



Status Of Olive Ridley Sea Turtles (*Lepidochelys Olivacea*) In Srikakulam District, Andhra Pradesh

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Abstract:

Olive ridley turtles (*Lepidochelys olivacea*) exhibit more prominent nesting activity along the coast of India, with major mass nesting beaches in the state of Orissa. Increasing hunting and anthropogenic activities made these sea turtle group into IUCN vulnerable category. Conserving the population and diversity of these turtles has significant ecological role i.e., nourishing the dune vegetation, and help to prevent coastal erosion. The present study focused to evaluate the status of olive ridley turtles population and nesting activity in three hours interval of 4 study regions (namely Kapaskuddi, Battivanipalem, Donkuru and Kalingapatnam) of Srikakulam district, Indian state of Andhra Pradesh. This long term ecological study might provide future perspectives for the conservation of sea turtles population and diversity.

Keywords: Biodiversity, Olive ridley turtles, Srikakulam district, Nesting activity.

Introduction :

Olive ridley turtles (*Lepidochelys olivacea*) nest along the east and west coasts of India, with major mass nesting beaches in the state of Orissa. The coast of Andhra Pradesh, the state immediately south of Orissa, has sporadic nesting of olive ridley turtles and is believed to form part of the migratory route of the turtles that nest in Orissa. Five species of marine turtles have been reported from Indian waters: the leatherback *Dermochelys coriacea*, hawksbill *Eretmochelys imbricata*, loggerhead *Caretta caretta*, green *Chelonia mydas* and olive ridley turtle *Lepidochelys olivacea* (Kar & Bhaskar, 1982). All except the loggerhead turtle have been reported from the State of Andhra Pradesh on the east coast of India (Dutt, 1976, 1979; Biswas, 1982; Kar & Bhaskar, 1982) but only olive ridley turtles have been reported to nest (Kar, 1983; Subba Rao *et al.*, 1987). All five species are included in Schedule I of the Indian Wild Life (Protection) Act 1972, and are thereby accorded the highest degree of protection under the law; hunting of the turtles or damaging the eggs is strictly prohibited.

Olive ridley turtles are worldwide distributed and categorized as Endangered on the IUCN Red List (IUCN, 2002). Because Rushikulya, the southernmost mass nesting rookery in Orissa, is only 50 km from the Orissa–Andhra Pradesh border, the Andhra Pradesh coast could be an important nesting habitat for olive ridley turtles. The species is known to nest on the northern Andhra Pradesh coast (Raja Sekhar & Subba Rao, 1993, Priyadarshini, 1998) and large numbers have been reported to travel through the offshore waters of the states of Tamil Nadu and Andhra Pradesh to and from the nesting beaches of Orissa (Kar, 1983; Raja Sekhar & Subba Rao, 1993). However, little is known about the distribution and density of offshore aggregations or nesting along the coast, and there has been growing concern that, due to a rapid increase in the intensity of mechanized fishing along the Andhra Pradesh coast, significant mortality of turtles may be occurring during their breeding migrations. Although fisheries related mortality of marine turtles has been reported along this coast (Rao, 1984; Subba Rao *et al.*, 1987; Raja Sekhar & Subba Rao, 1993; Priyadarshini, 1998), there have been no systematic surveys of the entire coast. In this context, a survey of the Andhra Pradesh coast was conducted to assess the status of marine turtles and their nesting habitats. In this paper, we report the results of nesting and offshore surveys, assess the threats to this population and to its nesting habitats, and suggest conservation strategies based on our findings.

Review of Literature :

On the East coast of India, the status surveys of marine turtle in particular to Olive ridleys of Bay of Bengal were carried out by Valliappan and Whitaker (1974), Kar and Bhaskar (1982), Biswas (1982), Bhaskar (1979) on the Andaman & Nicobar Islands, Bhaskar (1980) on the status of sea turtles in the Eastern Indian Ocean, Bustard and Kar (1981) on intensive survey on Olive ridleys in Odisha.

Survey on the important sporadic nesting habitats of Olive ridley turtles in Andhra Pradesh coast were carried out by Tripathy *et al.* (2003). Studies on Conservation and Management of Olive ridleys for the past four decades along northern Andhra coast were carried out by Subba Rao *et al.*, (1983), Raja Sekhar (1987 and 1999), Tripathy (2003), Bharatha Lakshmi *et al.* (2008) and Raja Sekhar *et al.*, (2009).

Pandav (2000) and Tripathy (2004a) Tripathy *et al.* (2003) have conducted a study on sporadic nesting habitats and nesting beaches of Olive ridley along the Andhra Pradesh coast as part of United National Development Programme

The beaches selected by the nesting Olive ridleys were fine sandy areas with a gradual slope and often edged with small patches of ground vegetation at the high beach platforms. The Government of Andhra Pradesh has planned a number of new harbours, which are likely to result in an increase in fishing craft, gear and operations, leading to increased fisheries related mortality along the coast.

The fauna consist of the mainly crabs like ghost crabs, *Ocypoda sps*, *Uca sps*, several other species of insects like mites, ants and insect larvae (maggots), birds like Seagulls *Larus brunnicephalus*; Cattle egrets, *Bubulicus ibis*, Cormorants, *Phalacrocorax sps*, Pond herons, *Ardeola grayii* and domestic Crows *Corvus splendens* Kites, *Milvus sps* and some wetland dependent raptors were most dominant.

