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Short note

Deaths of Olive ridley turtle *Lepidochelys olivacea* at the Pudupettai beach, Tamilnadu, India

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Abstract. We report on deaths of Olive ridley turtle (*Lepidochelys olivacea*) at the Pudupettai beach on the Tamilnadu coast of India. The study was conducted during the period of January 2021 to March 2021. A total of 29 dead Olive Ridley turtle was counted and almost all the deaths caused due to unnatural incidents. Direct evidences of fatal injuries were observed on the body parts. As well as, evidences of pollutants were found on the beach.

Key words: Olive ridley, turtle, deaths, fishing activity, pollution.

1. Introduction

Currently the Olive ridley turtle *Lepidochelys olivacea* (Eschscholtz, 1829) has been listed as vulnerable by the IUCN Red List (Abreu-Grobois et al., 2008) and also is legally protected under the schedule I of Indian Wildlife Protection Act (1972). The olive ridley turtle (*Lepidochelys olivacea*) are known to nest along the east coast of India. The breeding season of olive ridley turtles in India is from November to May, during which mating, egg-laying, and hatching take place (Behera et al., 2010). This species is reportedly declining throughout its geographical range due to pollution, habitat loss, mortality due to unscientific fishing practices and exploitation for food (Limpus, 1995). Mortality in the nesting season will lead to severe population decline as matured individuals are eliminated forever (Bhupathy & Sarvanan, 2002).

In this paper, we report the deaths of *Lepidochelys olivacea* (Fig.1) in nesting season from a lesser known beach of Tamilnadu, India.

2. Study area

We conducted fieldwork at the Pudupettai beach (Fig. 2), in Tamilnadu state in the South East India. The beach is a 2.64 km sand spit along the northern side of the Vellar estuary (11.504679°N, 79.777007°E in the south to 11.526252°N, 79.766686°E in the north). The beach is located 200 kilometers south of the state capital Chennai. The maximum wave height is 1.5 m and the annual precipitation is 1235 mm. On the west side, human habitats and the *Casuarina equisetifolia* L. plantation adjoin the beach.

Figure 1. Dead specimens of the Olive ridley turtle *Lepidochelys olivacea* on the beach of Tamilnadu, India

