

Symposium on endangered marine animals and
marine parks, Cochin, 1985
Paper No. 29.
by P. K. Ponnuswamy and A. Rehman

CAPTIVE REARING OF HATCHLINGS OF OLIVE RIDLEY LEPIDOCHELYS
OLIVACEA AT POINT CALIMERE, TAMIL NADU

(63)

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

ABSTRACT

The growth of hatchlings of olive ridley Lepidochelys olivacea has been studied from emergence to five months under captive conditions. The morphometric characters were studied during growth. Internal anatomy confirmed that there is no indication of development of sex organs. Sexes could not be identified externally.

INTRODUCTION

The growth of olive ridley Lepidochelys olivacea in captivity has been reported by a few authors (Deraniyagala, 1939; Whitaker, 1979; Rajagopalan, 1984). The present paper reports on the growth of L. olivacea under captivity conditions for a period of five months.

The authors express their sincere thanks to the chief wild life warden, Forest department, Government of Tamil Nadu for the implementation of the scheme at Point Calimere, Thanjavur District.

MATERIAL AND METHODS

A batch of 102 emerged hatchlings were collected from the hatchery at Point Calimere, Thanjavur district on the east coast of India. For the first three days, hatchlings were fed with hen's

eggs thoroughly mixed in sea water. Once the food was consumed the hatchlings were transferred to another polythene tub of diameter 70 cm containing fresh sea water. Hatchlings were maintained for three days in the polythene tub and were transferred to a cement tank (Size 6' x 3' x 4') constructed inside the hatchery. During the growth of hatchlings different types of food such as sea grass, prawns, Sepia sp. and marine fishes were offered as food thrice a day. After food was consumed, the water was also changed. Growth characters such as carapace length, width, plastron length width and total weight of hatchlings were recorded at the end of every week.

RESULTS

The relationships of various morphometric characters were recorded. A simple regression $y = a + b x$ has been fitted to understand the relationship between variables (Table 1). All these characters show a linear relationship.

TABLE 1. Values of a, b, and r for different growth characters of *Lepidochelys olivacea* (N: 102 Individuals)

Characters	"a"	"b"	"r"
Carapace length and carapace width :	-1.5345	1.0372	0.9945
Carapace length and plastron length:	1.2288	0.6848	0.9374
Carapace length and plastron width:	-0.2544	0.7767	0.9966
Carapace length (Log) & Total weight:	5.4748	0.0228	0.9632

The increase in growth in carapace length and width, plastron length and width are given. The "a", "b" and "r" values for the relationship between the growth characters and the age are presented in the Table 2.

TABLE 2. Values of "a", "b" and "r" for different growth characters against age of *Lepidochelys olivacea* (N: 102 Individuals)

Characters	"a"	"b"	"r"
135 Days age and carapace length	4.9926	0.5055	0.9465
" age and carapace width	3.4455	0.0525	0.9979
" age and plastron length	4.3828	0.3675	0.9951
" age and plastron width	3.4733	0.3935	0.9988

The mean carapace length and width of just emerged hatchlings of *Lepidochelys olivacea* were 43.8 mm and 34.3 mm. At the end of 1st month the carapace length was increased to 56.8 mm and further increased to 72.6 mm at the end of 2nd month, 87.8 mm at the end of 3rd month, reached 101.8 mm at the end of 4th month and 110.9 mm at the end of 5th month. The corresponding mean values for carapace width were 47.3, 62.2, 78.5, 92.3 mm and 105 mm respectively.

The mean body of freshly emerged hatchlings was 16.6 grams. It increased to 34.31, 77.97, 153.5, 215.73 grams and 328 grams at the end of 1, 2, 3, 4 and 5 months respectively.

DISCUSSION

The carapace length and width of hatchlings have been studied under captivity conditions. Deraniyagala (1939) measured the carapace length of one animal at about 6 months as 74 mm and its weight as 75

grams. Whitaker (1979) recorded the carapace length of the same age group as varying from 83 to 95 mm with a mean at 89 mm and the weight varying from 100 to 175 grams. Rajagopalan (1984) observed for a similar period and recorded that the carapace length varied from 102.4 to 119.2mm and mean weight was 280 grams. (1981 group) and further extended the study for a period of 22 months and registered a growth of 3,300 gms in 1980 group and 7,800 gms in 1981 group as compared to the recorded value of 2,100 grams (Whitaker, 1979). In the present study at the end of the 5th month the olive ridley attained 328 grams in weight with 110.9 mm carapace length and 105 mm breadth. Sexes could not be identified externally, and internal anatomy did not indicate the development of sex organs at the end of five months. However, the development of sex organs under captivity conditions could be compared with the known temperature at which the eggs were incubated.

REFERENCES

- DERANIYAGALA, P.E.P. 1939. The tetrapod reptiles of Ceylon, Ceylon Journal of Science, Colombo, 1-412.
- RAJAGOPALAN, M. 1984. Studies on the growth of olive ridley Lepidochelys olivacea in captivity. Bull. Cent. mar. Fish. Res. Inst., 35: 49-54.
- WHITAKER, R. 1979. Captive rearing of marine turtles. J. Bombay Nat. Hist. Soc., 76(1): 163-166.

...