

Short Communication: Pregnant dwarf sperm whale (*Kogia sima*) stranding in Palk Bay, India: Insights and significance of stranding records

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INTRODUCTION

Little is known about the occurrence of dwarf sperm whales in Indian waters, but there have been some recent efforts to document strandings, e.g., Dudhat *et al.* (2022). Here we provide details of a stranded pregnant dwarf sperm whale, the first record of its kind in Indian waters. The Gulf of Mannar and Palk Bay is a designated Important Marine Mammal Area, specifically for dugong, where at least 15 cetacean species use adjacent deeper waters (IUCN-MMPATF, 2019). The Indian Government has also declared part of this region a UNESCO Biosphere Reserve and Marine National Park, underscoring the area's high biodiversity and likely importance to several marine mammal species.

The genus *Kogia* encompasses two extant species: the pygmy sperm whale (*Kogia breviceps*) and dwarf sperm whale (*Kogia sima*) (Committee on Taxonomy, 2023). Both species inhabit tropical, subtropical and temperate waters worldwide (Waring *et al.*, 2004; McAlpine, 2009; Jefferson *et al.*, 2015), with dwarf sperm whales preferring warmer waters, whereas pygmy sperm whales are found in tropical and temperate regions (Ross, 1979; Caldwell and Caldwell, 1989).

There are significant challenges when observing these deep-diving and elusive species at sea (Baird, 2005; Geraci and Lounsbury, 2005). Stranding reports can therefore provide critical information on species biology and distribution, in addition to threats and individual health (Peltier *et al.*, 2012; Beasley *et al.*, 2013; Bonato *et al.*, 2016). There is a total of 20 recorded strandings of *Kogia spp.* in Indian waters, details of which can be found here. The distribution of this species therefore remains little understood in the waters to the south and east of India (Molur *et al.*, 1998; Kumaran, 2002; Jeyabaskaran and Vivekanandan, 2013; Aneesh *et al.*, 2018; Chandrasekar *et al.*, 2021), with even less information available from the western Indian Ocean (Kiszka *et al.*, 2007, 2010; Bonato *et al.*, 2016).

STRANDING EVENT

On 6 July 2021, the stranding of a deceased cetacean was reported from Kumarappan Vayal Fisherman Village, Pudukkottai District (9°.26' N, 79°.08' E). This Code 2 carcass was identified as a dwarf sperm whale using photographs and morphometric information, including the position and height of the dorsal fin, as proposed by Leatherwood and Reeves (1983), Geraci (2005) and Jefferson *et al.*, (2015) (Table 1; Fig. 1A–D). The specimen was pregnant and carried a well-developed foetus (Fig. 1E–F).

Published information indicates the total length of *K. sima* neonatal calves ranges from 72.5–112.5cm, suggesting that this foetus (total length 43cm) was likely to be at approximately five months gestation (Kami and Lujan, 1976; Caldwell and Caldwell, 1989; Debrot and Barros, 1992; Souto *et al.*, 2009). A veterinary surgeon examined the foetus and relied on his experience to estimate the foetal development age.

It has been noted that Palk Bay is intensively fished by gill-netters, purse seiners and trawlers (Balaji, 2017). While it's difficult to discern evidence of entanglement from the stranded carcass, the lack of any other injury and the generally good condition of the individual suggests possible entanglement in fishing gear. In addition, it was noted that no unusual weather or oceanographic events preceded this stranding.

