

## THE BREEDING BIRDS OF CAPE GEDDES, LAURIE ISLAND, SOUTH ORKNEY ISLANDS, ANTARCTICA

NESTOR R. CORIA<sup>1</sup>, PEDRO G. BLENDINGER<sup>2</sup> & DIEGO MONTALTI<sup>1</sup>

<sup>1</sup>*Instituto Antártico Argentino, División Biología-Aves, Cerrito 1248, 1010, Buenos Aires, Argentina  
(coria@ilpla.edu.ar)*

<sup>2</sup>*Parque Biológico Sierra de San Javier, Buenos Aires 2, 4000 Tucumán, Argentina*

Received 6 June 1995, accepted 27 October 1995

The South Orkney Islands are an important breeding area for seabirds. Several detailed surveys have been carried out at Signy Island (Croxall *et al.* 1981, Poncet & Poncet 1985, Rootes 1988). However, for Laurie Island, the only quantitative data are from 1946 (Choyce 1947). Particularly there exists data of penguin populations (Ewer & Anderson 1947, Croxall & Kirkwood 1979, Poncet & Poncet 1985, Woehler 1993). Previous information on breeding population size comes from anecdotal reports of the Scottish National Antarctic Expedition of 1902–04 (Clarke 1906) and by Valette (1906). There are, however, no recent published records of the avifauna of Laurie Island.

The aim of this paper is to assess the breeding population sizes and distribution of bird colonies at Cape Geddes, Laurie Island, South Orkney Islands. Censuses were undertaken on 4 January 1994. Results are compared with previous information.

Cape Geddes (60°41'S, 44°34'W) is located at the eastern entrance point of Browns Bay and at the northern point of Ferguslie Peninsula (Fig. 1). The United Kingdom station, known as 'Base C', was established on the Cape on 22 January 1946, and was occupied until 17 March 1947, when it was permanently closed following the establishment of Signy Station (Hattersley & Smith 1991). The numbers of pairs of flying birds were estimated by direct counts of nests. Occasionally, counts were made with help of 8× binoculars for those species nesting on cliffs or inaccessible outcrops. A hand tally counter was used to record the number of Chinstrap Penguins *Pygoscelis antarctica*. Usually, two observers made independent counts and the average of their counts, providing they did not differ by more than 10%, was taken as the true value, following Croxall *et al.* (1981). Counts were made during the incubation periods of Chinstrap Penguins, Southern Giant Petrels *Macronectes giganteus*, Wilson's Storm Petrels *Oceanites oceanicus*, Subantarctic Skuas *Catharacta antarctica*, Antarctic Terns *Sterna vittata* and Greater Shearwaters *Chionis alba*, and during the brooding periods for Pintado or Cape Petrels *Daption capense*, Snow Petrels *Pagodroma nivea* and Kelp Gulls *Larus dominicanus*. The distribution of breeding colonies was plotted with the help of photographs.

The nine species found breeding in the study area are discussed separately below.

### Chinstrap Penguin *Pygoscelis antarctica*

The Chinstrap Penguin was the most abundant species breeding in the study area, with a total of 7318 pairs. Most were still incubating.

Choyce (1947) reported Chinstrap Penguins breeding in a large colony on the eastern side of Cape Geddes. Ewer & Anderson

(1947) reported a population of 6000 pairs. Both counts were made at hatching time. Croxall & Kirkwood (1979) record two censuses of Chinstrap Penguins at Cape Geddes. Their first is of 25 nests in January 1946 and is attributed to 'B.A.S. records'. The second estimated 40 pairs in January 1947, and is attributed to a British Antarctic Survey unpublished report by Robin (1948). These figures are obviously different from our censuses. However, it is difficult to reconcile these data with those of Choyce (1947) and Ewer & Anderson (1947). Poncet & Poncet (1985) reported one colony of 5000 pairs in the study area. Comparing both censuses, our results represent an increase of 46% in 10 years. However, results are not strictly comparable because the Poncet & Poncet (1985) count was classified as N3/4 (accuracy: ±10 to 25%) following Croxall & Kirkwood (1979). Our data were of pairs/nests essentially individually counted (N1: ±5%).

