

UNUSUAL DEATH OF AN OLIVE RIDLEY SEA TURTLE IN DHABALESWAR SEA BEACH, ODISHA, INDIA¹

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The unnatural death of a gravid Olive Ridley Sea Turtle *Lepidochelys olivacea* (Eschscholtz, 1829) is highlighted in this report. The incident took place during a field visit to Dhabaleswar sea beach (19.223°N; 84.869°E), Odisha, India, along the coastal area of Bay of Bengal. The coastal areas of

Odisha are well-known as the breeding ground of Olive Ridley Turtle (Pandav *et al.* 2006; Rajagopalan *et al.* 1996; Raut and Nandi 1986) (Fig. 1). Thousands of marine turtles, including Olive Ridleys, migrate to coastal areas of India every year to lay eggs. Both eggs and meat are quite palatable to humans as

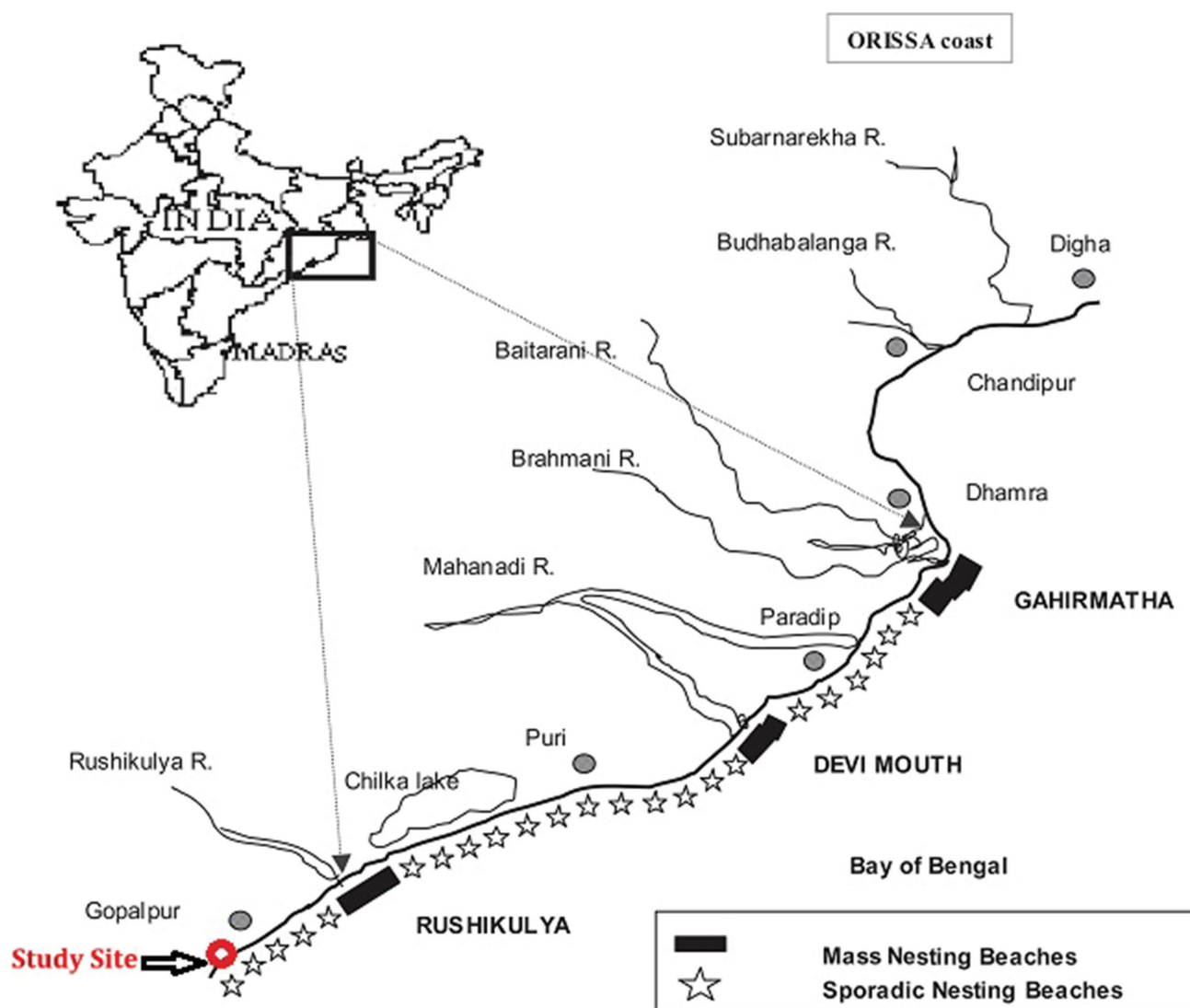


Fig. 1: Reported nesting sites of Olive Ridley Sea Turtle *Lepidochelys olivacea* along the coast of Odisha, India (Shanker and Kutty 2005). The present study site is shown as a red circle

well as other natural predators such as jackals, feral pigs and dogs, birds, monitor lizards, etc. High protein and fat content of adult turtle meat have industrial value also (Marquez and Dissel 1982). Though trading of Olive Ridley Sea Turtle is banned under CITES Appendix I, poaching still continues for their meat, shell, leather, and eggs. Frequently published reports about the deaths of Olive Ridleys in newspapers and journals indicate that the unnatural death of this creature is not accidental but a regular occurrence. The aim of the present study is to generate awareness among local people and government authorities, to take precautionary measures to protect this vulnerable creature.

