

RESIGHTINGS AND RECOVERIES OF BANDED SEABIRDS AT HEARD ISLAND, 1985-1988

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INTRODUCTION

Heard Island (53°05'S., 73°30'E.) is an extensively glaciated volcanic island situated south of the Antarctic Convergence in the Southern Indian Ocean. Approximately 70% of the Island is permanently ice covered (Lambeth 1951, Allison and Keage 1986).

The first ANARE (Australian National Antarctic Research Expeditions) station was established in 1947 and operated continuously until 1955, when the station was closed down and Mawson Station was established on the Antarctic Continent. An extensive programme of banding Black-browed Albatrosses, *Diomedea melanophrys*, and Southern Giant-Petrels, *Macronectes giganteus*, was undertaken at Heard Island during this initial period of occupation (Chittleborough and Ealey 1950, Howard 1954 and 1956, Downes *et al.* 1954).

Between 1955 and 1981, several expeditions from France and the United States have visited Heard Island, as well as two summer ANARE.

The recent ANARE programme at Heard Island involved a three-summer programme, commencing with a visit in October and November 1985 (Burton and Williams 1985), a visit from November 1986 to January 1987 (Ledingham 1987) and an extended summer from September 1987 to March 1988 (Burton 1989).

All resightings and recoveries of banded birds recorded during these ANARE are reported here.

RESULTS

King Penguin *Aptenodytes patagonicus*

An adult King Penguin was observed by Drs M. N. Bester and R. T. Jones at the South Spit Bay colony on 7 October 1985, and subsequently resighted moulting on 19 October 1985. The bird had been banded as a chick at Ile de la Possession (46°25'S., 51°45'E.), 1 740 km to the north-west in December 1978 by French scientists. During the 1987/88 visit, nine* King Penguins which had been banded at the Schmidt Glacier Colony the previous summer were resighted, either incubating eggs or brooding chicks.

Wandering Albatross *Diomedea exulans*

A male Wandering Albatross (Band No. 140-30190), which had been banded as a non-breeding adult at Macquarie Island (54°30'S., 158°55'E.) 5 280 km to the south-east on 9 April 1967, was recaptured by P. J. Mitchell, J. J. Scott and E. J. Woehler at Cape Gazert on 29 January 1988, at least 30 years old. The bird had previously been recaptured incubating, and later brooding, at Cape Gazert in March 1980 by Dr G. W. Johnstone. The observations in 1980 recorded the first known breeding effort by this species at Heard Island. Visits to Cape Gazert in January 1987 and January and February 1988 indicated no breeding had taken place in these seasons (Woehler 1989). In February 1988 an unbanded female was observed (the first female seen at Heard Island) with the male, and was subsequently captured at Cape Gazert and banded by R. Kirkwood and A. Climie. A third adult was seen flying overhead but was never observed on the ground.

*Band Nos. 260-00397, -00398, -00399, -00400, -00406, -00407, -00408, -00409 and -00410.

Black-browed Albatross *Diomedea melanophrys*

A breeding adult was recaptured on 30 November 1987 by R. Kirkwood and A. Climie at the Jacka Valley colony. The bird had been originally banded (CF6537) on Iles Kerguelen (49°20'S., 70°15'E.), 460 km to the north-west in March 1968 as a nestling by French scientists, and was over 19 years old when recaptured.

Southern Giant-Petrel *Macronectes giganteus*

A band was recovered from a leg found in beach-washed material at Red Island, at the extreme north-west of Heard Island, on 11 December 1986 by D. M. Bergstrom. The bird had been banded as a nestling in February 1963 at West Cape, Heard Island. During the 1987/88 ANARE, M. C. Downes, who had been at Heard Island in 1951 and 1963, with the assistance of other members of the Expedition recaptured 19* banded Southern Giant-Petrels during an intensive search of all colonies on the Island. All had been banded as nestlings during the ANARE in January and February 1963 by M. C. Downes and most were recovered breeding (Downes *in* Burton 1989).

Cape Petrel *Daption capense*

An adult Cape Petrel was recaptured by J. M. Kirkwood on board M.V. *Nella Dan*, at anchor at Atlas Cove on 18 October 1987, after being attracted to the ship's lights. The bird had been banded (091-09658) on 15 February 1984 as a 1+ at Filla Island near Davis Station (68°35'S., 77°58'E.), in the Australian Antarctic Territory, 1 770 km due south of Heard Island.

