

NOTES ON THE STUDY OF THREE SPECIES OF RIVER TURTLES IN ORISSA

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ABSTRACT

The authors have discussed the distribution of three species of freshwater chelonians from rivers of Orissa, *Trionyx gangeticus* Cuvier and *Kachuga tectum tentoria* (Gray) from river Mahanadi and *T. leithi* Gray from Sileru river. They have also made observations on the egg laying of one species and about growth of another in captivity.

INTRODUCTION

In connection with the study of ecology and biology of freshwater turtles in Orissa, three species were collected from rivers of Orissa and some live specimens of those species have been studied in the Nandankanan Biological Park under captive condition.

The work of Annandale (1912) on the aquatic Chelonia of river Mahanadi and its tributaries is so far the only important work on freshwater turtles in Orissa. He described one new subspecies, *Trionyx gangeticus mahannaddicus* Annandale and recorded *T. leithi* Gray, *Emyda punctata granosa* (Schoeff) and *Kachuga tectum intermedia* Blanford from Mahanadi. Smith (1931) synonymised the new subspecies under *Trionyx gangeticus* Cuvier and other two subspecies in *Lissemys punctata granosa* (Schoeff) and *Kachuga tectum tentoria* (Gray).

The subspecies *L. p. granosa* after Annandale was not again collected from Mahanadi

but authors (Biswas & Acharjyo, 1977) found them occurring in lakes and ponds of Orissa. This species is an important item of supply from Orissa for the consumption of Calcutta market. Lastly the authors feel that a thorough turtle survey in the rivers of Orissa is needed to fill up the gap of our knowledge of distribution and status of freshwater Chelonians.

Order : TESTUDINES

Family : TRIONYCHIDAE

***Trionyx gangeticus* Cuvier**

(Oriya name : Bada Pani Kaincha)

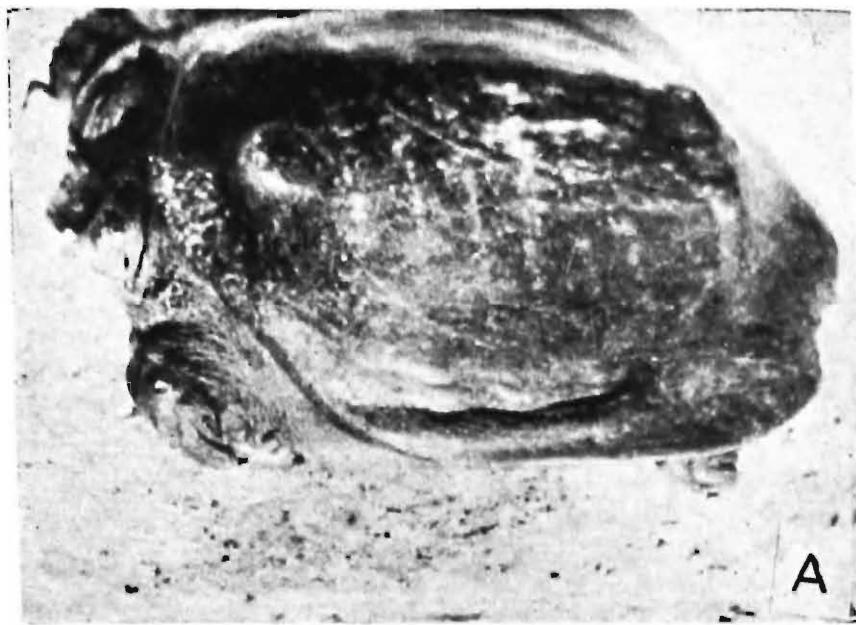
1931. *Trionyx gangeticus*, Smith, *Fauna of British India*, Vol. I : 167 & 168.

Material : One female collected from Mahanadi river near the Village Banragoda, Cuttack Dist., on 8.10.1981.

Measurement and weight : Carapace : 51 × 40 cm ; Plastron—41 × 36 cm ; Weight—14.600 kg.

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PLATE VIII



Trionyx leithi Gray, Photo No. A. Dorsal view of one of the female specimen. B. Ventral view of the same specimen.

Distribution : The range of distribution for this species is the Indus, Ganges, and Mahanadi. Recently Zoological Survey of India received a specimen from Bhopal, Madhya Pradesh but the distribution of the species from M. P. and Western part of Orissa is poorly known.

Observation : The colour pattern of the specimen closely conforms to the description given by Smith (loc. cit). The carapace is deep olive with faintly spotted yellow marks. There are three pairs of oblique longitudinal markings on the head.

The specimen was collected by a local fisherman on 8.1.82 and received in Biological Park on the next day. On the same day night 5 white, round eggs like Ping Pong balls were laid inside the water. The diameter of five eggs are 3.0 to 3.3 cm. and weight 22,100 to 23,800 gms. It again laid 3 eggs each time on 17.1.82 & 18.1.82 and died on 31.1.82. On post mortem examination more fully developed eggs were recovered from the oviduct.

Remarks : It is presumed that the specimen was collected by the fisherman when it came out off water of laying eggs but did not lay due to disturbance. Sometimes the turtles are caught in fishing nets. It could only lay eggs when it was released in the water of the turtle enclosure. Thus this egg laying incidents in, January is only a month or broadly winter is the laying season of this species. There are many records of death in turtle and tortoises due to disturbances in their laying activity (Ewert 1979). Minton (1966) mentioned about a female weighing 13.2 kgs. collected from Indus river in October which contained in its oviduct three full grown eggs (diameter 33 mm.) and many immature eggs.