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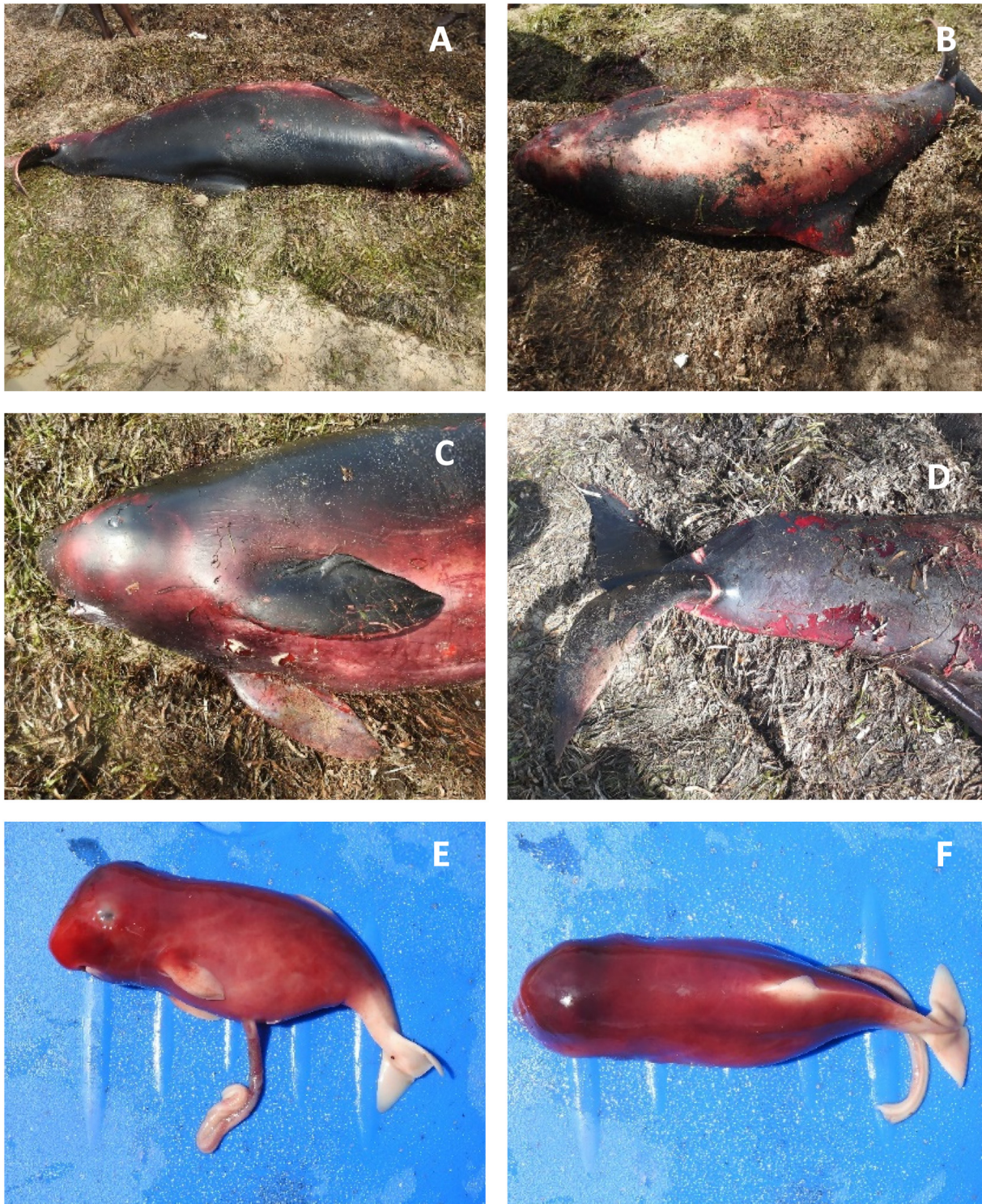


Fig. 1. (a) A Code 2 dwarf sperm whale (*Kogia Sima*) stranded in Palk Bay, India on 6 July 2021; (b) left and right lateral view; (c) head and pectoral fin view; (d) fluke view with possible scarring from rope or net entanglement; and (e–f) foetus lateral and dorsal view.

This record adds to existing information on the genus *Kogia* in India waters, while also emphasising the importance of the Palk Bay area. There is still need for further efforts to understand the causes of and develop a detailed system to record marine mammal stranding events. As environmental factors contribute to the wellbeing of cetaceans, systematic data collection along the Indian coast will improve our understanding of cetacean health, genetic variability and the prevalence of environmental pollutants.

Table 1
Measurements taken from a stranded dwarf sperm whale (*Kogia sima*),
Palk Bay, India (6 July 2021)

Specimen (<i>K. sima</i>)	
Measurements	Unit (cm)
Total body length	240
Approx. body weight	210
Max. flipper length	26
Max. flipper width	9
Fluke length	22
Fluke width	16
Head to dorsal fin base	–
Head to flipper base	–
Head to eye	25
Eye diameter	–
Flipper base	–
Dorsal fin base	35.6
Dorsal fin height	19.5
Fluke side length	8
Peduncle girth	–
Anal pore to peduncle	–
Lower jaw length	–
Snout height	–
Max. body girth	80
Blow hole to head	–

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