

STALKED BARNACLES *CONCHODERMA AURITUM* ON AN
ELEPHANT SEAL: OCCURRENCE OF ELEPHANT SEALS ON
SOUTH AFRICAN COAST

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On January 26th, 1969, an elephant seal *Mirounga leonina* came ashore at Sandbaai near Hermanus, Cape Province, and was photographed by Mr. Emile Boonzaier. Because of the subdued behaviour of this animal Mr. Boonzaier was able to take several close-up pictures, and when these were shown to the author it was obvious that the animal (a sub-adult male estimated to be 12 feet long) was extensively infested with the stalked barnacle *Conchoderma* (Fig. 1). Combining head-on and side views of the animal it was estimated that there were at least 116 individuals present, the majority being found on the shoulders and neck but some also being scattered over the back and flanks. A close-up view of the head included five of the barnacles, and clearly showed the conspicuous ear-like appendages that are characteristic of *Conchoderma auritum*.

C. auritum is commonly found attached to shells of the sessile barnacle *Coronula* parasitic on whales, or directly to cetacean teeth, and is less commonly found on baleen (Clarke 1966). In this connection it is of interest to note that the author has observed several large specimens of this stalked barnacle attached to the tusk-like teeth of two mature male *Mesoplodon layardi*, one stranded at Hout Bay on April 23rd, 1965, and the other stranded at Fish River Point, East London, on April 9th, 1968. Other recorded attachment sites are ships' hulls and buoys (Nilsson-Cantell 1930), while reports of the species being attached to fish seem to be confined to Dr. A. Gould's statement that it has been taken from slow-moving fishes (Darwin 1851), and to Barnard's (1924) record of juvenile specimens found with *C. virgatum* on the tail of the moray eel *Gymnothorax favagineus*.

On the basis of these records it seems that *Conchoderma auritum* normally requires a very hard substrate for settling. Only rarely does the barnacle attach itself directly to the skin of its host, and in these cases invariably where the skin is toughest (e.g. on the tip of the lower jaw, the palate and the penis of the sperm whale - Clarke 1966). The occurrence of *C. auritum* on the body skin of an elephant seal is therefore surprising in that this substrate would not appear to be resilient or stable enough to support infestation to the extent observed. It is also of interest that the barnacles were scattered rather than clumped, which is the reverse of the normal situation for *Conchoderma* (MacIntyre 1966).

The only previous reports of barnacles from southern elephant seals seem to be those of Sorensen (1950), Laws (1953) and MacIntyre (1966), in none of which were they specifically identified. It can be inferred from Sorensen's remark that "barnacles up to an inch in length have been seen . . ." that a stalked barnacle was involved, and Laws indeed refers to those found at South Georgia as *Pedunculata*. MacIntyre simply states that elephant seals are a common settling site for "stalked barnacles". In answer to my query, Mr. R. W. Vaughan

