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PRELIMINARY STUDIES ON MARINE TURTLE HATCHERY
AT BENGRE BEACH, MANGALORE

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ABSTRACT

Olive ridley, *Lepidochelys olivacea* nests around Mangalore Coast and hatchery was erected. Growth rates and percentage of hatching were observed for hatchlings for 2 months before releasing to the sea.

Key-words : Marine turtle, West Coast, hatchery, conservation.

Information on the marine turtle breeding along Mangalore coast is very meagre. A preliminary study was initiated to get basic information about the nesting ground, species composition, details of incubation and hatching along Bengre beach of Mangalore Coast.

The study site was a 4 km. beach (Bengre beach) in between Mangalore old port and new port. Night beach walks were initiated to watch the arrival of nesting turtle. The eggs were collected immediately after the nesting turtle deposited in the pit and transferred to the hatchery very carefully without damage to the eggs.

A small hatchery was erected about 40 meters above from the high tide level with wooden poles and wire mesh at Bengre beach itself close to the natural breeding site. Inside the hatchery artificial pits were prepared by digging the sand similar to the natural pits. (45 cm depth, 30 cm width at the bottom and 20 cm width at the neck). The eggs were introduced slowly to the pits and sand was covered above it. The clutches were kept at a distance of 1 meter each and numbered.

After hatching, the young ones were collected and kept in plastic basins and brought to the laboratory for observation on growth rate, feeding habits and activity. In the laboratory, the young ones were kept in groups of 5 in plastic basins with 12 cm deep sea water, and the water was changed daily. The young ones were fed with chopped prawns and fish. Length and breadth of carapace and weight of the animals were taken once in 3 days. After two months, all the young ones were released to the sea.

Olive ridley, *Lepidochelys olivacea* visited the Mangalore beach from November to February. Emergence of nesting turtle from the sea was observed both during

Table I : Details of the hatchery

| Identification mark | No. of eggs collected | Date of collection | Time of collection | Date of hatching | No. of incubation days | No. of hatchlings emerged | No. of hatchlings released after 2 months | Per cent stage of hatching |
|---------------------|-----------------------|--------------------|--------------------|------------------|------------------------|---------------------------|---|----------------------------|
| C _{1a} | 75 | 9-11-85 | 4 a.m. | 3.1.86 | 55 | 80 | 72 | 53.33 |
| C _{1b} | 75 | 9-11-85 | 4 a.m. | 3.1.86 | | | | |
| C ₂ | 70 | 7-12-85 | — | 4-2-86 | 59 | 45 | 40 | 64.28 |
| C ₃ | 164 | 16-12-85 | 9.30 p.m. | 8.2.86 | 60 | 130 | 121 | 79.26 |
| C ₄ | 95 | 18-12-85 | 10.30 p.m. | 11-2-86 | 55 | 68 | 61 | 71.57 |
| C ₅ | 126 | 1-1-86 | 11.30 p.m. | 18-2-86 | 49 | 66 | 60 | 52.38 |

Table II : Morphometric measurements of the hatchlings of *L. Olivacea*

| Parameters studied | At the day of Emergence | 15th day | 30th day | 45th day | 60th day |
|-------------------------------------|-------------------------|---------------|---------------|---------------|---------------|
| Average length of the carapace (cm) | 4.27* 0.10 | 4.89 0.05 | 5.53 0.12 | 6.18 0.24 | 6.18 0.26 |
| Average breadth of carapace (cm) | 3.66 0.09 | 3.95 0.09 | 4.22 0.11 | 4.60 0.16 | 5.03 0.17 |
| Average weight of the hatchling (g) | 18.70 1.15 | 20.39 1.27 | 22.11 1.37 | 23.84 1.52 | 25.65 1.61 |

* ± Standard deviation

high and low tide phases. Freshly laid eggs have a coat of albumin-like covering and their weight ranged from 23.3 to 26.6 g. The details of the eggs collected and number of hatchlings emerged from each clutch are given in Table I.

The first indication of emergence activity was indicated by sinking of sand from the surface of the pit. When this is seen, the new hatchlings emerged within few hours or even after 1 or 2 days. The hatchlings emerged in the early hours of the day and some times continued for 2 — 3 days.

Hatchlings survived on yolk material for the first 4 days and did not accept the food offered. On the 5th day 40% of the hatchlings consumed the food and on 6th day all the hatchlings consumed food which included chopped prawns and fish and rejected sea weeds. The quantity of food consumed (ad libitum) increased day by day. The rate of growth of hatchlings is given in the Table II.

After maintaining them for 2 months, the young ones were released to the sea. The mortality during this period was negligible.

On the west coast the nesting season starts in November and extends up to February. The mass nesting habit observed on the east coast at Gahirmath (Orissa) was not noticed on the west coast. (Davis and Bedi 1978, Kar 1980, 1982, Silas Rajgopalan, Dan and Fernando 1984). The local fishermen have a belief that turtle comes to nests when there is a ring around the moon . . (due to the refraction of light when the moon light passes through the cloudy or humid or vapoury layers of the atmosphere). Only certain communities consume turtle meat. The fisherman community along the coast worship these turtles as the incarnation of God (Kurmavatar) and do not eat. It is interesting to note that the local people have an innate sense of conservation to some extent. When they collect the eggs for consumption from the nest few eggs (generally 2-3) were left behind in the pit compulsarily by all. Even the authors were advised to obey this.

In view of the diminishing nesting ground along the west coast, it is very important to take steps to have similar hatcheries and release the young ones to the sea for conserving this endangered species.

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