

SEABIRDS BREEDING AT ROB BEN ISLAND BETWEEN 1949 AND 1980

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INTRODUCTION

Robben Island (33 45S, 18 22E), situated 13 km northwest of Cape Town in Table Bay, provides the first known record of the extinction of a southern African seabird colony. The Jackass Penguin *Spheniscus demersus*, once a prolific resident, last nested there almost two centuries ago (Westphal & Rowan 1971). A dense mass of Whitebreasted Cormorants *Phalacrocorax carbo* bred at the breakwater at Murray's Bay Harbour (Fig. 1) in 1951, and lesser numbers at the same locality in 1952 (Brown 1952), but more recently this species has also not been observed nesting at the island. However, seabirds that in 1980 still utilized Robben Island for breeding purposes included Bank Cormorants *P. neglectus*, Crowned Cormorants *P. coronatus*, Hartlaub's Gulls *Larus hartlaubii* and Swift Terns *Sterna bergii*. Census information for these species, collected between 1949 and 1980, is summarized in this article. Information on the state of breeding during the austral autumns of 1979 and 1980 is also presented.

RESULTS AND DISCUSSION

Population estimates are listed in Table 1. Those for the period September 1949 - May 1978 have been extracted from literature and from nest record cards of the Southern African Ornithological Society. The completeness of some of the earlier counts is uncertain, but at the least they provide an indication of when species were observed breeding. On 13 November 1978, 12 April 1979, 2 April 1980 and 28 May 1980 the island was visited and counts of colonies were made from close proximities. Nests of Bank and Crowned Cormorants were easy to count and the totals are expected to be exact. More difficulty was experienced with the larger colonies of Hartlaub's Gulls and Swift Terns on occasions when nests were closely spaced. Where nesting was amongst Blue Gums *Eucalyptus* sp., the colonies were subdivided by rows of trees, and this greatly facilitated counting. At quarries attempts were made to utilize prominent topographical features in a similar manner.

There are no records of Bank Cormorants breeding at Robben Island prior to 1978, but from 1978-1980 one colony was observed. This was located on the inside of the breakwater at Murray's Bay Harbour (Area A of Fig. 1), where nests were built on large concrete blocks. An increase in numbers of Bank Cormorants following cessation of breeding by Whitebreasted Cormorants has also been observed at Paternoster Rocks (Kriel *et al.* 1980).

TABLE 1
SEABIRDS BREEDING AT ROBBEN ISLAND, 1949-1980

Year	Date	Population estimate	Source
<i>Bank Cormorant Phalacrocorax neglectus</i>			
1978	13 Nov	64 nests	
1979	12 Apr	73 nests	
1980	2 Apr	57 nests	
1980	28 May	59 nests	
<i>Crowned Cormorant P. coronatus</i>			
1949	2 Sept	nests present	NRC ^x
1949	28 Dec	nests present	NRC
1960	24&27 May	c. 50-60 nests	Gillham (1963 & ms.)
1975	24 May	nests & 12 young	NRC, GDU ⁺
1976	1 May	c. 100 chicks	NRC, GDU
1979	12 Apr	41 nests	
1980	2 Apr	68 nests & 108 large immature birds	
<i>Hartlaub's Gull Larus hartlaubii</i>			
1949	2 Sept	min. 10 nests	NRC
1951	June	large numbers	Brown (1952)
1951	8 Sept	min. 30 nests	NRC
1952	June	large numbers	Brown (1952)
1953	27 Aug	hatching & flying young	NRC
1953	10-20 Sept	c. 400 pairs	Tinbergen & Broekhuysen (1954)
1956	7 July	8 nests & dozens of young	Clarke & Schmidt (1956)
1956	7 Aug	eggs & young	NRC
1960	24&27 May	3 colonies numbering several thousand	Gillham (1963 & ms.)
1963	May	breeding	D.M.Skead (<i>in litt.</i>)
1963	18 Jul	breeding	NRC
1968	25 May	229 nests & fledged young	NRC
1970	16 May	301 nests	NRC
1971	11 May	1 102 nests	NRC
1971	12 Jun	731 nests	NRC
1974	11 May	c. 2 000 nests & 450 fledged chicks	NRC
1978	13 May	c. 150 nests	NRC
1979	12 Apr	4 309 nests	
1980	2 Apr	3 599 nests	
1980	28 May	993 nests	
<i>Swift Tern Sterna bergii</i>			
1951	Jun	breeding adjacent to Hartlaub's Gulls in smaller numbers	Brown (1952)
1952	Jun	breeding adjacent to Hartlaub's Gulls in smaller numbers	Brown (1952)
1953	27 Aug	some young	Tinbergen & Broekhuysen (1954)