Of mammals, Jackals, Foxes, Rabbits, Wild Pigs, Hyaenas, Wild cats and domestic cats were most common in most of the areas edged with dense vegetation. The feral dogs and pigs were common in the areas where human habitation is more.

Table 2: Frequency of nesting of the Olive ridley, sea turtles at hourly and three hourly intervals-Srikakulam District, Andhra Pradesh.

| Time (h) | % nesting of sea turtles | |
|----------|--------------------------|------------|
| | (hourly) | (3-hourly) |
| 19:00 | 3.20 | 11.97 |
| 20:00 | 3.95 | |
| 21:00 | 4.65 | |
| 22:00 | 14.50 | 43.44 |
| 23:00 | 16.10 | |
| 24:00 | 12.65 | |
| 01:00 | 4.80 | 18.65 |
| 02:00 | 5.85 | |
| 03:00 | 7.85 | |
| 04:00 | 16.65 | 24.49 |
| 05:00 | 6.08 | |
| 06:00 | 1.60 | |

h=hour

% = Percentage

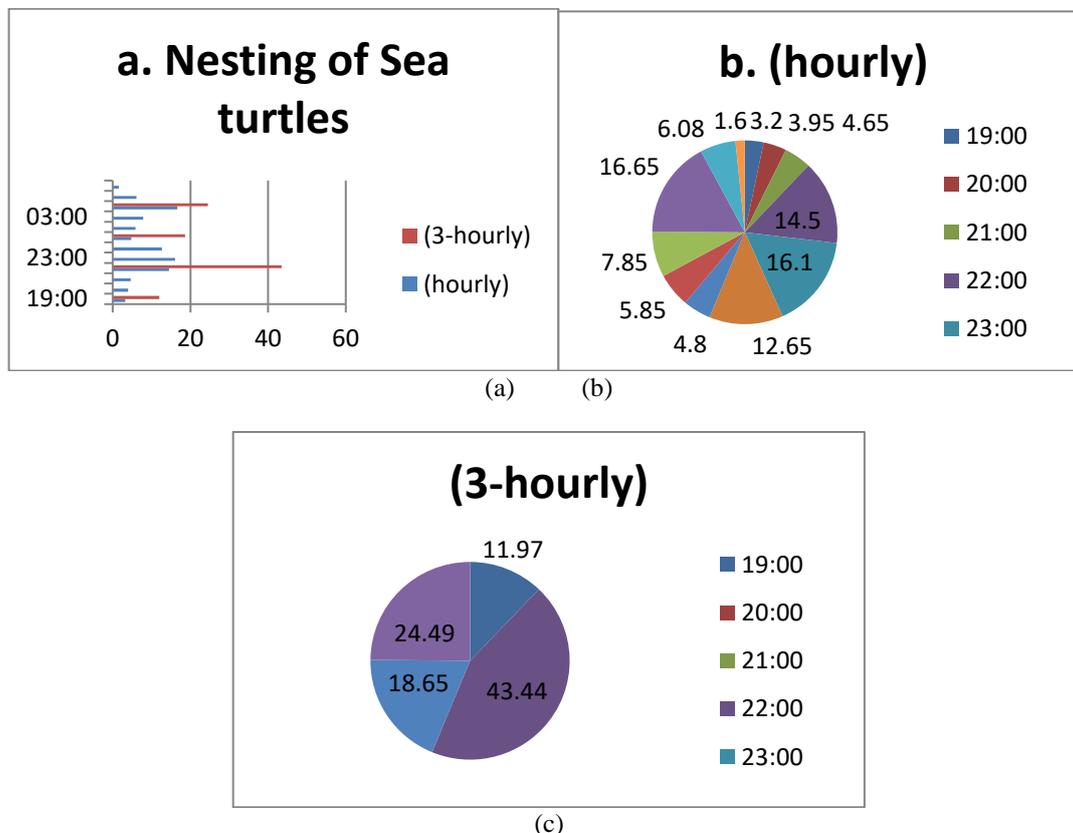


Figure 2(a) Nesting of sea turtles (b) Hourly nesting (c) 3 hourly nesti

Discussion

The migration of Olive ridleys to the coastal waters of Andhra Pradesh ,India from Indian Ocean begins in October and some of the breeding turtles are sporadically nesting all along the Srikakulam coast of Andhra Pradesh. Whereas

intensive sporadic nesting has been taken place at major river mouths of Godavari river, Vamsadhara and Nagavali rivers of northern part of Andhra Pradesh from February to April (Raja Sekhar, 1999 and Tripathy et al., 2003). In winter months (December to March) the Olive ridleys migrate from Indian Ocean along the coasts of Tamilnadu and Andhra Pradesh in order to reach their mass nesting (Arribada) sites in Odisha. During migration many of the turtles are selecting nearby suitable habitats for their nesting activity (Kar, 1983). This type of sporadic nesting has been gradually increasing in recent years.

Conclusion :

The Olive ridley sea turtles nest sporadically along the coast with comparatively higher nesting along the coasts. Fishing operation appears to be one of the major reasons for total mortality. Studies on the breeding biology of turtles along the coasts, and long term ecological investigations would provide further insights in evolving Sea Turtle Conservation Programme at National level.

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