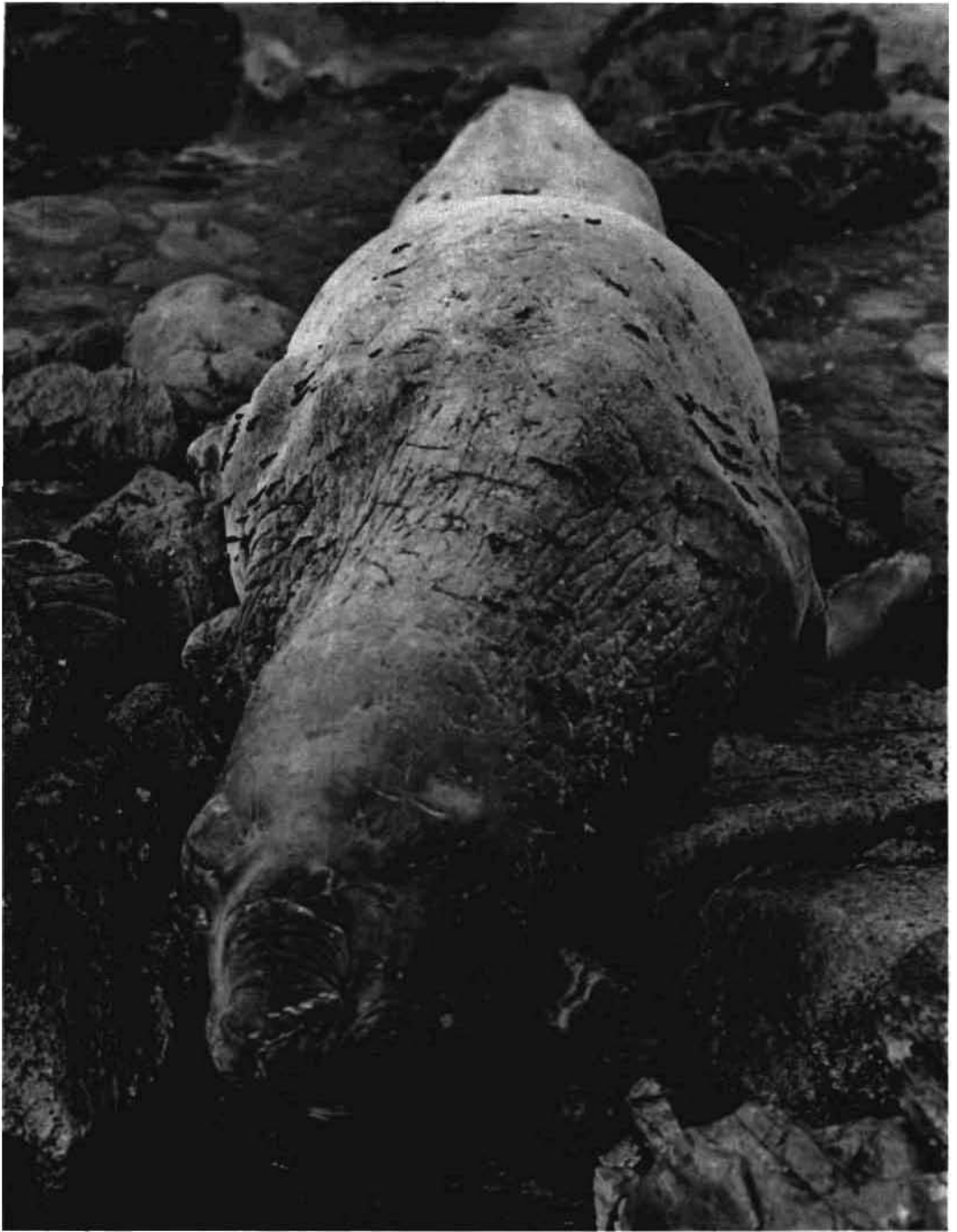


FIGURE 1

Elephant seal at Sandbaai, near Hermanus, showing arrangement of stalked barnacles *Conchoderma auritum*.

of the Seals Research Unit, Natural Environment Research Council, United Kingdom, has stated that during his employment as Sealing Inspector at South Georgia he saw both elephant and fur seals *Arctocephalus tropicalis gazella* carrying pedunculate barnacles ranging from half a dozen to a hundred in number, but these all proved to be *Lepas australis*. In the elephant seal they were found attached directly to the skin, usually in the region of the pelvis and hind-flippers, but in the fur seal were normally attached to the guard hairs and less often to the skin. The frequency of occurrence was difficult to estimate, but two or three fur seals in 10 000 animals and perhaps one out of 100 000 elephant seals might be found with barnacles each year. *Conchoderma auritum* was never found on either seal. The present instance therefore seems to be the first record of this barnacle from the southern elephant seal.

Visits by elephant seals to the South African coastline are fairly frequent. Besides five records mentioned by Kettlewell and Rand (1955), the single records of Anon (1965) and Vaughan (1967) and nine new records listed by Ross (1969), the South African Museum has data pertaining to a further seven instances. These are, besides the present record, a male at Oudekraal, Cape Peninsula, on June 26th, 1948, a male at Danger Point in winter, 1961, a male at Struis Bay, Bredasdorp (no date), an 18 feet long male at Waenhuiskrans, Bredasdorp, on May 28th, 1965, a 10 to 12 feet long male at Buffels Bay, Cape Peninsula, on October 1st, 1968, and the tooth of a male recovered from a midden at Maitland River Mouth, Port Elizabeth. There has consequently been a total of 23 records to date, of which 18 (dated) have occurred in the 21 years since 1948.

