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ABSENCE OF BREEDING BY AFRICAN PENGUINS AT FOUR FORMER COLONIES

R. J. M. CRAWFORD*, B. M. DYER* and P. C. BROWN*

African penguins *Spheniscus demersus* no longer nest at four suspected previous breeding localities: Neglectus Islet (Hottentot Bay), North Reef and Albatross Island off Namibia and Jacob's Reef off South Africa. This brings to 10 the number of localities where breeding does not now occur. Breeding also ceased at Robben Island, which has now been recolonized. It is uncertain that penguins bred at Cape Recife. Of the other 10 localities, breeding probably stopped at five as a result of competition with South African fur seals *Arctocephalus pusillus pusillus* for space and at four because of exploitation and disturbance by man. The reason for the loss of the important colony at North Reef, where there were more than 1 000 penguins in 1956, is unclear, but a scarcity of food may be implicated.

Afrika-pikkewyne *Spheniscus demersus* maak nie meer nes by vier vermeende vorige broeierreine nie: Neglectuseilandjie (Hottentotbaai), Noordrif en Albatroseiland teenoor Namibië en Jakobsrif teenoor Suid-Afrika. Dit bring die getal terreine waar daar nie tans gebroei word nie, op 10 te staan. Daar is ook opgehou broei op Robbeneiland, maar dit is nou herkoloniseer. Dit is onseker of pikkewyne by Kaap Recife gebroei het. Uit die ander 10 terreine, is broeiery waarskynlik by vyf gestaak vanweë mededinging om ruimte met Suid-Afrikaanse pelsrobbe *Arctocephalus pusillus pusillus* en by vier vanweë ontginning en versteuring deur die mens. Dit is nie duidelik wat die rede vir die verlies van die belangrike kolonie by Noordrif, waar daar meer as 1 000 pikkewyne in 1956 was, is nie, maar voedselskaarste kan daarby betrokke wees.

African (jackass) penguins *Spheniscus demersus* are thought to have bred at 37 localities around southern Africa between Hollams Bird Island (24°38'S, 14°32'E) and Bird Island (33°50'S, 26°17'E) in Algoa Bay (Shelton *et al.* 1984, Cooper 1985). Breeding has ceased at Seal (26°36'S, 15°09'E) and Penguin (26°37'S, 15°09'E) islands off Lüderitz, North Long Island (26°49'S, 15°07'E), Quoin Rock (34°47'S, 19°40'E) (Shelton *et al.* 1984) and Seal Island (34°09'S, 22°08'E) off Mossel Bay (Shaughnessy and Shaughnessy 1978). At Cape Recife (34°02'S, 25°42'E), a possible attempt at breeding took place in 1981 (Every 1983). At Robben Island (33°48'S, 18°22'E), breeding probably stopped before 1800, but recommenced in 1983 (Crawford *et al.* 1995). Recent breeding has been demonstrated at 26 other localities (Loutit and Boyer 1985, Crawford *et al.* 1990).

This paper provides evidence for cessation or absence of breeding at the remaining four localities: Neglectus Islet (26°08'S, 14°57'E, Hottentot Bay), North Reef (27°00'S, 15°11'E), Albatross Island (27°07'S, 15°14'E) and Jacob's Reef (32°57'S, 17°52'E). It also shows that African penguins do not breed at Elephant Rock (31°39'S, 18°09'E), where they once were recorded (Brooke 1986). Observations on other seabirds breeding at the four of these five localities that are least frequently visited are listed.

SUSPECTED FORMER AFRICAN PENGUIN LOCALITIES

Neglectus Islet

The small island in Hottentot Bay named Neglectus Islet (Williams 1987) was stated to be "... frequented by divers [cormorants] and penguins" sometime in the nineteenth century (Angra Pequena and West Coast Claims Joint Commission 1885). On the basis of this, it was listed as a breeding locality of African penguins by Shelton *et al.* (1984). However, it is possible that the penguins seen at Neglectus Islet in the nineteenth century were visiting rather than actually breeding.

Landings were made on Neglectus Islet on 29 November 1985, 24 November 1986 and 6 April 1987. The island was closely approached on 26 November 1991, when no landing was possible. Two adult and two immature African penguins were seen at the island in 1986 and three adults in 1991. No penguins were present on the other two visits and there were no signs of breeding on any of the four visits. Another recent record is of 10 penguins present but not breeding in February 1994 (A.J. Williams, Cape Nature Conservation, pers. comm.).

Cape cormorants *Phalacrocorax capensis* and bank cormorants *P. neglectus* breed at the island (Cooper

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et al. 1982, Williams 1987). In 1985 there was one Cape cormorant nest, in 1986 two and in 1987 three. Numbers of nest sites of bank cormorants were respectively 90 (Williams 1987), 152 and 13. Both species were breeding in moderate numbers in 1991. In February 1994, 11 pairs of whitebreasted cormorants *P. carbo* were breeding (A. J. Williams, pers. comm.).

North Reef

Substantial numbers of African penguins formerly bred at North Reef, which lies immediately north of Possession Island. Rand (1963) noted 1 360 penguins on aerial photographs of North Reef taken in November 1956. However, by November 1967, only 389 penguins were counted on aerial photographs and this number fell to 256 in November 1978, when 151 nest sites were counted (Shelton *et al.* 1984). There were 58 nest sites in January 1980 (Shelton *et al.* 1984), but in December 1985, there were no active nest sites of the species at North Reef (Crawford *et al.* 1990). On 11 April 1986, two pairs of penguins were present, one of which had eggs (R. M. Randall, National Parks Board, pers. comm.).

