

ART. XVII.—*Observations on Puffinus assimilis (Gould),  
Totorore, their Habits and Habitats.*

By A. REISCHEK, F.L.S.

[Read before the Auckland Institute, 21st September, 1885.]

As far as I know, this species has not been previously recorded from New Zealand, I therefore devoted extra attention to it, during my seasonal researches from 1880 until 1885, to find out if it is distinct from any of the local species. The first time I met with this Puffin was in December, 1880, on Morotiri Island, in a burrow, together with the Tuatara lizard (*Sphenodon punctatum*); the lizard I found generally in the first chamber from the entrance, and the bird in the second. I have seen adult, young birds, and eggs, together with the Tuatara lizard, in a burrow.

On my return to Auckland, in 1881, T. Cheeseman, F.L.S., and I, examined these birds carefully, and found they were dissimilar to any of the Puffins already described in New Zealand, but agreed with the description and measurements of *Puffinus assimilis* (Gould) as given by Gould in his book, "Birds of Australia." He says, "the specimens I procured were caught on Norfolk Island, where it is said to breed, consequently the seas washing the eastern shores of Australia might be considered its native habitats; it is evidently the representative of *Puffinus obscurus*, of Europe. On my homeward voyage from Australia, I saw numerous examples, flying off to the north-eastern end of New Zealand, and this, I regret to say, is all the information I have to communicate respecting it."

As I had not sufficient knowledge and material then collected by my first observation, I determined to observe them carefully, and secure a series of specimens, which you see here, and which I have obtained in the past four years.

*Puffinus assimilis* (Gould).—This little bird comes ashore in October to clean out its burrows, or make fresh ones, which process male and female accomplish together, with their bills and feet. The entrance is from 4 inches in diameter, and from 3 to 4 feet to the chamber, sometimes in a winding direction. In most cases I have found two chambers, similar in size to those already described, in which there is a deepening, covered with a few leaves and grass, where the female lays, end of October or early in November, one white egg, 2·1 inches long, 1·3 wide. Both parents assist in hatching and rearing the young. Their habits, during the breeding season, are similar to those of the *Procellariidæ* family, previously fully described. The young birds are full-grown in February, when the Natives collect them for food, and they are delicious eating.

I saw these birds in considerable numbers during the breeding season, on the outlying islands off the East Coast, especially on the Morotiri group. The plumage of *Puffinus assimilis* (Gould), *Totorore*, adult, is: crown of the head, upper part, wing, and tail, sooty black; side of the face, throat, and under-surface, white; eyes, blueish black; tarsus, light flesh-colour, with a blueish tinge, yellowish at the webs. The measurement from tip of the bill to end of the tail is 11 inches; wings, from flexor, 7·5; tail, 2·75; tarsus, 1·38; middle toe, 1·75. From the foregoing it is obvious that this species differs in plumage and size from *Puffinus gavius*, also the egg. Seeing *Puffinus gavius* and *P. assimilis* in the distance on the ocean, they appear alike, but the flight of *P. assimilis* is more active. Another contrast between the two species is that while the down on the very young of *P. assimilis* is light grey, the throat, breast, abdomen, white, the down of *P. gavius* is altogether grey, of a darker colour. The measurement of skeleton of adults compared, show: *Puffinus assimilis* (Gould), *Totorore*, from tip of bill to vent, 9·1; wing, the whole length, 6·85; leg, 6·5; head, 2·6. *Puffinus gavius*, from tip of bill to vent, 11·5; wing, 8·5; leg, to tip of toe, 7; head, 3·1. The Natives call *P. assimilis* "*Totorore*," and *P. gavius*, "*Hakoakoa*." Having amassed the facts which I have given you, I placed them before Professor Thomas, F.L.S., and T. Cheeseman, F.L.S., and, after a careful examination of the specimens, they agreed with me that this is *Puffinus assimilis* (Gould), a new species to New Zealand, which I have the honour to add to the Ornithology of this country, raising the number to 177; I have also to acknowledge my indebtedness to the Right Rev. Dr. Cowie, Bishop of Auckland, who kindly lent me the illustrated part, fol. 7, Gould's "*Birds of Australia*," where there is a life-size coloured illustration of *Puffinus assimilis*, as you see here, with a series of specimens for examination.

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ART. XVIII.—*Observations on the Habits of New Zealand Birds, their Usefulness or Destructiveness to the Country.*

By A. REISCHEK, F.L.S.

[Read before the Auckland Institute, 19th October, 1885.]

HIERACIDEA NOVÆ-ZEALANDIÆ, Lath.—Quail Hawk (*Kaiaia*).

Male and female of this species are similar in plumage, but the latter is larger in size. They prey on wild and domestic fowl, and are very destructive. I have often seen them swoop down on and kill wild pigeons, ducks, etc.