

**FIRST REPORT ON THE OCCURENCE OF
MACRACANTHORHYNCHUS HIRUDINACEUS (PALLAS, 1781) AND
POLYMORPHUS MAGNUS SKRJABIN, 1913 (ACANTHOCEPHALA)
IN WILD PIG AND GARGANEY TEAL IN INDIA**

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INTRODUCTION

The acanthocephalan parasites recorded herein were collected from the intestine of wild pig (*Sus scrofa cristatus*) at Raimona, Dist. Goalpara, Assam and from the intestine of Garganey Teal (*Anas querquedula*) at Allahabad, U.P. The occurrence of *M. hirudinaceus* in domestic pig (*Sus scrofa domestica*) has been reported from Bengal and Western Uttar Pradesh by Maplestone (1930) and Ahluwalia (1962) respectively. The occurrence of these parasites in wild pig of India has been reported for the first time from Assam, India.

Fotedar and Dhar (1973) reported some late juveniles of *P. magnus* in *Rana cyanophlyctis* from Kashmir but no adult forms of the worm have so far been reported from India. Few adults of *P. magnus* were found in the intestine of Garganey Teal (*Anas querquedula*) at Allahabad, U.P. Garganey Teal is a Palaearctic breeding species wintering in Europe, South America, and southern Asia. Both the species have been redescribed here.

MATERIALS AND METHODS

Some of the specimens of *M. hirudinaceus* were dissected for studying the internal organs owing to their large size and thick cuticle. The proboscis and hooks were studied in higher concentration of glycerine. The specimens of *P. magnus* were studied in whole mounts after staining them in haematoxyline and borax carmine. All measurements are in millimeters unless otherwise stated.