TABLE 1 (continued)
SEABIRDS BREEDING AT ROBBEN ISLAND, 1949-1980

Year	Date	Population estimate	Source
1960	24&27 May	c. 600 pairs	Gillham (1963 & ms.)
1970	16 May	min. 75 nests	NRC
1974	11 May	133 nests (complete count)	NRC
1975	24 May	breeding	NRC
1976	1 May	min. 134 nests	NRC & GDU
1976	12 Jun	c. 200 chicks	NRC & GDU
1979	12 Apr	c. 350 nests	
1980	2 Apr	906 nests	

* Nest record card of the Southern African Ornithological Society

+ G.D. Underhill, Cape Bird Club, personal communication

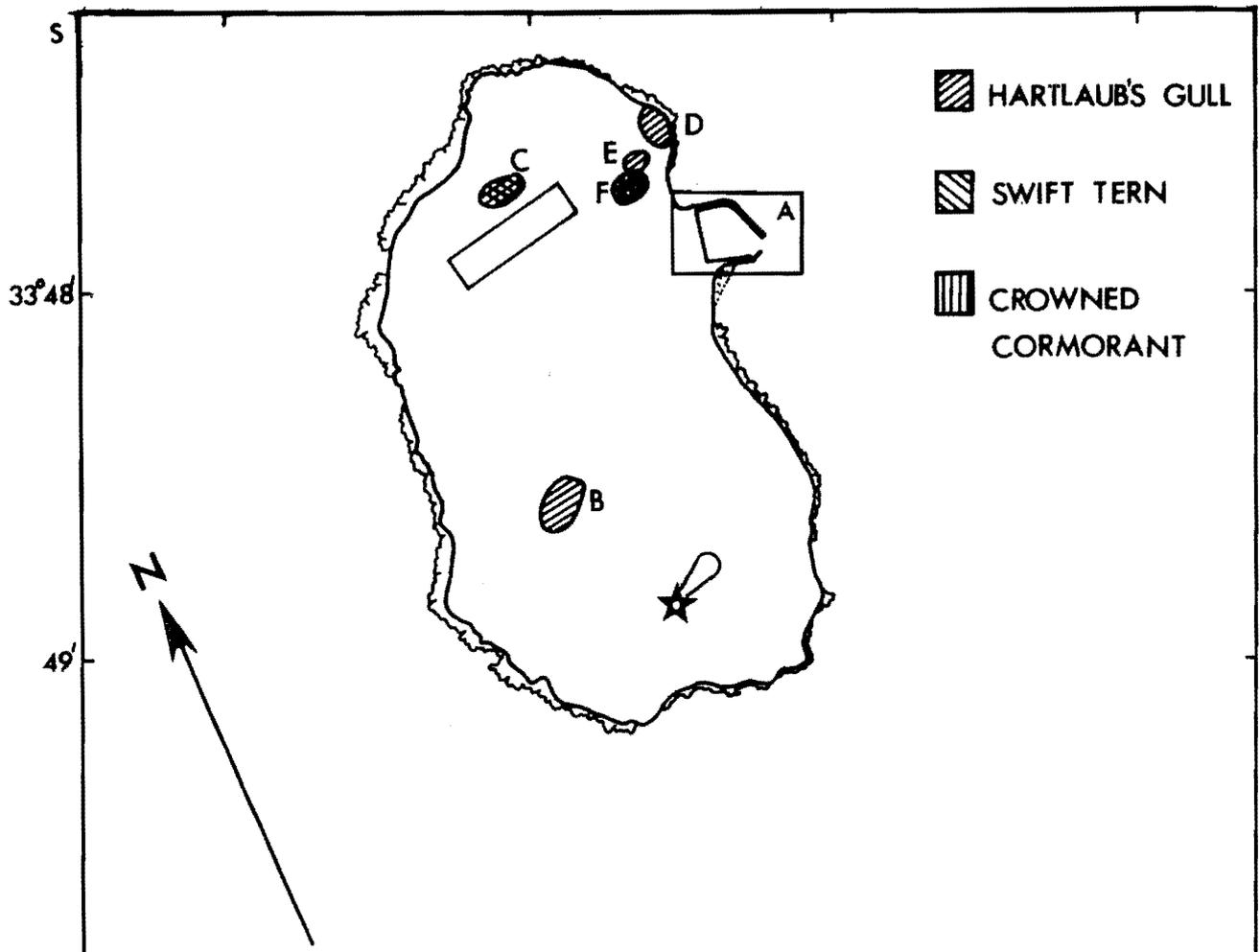


Figure 1
 Locations of seabird breeding colonies at Robben Island, 1978-1980. (A - Bank Cormorant; F - Crowned Cormorant; B, C, D, E & F - Hartlaub's Gull; C & F - Swift Tern)

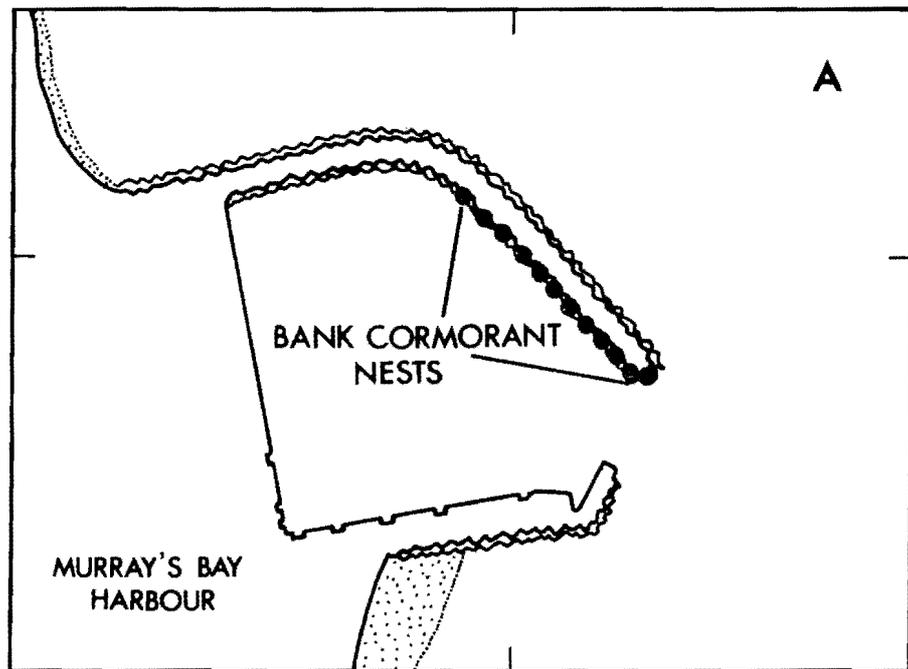


TABLE 2
STAGE OF BREEDING OF SEABIRD COLONIES AT ROBBEN ISLAND, 1979-1980