Dhabaleswar beach is a tourist spot near Brahmapur city in Ganjam district, Odisha, India. The “golden beach” of Dhabaleswar is not very distant from Gopalpur beach, a renowned tourist spot (Fig. 1). A severely wounded Olive Ridley Sea Turtle was noticed in Dhabaleswar beach on March 25, 2016 around 16:45 hrs. The specimen was photographed and general morphological characters were recorded. The specimen was about 67 cm in length. The head was small and large scutes were present in the heart-shaped olive green

carapace. There were eight smooth lateral scutes in the carapace. The dorsal part of the carapace was partly broken and the lateral side of the abdomen was fatally ruptured (Fig. 2a). About 20 eggs were scattered beside the animal (Figs 2b and 2c), which was bleeding heavily. The turtle died immediately and the eggs were scavenged and eaten up by a group of House Crow *Corvus splendens* (Vieillot, 1817) (Fig. 2d).

The specimen was identified as a mature gravid female Olive Ridley Sea Turtle *Lepidochelys olivacea*. The female may have been on its voyage for nesting, as Gopalpur and nearby sea beaches are reported to be sporadic nesting sites of the species (Shanker and Kutty 2005; Fig. 1).

Though there were many possible reasons for the unnatural death of this turtle, the nature of the injury on the dorsal side of the carapace indicates that it was hit by the propeller of a trawler, and wounds on the lateral side of the belly indicate injury from a fishing net. Trawlers which were seen nearby at the time of the incident strengthen the probability. The presence of the house crows to feed immediately on the eggs demonstrates the vulnerability of the eggs which would normally have been laid by this species.



Fig. 2: Olive Ridley Sea Turtle *Lepidochelys olivacea* found dead at Dhabaleswar beach, Odisha, India (a) Carapace partly broken and lateral side of abdomen fatally ruptured (b, c) Eggs scattered on the beach (d) House crows feeding on the eggs

Olive Ridleys, named after the eminent scholar-explorer H.N. Ridley, are the smallest marine turtles in the world. They are popularly known for the phenomenon of mass nesting called *arribada* in which thousands of females flock to the same beach to lay eggs. Another interesting phenomenon is that the females return to the same place where they were hatched, migrating thousands of miles from their feeding sites to their nesting sites. Olive Ridleys are found in the Pacific, Atlantic, and Indian Oceans. They nest along the coast of India and offshore islands, including Lakshadweep in the Arabian Sea and Andaman & Nicobar Islands in the Bay of Bengal (Kar and Bhaskar 1982). On the eastern coast, mass nesting of this turtle occurs at Gahirmatha, Devi, and Rushikulya in Odisha (Tripathi *et al.* 2008) (Fig. 1). Mass nesting occurs generally between February and March, though it may take place in late December or even in early April (Tripathi *et al.* 2008).

Olive Ridley populations are reported to be declining worldwide. *Arribada* rookeries are destroyed in Mexico and Surinam (Limpus 1995), Pakistan (Asrar 1999), Myanmar (Thorbjarnarson *et al.* 2000), Malaysia, and Thailand (Limpus 1995). In India, Olive Ridleys are on the decline in the coastal areas of Odisha (Bhupathy and Saravanan 2002) and Andaman & Nicobar Islands (Andrews *et al.* 2006). This species has been declared as Vulnerable by IUCN and included in Schedule I of the Indian Wildlife (Protection) Act 1972 (WPA) (Abreu-Grobois and Plotkin 2008). Factors responsible for the population decline on the Indian coast include beach erosion, incidental death during net trawling, illegal exploitation for meat and eggs, and uncontrolled beach tourism (Tripathi *et al.* 2008). There are several records to show that adult Olive Ridleys and

their eggs were collected from Gahirmatha beach and were transported to Kolkata for trading. This mass hunting took place from prior to 1947 until the early 1980s (Kar 2001). Implementation of WPA 1972 ended the legal trade by the early 1980s (Kar and Dash 1984), but illegal poaching of sea turtles is continuing (<http://www.seaturtle.org>).

Trawl fisheries and the use of gillnets is a major problem for sea turtles in South Asia, including India (Giri and Chaturvedi 2003; Raut and Nandi 1986; Roychoudhury 2001; Subrata *et al.* 2013; Wright and Mohanty 2006). Every year, carcasses of Olive Ridley Sea Turtle are caught in fishing nets along the eastern coast of India, demonstrating high mortality in adult individuals (Wright and Mohanty 2006). Death of marine turtles due to collision with shipping vessels or trawlers has been reported frequently (Hazel and Gyuris 2006; Hazel *et al.* 2007; Sridhar 2005). The BBC website (<http://www.bbc.com/news/world-asia-india-35369073>) reported on January 21, 2016, the death of more than 150 Olive Ridley turtles at Puri beach (19.808° N, 85.852° E) in Odisha, on the eastern coast, 150 km from Dhabaleswar. According to the local forest department officials, the turtles may have been hit by trawlers fishing along the Puri beach. The forest officials also added that local fishermen often flout the ban on fishing along the coast, disturbing the natural nesting sites of turtles. The death of gravid female turtles like the present one decreases the fecundity of the species population to a considerable extent, as this type of accident may occur frequently.

Awareness among local fishermen community as well as proper implementation of existing laws and regular surveillance by the concerned government authorities are necessary to save this vulnerable species from the threat of extinction.

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