SYSTEMATIC ACCOUNT

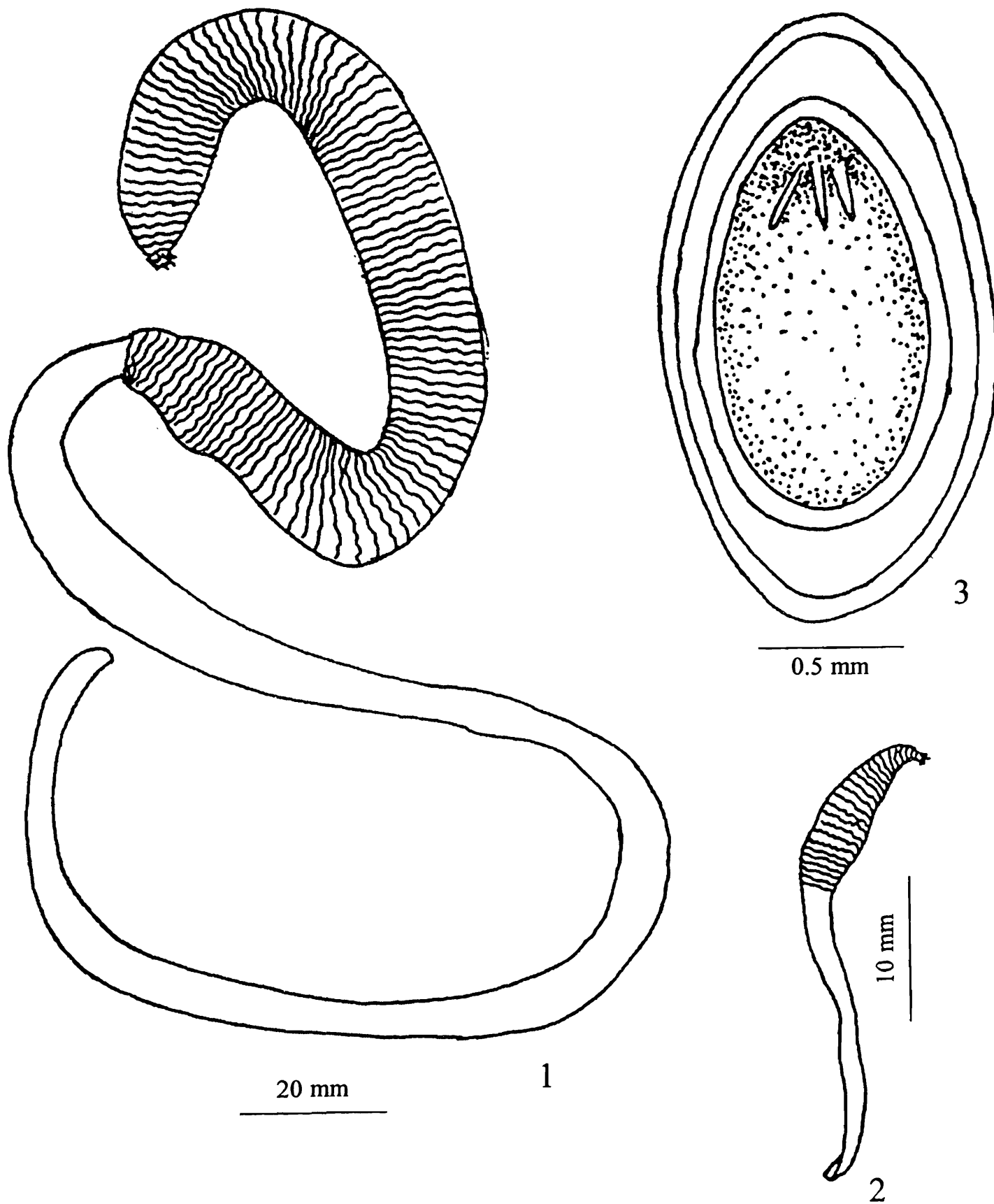
Class ARCHIACANTHOCEPHALA Meyer, 1931

Order GIGANTORHYNCHIDA Southwell et Macfie, 1925

Family OLIGACANTHORHYNCHIDAE Southwell et Macfie, 1925

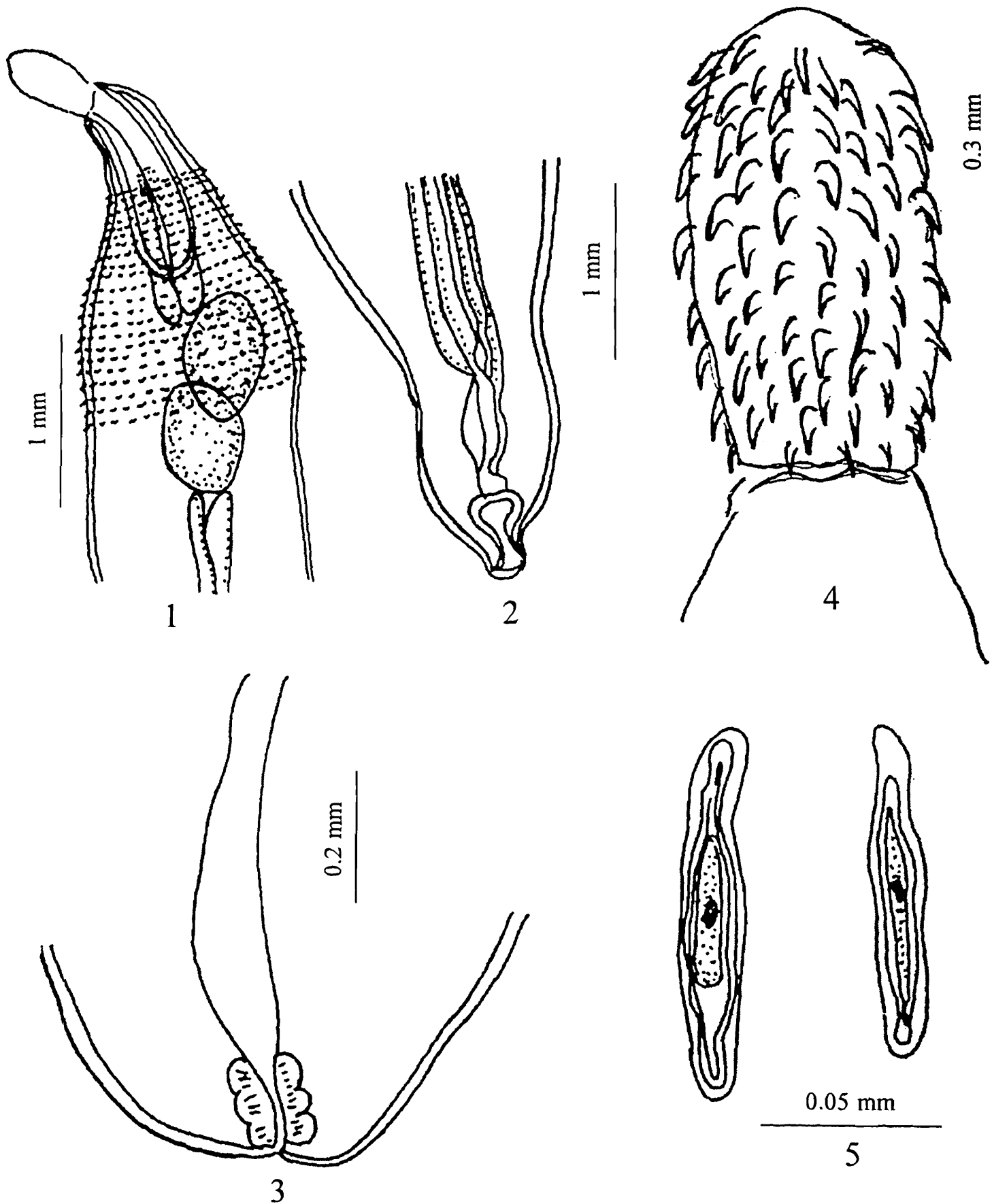
Sub-family MACRACANTHORHYNCHINAE Yamaguti, 1963

PLATE-1



Figs. 1-3. : *Macracanthorhynchus hirudinaceus* (Pallas, 1781)

PLATE-2



Figs. 1-5. : *Polymorphus magnus* Skrjabin, 1913

1-anterior half; 2-posterior end of male; 3-posterior end of female; 4-proboscis; 5-eggs.

