

Occurrence of vagrant leopard seals, *Hydrurga leptonyx*, along the South African coast

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Leopard seals inhabit the pack-ice rim of Antarctica, and they regularly haul out on Antarctic and Subantarctic islands. Occasionally, vagrants are sighted further north in South America, Australia, New Zealand, and very rarely in southern Africa and Oceania. Here we report on an observation made on the 15th of July 2010 of a single 3-m-long juvenile leopard seal at 'Die Dam' in the Western Cape, South Africa (34°45.772'S, 19°42.582'E). We searched historical records and found details of four observations of leopard seals along the coast of South Africa since 1946. All of these sightings were of juvenile animals. The relative scarcity of observations is a likely reflection of the great distance from Antarctica and the Subantarctic to South Africa.

Key words: leopard seal, distribution, vagrancy.

Leopard seals are distributed along the outer fringes of the Antarctic pack ice during the austral spring (Bester *et al.* 1995; Gilbert & Ericson 1977; Rogers 2009). They infrequently haul out on Subantarctic islands such as Marion Island (Bester *et al.* 2006), seasonally at Macquarie Island (Rounsevell & Pemberton 1994), and year-round on higher latitude Îles Kerguelen (Bester & Roux 1986, Borsa 1990) and Heard Island (Gwynn 1953). Leopard seals breed on the pack ice (Southwell *et al.* 2003), and primarily feed on krill, penguins and other seals (Schulz & Menkhurst 1984; Hall-Aspland & Rogers 2004).

Occasionally, leopard seals are found north of the Subantarctic (Jefferson *et al.* 1993). In Australia

they have been seen as far north as Fraser Island in Queensland, but are most frequently seen in Tasmania, which is considered to be part of their foraging distribution (Rounsevell & Pemberton 1994). Even further north in the Pacific Ocean, they have been encountered on the Cook Islands (McCormack 2007). They are likewise often seen in Argentina and Chile (Rodriguez *et al.* 2003). Many of the extralimital sightings are of single juvenile males that are exhausted and emaciated (Elliot 1982; Mawson & Coughran 1999). We describe a single sighting of a leopard seal in the Western Cape, South Africa, and review published and reported sightings of leopard seals along the South African coast.

Historical data were obtained from a literature search, using Web of Science, PubMed, Biosis, Yahoo and Google with the search words 'leopard seal' and 'South Africa'. Unpublished records of sightings were retrieved from the files of the Mammal Research Institute, University of Pretoria and Port Elizabeth Museum at Bayworld, Port Elizabeth.

A leopard seal was sighted on 15 July 2010 on the beach at 'Die Dam', Western Cape (34°45.772' S, 19°42.582' E). The animal was lying on dry sand in the sun. It was lethargic and in poor condition, but reacted when touched. No signs of physical injury were seen, except a small amount of blood in mucus from the nostril, and what appeared to be a shallow small cut on the upper lip. There were no other wounds. The teeth and gums appeared healthy and there were no indications that it had been entangled in fishing gear. The seal had departed by the next day during which it was seen from a distance by local fishermen.

Confirmed records of leopard seal sightings in South Africa (Table 1) are rare, with less than one observation per decade.

The leopard seal in this study was in poor condition, apparently fatigued and hauled out in an area close to Cape fur seal (*Arctocephalus pusillus pusillus*) colonies, about 30 km from Geysers Rock and 700 m from Quoin Point (Kirkman *et al.* 2007). Leopard seals are thought to haul out to rest, digest a meal, or when injured or in poor condition (Rounsevell & Pemberton 1994). The presence of the animal in the vicinity of Cape fur seal colonies may be related to feeding, as leopard seals take Antarctic fur seal pups (*A. p. doriferus*) at Bird Island, South Georgia (Walker *et al.* 1998). It is, however, unlikely that the immature individual reported here was capable of taking the relatively

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Table 1. Reported sightings of leopard seals along the coast of South Africa.

Date	Location	Observer	Reference	Collected	Notes
Sep 1946	60 km north of East London	Unknown	Roberts (1951)	East London Museum	Unknown
23 Oct 1969	Hout Bay, Western Cape	Peter Best	Best (1971)	Iziko South African Museum	Died in captivity in Tygerberg Zoo
9 Aug 1994	East London	Carolyn Stewardson	PE. Museum unpublished records. Dewes (1994)	Port Elizabeth Museum	Yearling. PE. Museum accession number N2244
17 Aug 2005	Hout Bay	Roy McBride	Hardaker (2005) Mc Bride (2009)	This study	Juvenile individual resting
15 Jul 2010	Die Dam, Western Cape	This study	This study	This study	See text

large fur seal pups, which would have been approximately seven months old at the time (cf. Walker *et al.* 1998).

Inexperience in prey capturing in leopard seals has been reported to result in fractured mandibles when larger prey has been involved (Elliott 1982). The blood in the mucus in the nostril and the cut lip in the present case is most likely an injury sustained during feeding as such wounds are known from leopard seals visiting Tasmania where stingray spikes have been isolated from the heads of such animals (Elliott 1982).

The movement of leopard seals to continents abutting the Southern Ocean is thought to be facilitated by the northward extension of the pack ice in winter (Gwynn 1953; Rounsevell & Eberhard 1980; Bester & Roux 1986; Jessopp *et al.* 2004; Bester *et al.* 2006; Gray *et al.* 2009). Tagging of leopard seals in Prydz Bay, Eastern Antarctica (Rogers *et al.* 2005) indicate a substantial difference in the movement patterns of juvenile and adult seals. In Australia, the highest proportion of juvenile males was seen farthest to the north (Rounsevell & Pemberton 1994).

Four of the leopard seal sightings for South Africa were between August and October, the same period during which the majority of leopard seal sightings were recorded over a period of 25 years at Marion Island (Bester *et al.* 2006).

The observed leopard seal stayed in the area for two days only. This is a typical pattern for reported sightings of vagrant leopard seals. It is, however, unknown whether these animals return to Antarctica or succumb.

Most likely, the combination of the great distance from Antarctica to continental South Africa, the need to pass through the east-moving Antarctic circumpolar and Agulhas retroflexion currents are the major reasons for the relative scarcity of leopard seals on the South African coast compared to Tasmania.

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