### Southern Giant Petrel *Macronectes giganteus*

A total of 228 pairs was nesting at Cape Geddes. Nest aggregations were as follows: single in one case, small colonies (up to six nests) in three cases and larger aggregations (more than seven nests) in six cases.

Clarke (1906) recorded Southern Giant Petrels as abundant in the study area and Choyce (1947) counted 200 nests. Ewer & Anderson (1947) also confirmed breeding but did not record numbers. The Cape Geddes population was counted as 159 nests during the 1985/86 season (N.R. Coria unpubl. data) and as 162 nests in 1991/92 (D. Montalti unpubl. data). The Southern Giant Petrel population at Cape Geddes thus appears to have increased between 1985/86 and 1993/94.

### Pintado Petrel *Daption capense*

A total of 391 pairs in five groups was counted. Only one nest was located on an offshore rock, all the others were found on the cliffs above the hut. In November 1946 the total population was estimated as 600–1000 birds (Choyce 1947). Ewer & Anderson (1947) also recorded this species breeding.

### Snow Petrel *Pagodroma nivea*

Eight nests were found, often in association with Pintado Petrels. Choyce (1947) and Ewer & Anderson (1947) confirmed the breeding of this species but did not record population numbers.

### Wilson's Storm Petrel *Oceanites oceanicus*

Choyce (1947) reported 30 nests scattered over the Cape. Ewer & Anderson (1947) also confirmed the presence of this species. At least one pair of Wilson's Storm Petrels was present

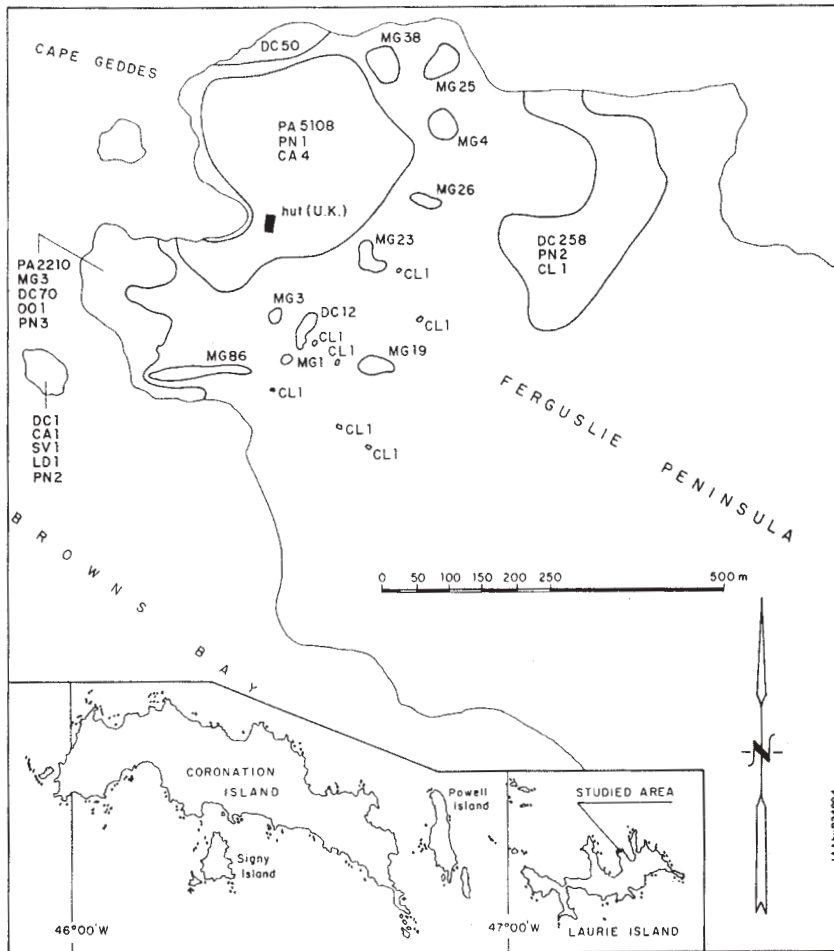


Fig. 1. Distribution and numbers of seabird breeding pairs at Cape Geddes, Laurie Island, South Orkney Islands, Antarctica. PA Chinstrap Penguin, MG Southern Giant Petrel, DC Pintado Petrel, PN Snow Petrel, OO Wilson's Storm Petrel, CA Subantarctic Skua, LD Kelp Gull, SV Antarctic Tern, CA Greater Sheathbill.

in the study area. The total population was probably underestimated due to the species' nocturnal activity patterns.

