Inshore occurrence of southern right whales (*Eubalaena australis*) at Subantarctic Marion Island

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Opportunistic shore-based sightings of southern right whales *Eubalaena australis* for Marion Island (46°54’S, 37°45’E) were documented at five different times between 1974 and 2009. Whales were sighted between May and September and exclusively on the eastern lee side of the Island. Notwithstanding some observer biases over this time frame, the species appears to be an infrequent visitor to the inshore marine environment of Marion Island.

**Key words**: *Eubalaena australis*, Marion Island, shore-based sightings; Southern right whale, vagrants.

Owing to their thick blubber, southern right whales are reluctant to venture into the tropics, and are usually found between 20° and 64° south (Fig. 1) (Best 2007). The fact that they float when dead, have a superior oil and whalebone yield, fidelity to congregate near calving grounds and their lack of speed must all have contributed to their exploitation by commercial whaling (Best 2007). Although protected in 1935, illegal whaling endured until 1971 (Tormosov et al. 1998). Between 1971 and 1998 the calving population off the coast of South Africa increased with 7.1% per year, similar to rates of increase recorded for populations off the coast of Argentina and Australia (Best 2007). In winter months southern right whales migrate to more temperate coastal waters off the southern continents, where females give birth and nurse their newborn in these sheltered areas (Best 2007). At other times of the year whales move south from the calving grounds to the foraging grounds where temperatures are cooler and overall biological productivity is higher (Perrin et al. 2002). In the south Indian sector of the Southern Ocean, right whales are mainly seen between 30°S and 40°S from October to December, between 40°S and 50°S around the Crozet Islands (CI) mainly from February to March, and in the area between 50°S and 60°S from December to April (Best 2007). Here we report on five photographically confirmed inshore sightings of the species at Marion Island (46°54’S, 37°45’E) over a period of 35 years.

The Prince Edward Archipelago consists of two small islands, Marion Island (MI) and Prince Edward Island which are located in the southern Indian Ocean (Pakhomov & Froneman 1999). Oceanographically, MI is situated directly in the path of the easterly-flowing Antarctic Circumpolar Current (ACC), between the Subantarctic Front (SAF) and Antarctic Polar Front (APF) (Fig. 2) (Lutjeharms 1985). Currently, the nearest southern right whale calving grounds to MI are ~1950 km distant, off the Western Cape Province, South Africa.

Sightings of southern right whales at MI were primarily recorded by elephant seal researchers during regular visits (every 7–10 days) on foot to all the beaches on the northeastern, eastern and southern side of the island (Fig. 3). Round island resights were conducted once a month. The research effort which is associated with the southern elephant seal (*Mirounga leonina*) mark-resighting programme has been repeated whole year round since commencement in 1983 (see de Bruyn et al. 2008 for details). As part of this highly structured pinniped monitoring programme, seal researchers were also required to record opportunistic sightings of killer whales (*Orcinus orca*). Additionally, dedicated land-based killer whale observation sessions were performed year-round since 2008, during which trained observers remained at set observation points (Fig. 3) and visually searched for killer whales for pre-determined (3-hour or 10-hour) lengths of time (Reisinger et al. 2011a).

Following annexation of MI in 1947/1948 by South Africa (Cooper & Headland 1991), the earliest reported sightings of southern right whales are those of an adult individual of unknown sex seen in September 1974 (Condy & Burger 1975). The animal was noted over a period of several days while swimming in circles approximately five metres off the eastern coast about 1 km north of the

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meteorological station (Fig. 3). Recent examination of photographs taken over that period confirms that two different individuals were involved (P. Best, pers. comm. 2010). During August 2006 an adult of unknown sex was sighted and photographed in Storm Petrel Bay on the north coast of the Island (Fig. 3). This animal meandered in large circles and random patterns within this one bay for
at least an hour from initial observation. It appeared to be feeding, as the animal’s mouth could be seen to open near the surface on several occasions. A juvenile animal (8–10 m) of unknown sex was sighted in August 2008 in poor visibility (due to snow squalls) at Ship’s Cove on the northeastern coast (Fig. 3). The animal was being harassed by three killer whales. The observed attack contin-

**Fig. 3.** Map of Marion Island, Southern Indian Ocean, showing the locations (Mixed Pickle Cove, Cape Davis, Goney Beach, Pinnacles Beach, Rockhopper Bay, Kildalkey Bay and Watertunnel Beach) where dedicated killer whale observations were made. Offshore dots indicate southern right whale sightings. (Adapted from Reisinger et al. 2011a.). Arrows indicate elephant seal researchers’ search area every 7–10 days (since 1983). Offshore dots indicate southern right whale sightings.

**Fig. 4.** Photograph of a juvenile southern right whale sighted in 2009 immediately north of the meteorological station at Marion Island.
Interestingly, all animals appeared to behave similarly, with particular days or the absence of other individuals. The decreased visibility due to heavy mist on that particular day or the absence of other individuals. The latter was sighted alone; this could be as a result of the known foraging area around the CI and the east coast of southern Africa (Fig. 1), a possible destination (Best 2007).

2) On the other hand, the waters around MI are frequently patrolled by killer whales (Orcinus Orca), particularly the inshore areas (Reisinger et al. 2011a). Elsewhere killer whales have been observed attacking right whales. Such encounters are rarely sighted, but could be fatal for young or unaccompanied animals, as southern right whales are usually group together for protection against killer whales (Best et al. 2010). Killer whale sightings occur throughout the year but peak between September–December and April–May (Reisinger et al. 2011a). The September to December peak coincides with breeding of southern elephant seals (Mirounga leonina) and penguin species (Condy et al. 1978; Reisinger et al. 2011a, b). This potential threat to right whales by killer whales may explain why few sightings of right whales have been realized, despite intensive observer presence for the past four decades.

The APF and Subtropical Convergence are considered as popular right whale feeding grounds; more specifically the area around CI at 45°S and Kerguelen Islands (‘Desolation’) at 49°S (Townsend 1935). Right whales must seek out and exploit extremely dense patches of prey in order to feed efficiently (Kenney et al. 1986) where they consume copepods (71.4%), euphausiids (24.3%) and crustaceans (4.3%) (Tormosov et al. 1997; Mate et al. 2010). MI lies west of these usual foraging regions (Fig. 5) and as such may be oceanographically unfavourable as a feeding ground. According to ship logbooks from 1785 to 1913 no sightings of southern right whales were made in the vicinity of the Prince Edward Islands (Townsend 1935) (Fig. 5). These five records between 1974 and 2009 are the only reported sightings of the species inshore at MI. Sightings of southern right whales at MI are infrequent and the species can be classi-
fied as a rare vagrant at the Island. MI’s position in the Southern Ocean potentially makes it a sheltered resting stop for a few individuals en route from the known Crozet Islands feeding grounds (February and March) to the winter calving grounds in southern Africa. Alternatively, passing individuals may be exploiting unpredictable food patches opportunistically.

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REFERENCES


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