Year	Date	Colony	No. of nests examined	% of nests examined having : *											
				O	1E	2E	3E	4E	1E +	1E +	2E +	3E +	1C	2C	3C
Crowned Cormorant <i>Phalacrocorax coronatus</i>															
1980	2 April	F	53	1,9	-	32,1	7,5	-	-	-	-	-	9,4	41,6	7,5
Hartlaub's Gull <i>Larus hartlaubii</i>															
1979	12 April	B	201	14,4	18,9	41,7	2,5	-	3,5	1,5	0,5	-	7,5	9,5	-
1979	12 April	C	122	51,6	26,2	19,7	2,5	-	-	-	-	-	-	-	-
1979	12 April	D	133	24,8	33,8	40,6	0,8	-	-	-	-	-	-	-	-
1980	2 April	B	180	1,7	23,9	56,6	6,1	0,6	2,2	-	-	0,6	4,4	3,3	0,6
1980	2 April	C	290	32,6	21,3	38,8	6,5	-	-	0,3	-	-	0,3	0,3	-
1980	2 April	F	260	4,6	27,7	38,1	5,3	-	7,3	1,2	2,3	-	6,9	5,8	0,8
1980	28 May	G	199	24,1	26,1	48,2	1,6	-	-	-	-	-	-	-	-
Swift Tern <i>Sterna bergii</i>															
1980	2 April	C&F	360	0,3	91,8	2,2	-	-	-	-	-	-	5,7	-	-