#### Subantarctic Skua *Catharacta antarctica*

Eight pairs were observed breeding. Choyce (1947) reported 10 nests and Ewer & Anderson (1947) reported the species breeding.

#### Kelp Gull *Larus dominicanus*

Only one nest was observed, located on an offshore rock. Choyce (1947) and Ewer & Anderson (1947) recorded this species as breeding, but gave no information on numbers.

#### Antarctic Tern *Sterna vittata*

We found one nest in the same area as the Kelp Gull nest. Choyce (1946) reported this species as breeding but did not record population numbers. Ewer & Anderson (1947) found 30 nests on a rocky point near the Base. Antarctic Terns appear to have decreased between 1947 and 1994 at Cape Geddes.

#### Greater Sheathbill *Chionis alba*

Five nests were found close to the Chinstrap Penguin colony. In 1946 no nests or eggs were reported at Cape Geddes

(Choyce 1947). Ewer & Anderson (1947) recorded three nests.

## DISCUSSION

A comparison between the size of the breeding populations at Cape Geddes, as a result of this study and earlier counts (Choyce 1947, Ewer & Anderson 1947, Croxall & Kirkwood 1979, Poncet & Poncet 1985, Woehler 1993) shows several changes. The breeding population of two species has increased: Chinstrap Penguin and Southern Giant Petrel, and two species appear to have decreased: Wilson's Storm Petrel and Antarctic Tern. For the other species studied the available data show no clear trends.

## ACKNOWLEDGEMENTS

We are grateful for unpublished British Antarctic Survey reports provided by J.P. Croxall. We thank R. Zalazar, C. Zoratti and P. Künzle for field assistance and H. Vecchio for the preparation of the map. We are particularly grateful to A. Nimón and M. Favero whose criticisms improved the manuscript.

## REFERENCES

- CHOYCE, M.A. 1947. Observations on birds. Cambridge, British Antarctic Survey. Unpublished Report No. AD6/2C/1946/Q.
- CLARKE, W.E. 1906. Ornithological results of the Scottish National Antarctic Expeditions. II. On the birds of the South Orkney Islands. *Ibis* 8: 145–187.
- CROXALL, J.P. & KIRKWOOD, E.D. 1979. The breeding distribution of penguins on the Antarctic Peninsula and islands of the Scotia Sea. Cambridge: British Antarctic Survey.
- CROXALL, J.P., ROOTES, D.M. & PRICE, R.A. 1981. Increases in penguin populations at Signy Island, South Orkney Islands. *Br. Antarct. Surv. Bull.* 54: 47–56.
- EWER, J.P. & ANDERSON, J.H. 1947. Bird Report, Signy and Laurie Island. Cambridge, British Antarctic Survey. Unpublished Report No. AD6/2H/1947/Q.
- HATTERSLEY, G. & SMITH, M.A. 1991. The history of place-names in the British Antarctic Territory. *Br. Antarct. Surv. Sci. Rpts.* 113: 1–350.
- PONCET, S. & PONCET, J. 1985. A survey of penguin breeding populations at the South Orkney Islands. *Br. Antarct. Surv. Bull.* 68: 71–81.
- ROOTES, D.M. 1988. The status of birds at Signy Island, South Orkney Islands. *Br. Antarct. Surv. Bull.* 80: 87–119.
- VALETTE, L.H. 1906. Viaje a las Islas Orcadas Australes. *Anales Minist. Agricult., Secc. Zootec., Bact., Veterin. y Zool.* 3(2): 40–64, Bs. As. Ofic. Meteorol. Argent.
- WOEHLER, E.J. 1993. The distribution and abundance of Antarctic and Subantarctic penguins. Cambridge: Scott Polar Research Institute.