

Short communication

Report on death of Dwarf Sperm Whale, *Kogia sima* (Order: Cetacea: Family: Kogiidae) in Vedalai shore of Mandapam, Gulf of Mannar

ABSTRACT

Aims: Present study aims to highlight an accidental death of a male dwarf sperm whale scientifically known as *Kogia sima* which found to be as Least Concern (LC) as per IUCN Red List data. *Kogia sima* represents important higher trophics of marine ecosystem which faced the several threats and conservation need in Gulf of Mannar, India.

Study Design: The study undertaken during extensive coral reef monitoring survey was carried out in Gulf of Mannar under the CRAM Project of National Centre for Coastal Research (NCCR). The present report emphasize the Morphometric observation of the dead *Kogia sima* and try to find out possible cause of death by examining *in situ* investigation.

Place and Duration of Study: The field study was taken in Vedhalai Sea shore (N09°15.626', E79°04.977') under the Mandapam Union of Ramnathapuram District of Tamil Nadu. The male whale specimen was found on 5th May, 2019 lying dead on the sandy seashore.

Methodology: Animal was photographed and morphological attributes were measured to investigate the cause of death.

Results: The animal has mild damage on the mouth parts including scuff off skin from the body and severe blood clotting at major part of the right side near to pectoral fin. Death of this infant whale is not clear but it is assumed that the male whale has lost from his parents and came to the inshore area of Mandapam where it gets stuck with running boat or boulder rocks as this immature whale limits its diving capabilities. The necessary morphological characters and measures have been listed in table 1.

Conclusion: This unfortunate death clearly indicated that acute information on ecological behavior of sperm whale is still under data collection stage in India and that previous conservation efforts in country must be reviewed in terms of role of local authorities, live

stranded cetaceans and hunting or incidental killing which in future can build a road map for effective action plans to save this beautiful animal.

Key words: Dwarf sperm whale, *Kogia sima*, mortality, Mandapam, Gulf of Mannar

Indian coastal water comprised of 30 cetacean species which are included under IUCN Red Data list as endangered, vulnerable, near threatened, least concerned and data deficient. 14 species of Cetaceans are found in Gulf of Mannar of India and hence it is considered as Cetacean hotspot of India (Kumaran 2012). *Kogia sima* has been scheduled under the category I species of Wildlife protection act of India (Kumaran 2012). This animal is widely distributed in major ocean basins of the world (Jefferson et al. 2015; Baird 2005). *Kogia sima* usually occurs mainly in seaward from the continental slope to deep ocean waters and inshore appearance of this sperm whale is uncommon (Baird, 2005; Caldwell & Caldwell 1989). India represents 25% distribution of the worlds' total marine mammals and particularly *Kogia sima* in Indian waters are very limited and poorly understood (Molur et al., 1998; Jeyabaskaran & Vivekanandan 2013; Aneesh et al. 2018). It has been recorded so far from Gulf of Mannar, and Lakshadweep Islands of India (Aneesh et al. 2018). Adults are usually dark grey with extensive white scarring, while the juvenile has uniformly light or dark grey on the dorsal side and cream or white colour on ventral side (Baird 2005). On 5th May 2019, a dead male juvenile of *Kogia sima* was recorded in nearshore area located at 1 km west (N09°15.626', E79°04.977') of Vedalai village under the Mandapam Union of Ramnathapuram district. Animal was photographed and morphological attributes were measured to investigate the cause of death (Villapol et al., 2008). Present study aims to highlight an accidental death of this flagship species and to discuss the existing threats and conservation need of marine mammals in Gulf of Mannar, India.

The animal was 1.2m in length and 73kg in weight. No damage was observed on the dorsal side of the body (Fig.1a). Morphological characteristics were clearly distinguished as the specimen was not spoiled (**Fig.1a-b**). Mouth is rounded and upper jaw is blunt compared to *Kogia breviceps* (**Fig.1 e-g**). Upper jaw lacks teeth in *Kogia breviceps* but in this specimen, two pairs of vestigial teeth were found on the upper jaw which. Morphometric measurements were also documented at the stranded site (**Table1**). Internal organ and tissues were intact and healthy which presents normal coloration and texture. No bad odor comes from the dead body. Major part of Right Lateral side near to pectoral fin was found to have internal blood clotting (**Fig.1c**).

Two to three small injuries were found upper part of mouth which seems to be occurred due to scratch from sharp objects (**Fig.1d, 1g-h, I**). No net marks were found on the carcass. Near the blow hole and surface of the rounded head, there was a slight depression (**Fig e-g, i**). This mark usually indicates that the infant was starved for a few days which may be one of the assumed cause of death. Blood coming out from the umbilical scar of the animal has been found while it was sighted on the sea beach (Fig.1j-k). This may occur due to hard hit by some object on the chest and lateral side of the body.

Dwarf Sperm Whales are rare in Indian waters and very limited distribution information is available about this beautiful animal (De Silva 1987; Aneesh et al. 2015). Most of the distributional and death report made from historical notes and have uncertainty on species conformation. There is lot of confusion about species level identification with *Kogia breviceps* (De Silva 1987; Molur et al. 1998). This is the third death report of *Kogia sima* from Indian waters since 2000. Earlier, Chantrapotnsyl et al. (1991) reported the presence of *Kogia sima* from Andaman waters and another report documented from Vizagpatam by Pillai (1926) (Sathasivam 2000). On 5th March, 2014, a caracasse of *Kogia sima* was found by Volunteers of the TREE foundation near Nainarkuppam of Uthandi. Eaxct cause of the death is not clear (The Hindu 2014). In the present study, this infant may have lost and parents and enter in inshore habitat near Mandapam. The injuries in body suggested that this animal has died due to hit by the running boat or it stuck to the large rocks or corals while swimming. As this is very young, it is obvious that it is not a mature swimmer and diver in shallow water. Mild depression on the head and near blown hole indicated that he was starved for few days and he might be enough weak to swim and hit by hard object which results in death. In India, current status and knowledge on dwarf sperm whale is under the data collection stage (Kumaran 2012). Dwarf sperm whale occurs in temperate and tropical waters of Atlantic, Pacific and Indian Oceans but rarely sighted at sea (Mcalpine 2009). Inadequate information of its distribution, abundance, and local threats to this species fail to address the proper conservation management plan by local government authorities and marine mammal researcher of the country. Despite the enforcement of laws, cases of accidental and intentional catch of Dwarf Sperm Whale were reported from the South east coast of India. Systematic data collection on marine mammals, effective surveillance and environmental education are indispensable for minimizing the threats and developing suitable action plans for this beautiful animal.

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Table1: Morphometric Measurements of a dead and stranded Dwarf Sperm Whale.

SI No.	Particulars	Measurements (in cm)
1	Total Body Length	120.0
2	Tip of Upper jaw to eye	9.0
3	Tip of Upper Jaw to blowhole	13.0
4	Eye diameter	1.7
5	Length of caudal fin	24.0
6	Length of dorsal fin base	13.6
7	Pectoral fin width maximum	18.2
8	Umbilical scar to anus	37.0
9	Body height at the dorsal fin	24.0
10	Body height at the tail fin	6.3



Fig 1. Images of dead Dwarf Sperm Whale *Kogia sima* in Vedalai coast, a. Dorsal view; b. Ventral view; c. lateral view; d. scratch just above the right eye; e. mild depression on the head and near to blow hole; f. Close view on the right side of the body showing major injuries; g-i injuries seen in head and mouth parts and blowhole region; j. major injuries leading to blood coagulation on the lateral side of the body; k. blood released from the Umbilical scar; l. No injuries on the upper and lower jaw of the mouth.

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