

more than the escape from any other dangerous predator.

(Ref. Morris, D. (1957) The Reproductive Behaviour of the Bronze Mannikin Lonchura cucullata. Behav. 11:156-200)

Acknowledgements: I would like to acknowledge the financial assistance of a C.S.I.R. bursary.

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#### BIRD-RINGING ON DASSEN ISLAND

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From February 1971 to June 1972, I lived permanently on Dassen Island, as a field worker for the S.A. National Foundation for the Conservation of Coastal Birds (SANCCOB). Dassen lies about 10 km off shore, halfway between Cape Town and Saldanha Bay. It is the largest of the Government Guano islands, and is administered by the Division of Fisheries of the Dept. of Industries.

During my time on the island, I studied the Jackass Penguin Spheniscus demersus especially its breeding biology and population size. Ringing played an important part in the study and about 5 000 penguins have been ringed on Dassen to date. As part of minor studies, I ringed a number of Bank Cormorants Phalacrocorax neglectus, Rock Pigeons Columba guinea, and European Starlings Sturnus vulgaris.

When I first settled on the island I had little experience of ringing seabirds and had to pick up most of the necessary techniques from scratch. Strong leather gauntlets are essential for ringing Jackass Penguins. I would defy anybody to suggest a bird that can bite as painfully as our local penguin. It also beats with its flippers and the bruising so induced is almost as painful as the bites. One of my major problems with penguins was that I had to do much of the ringing on my own. Two hands are needed for putting on a flipper band and so I found I had to hold the bird (encased in a sack) with my feet!

On several occasions large ringing parties came out from Cape Town for a long week-end. Most of the active ringers in Cape Town have visited Dassen and found that penguins were more of a handful than Curlew Sandpipers. Over a three day ringing visit I and 12 visitors have ringed over a thousand birds. The main problem of ringing penguins en masse is to be able to catch the birds in numbers. Pairs of ringers can work through a breeding colony ringing birds on the nest, but one does not like to disturb breeding birds except for special breeding studies. We started off by trying to catch the large groups of 100 or more birds which stand on the edge of the beach. But nothing could be done to move them away from the sea and at the first signs of drivers closing in on them, they headed for the water and the total catch was usually only two per drive at the most. We then noticed that groups of non-breeders also stand around on the breeding flats inland. A W-shaped pen was erected between the sea and the breeding flat and the non-breeders



A Jackass Penguin being "flipper-ringed".



Penguin ringing party on Dassen Island.

were gently herded into the pen. Breeding birds were given time to go down to their burrows, so the catch, often of 100 birds consisted largely of non-breeders. Little panic occurred among the birds if they were herded slowly. Members of the group removed the birds from the penned flock and placed them in wicker baskets. The ringer's holder then removed the bird from the basket and held it on a piece of sacking while it was ringed. Each bird had its culmen measured to indicate sex (see Safring 1(1):23) and the degree of feather wear or moult was recorded. In the afternoons, a less strenuous form of ringing was undertaken. Small groups of ringers dispersed over the whole island to ring and weigh penguin chicks. Such ringing is obviously vital to the long-term study of penguin populations, to build up a ringed population of birds of known age.

There have not been a great number of recoveries from these Dassen penguins, perhaps the majority are still alive, but chicks have been recovered from as far north as Walvis Bay and adults on the east coast as far as Port Elizabeth. It is possible that the majority of chicks carry out a west coast migration up to the rich pilchard grounds of S.W.A., rather like the migrations of the Cape Gannet. Ringing has also shown that chicks reach adult plumage at about one year of age. The Jackass Penguin has been seriously affected on several occasions by oil spills, and attempts have been made to rehabilitate the birds. The ringing on Dassen will also serve the important purpose of comparing the survival of normal birds with those that have been cleaned of oil and released from the SANCCOB rescue station.

As a subsidiary to the main penguin study, a ringing project on the Bank Cormorant was carried out. This species is one of the rarest of S.A. breeding sea-birds and the total population is unlikely to be more than a few thousand. The Bank Cormorant is also one of my favourite birds with its exaggerated displays, curious calls and beautiful 'bifocally'-coloured eyes. A total of 286 was ringed. Some of these were colour-ringed on the tarsus, in order to study mate-faithfulness and sex differences in nest behaviour. Incubating birds did not often expose their tarsi so patagial tags would have been more suitable. Recoveries have been few but show that the species is quite susceptible to oiling at the nest site. A number were killed in this manner on Dassen. One recovery of a bird drowned in a crawfish trap supports the contention that crawfish is an important dietary item.

A minor study was carried out on the Rock Pigeon and European Starling. These birds were caught at night inside the upturned wreck of the whaler "Southern Author". By simply climbing into the wreck with a torch, birds could be dazzled and caught by hand. Hazards included "lice" from the starlings and the tendency for pigeons to fly straight into your face. I claim a first for S.A. ringing by catching starlings in my beard. Data on moult and weight changes were obtained by regular visits to the wreck. Information on the post-juvenile moult of birds of known age (ringed as pulli) was also collected. It is not yet known how these Dassen data compare with that collected in Europe. Rock Pigeons were found to have a relatively slow moult spread over nine months. Birds were found to be heaviest in winter.

Other birds of interest ringed on the island included 50 White Pelicans Pelecanus onocrotalus, 10 Tristan Terns Sterna vittata, one Sooty Shearwater Puffinus griseus and one Leach's Storm Petrel Oceanodroma leucorhoa.