

CENTRE FOR HERPETOLOGY
MADRAS CROCODILE BANK
POST BAG No. 4
MAMALLAPURAM-603 104
TAMILNADU, S. INDIA

Considerable literature on the various conservation methods of sea turtles (Bjornadal, 1981), with particular reference to Indian seas (Jones and Fernando, 1968; Bhaskar, a, b, c, d, e, 1979; Kar, 1980; Biswas, 1981; Bhaskar and Whitaker, 1983; Silas et al., 1983, a, b, c.). Studies indicated that the number of eggs in a clutch markedly differ in olive ridley, nesting in different geographical areas (Dereniyagala, 1939; Carr, 1952; Schultz, 1975; Biswas et al., 1977; Rahman et al., 1983; Silas et al., 1984). The present paper reports on the recovery plan of the olive ridley

INTRODUCTION

A recovery programme for olive ridley *Lepidochelys olivacea* was started by the Department of Forest, Tamil Nadu Government in 1982. During 1982-83 and 1983-84 a total number of 30,046 and 30,771 eggs were incubated and the maximum percentage of hatching were 81% and 83.69% respectively. The field study indicated that Vanavannahadevi at Thanjavur district has favourable environment for nesting and conducting artificial hatchery programmes.

ABSTRACT

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CALIMERE, TAMIL NADU

RECOVERY PLAN FOR OLIVE RIDLEY *LEPIDOCHELYS OLIVACEA* AT POINT

by Abdul R. Rahman et al.
paper no 30
and marine parks, Cochin, 1985
Dyptostium on endangred marine mammals
(63)

During nesting season, average humidity and temperature were recorded (Table 1). Temperature ranged between 29°C to 34.5°C (Maximum) and 22.5°C to 24.5°C (Minimum) and the humidity ranged between 60% to 76% during 1982-83. In 1983-84, the variation in temperature was 28.5°C to 34°C (Maximum) and 25°C to 25°C (Minimum) with a range of 61% to 78% humidity.

Nesting season commences from the last week of November to the end of March, with a peak in the middle of January. Nesting of olive ridley usually was observed between 1.00 to 3.00 AM on most of the occasions. In January 1984, a number of carcasses of olive ridley were washed at Vizhundamavadi, near Point Calimere. The reason could not be confirmed.

Nesting Season

The width of the nest varied from 27 to 39 cm (35 cm) at the widest part of the nest chamber, and 12-18 cm at the neck region and the depth of the nest varied between 30-45 cm.

The nests were located at 10 and 30-40 metres away from the high water mark. However, the nests located at the distance of 10 metres have elevated sand bars, which the mother turtle climbs and nests. Otherwise, it was found that normally the nests were found at a distance of 30 to 40 metres away from the high water mark. The crawl marks were useful in the identification of the nesting site. The size of the nests were measured while collecting the eggs. From each nest, size of the clutch was recorded. While taking the eggs care was taken, not to disturb the eggs. With a sketch pen, a dot was marked on the top of the eggs, when the eggs were removed from the nests, to facilitate correct position while transplanting the eggs in the hatchery.

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Nadu between 1982-1984.

along the east coast at Point Calimere, Thanjavur District, Tamil

The eggs in 255 nests during 1982-'83 and 249 nests in 1983-'84 were collected and transferred to the hatchery. The clutch size varied from place to place. However, at Vanavannahadevi recorded maximum clutch size and the range of clutch was narrow when compared to other places (Table 3). During the "Turtle Walk" about 25 turtles were observed nesting and the morphometric characters are given elsewhere (Kumar, Per. Comm.). The diameter of the egg varied

Month	Average Humidity (%)		Temperature (°C)		Clutch
	1982-83	1983-84	Minimum	Maximum	
December	76	78	22.5	29.0	28.5
January	73	75	23.0	30.5	30.0
February	70	73.5	23.0	32.0	31.0
March	67	70	23.5	33.0	32.0
April	65.5	65.5	24.0	33.5	33.5
May	60	61	24.5	34.5	34.0

TABLE 1. Average monthly humidity and air temperature 1982-'84

During the months of December 1983 and January 1984 the entire area under study was recorded an unusual rain 869.6 and 135.2 mm respectively and the field observation indicated that there was no nesting of the turtle during the rainy days.