North Reef was visited on 2 November 1986. Two penguins were seen, but they were not breeding. On 6 September and 30 November 1987, there were respectively two pairs and one pair of penguins breeding in an abandoned shed. Subsequent visits were made on 4 December 1988, 21 March 1991 and 29 January 1993. One moulting penguin was seen in 1991, but no penguins were observed on the other two visits. On all three occasions there was no sign of recent breeding activity. No penguins were seen on a visit in November 1993 (A. J. Williams, pers. comm.). Therefore, the last record of breeding by penguins at North Reef was in 1987.

Albatross Island

African penguins occurred at Albatross Island in 1885 (Angra Pequena and West Coast Claims Joint Commission 1885). However, as with Neglectus Islet, it is not known whether penguins ever bred at this island. In January and August 1977, there were signs that bank cormorants had been nesting at Albatross Island (Shaughnessy 1984). In December 1978, no penguins were observed while the island was being circled in a small boat (Shelton *et al.* 1984).

Landings were effected on Albatross Island on 6 December 1985 and 27 November 1991. On both occasions, no African penguins were seen and there was no indication of breeding. As during the visits of

Shaughnessy (1984), South African fur seals *Arctocephalus pusillus pusillus* covered most of the island. Three species of cormorant were breeding in small numbers — Cape cormorants (10 nests in 1985, 16 nests in 1991), bank cormorants (11 nests in 1985, 16 nests in 1991) and crowned cormorants *P. coronatus* (six nests in both 1985 and 1991).

Jacob's Reef

Rand (1960 p. 7) noted: "Occasional penguins nest on seal rookeries such as Jacob's Reef, Quoin Rock, Geyser Island and Seal Island (False Bay) but only the latter island affords sufficient protection among the loose boulders to maintain a sizeable colony."

A landing was effected on Jacob's Reef on 17 February 1994. No African penguins were seen ashore and no penguin nest sites were found. The island was overrun by South African fur seals. There was one bank cormorant nest on a high rock, and a few crowned cormorants, Cape cormorants, kelp gulls *Larus dominicanus* and Hartlaub's gulls *L. hartlaubii* were present. One African penguin was observed at sea within 1 km of Jacob's Reef.

Elephant Rock

In the middle of the 19th century Elephant Rock supported both seals and seabirds, but it is now primarily a seal colony (Shaughnessy 1984). Penguins have been attributed to the locality (Gill and Zeederberg 1928 in Brooke 1986), but there is no other evidence for African penguins ever having bred there (Shelton *et al.* 1984).

A landing was made on the island on 16 October 1992. No African penguins were seen and there were no signs of breeding. Also, a search was made for remains of penguins, but none were found. There were 49 Cape cormorant nests, 13 crowned cormorant nests, one whitebreasted cormorant nest, and one dead immature bank cormorant.

DISCUSSION

The absence of breeding at Neglectus Islet, North Reef, Albatross Island and Jacob's Reef brings to 10 the number of localities where African penguins are thought to have bred but now no longer do. It is uncertain that penguins ever bred at Neglectus Islet or Albatross Island. Evidence of breeding at one of the other localities, Cape Recife, was based on the presence of

three penguins and one egg in mid 1981 (Every 1983). Penguins were not seen on regular surveys at Cape Recife before and after this observation, and it is dubious whether breeding was indeed attempted (R. M. Randall, pers. comm.). It is certain that African penguins once bred at five of the other localities: Seal and Penguin islands off Lüderitz, North Long Island, North Reef and Seal Island off Mossel Bay. From Rand's (1960) observations, it is probable also that they bred at Jacob's Reef and Quoin Rock.

At five of the suspected former breeding colonies (North Long Island, Albatross Island, Jacob's Reef, Quoin Rock and Seal Island in Mossel Bay) penguins are now effectively excluded by South African fur seals (Rand 1960, Shaughnessy and Shaughnessy 1978, Shaughnessy 1984, Shelton *et al.* 1984). Seals have also displaced substantial numbers of African penguins from breeding sites at three other localities: Hollams Bird Island (Rand 1952, Williams and Dyer 1990), Mercury Island (25°43'S, 14°50'E, Crawford *et al.* 1989) and Sinclair Island (27°40'S, 15°31'E, Shaughnessy 1980). At present, the only other localities where both seals and African penguins breed are Seal Island (34°08'S, 18°35'E) in False Bay and Geysers Island (34°42'S, 19°25'E). Of 10 sections of asbestos pipe placed on Seal Island in False Bay on 1 October 1991, nine were occupied by African penguins by 6 November 1991, suggesting that former nesting sites were suboptimal (Crawford *et al.* 1994). Seals may also have precluded settlement of penguins at Elephant Rock.

At Seal and Penguin islands near Lüderitz and at Robben Island, which has since been recolonized, African penguins are likely to have ceased breeding because of exploitation and disturbance by man (Shelton *et al.* 1984, Crawford *et al.* 1995). Removal of guano and sand from Neglectus Islet (Angra Pequena and West Coast Claims Joint Commission 1885) seems the most likely reason for abandonment of that colony, if penguins once bred there.

Reasons for the extinction of the colony at North Reef are less obvious. There have been simultaneous large decreases in numbers of African penguins at nearby Possession Island (27°01'S, 15°12'E), as well as at islands farther south along the Namibian coast (Crawford *et al.* 1990). This suggests some common cause of the decreases, such as a scarcity of food (Crawford *et al.* 1990).

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