

oil-bag, which was thrown away, as the oil would spoil the flesh for food. They pluck each bird as they get them, and when a large number are obtained carry them to the camp, where they singe the down off over a fire; then they roast the bird until the fat is extracted, and, placing them in a vessel made of totara bark, they cover them with the fat to keep them air-tight. When preserved in this manner they keep a length of time. I saw the Natives very often preserving them during my researches in the King Country, beginning of 1882; and have eaten and found them excellent. If the Natives disturb any of the Petrels' burrows, they always restore them. These birds, which were very numerous on the Little Barrier Island during the breeding season, I found on my last visit (April and May, 1885), had become very scarce, but I found the remains of many which pigs and dogs had destroyed.

I procured specimens, as you see here: adult, young of different ages, and egg.

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ART. XIV.—*Observations on Gould's Petrel (Hutton), Procellaria gouldi (Ohi), their Habits and Habitats.*

By A. REISCHEK, F.L.S.

[Read before the Auckland Institute, 27th July, 1885.]

THESE Petrels are common on the coast of New Zealand. I saw them in large flocks out at sea, where they remain from March till August; in the latter month they come ashore to their old breeding places, which they use annually as long as they are not molested. These birds breed in colonies: their burrows are sometimes very close to one another; on the Little Barrier Island (or Hauturu Island) I measured a piece of ground 36 feet in circumference, in the centre of which were six burrows. Their breeding resorts are always on the cliffs along the coast, and some are very difficult to approach, dug out by these Petrels even in hard sandy formation or clay. In August, male and female begin to clean out their old burrows, or dig fresh ones if the former have been disturbed, in a similar manner to the *Procellaria parkinsoni*. The burrows are from  $1\frac{1}{2}$  feet to 4 feet apart; the entrance 6 to 10 inches in diameter, the passage in most cases winding, and from 2 to 4 feet deep. The chamber is from  $1\frac{1}{2}$  feet to 2 feet wide, and from 6 inches to 1 foot high; in it is a deepening, with a few leaves and grass, which forms the nest. In the beginning of September the female lays one white egg, the size of that of a common fowl; they very seldom lay two eggs. The female hatches the egg, and the male roams about the ocean in the daytime—sometimes I found them ashore, in a separate burrow from that of the female.

After sunset, thick clouds of these Petrels swarm round the cliffs, uttering the melancholy sound "*ohi! ohi!*" from which the Natives named it "*Ohi.*" Each one circles round its burrow several times before it goes down to it; then they stop for a moment before entering. These birds go to and from their burrows several times a night. When the young is hatched, the female stops for a few days with her chick in the burrow; after that both parents leave every morning before sunrise, and fly to their haunts on the ocean. Returning after sunset, they circle round the burrows, then swoop down to the entrance and call: when answered by the young bird, they enter. If both birds come to the burrow together, one stops outside till the other reappears. When feeding the young they make a whimpering noise. Male and female rear the young together, and defend them; but they are not so vicious as Parkinson's Petrel. In February the young are full-grown, and very fat; the Natives go to collect and preserve them, in the same manner as I have already described in a former paper.

If any of these birds have to be preserved for scientific purposes, great care must be taken to catch the bird by the bill, and hold it tight together until it is killed; then dry sand or earth must be put in the bill, and the neck tied with a string or flax. If these precautions are not taken the birds disgorge an oily substance at the intruder, and over their plumage, which renders them useless. The old birds do the same, if caught directly after their return from the ocean. This oily matter is mostly taken from the Octopus (cuttle-fish), of which I found the remains in their crops. When I was observing their breeding-place in 1882, on the Little Barrier, one of these birds went circling round, but on noticing me would not come down, and kept on calling. I heard the young bird answering from a burrow: when I approached she was instantly quiet. Being a beautiful moonlight night, I went a short distance away to watch. Presently the parents descended, stopped outside the entrance, and went away. The next night I went to my post early, so as to be there before the birds returned from the ocean. When they arrived they circled round as usual, swooped down, and entered the burrow. In July and August, 1882, hundreds of these Petrels were washed ashore on the islands on the East Coast, either dead or exhausted, and were eaten by the wild pigs. I dissected several, but I could not ascertain any other cause of death than the severe storms which raged previously. I never found these Petrels inland, and they have decreased in numbers. I even saw them rooted out by pigs and dogs, on the cliffs, where only narrow ledges led to them. I procured specimens, as you see here: adult, and young.

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