TABLE 2. Clutch size variation and number of nests in different areas at
Thenjavur District, Tamil Nadu

Place	Year	Number observed	Average Clutch Size
Point Calimere	1982-83	90	119
Vanavan mahadevi	1982-83	87	124
Arcoththurai	1982-83	78	111
Point Calimere	1983-84	91	115
Vanavan mahadevi	1983-84	78	131
Vizhundamavadi	1983-84	80	125

TABLE 3. Clutch size variation in different nests in the Tanjavur District
Tamil Nadu

Place and Year	Total number of Total No. of nests in which less than 100 eggs were observed		Total No. of nests in which 100 to 120 eggs were observed		Total No. of nests in which 121 to 140 eggs were observed		Total No. of nests in which 141 to 160 eggs were observed		Total No. of nests in which more than 160 eggs were observed
	observed	observed	observed	observed	observed	observed	observed	observed	observed
1982-83									
Point Calimere	11	36	32	11	---	---	---	---	---
Vanavannahadevi	11	26	30	20	---	---	---	---	---
Arcoththurai	21	29	20	8	---	---	---	---	---
1983-84									
Point Calimere	13	34	35	8	1	---	---	---	---
Vanaven Mahadevi	9	7	29	32	1	---	---	---	---
Vizhundamavadi	10	12	38	20	0	---	---	---	---

The forest department of Tamil Nadu Government had constructed three hatcheries in 1982-83, at Point Calimere, Vanavan mahadevi and Arcotthurai. In 1983-84 the hatcheries functioned at Point Calimere and Vanavan mahadevi and instead of Arcotthurai, Vizhundamavadi was chosen for erecting the hatchery as it provided favourable environment.

Hatchery

At one occasion native people used locally made fire crackers such as "Venkaya vedi" (Oilon shaped fire cracker) to frighten the stray dogs from consuming the eggs. However, this method is abandoned in the sanctuary at Point Calimere. Further local people use the goat fat to cover the fire crackers (Venkaya vedi) and dry them in shady and use this as fake food. This method is used to place kill the fox, which predate on turtle eggs.

During the "Turtle Walk" at nights, stray dogs and pigs often disturbed the nests. This may be due to the smell of the albumen like mucus coated on the freshly laid eggs. In some instances, raw eggs were consumed by the local people and at one instance it was noticed that eggs were taken and mixed with cattle feed and given to the cows. It was also observed that the eggs were smashed with water and filled in a feeding bottle and forcibly given to the goats. Exact data on the predators are wanting.

Predation of eggs

From 28.2 to 32.1 (Average: 31 mm). In a single clutch of 120 eggs, the diameter of the eggs did not vary much (Average: 31 mm). In the present study, variability in the weight of a single clutch and between the clutches were not significant. While recording the weight of an egg, the sand particle adhering to the calcareous shell were removed with the help of camel hair brush taking care least mechanical disturbance to the eggs.

TABLE 4. Showing total/ of eggs incubated and total number of hatchlings released /number

Place of collection	Total number of eggs incubated	A (1982-1983)		Total number of hatchlings released	Total number of eggs unhatched	Percentage of hatchlings
		Total number of eggs hatched	Average days for incubation			
Point Calimere	10,630	8,556	50	8,256	2,374	80
Vanavani mahadevi	10,723	8,925	45	8,925	1,797	83
Arcoththurai	8,693	7,020	46	7,020	1,663	80.75
Total	30,046	24,501		24,201	5,834	81

		B (1983-1984)				
Point Calimere	10,511	8,429	52	8,304	2,082	80
Vanavani mahadevi	10,240	8,798	49	8,798	1,442	85
Vizhupdamavadi	12,020	8,528	48	8,528	1,492	85
Total	30,771	25,755		25,630	5,016	83.3