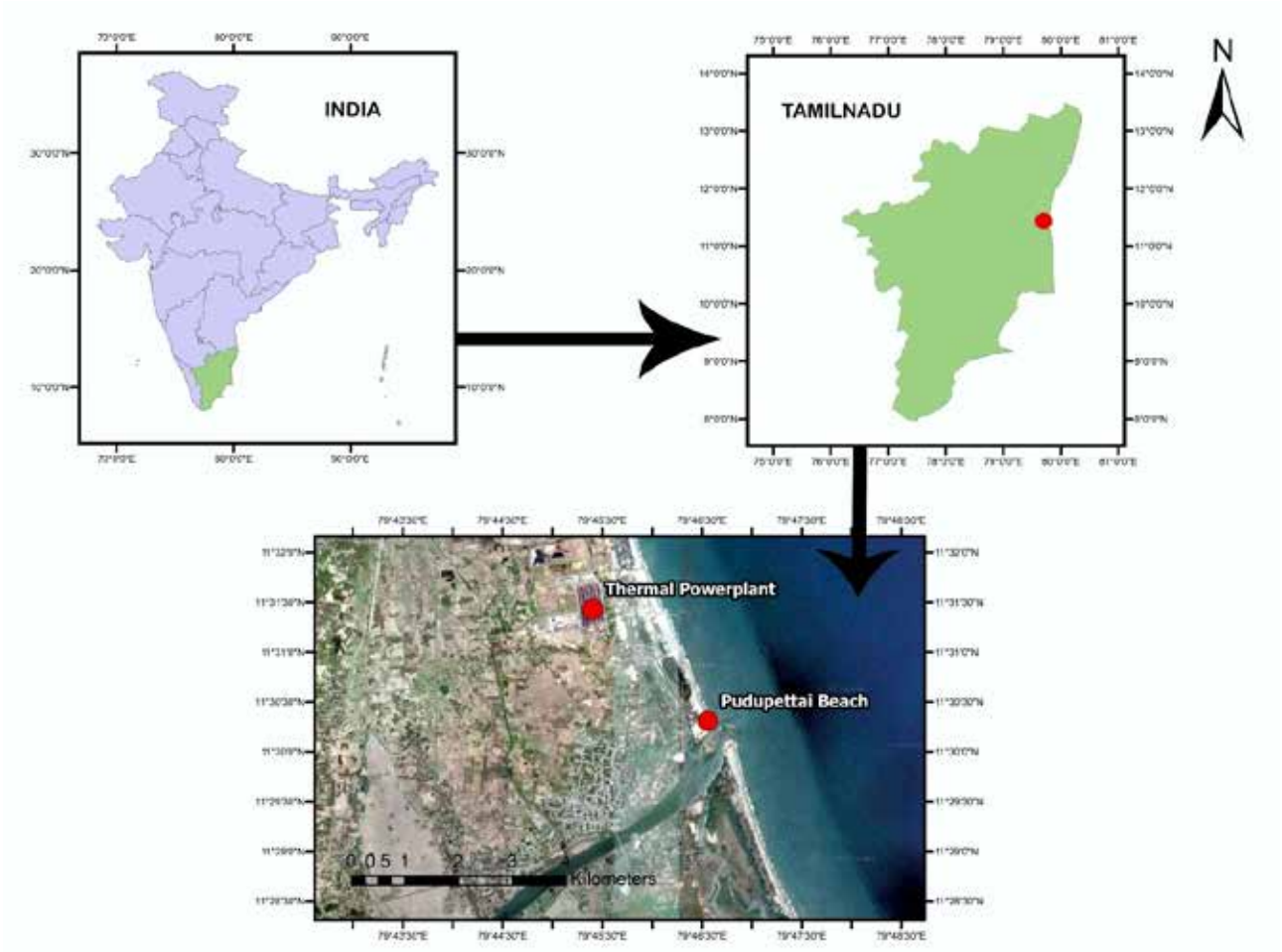

Figure 2. Location and air photo of the beach of Tamilnadu

3. Materials and Methods

The study was conducted during the period of January 2021 to March 2021 to observe turtle mortality at the Pudupettai beach. The entire beach was monitored by foot everyday 4 P.M. to 6 P.M. Dead turtle were dragged up to the beach, away from the tidal zone to avoid repeat counting during the next survey. Dead turtles were sexed using external characteristics. Whenever possible, the causes of death were assumed from the external injuries.

4. Results

During the survey a total of 29 dead Olive Ridley turtle was counted and no signs of nesting on the beach surveyed were observed. 10 out of 29 were counted in a single day on 10th February 2021. Number of male observed 4 Number of female observed 14 and 11 was unidentified. In this region, fishermen use to break the carapace to help the carcass degrade quickly to get rid of foul smell. In addition to our survey, we classified the carcasses in 6 different categories (Table 1) to assume the possible causes behind the death.

Table 1 . Possible causes behind the deaths of Olive Ridley turtle

Possible causes behind the deaths	No. of turtles
Fracture in skull	4
Fracture in carapace	9
Flipper missing	6
Eye missing	1
Entangled with ghost nets	3
Un-identified	6
Total	**29**

We observed that, not only dogs and crows are scavenging on the turtle carcasses but also two different types of crabs, *Ocypode brevicornis* and *O. macrocera* are scavenging too.

We also observed that, the beach is highly polluted by non-biodegradable debris like plastic bag, plastic and glass bottles, fishing gears and ghost nets. A thermal power plant is situated less than 900 meters west from the beach.

5. Discussion

Exotic *Casuarina equisetifolia* plantation on the west side of the beach might have negative impacts on Turtles. Previously, it was observed that *Casuarina* plantation have negative impacts on coastal eco systems (Chaudhari et al., 2009). However on the body parts of *Lepidochelys olivacea* direct evidence of fatal injuries were observed which might be caused by fishing gears and boats, we also suspect the cause of death to be accidental catch of the sea turtle during trawling operations that might have led to an uncertain death due to hypoxia. Furthermore, the impact of the non-biodegradable debris and thermal power plant is unknown to us and can be further investigated. Historically, nest of *Lepidochelys olivacea* were observed in Saamiyarpettai to Aiyampettai area (Sudhan et al., 2018). Unfortunately, the last time nests were observed in 2016 from Saamiyar pettai which is just 2 km north from our study site. However, our study area was restricted to puddupettai so further extension of the study sites on the east coast of India can reveal the actual number of annual deaths.

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