

surface of the ocean, and it was felt that more birds were at sea than on shore. In view of this, and as less than half the nests had eggs at the time of the counts, a conservative estimate of the total gull population is put at three times the actual morning count, which totalled 2,685 individuals. The general order of magnitude of the Mokohinau population, thus assessed, between 5,000 and 10,000 birds, is probably correct, i.e., it is to be numbered in thousands rather than in tens of thousands.

Among the thousands of gulls seen in the vicinity of the islands, two only were in immature plumage, and these were feeding at sea, and not noted on the breeding grounds.

Servicemen who had spent much time at the island, reported that the gulls leave the vicinity of the Mokohinau Group in March, and, more definitely, that they are totally absent until the last week of August, and that most appear in early September. They stated that the evening assemblages were less spectacular in October than they had been during late September, and were surprised at the low census figures I obtained. When the gulls first appear they do so from the open ocean to the east, so that a return to pelagic feeding, after a winter spent, in part at least, on the coasts and in tidal harbours, may introduce the breeding season. An account of observations on the seasonal movements of the red-billed gull near Auckland by P. C. Bull, was published by this society in its Bulletin No. 1, year 1941-42.

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## FURTHER RECORD OF *PTERODROMA LEUCOPTERA* FROM MURIWAI.

By P. C. BULL, Auckland.

On January 27th, 1946, in company with Mr. R. B. Sibson, I visited Muriwai, and found, together with other species cast up on the beach, a single specimen of *Pterodroma leucoptera*. As this bird differs slightly from the previous specimens found at Muriwai (Bull, 1943) it is, perhaps, worthy of discussion.

Unfortunately, this more recent specimen had been lying on the beach for some days so that it was not possible to determine either the sex, or the colour of the feet. Most of the feathers were still adhering and measurements of the wing and tail could be taken as well as those of the culmen and tarsus.

Although many of the feathers of the underside of the manus were lost, those remaining suggested a brownish black shade considerably darker than in *P. cookii*. In addition, the dark areas on either side of the breast are linked by a narrow line of clouded feathers. In both these particulars it agrees with the condition described for the Cabbage Tree Island population by Hindwood and Serventy (1941) but differs from that of the specimens found at Muriwai in 1942.

This tendency to agree with *Pterodroma leucoptera leucoptera* is also indicated in Table I, which compares the measurements of the recent Muriwai specimen with the mean values given by Hindwood and Serventy for the Cabbage Tree Island population and those of my own for the 1942 Muriwai series.

	Muriwai, 1942.	Cabbage T. Is. population.	1946 Specimen
Culmen .....	25.1	24.6	24.8
Wing .....	229	224.75	225
Tail .....	95.57	93.2	97
Tarsus .....	29.9	29.2	29

From these considerations it would appear that the specimen under discussion originated from Cabbage Tree Island or from an undiscovered breeding colony of *Pterodroma leucoptera leucoptera*.

There had been persistent westerly weather at the time the bird was cast up, and among the other species found was a specimen of *Puffinus tenuirostris* which had also been on the beach for several days. This latter species is found quite regularly at Muriwai and it therefore seems quite feasible for the *Pterodroma leucoptera* to have also originated from Australian waters.

#### REFERENCES.

- 1941, Hindwood, K.A., and Serventy, D. L., "The Gould Petrel of Cabbage Tree Island," *Emu*, vo. xli, 1941, pp 1-19.
- 1943, Bull, P. C., "The Occurrence of *Pterodroma Leucoptera* in New Zealand," *Emu*, vol xlii, 1943; pp 145-152.

### SPOTTED SHAG NEAR AUCKLAND.

(a).—While visiting Tarakihi Island on 11/9/45 I observed Spotted Shags (*Stictocarbo punctatus*) on the north-east coast of the island and some twenty nests, most of which were being built, were visible on the ledges of the cliffs. The nests were viewed from above and none of those within sight contained any eggs.

A second visit to the island on 9/10/45 revealed the fact that the colony had been attacked, apparently just after the first eggs had been laid. The nests that could be observed appeared to have contained only one egg each as indicated by the shell fragments that remained. The birds themselves had completely disappeared.

On 23/10/45, while passing round the north-eastern shore of Waiheke Island, in the vicinity of Anita Bay, a number of Spotted Shags were noticed on the rocky shore, and upon closer investigation I discovered that they were nesting in a small cave, some ten or twelve nests being located on ledges within two or three feet of the cave roof. The nests that could be examined were found to contain three eggs each and it appeared that incubation was well advanced. These eggs were probably laid during the first and second weeks of October.

While visiting the Noises Islands on 31/7/46, I noticed Spotted Shags nesting in the large cave on one of the islands in which they have nested for many years. All possible nesting sites along the sides of the cave seemed to be occupied, and some four or five nests had been built outside the western entrance. The birds were mostly busy reconditioning and building nests in the cave at this time, but on one of the outside nests a bird was sitting very closely on two eggs which were well incubated and were probably laid during the third week in July.—T. W. Cox, Howick.