* O signifies empty nest, E egg and C chick

TABLE 3
SEABIRDS RINGED AT ROBBEN ISLAND, 1968-1980

Year	Date	Number of chicks ringed	Year	Date	Number of chicks ringed
Hartlaub's Gull <i>Larus hartlaubii</i> *					
1968	25 May	61	1974	29 Jun	188
1970	16 May	251	1974	6 Jul	162
1970	6 Jun	132	1975	24 May	374
1971	12 Jun	666	1975	31 May	300
1972	17 Jun	264	1975	14 Jun	369
1973	12 May	147	1975	28 Jun	150
1973	26 May	710	1976	1 May	257
1973	9 Jun	43	1976	15 May	563
1974	11 May	453	1976	22 May	437
1974	18 May	412	1976	5 Jun	297
1974	25 May	198	1976	12 Jun	221
1974	15 Jun	178	1978	13 May	26
1974	22 Jun	116	1980	8 May	190
Swift Tern <i>Sterna bergii</i>					
1968	25 May	146 ⁺	1970	6 Jun	1 ⁺
1970	16 May	116 ⁺	1975	24 May	146 [*]

* Data supplied by G.D. Underhill, Cape Bird Club, personal communication

⁺ Data from records of the South African Bird Ringing Unit

TABLE 4
SIZE OF HARTLAUB'S GULL *LARUS HARTLAUBII* COLONIES AT ROBBEN ISLAND, 1979-1980

Colony	Number of nests		
	12 Apr 1979	2 Apr 1980	28 May 1980
B	2 268	1 936	
C	122	363	
D	136	-	
E	227	-	
F	1 556	1 300	
G			993
Totals	4 309	3 599	993

collection of scrap planks, low scrub and bushes of *Acacia* sp. Nests were widely spaced. Colony D was located below the edge of a small cliff approximately 20 m from the sea. Nests were scattered amongst island refuse, scrap metal and old bottles. Birds at Colonies E and F were both building in quarries, the extent of the quarry at F being about 60 m by 30 m. At F, the gulls were also nesting on surrounding flat areas between bushes. In April 1980 Hartlaub's Gulls were only breeding at sites B, C and F. Colony F showed an increase in the number of pairs, having expanded into an adjacent quarry which was partly filled with water. B and F both decreased and there was an overall decline of nests from 4 309 in 1979 to 3 599 in 1980 (Table 4). On 28 May 1980 there were 993 nests at Colony G.

Limited information is available on nesting localities in earlier years. In 1951 and 1952 Hartlaub's Gulls were breeding at the north of Robben Island on level ground (Brown 1952), possibly near Colony F. In 1960 the three colonies were close to a plantation of Blue Gums (Gillham 1963 & ms.), presumably in the vicinity of Colony B. In 1968 97 nests were at the airstrip (Fig. 1) and 132 at a quarry, probably E or F. In May 1971 all 1 102 nests were at the airstrip, and in 1978 the only colony was near the lighthouse.

Little comment is possible on population trends. The two highest estimates have been in the most recent years, but there have been no other counts for April. Census figures for May have shown considerable fluctuations, but it is uncertain whether the lower values were complete counts or if the majority of birds were then at nests. However, it may be stated that high numbers of Hartlaub's Gulls were recorded as early as 1951 and that a large population still bred at Robben Island in 1980.

It is of interest to note that in 1953 Zoutendyk & Feely (1953) observed a Greyheaded Gull *L. cirrocephalus* amongst a colony of Hartlaub's Gulls. Also there are no breeding records for Kelp Gulls *L. dominicanus*, a species that nests at all the other larger islands off the southwestern Cape (Crawford *et al.* in prep.).

