Dam,' the lower of the two dams in the Kaiarara watershed at about 800 ft. a.s.l. These, and another corpse at an even lower altitude, indicate that the breeding population burrow into the slopes of Mt. Hobson rather than the summit itself. This pattern is the same as is seen on Little Barrier Is. (Turbott, 1961).

Local people report that cat-killed corpses are frequently found, and it seems probable that the species is scattered over a number of the central peaks on the island.

The other petrel to nest on Mt. Hobson is the Black Petrel (*Procellaria parkinsoni*). This species lays its eggs from the 28th November on Little Barrier Is. (Reischek, 1885).

On 1/12/66 a bird was discovered on Great Barrier Is., incubating a freshly-laid egg, its brood patch still down-covered.

Adrian Stewart noted that Black Petrels could be found cleaning out their burrows in October, with pairs present during the daytime. In mid-November pairs could be found in burrows during the day, but without eggs. The Maori people used to take well-developed chicks in March, and Adrian Stewart found chicks in early April. Perhaps the most extraordinary record is of a bird which Adrian Stewart found freshly dead on 8/7/66 after flying into powerlines.

The consensus of opinion as to the numbers and distribution of Black Petrels on Mt. Hobson is that they are confined to the summit pyramid (1600-2038 ft.) and that there are about fifty occupied burrows in this area.

For permission to camp on Mt. Hobson I am grateful to Mr. A. N. Sexton, Conservator of Forests (Auckland), and Mr. M. Johnston, Chief Ranger (Forest Service) on the island. The Forest Service, and in particular Mr. M. Johnston, were extremely helpful and hospitable. Mr. R. Sowerby kindly allowed me to travel out to the island on the M.V. "Colville."

A number of local residents, and in particular, Adrian Stewart, of Haratonga, gave me a great deal of interesting information. I am especially grateful to Adrian Stewart and some of the Maori residents for allowing me to incorporate their observations.

The Director of the Auckland Museum, Mr. E. G. Turbott, kindly allowed me to examine the Cook's Petrels in the collection.