

The Fleshy-footed Shearwater in New South Wales Coastal Waters

By J. D. GIBSON and A. R. SEFTON, Thirroul, N.S.W.

Since K. A. Hindwood published notes on this interesting species (*Puffinus carneipes*) in *The Emu* (1945), many additional observations have been made and some fifteen beach-washed specimens can now be added to the five recoveries recorded at that time. A feature is the finding of nine derelicts during January, February and March, 1957, on beaches about 40 miles south of Sydney, New South Wales.

The nine specimens were discovered at intervals over a period of almost three months. It is probable that adverse weather conditions were not the main cause of the over-all mortality, although a cyclone which passed close to Lord Howe Island on February 17 and then lost its intensity over the New South Wales central coast two days later, may have caused some deaths. Starvation does not appear to have been a contributing factor, as most of the birds recovered seemed to be in good condition generally and were not emaciated. A layer of subcutaneous fat was present in the specimen (1.199) made into a study skin.

Brood patches were evident on the majority of the specimens collected by us on local beaches. The most logical explanation is that the birds originated from Lord Howe Island, some 450 miles to the north-east, the closest breeding station of the species to New South Wales. It is not likely that 'off duty' birds would travel over 1,200 miles from breeding grounds on islands off the north-east coast of the North Island of New Zealand to feed in the coastal waters of New South Wales. The possibility of the birds coming from breeding islands off the south-west coast of Western Australia, can almost certainly be discounted. Hindwood (1945) compared specimens taken from each of the three breeding stations and found that the Pacific form, *Puffinus carneipes huttonianus* Mathews, has a more robust bill and a greater wing length than the Indian Ocean form *carneipes* Gould. The birds collected from our beaches fit into the former category. However, only banding in their breeding haunts will conclusively settle the question of the origin of the birds found in eastern Australian seas, though it is fairly evident that they come from either Lord Howe Island or New Zealand.

Published sight records of the Fleshy-footed Shearwater in New South Wales coastal waters are few, due mainly to the absence of observers. A. F. D'Ombrian has seen the species on many occasions while fishing off Port Stephens on the central New South Wales coast. A few Fleshy-footed Shearwaters were observed close in off Long Reef a little to the north of Sydney, on February 7, 1948, by K. A. Hindwood (*in litt.* 28.3.57).

The following field notes on the Fleshy-footed Shearwater are supplied by A. R. McGill (*in litt.* 8.4.57) —

On January 8, 1956, when in company with David and Mrs. Morgan of Melbourne, we noted some Shearwaters flying fairly close in to the cliffs at the sewer outfall at Malabar, near Sydney, N.S.W. Their whitish bills were quite noticeable and they appeared larger than the usual dark-billed shearwaters to be seen there. About thirty-five birds were watched through field-glasses during the half-hour or more that we were present, all showing very pale bills. During that time no dark-billed birds were observed. There seemed little doubt that those flying past were Fleshy-footed Shearwaters. Mr. and Mrs. Morgan readily recognized them as they had returned only a few days previously from Lord Howe Island, where they had studied the species at their breeding grounds.

A very strong southerly wind was blowing on another visit to the same locality on March 3, 1957. Some thirty shearwaters present were again found to have whitish bills. Those flying with the wind usually passed some distance out with great speed, but others gliding into the wind came very close to the cliffs, and excellent views were obtained through field glasses. I had little doubt once again that they were *carneipes*. Although I could not keep any bird continually under view during the hour there and prove my opinion, I felt sure all birds of the flock were moving in a circuitous manner, wide out travelling north and then passing close inshore after turning into the strong southerly wind.

From the foregoing it would appear that *Puffinus carneipes* frequents New South Wales coastal waters mainly during the breeding season, that is from late November to April or May, and although a rare beach derelict, it is not an uncommon species offshore during that period. Non-breeding birds range into the north and north-eastern Pacific Ocean, several specimens being collected in Japanese waters and along the west coast of North America. A specimen has also been taken off the coast of Chile.