Ross (1969) has pointed out the predominance of summer records, and, of the 21 dated instances now known, 11 have occurred during the months from December to February. This actually coincides with the timing of the summer haul-out, the greatest numbers of elephant seals being on shore in December, January and February (Laws 1956). The need for moulting to take place on land is probably the primary cause of this haul-out, but to date there have been no accurate observations of the condition of animals coming ashore on the South African coast during summer. The male seen at Sandbaai in January showed no obvious signs of moulting. Consequently the following remarks by Laws (1956) are of considerable interest: "Occasionally, individuals of both sexes are seen which have an unusually light-coloured coat, looking almost white when dry. They are most conspicuous in the spring and usually below average size. Although the elephant seal normally moults annually, it is likely that these individuals have not undergone a moult in the previous season with the result that the degree of fading is at least twice as great as in normal individuals. . . . Large barnacles were occasionally observed on elephant seals of this variety, suggesting that they had spent a considerable time at sea." This description fits the Sandbaai animal very closely, and as a consequence it might be interesting to subject future occurrences of the elephant seal on the South African coastline in summer to a closer scrutiny, especially in regard to the condition of their coat and the presence of external parasites (see Addendum).

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ADDENDUM

Since this note was submitted for publication, I have become aware of the following additional records of elephant seals on the South African coast.

(1) Uncertain date, probably 1945-1949 - a young male on King's Beach, Port Elizabeth (photograph in Port Elizabeth museum files).

(2) February 14th, 1963 - an animal 15 feet long (and clearly a male from a photograph of the head) at Ntafufu River, Transkei coast (Anon, 1969. *Natal Wildl.* 10 (2): 7). This animal swam three miles upstream and hauled out on a grassy island one mile below the tidal limit. It remained for four days before returning to sea, and had "a kind of fungus growing on its body in places which it seemed to be trying to rub off". This seems to refer to a moulting individual.

(3) April, 1963 - an unsexed animal about 10 feet long at Bushman's River mouth (photograph in possession of G. J. B. Ross).

(4) March 29th, 1970 - a male 4.0 m long at Kenton-on-Sea, Eastern Cape (Ross, G. J. B. and Saayman, G. S. 1970. *Afr. Wildl.* 24 (4): 331-336). When first examined on March 30th, this seal was in a late stage of moult, which was completed eight days later when the animal finally returned to sea. On May 26th to 29th, 1970, the same animal returned to the same beach, being recognised from a split left nostril (G. J. B. Ross, personal comm.).

(5) November 29th, 1970 – a juvenile in Gordon's Bay harbour, False Bay. It remained in the harbour, either on a slipway or a floating wooden platform, until December 21st, 1970, when it was captured and sent to Port Elizabeth Oceanarium. The seal accepted fish from the hand until December 6th, averaging six to ten small fish per day with a maximum of 15 to 18 on December 4th. When packed for transport the seal plus crate weighed 355 lb, of which the crate weighed 80 lb plus an unknown amount due to water trapped in a foam rubber mattress. A maximum weight for the seal would therefore be 275 lb. The crate measured six feet exactly in length, and the seal fitted snugly inside, so that its total length must have been about six feet. From this small size and the time of year, the animal could have been either one to two months or 13 to 14 months old (Laws, 1953). When seen on December 8th, however, it had definite traces of moult around the insertions of the front and hind flippers. This suggests that the animal was moulting its adult coat for the first time, and so was probably just over a year old. As such it was somewhat smaller than the size of first-year animals given by Laws (1953): about 92 inches. On December 16th the moult had advanced considerably, the head and an area round the base of the hind flippers being almost completely clear of old skin, while the front flipper was about half moulted. According to G. J. B. Ross of Port Elizabeth museum, the moult was finally completed about January 14th, 1971, so that its duration was about 37 days (cf. 32 days for first-year females and 56 days for first-year males – Laws, 1956). The animal is still in captivity at the time of writing (November, 1971). Its sex is as yet undetermined.

The monthly incidence of elephant seals on the South African coast (first arrival dates only used) can now be summarised as January – five, February – four, March – two, April – one, May – two, June – three, July and August – nil, September – one, October – two, November – one, and December – three. Half of the 24 records occurred in summer (December to February).