There have been a number of observations of Swift Terns breeding at Robben Island between 1951 and 1980, the main season being April - June (Table 1). On 2 April 1980 most of the Swift Terns were incubating eggs (Table 2). Although nests were not examined in April 1979, few chicks were present. Of the total of 409 chicks ringed at the island, all except one were caught in May (Table 3). In 1951, 1952, 1953 and 1960 Swift Terns were noted to be nesting adjacent to colonies of Hartlaub's Gulls (Brown 1952, Tinbergen & Broekhuysen 1954, Gillham 1963 & ms). In June 1976 there were two colonies, each having about 100 chicks. One was at a quarry and the other at the "northeastern corner" of the island. In 1979 there were an estimated 350 Swift Tern nests in a discrete colony among Hartlaub's Gulls, close to the edge of the large quarry (Area F of Fig. 1). This colony numbered 499 nests in 1980 and there were an additional 407 nests in association with Hartlaub's Gull Colony C, a total of 906 nests which is considerably higher than any other count at the island (Table 1). Hartlaub's Gulls and Swift Terns are also known to have bred together at Possession and Shark Islands

However, neither eggs nor chicks of Bank Cormorants were present on any of the four visits and it is understood from island residents that breeding success is low, the nests being swamped from time to time by heavy seas. Disturbance is probably also a contributing cause. On 2 April 1980 guano deposited by birds roosting nearby was being scraped. Bank Cormorant guano is also collected.

The first record of Crowned Cormorants breeding at Robben Island is 1949 (Table 1), when nests with eggs were observed on the cement blocks of a pier. Subsequent observations are sporadic but, although the species sometimes shows a lack of fidelity to nest sites (Shaughnessy & Shaughnessy 1978), this may not be a true reflection of the number of occasions on which breeding took place. In 1960 nests with eggs and young were observed in bushes and also on a concrete jetty (Gillham 1963 & ms. in the FitzPatrick Institute Library, University of Cape Town). In 1975 and 1976 the nests were constructed in trees near a large quarry. Twelve young were present on the former occasion, and about 100 chicks in 1976. On 12 April 1979 and 2 April 1980 the Crowned Cormorant nests were again in trees in the vicinity of a large quarry (Area F of Fig. 1), and it is likely that this was the same breeding locality as that of the mid 1970s. In 1979 nests were not examined for eggs, but both small and large downy chicks were present. On 2 April 1980 there were 68 nests; 40 % of these contained eggs and 58 % downy chicks (Table 2). The total breeding population is thought to have been greater than 68 pairs because 108 large immature birds were also present. Although the census data are scanty, there is no evidence of a population decrease.

Hartlaub's Gulls have bred frequently at Robben Island since at least 1949 (Tables 1 & 3). Nest records are available for all months between April and September, but there are none for the period October - March. The two highest actual counts of nests were both obtained in April: 4 309 in 1979 and 3 599 in 1980. On each occasion breeding was at an early stage (Table 2). For May there are observations of several thousand nests in 1960 (Gillham 1963 & ms.), 1 102 in 1971, c. 2 000 in 1974 in addition to 450 fledged chicks, and 993 in 1980. Breeding in May was also recorded in 1963, 1968, 1970 and 1978. A total of 731 nests was counted in June 1979, and large numbers were present in June 1951 and 1952 (Brown 1952). The highest census for the period July-September is that of c. 400 pairs in September 1953 (Tinbergen & Broekhuysen 1954). Thus the months of April-June appear to be the preferred season for breeding. This is also borne out by ringing records (Table 3). Sixty-one percent of the total of 7 165 Hartlaub's Gull chicks that have been ringed at Robben Island were caught in May, 37 % in June and 2 % in July. There have been 14 ringing excursions in May, with a mean number of 313 chicks ringed per trip; 11 excursions in June, with a mean of 239 chicks ringed per trip; and one excursion in July, on which 162 chicks were ringed.

Five Hartlaub's Gull colonies were observed in 1979 (Areas B-F of Fig. 1). Colony B was situated near the centre of the island between rows of Blue Gums. Nests were closely spaced, on the ground and up to 60 mm high, being made of sticks. Colony C was formed around the concrete foundations of an old building site, a

(Cooper *et al.* 1977), Wadrifsoutpan (Cooper & Sinclair 1977), the Berg River estuary (Cooper 1977), the Strandfontein Sewage Works (Cooper & Pringle 1977), Jutten, Malgas, Dyer and Dassen Islands (J. Cooper *in litt.*) and Marcus Island (pers.obs.).

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