Great Skua *Stercorarius skua*

Two banded Great Skuas were resighted by D. J. Hall during the 1987/88 ANARE. On 1 February 1988, an adult with a green colour band over a metal band on the right leg and a red band on the left leg was observed on the Atlas Cove beach among a flock of 40 other skuas. The bird had lost a colour band so the individual could not be identified. However, it belonged to a cohort which had been banded at Marion Island

(46°54'S., 37°45'E.), 2 620 km to the north-west of Heard Island, in 1984 by South African scientists. On 11 February 1988 a bird carrying only a metal band on the left leg was observed on the Atlas Cove beach but was not recaptured.

South Polar Skua *Stercorarius maccormicki*

A South Polar Skua carrying a readable numbered plastic colour band, in addition to a metal band, was reported at Paddick Valley on 28 November 1987 by J. J. Scott. Although the bird was not captured, the number on the plastic band and the style of the colour band enabled the bird to be identified as one that had been banded in January 1983 as a 1+ at the French station of Dumont d'Urville (66°40'S., 140°01'E.) in Terre Adélie, Antarctica, 3 780 km to the south-east.

DISCUSSION

The resightings of the Wandering and the Black-browed Albatrosses contribute data on the movements of birds away from their natal colonies and have become established at new breeding sites. Such data are rare for nearly all of the Southern Ocean seabirds, although similar movements were reported recently for Southern Giant-Petrels from Macquarie Island (Woehler and Johnstone 1988). Cape Petrels breed on Heard Island, (Downes *et al.* 1959), but there is no evidence that the recaptured bird had changed its breeding site.

The recaptures of the Southern Giant-Petrels provide demographic data on life-expectancies enabling comparisons with other studies (Croxall 1981, Woehler and Johnstone 1988). Such data take on additional significance when recent census data indicate a decline of 43% between 1951 and 1987/88 in the breeding population at Heard Island (Woehler 1989).

During the 1947-55 banding programme, over 250 Black-browed Albatrosses and almost 3 900 Southern Giant-Petrels were banded (Chittleborough and Ealey 1950, Howard 1954 and 1956, Downes *et al.* 1954 and 1959). None of these birds were resighted or recovered during the 1985-1988 ANARE. The time interval between the last banding, undertaken in the summer of 1954-55, and the ANARE in 1985 was over 30 years, considerably exceeding the mean life expectancies of 12.0 and 24.5 years respectively (Croxall 1981).

*Band Nos. 130-40050, -40117, -40221, -40244, -40292, -40415, -40417, -40439, -40450, -40476, -40606, -40619, -40680, -40699, -40776, -43147, -43176, -43335 and -43342.

The other sightings, except for the resident King Penguins, are extra-limital records that add to the knowledge of each species' pelagic dispersion.

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THE ANTARCTIC FLEA

Glaciopsyllus antarcticus

Bell, P. J., Burton, H. R. and van Franeker, J. A. (1988) have reported in *Polar Biology* 8: 403-410 the findings of a study on Ardery Island. The life-cycle of the flea was completed only where birds were present as the flea is dependent upon its host for food and warmth, and was completed during the incubation of eggs and rearing of chicks of the Antarctic Fulmar, before the chicks were fledged. Flea eggs were found in nest material while the fulmars were incubating eggs, and flea larvae when chicks were hatching and during their subsequent development. However, larvae were found mainly in the belly down of the chicks, where they fed on blood and/or blood-faeces from adult fleas, and here they pupated, in woven cocoons attached to the down feathers. Adults emerged before the chicks had fledged; a few were found in the nests but they were abundant on chicks (505 in the belly down of one chick). Mating adults were seen on chicks, and it appeared that fleas on chicks overfed, that is, they produced large quantities of faeces containing blood of the host. These faeces are often a source of food for larval fleas. The authors feel that this synchronization of the breeding cycle of the flea with that of its host and its dependence upon chicks, suggest it may be like the rabbit flea *Spilopsyllus cuniculi*, whose reproductive biology is controlled by the hormonal state of the host. If true, it will be the first avian example. This flea is clearly not a nest-flea like most bird fleas. The question remains — how does the flea overwinter? The lack of fleas in the nests of Antarctic Fulmars known to have been well infested before the bird's departure has led the authors to think that adult fleas remain on non-breeding hosts while they are away from their nesting sites. Clearly all Antarctic Fulmars and Snow Petrels captured alive between April and November, when they are not breeding, should be examined closely for fleas, and there is a strong case for examining carefully washed-up birds if in good condition. It only requires one infested bird to be found to indicate that the authors may be correct. Any fleas found should be preserved, preferably in 70% alcohol (a nip of whisky would be warranted), so that the flea may be identified correctly.

Durno Murray