Particulars of specimens of *Puffinus carneipes* from New South Wales are—

- 4.1.34 Warriewood Beach, H. S. Grant (1945, p. 247).
- 6.11.38. Cronulla Beach, D. L. Serventy (1945, p. 247).
- 12.3.42. Cronulla Beach, D. L. Serventy (1945, p. 247).
- 11.2.44. Taken at sea eight miles east of Broken Bay, W. Goddard (1945, p. 247).
- 11.2.44. Taken at sea eight miles east of Broken Bay, K. A. Hindwood (1945, p. 247).
- 9.2.51. North Dee Why Beach, K. A. Hindwood.
- 24.7.54. Norah Head Beach, J. D. Gibson (1955, p. 155).
- 18.2.56. Dee Why Beach, E. S. Hoskin.
- 3.3.56. Dee Why Beach, E. S. Hoskin.
- 17.6.57. Garie Beach, A. R. McGill.

The following specimens were found on Illawarra Beaches and have been preserved in our collection.

No. 234.195. Bulli Beach, 22.2.56, A. R. Sefton. Wing 325 mm., tail 116 mm., culmen 43.6 mm., tarsus 55 mm., middle-toe and claw 70.1 mm. Sex ♀. Stomach contained hard remains of cephalopods and a little vegetable matter. Bird in moult, and brood patch evident. Skull, wing and leg only kept.

No. 234.196. Corrimal Beach, 1.1.57, A. R. Sefton. Wing 324 mm., tail 114 mm., culmen 42.1 mm., tarsus 54.2 mm., middle-toe and claw 69.8 mm. Sex ? Skull, wing and leg only kept.

No. 234.197. Towradgi Beach, 1.1.57, A. R. Sefton. Wing 332 mm., tail 111 mm., culmen 42.2 mm., tarsus 52.7 mm., middle-toe and claw 67.5 mm. Sex ? Skull, wing and leg only kept.

No. 234.198. Fairy Meadow Beach, 24.2.57, Gary Sefton. Wing 320 mm., tail 109 mm., culmen 44.8 mm., tarsus 54.2 mm., middle-toe and claw 71 mm. Sex ? Skull, wing and leg only kept. Evidence of moult. Brood patch.

No. 1.199. Wollongong Beach, 3.3.57, A. R. Sefton. Wing 332 mm., tail 113 mm., culmen 44.8 mm., tarsus 55 mm., middle-toe and claw 71.3 mm. Sex ♂. Study skin made. Bird in moult and brood patch evident. Stomach contained two small pebbles resembling quartz, seven minute snail-like shells and the hard remains of cephalopods.

No. 234.200. Thirroul Beach, 9.3.57, Kathleen Sefton. Wing 323 mm., tail 106 mm., tarsus 53 mm., middle-toe and claw 67 mm. Sex ♂. Skull, wing and leg only kept. Damage to the bill precluded a culmen measurement. Brood patch.

No. 234.201. Coledale Beach, 17.3.57, A. R. Sefton. Wing 329 mm., tail 120 mm., culmen 39 mm., tarsus 54.8 mm., middle-toe and claw 68.2 mm. Sex ♀. Skull, wing and leg only kept. Bird in moult and brood patch evident. Stomach empty but for two small pebbles resembling charcoal.

No. 24.202. Bulli Beach, 22.3.57, Gary Sefton. Wing 324 mm., tail 109 mm., culmen 44 mm., tarsus 54 mm., middle-toe and claw 68.8 mm. Sex ♀. Skull and leg only kept. Bird in moult and brood patch evident.

No. 24.203. Bulli Beach, 23.3.57, Gary Sefton. Wing 324 mm., tail 105 mm., culmen 44 mm., tarsus 54 mm., middle-toe and claw 67.5 mm. Sex ? Skull and leg only kept. Bird in moult and brood patch evident.

The remains of another Fleshy-footed Shearwater were found by Gibson on Wollongong Beach on February 19, 1957, but this bird was not collected.

The sun-dried remains found on Garie Beach, 23 miles south of Sydney, by A. R. McGill, on June 17, 1957, were probably cast up during the same period as the birds on the Illawarra beaches which are 20 to 30 miles further south.

Sincere thanks are extended to K. A. Hindwood and A. R. McGill for field notes and other information used in this paper.

REFERENCES

- Hindwood, K. A. (1945). 'The Fleshy-footed Shearwater (*Puffinus carneipes*)', *The Emu*, vol. 44, pp. 241-248.
Hindwood, K. A., and McGill, A. R. (1955). 'Sea-bird Mortality in Coastal New South Wales During July, 1954', *The Emu*, vol. 55, pp. 148-156.