

"LARGE" SNOW PETRELS (*Pagodroma nivea*) BREEDING
AT THE SOUTH SANDWICH ISLANDS

I travelled on the Scotia Arc Cruise of the MS *Lindblad Explorer*, which started at Punta Arenas on 23 December 1982. The ship visited the Falklands, South Georgia, the South Sandwich, South Orkney and South Shetland Islands, the Antarctic Peninsula and Cape Horn Island, returning to Punta Arenas on 20 January 1983. Landings were made by inflatable boats, and because of unusually favourable weather and sea conditions, some passengers were able to go ashore on three of the South Sandwich Islands, Saunders, Candlemas and Zavodovski.

These actively volcanic islands are barren and glaciated. There are few possible boat landings, and snow, winds and heavy seas make the approaches difficult and hazardous. These islands have been visited by boat only a very few times, and it seems certain that no tourist party had ever before set foot on Zavodovski, in particular. This island carries the largest colony of penguins in the world; Stonehouse (1972) gave a figure of 14 million breeding Chinstrap Penguins and there are also vast numbers of Macaroni Penguins.

Landing at Cordelia Bay on the NE side of Saunders Island (57°45'S, 26°30'W), we found Snow Petrels nesting in the rocks and cliffs just behind the beach. Most of the nests found were of the "open" type (Mougin 1968, Cowan 1981) and the sitting birds were more or less exposed to view, in contrast to the "typical" nest site hidden under a rock or in a crevice. The nature of the terrain probably influenced this choice of sites; the cliffs are of shale and there is much loose volcanic rock and ash and a shortage of stable boulder formations offering suitable niches.

The sitting birds are quite easy to capture because their tenacity of the nest is great. Of the ten birds measured four were on newly hatched chicks and the other six on eggs, most of which were starting to hatch. The date was 7 January.

Results

Measurements were made of wing, bill and tarsus, as I have previously described (Cowan 1981). Wing length is recorded to the nearest 5 mm and bill and tarsus lengths to the nearest 1 mm. The results are as follows:

Wing: range 265-285, mean 276 (three 280, two 285)

Bill: range 18-23, mean 21

Tarsus: range 33-37, mean 34.8

Discussion

In a previous paper (Cowan 1981), I have discussed in detail the problem of size variation in this species, and I shall present only a brief summary here. The wing length of the species ranges from 245 to 320 mm. The prevailing view has been that a distinct race

or subspecies of predominantly large birds (wing 280 or more) breeds at Dumont d'Urville, Adelie Land ("Dumont") and at the Balleny Islands, and that birds breeding at all other localities are of a smaller race. Isenmann (1970) proposed that the large race was very variable in size, including some small individuals, whereas the small race was homogeneously small. However, my studies at Casey Station in 1977-1978 (Cowan 1981) revealed that a large proportion of the breeding birds there were large. I also listed a number of older records of large birds, which seem to have been overlooked. Although some of these were specimens collected at sea or in winter, some were collected at breeding colonies, and thus it was apparent that large birds are much more widely distributed than had previously been thought.

Since my last paper on the subject, Croxall (1982) has written on the sexual dimorphism of the species and has confirmed that this

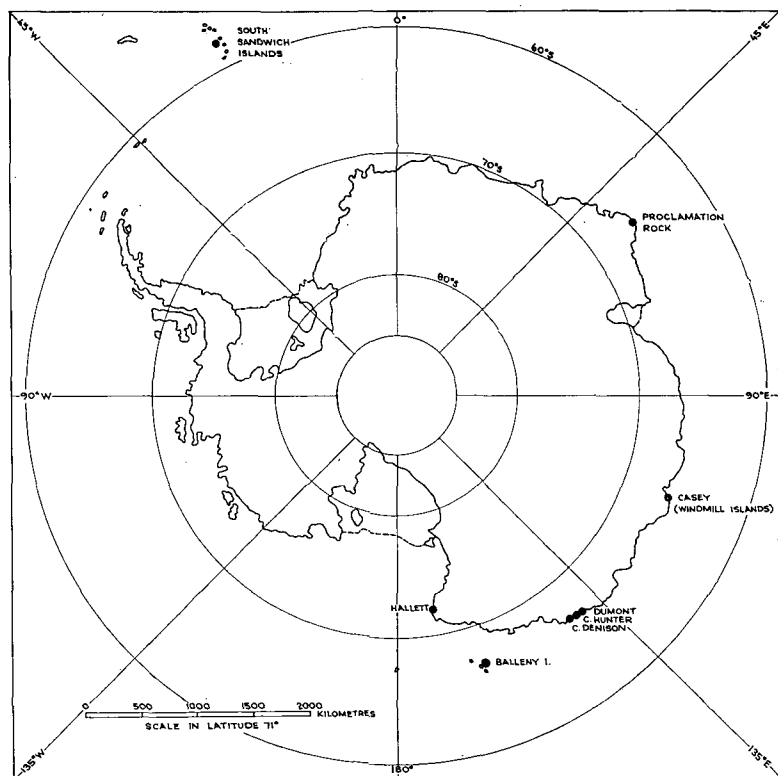


FIGURE 1 — Records of breeding large (over 280 mm) Snow Petrels. Modified from Cowan (1981)

difference must account for some of the size range of unsexed individuals.

It remains nonetheless the case that at the great majority of breeding colonies so far studied no large birds have been found. I believe that my finding of breeding large birds at the South Sandwich Islands is significant in that it is the first report for that area, and far removed from any previously recorded.

I have mapped in Figure 1 the locations at which large individuals have been found breeding. References for all locations will be found in my previous paper, and I have now added the South Sandwich Islands. It is apparent that large birds are very widespread, and I do not doubt that more will be discovered as studies are extended into other areas.

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THE LAYING OF A BROWN KIWI EGG AT THE WELLINGTON ZOO

On 22 December at 9.11 a.m., I was lucky enough to interrupt our breeding female North Island Brown Kiwi (*Apteryx australis mantelli*) in the process of laying an egg. She had her back to the double doors that provide access to the breeding burrow, and she was resting on her metatarsi, her body off the ground. She was breathing deeply, the noise quite loud in the confined space of the burrow. As I watched, the egg started to appear, a smooth, flat, white surface steadily being exposed as the cloaca stretched open.

At that point I closed the door again, fearful that my presence would cause her to damage the egg. A few minutes later I realised the importance of the event and returned to the burrow.

At 9.17 she was still on her metatarsi, but her body was orientated slightly to the left and some white mucus was hanging from the vent. The egg was forward under her chest and between her feet. When I left her a minute later she was still breathing heavily.