Trionyx leithi Gray

(Pl. VIII, fig. A & B)

Material : Two female specimens were collected from Balimela reservoir, Koraput Dist. and received on 3.9.78 and 30.1.78 respectively at the Nandankanan Biological Park from Shri P. C. Sarangi, D. F. O., Afforestation Division.

Distribution : The range of distribution is the Ganges and rivers of peninsular India as far south as Madras. Balimela reservoirs are on the Sileru river at Chitrakonda in Koraput Dist. of Orissa adjoining Madhya Pradesh. The river originates in the hilly plateau of south eastern M. P.

Observation : The identification of the specimens belonging to the species appeared confusing as the usual colour pattern is usually lacking in grown up specimens. The heads and carapaces are uniformly dark olive and their probosises are less pointed comparatively to specimens belonging to *T. gangeticus*. We are referring the two specimens in the above mentioned species based on the patch of warty skin on the anterior flap of the disc and the prominent anterior boss on the carapace.

Observation in captivity : One of the two turtles of Balimela is being maintained successfully for more than two years in a small cemented pool of approximately 5×5 mts. in size with a depth of .45 cm. They thrived well on the fishes that were regularly being supplied to the aquatic birds.

Measurements and weight during their captivity period are mentioned below :

Remarks : The weight gained by the first turtle in captivity in 2 years and 10 months on the fish diet is an encouraging point to undertake further investigation on its develop-

Measurements and weight during their captivity period are mentioned below :

Date of Measurement	Wt. Kgs.	Carapace length (cm)	Carapace width (cm)	Plastron length	Turtle No.
30.1.78	11.200	49	40	37	I
3.7.78	11.800	49	40	38	
30.1.80	12.000	51.5	40.5	39	Presently
24.11.80	12.800	52	42	40	alive
30.9.78	12.000	46.5	39	38	II
30.1.80	12.000	48	39	39.5	Died on 8.2.80

ment and growth in captivity as well as in natural condition. The growth of the second turtle was less, gaining no weight within 16 months of its captivity. Whereas the first specimen gained 600 gms within seven months of its captivity. Perhaps it could not adapt to its new habitat due to some internal infection and therefore died suddenly.

Family : EMYDIDAE

Kachuga tectum tentoria (Gray)

(Oriya name : Pani Kaincha)

1931. *Kachuga tectum tentoria*, Smith, *Fauna British India*, Vol. I : 128-129.

Material : 1 ♂ ; Naraj, Cuttack Dist, Mahanadi river. 2 ♀ ♀ ; Tikarpara, Dhenkanal Dist., Mahanadi, Coll. *E. O. Moll & S. Biswas* ; 20.2.83.

Measurements (in mm) : 1 ♂, Carapace length 77, breadth 67, depth 50, plastron length 73 ; 2 ♀ ♀, Carapace length 183, 178, breadth 137, 135, depth 90, 91, Plastron length 189, 183.

Distribution : According to Smith (*loc. cit*) the species occurs in the Mahanadi and Godavari and probably in Krishna. It has been earlier recorded from Hasdo river, a tributary of Mahanadi, Madhya Pradesh, Blanford (1870).

Observation : This subspecies differs from the typical *K. t. tectum* in having a second vertebral shield shorter than third and the colouration of their head being dull olive with a conspicuous red patch behind the tympanum. This olivaceous and the yellow streaks, if present, are fewer and less distinct than the typical one.

Remarks : It is the common turtle of Mahanadi. They are often found basking in the winter season on stones and floating logs of the rivers. The habitat of this species is rocky or stony sides of the river.

ACKNOWLEDGEMENTS

The authors are thankful to Dr. B. K. Tikader, Director, Zoological Survey of India and the Chief Conservator of forest, Orissa for allowing them facilities to work on the problem. They are also thankful to Dr. E. O. Moll, Chairman, FCSG, IUCN/SSC for his helpful suggestions and scientific advice.

REFERENCES

- ANNANDALE, N. 1912. The aquatic Chelonia of the Mahanadi and its tributaries. *Rec. Indian Mus.*, 7 : 261-266.

- ANNANDALE, N. 1912. The Indian Mud-Turtles (Trionychiidae). *Rec. Indian Mus.*, 7 : 251-78.
- BLANFORD, W. S. 1870. Notes on some Reptilia and Amphibia from Central India. *J. Asiat. Soc. Bengal.* 39 : 335-76.
- EWERT, M. A. 1979. The embryo and eggs ; Development and Natural History. In *Turtles : Perspective and Research*, Harless, M. & Morlock. H. Wiley—Interscience Publication.
- BISWAS, S. & ACHARJYO, L. N. 1977. Notes on ecology and Biology of reptiles occurring in and around Nandankanan Biological Park, Orissa. *Rec. zool. Surv. India*, 73 : 45-109.
- MINTON, S. A. 1966. A contribution to the herpetology of West Pakistan. *Bull. Am. Mus. nat. Hist.*, 134 (2) : 27-184.
- SMITH, M. A. 1933. *Fauna of British India*, Reptilia and Amphibia Vol. 1. Loricata, Testudines, London (Taylor & Francis).
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