

Vagrant elephant seal predation on Cape fur seal pups, Plettenberg Bay, South Africa

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Abstract Vagrant southern elephant seals (*Mirounga leonina*) are occasionally sighted along the coast of South Africa and are known to feed primarily on fish and squid. Phocid seals are not known to predate on mammals making the events described here exceptional. This note describes the successful and failed attempts of a vagrant male southern elephant seal (*M. leonina*) to consume Cape fur seal (*Arctocephalus pusillus pusillus*) pups in Plettenberg Bay, South Africa. Observations were made by crew and passengers aboard a commercial whale-watching vessel during November 2012. This is the first account of elephant seals eating anything other than fish, squid and penguins and suggests considerable plasticity in prey choice dictated by environmental conditions.

Keywords Southern elephant seal · *Mirounga leonina* · Cape fur seal · *Arctocephalus pusillus pusillus* · Predation

Introduction

Southern elephant seals (*Mirounga leonina*) have a circumpolar distribution and typically haul out on Antarctic and sub-Antarctic islands (Laws 1994). Sightings of

vagrant elephant seals have been reported from the coast of South Africa, approximately 2,000 km from the nearest breeding colonies on the Prince Edward Islands (Bester 1989) and over 4,825 km from South Georgia, the source of a tagged yearling (Vaughan 1967). Temperate continental latitudes are within the outer fringes of normal dispersal, and elephant seals sighted along the South African coast could have originated from any of the Southern Ocean breeding locations (Oosthuizen et al. 1988).

Records of southern elephant seals from the southern African coastline are not uncommon, and sightings usually occur from November to February (Oosthuizen et al. 1988; Mertz and Bester 2011) during the moulting season of primarily immatures/subadults of both sexes and of adult females (Kirkman et al. 2003).

In Plettenberg Bay, there have been several undocumented sightings of southern elephant seals on or near the Cape fur seal colony at the Robberg Nature Reserve (S34°06', E23°22'). These verbal reports come from Cape Nature Conservation rangers and the commercial whale-watching and seal diving operators in the area and are no longer unusual, perhaps as a result of the recolonization of the Robberg Peninsula by Cape fur seals from the early 1990s (Huisamen et al. 2011) with a concomitant increase in tourism and nature conservation activities on the peninsula.

Description of events

What is unusual were the events witnessed on November 18, 2012, from the commercial whale-watching vessel *Fatboy* of the company Ocean Safaris. Whilst observing the fur seal colony on their last tour of the day, the crew

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reported a high number of new born fur seal pups on the rocks. At 14:54, they observed a male elephant seal (Fig. 1a) in the water adjacent to the colony, with a fur seal pup in its mouth (Fig. 1b–d). The fur seal pup was still alive and the elephant seal proceeded to repeatedly thrash the pup on the surface of the water for approximately 4 min in the same manner described for an elephant seal consuming a large fish elsewhere (Reid and Nevitt 1998). Small pieces of the pup could be seen scattered around the elephant seal (B. van Uum, pers. obs). The elephant seal then tilted its head back (Fig. 1d) and swallowed the pup whole with no apparent difficulty. While this occurred, the other fur seals in close proximity to the elephant seal were seemingly unperturbed. The elephant seal was observed in the area for approximately 2 months and is believed to be the same individual seen at the Robberg colony 1 year earlier (November 2011) although there were no photographs taken to confirm individual identification. During the 2011 encounter, the elephant seal was observed with a live fur seal pup in its mouth; however, the pup managed to escape onto the rocks and was not consumed (A. Bartman, pers. obs). In November 2010, an elephant seal was seen chewing on an unconfirmed species of sessile ascidian (sea squirt), whilst on the rocks at the Robberg fur seal colony.

Discussion

These observations of predation constitute exceptional behaviour as the opportunistic, generalist feeding southern elephant seals take predominantly squid and fish (Rodhouse et al. 1992; Pauly et al. 1998; Daneri et al. 2000; van den Hoff et al. 2003). They have never been reported to consume mammals, although during September through November 1997–1999, a male southern elephant seal killed at least 88 breeding Magellanic penguins (*Spheniscus magellanicus*) on land at the Punta Tombo Provincial Reserve in Chubut, Argentina; not all the penguins killed were eaten and food was likely not the primary motivating factor for this behaviour (Clark and Boersma 2006). Except for leopard seals, *Hydrurga leptonyx*, phocid seals do not predate on marine mammals (e.g. Pauly et al. 1998; Southwell et al. 2012) although otariids such as male Steller (*Eumetopias jubatus*), New Zealand (*Phocarctos hookeri*) and South American (*Otaria byronia*) sea lions kill and eat fur seal pups (Harcourt 1993; Reeves et al. 2002) and Stellers' consume even other phocids (Mathews and Adkison 2010) as do Pacific walrus (Lowry and Fay 1984).

Although it is not possible to confirm whether the individual in question was also sighted in 2011, identifiable



Fig. 1 Male elephant seal (*M. leonina*) at the Cape fur seal colony, Robberg Peninsula, Plettenberg Bay: **a** bottling close inshore to the colony, **b** showing the pronounced proboscis, characteristic of male

elephant seals, as it swims towards the boat with the fur seal pup in its jaws, **c** other young fur seals play nearby as the elephant seal thrashes the pup around, **d** before swallowing it (photos B. J. L. van Uum)

individuals do on occasion return to the same areas as vagrants over consecutive years. An adult male southern elephant seal returned to the Van Reenen Bay Cape fur seal colony in Namibia over seven breeding seasons between 1977 and 1983 (Oosthuizen et al. 1988) and another male, first sighted at Kangaroo Island, South Australia, was repeatedly sighted over several years usually within a breeding colony of New Zealand fur seals, *A. forsteri* (Shaughnessy et al. 2012).

Cape fur seals appear to tolerate the presence of elephant seals at their rookeries; however, a male elephant seal at Van Reenen Bay killed several female fur seals whilst attempting to copulate with them (Best et al. 1981). This individual grabbed the fur seal pups in what appeared to be an attempt to lure the females towards it; however, no pups were seen to be deliberately killed or eaten.

We can only speculate that the southern elephant seals sighted at Robberg, outside of their usual foraging range, perhaps needed to be extremely opportunistic in order to find enough prey. Being sufficiently hungry, it could be that fresh, perhaps moribund fur seal pups presented easy pickings, and even sessile invertebrate ascidians became attractive (present study). We conclude that southern elephant seals are frequent visitors to South African shores, some conceivably returning repeatedly, and upon occasion take Cape fur seal pups to supplement their usual cephalopod and fish diet.

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Conflict of interest None.

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