Genus *Macracanthorhynchus* Travassos, 1917

Macracanthorhynchus hirudinaceus (Pallas, 1781)

(Plate-1. Figs. 1-3)

Ref. *Macracanthorhynchus hirudinaceus* (Pallas, 1781), Ahluwalia, S. S. (1959), from pig in U.P. Ind. J. Vet. Sci. Anim. Husband. **29**(2/3) 100-107.

Macracanthorhynchus hirudinaceus (Pallas, 1781), Maplestone, P. A. (1930), from pig in W. Bengal, Rec. Ind. Mus. **32**(2) : 77-105.

Three male and three female specimens were collected from wild pig. The specimens have been deposited in the National Collection of Zoological Survey of India under Reg. No. W 8319/1.

Description : Male : Large, anterior half broad, pseudometamerism present, 40-75 long and 3.5 wide. Proboscis orbicular, 0.625 long and 0.875 wide, hooks in 6 spiral rows with 6 hooks in each row, last hooks of each row smaller than the rests, point, the part of hook outside the cuticle 0.15-0.25 long. Neck 1.325 long. Proboscis sheath short. Lemnisci two, very long, coiled, 21.5 long and 1.5 wide, posteriorly broad with few giant nuclei. Testes oval, pre-equatorial, contiguous. Cement gland 8, ellipsoidal, in pairs. Bursa 3.00 long.

Female : Larger than male, 225.00-1100.00 long and 8.7-10.00 wide, ventrally curved, anterior half broad, pseudometamerism present, posterior half very thin. Proboscis orbicular, 0.875 long and 1.125 wide, hooks in 6 spiral rows of 6 hooks in each, point of hook 0.15-0.25 long. Eggs 0.08-0.09 long.

Host : *Sus scrofa cristatus* (Wild pig).

Location : Intestine.

Locality : Raimona, Dist. Goalpara, Assam.

Collector : Dr. B. K. Tikadar, Z. S. I.

Discussion : Pallas (1781) described *Taenia hirudinacea* from pig. Muller (1776) established the genus *Echinorhynchus* for the species and named as *E. hirudinacea* (Pallas, 1781). Hamann (1892) named it *Gigantorhynchus gigas* (Bloch, 1782). Later, Travassos (1917) redescribed it as *M. hirudinaceus*.

The present form differs from *M. ingens* (Linstow, 1879) Meyer, 1933 and *M. catulina* Kostlew, 1927 in having the size of points of largest hooks less than 0.30 long. *M. hirudinaceus* from *Sus scrofa cristatus* has been reported here for the first time from India. Maplestone (1930) and Ahluwalia (1959, 1962) redescribed the species from *Sus scrofa domestica* from West Bengal and Western U.P. respectively. The species has been redescribed here with a new host record from India.

Class PALAEACANTHOCEPHALA Meyer, 1931

Order POLYMORPHIDA Petrotschenko, 1958

Family POLYMORPHIDAE Meyer, 1931

Genus *Polymorphus* Luhe, 1911

Polymorphus magnus Skrjabin, 1913

(Pate-2; Figs. 1-5)

Ref. *Polymorphus magnus* Skrjabin, 1913 : Fotedar D. N. and Dhar R. L. 1973, juvenile species in *Rana cyanophlyctis* in Kashmir. J. Sci. University of Kashmir, Vol. 1 (1-2).

Three male and three female specimens were collected from Garganey Teal in U.P. They are deposited in the National Zoological Collection of Zoological Survey of India. Under Reg. No. W8320/1.

Description : Male : Body small, fusiform, broad anteriorly, constricted at the testicular region, 5.875 long and 1.125 wide. Proboscis ovate, 0.55 long and 0.32 wide, proboscis hooks in 14-16 rows with 8-9 hooks in each row, anterior 4 hooks of each row large with prominent roots, size of hooks 0.415-0.585 long and 0.016-0.0249 wide. Neck conical, 0.7 long and 0.425 wide. Proboscis sheath double walled, 1.25 long and 0.375 wide, ganglion near centre. Lemnisci longer than proboscis sheath, leaf-like, equal, 1.625 long and 0.2 wide. Body spines in 18-20 rows with 28-30 in each row, size of spines 0.249 long, spines extend from below the neck to the area of body constriction. Testes two, oval, contiguous, T₁-2.25 long and 0.425 wide, T₂-2.125 long and 0.425 wide. Cement gland 4, 2.125 long. Bursa 0.624 long.

Female : Body longer than male, 8.125-8.3 long and 1.70-1.75 wide. Spines 20-26 rows with 30-40 spines in each row. Proboscis ovate, 0.55 long and 0.32 wide. Neck 1.125 long and 0.575 wide. Proboscis sheath 1.5 long and 0.25 wide. Uterus long. Genital pore terminal. Eggs elliptical with polar prolongations of the middle shell, 0.058-0.107 long and 0.016 wide.

Host : *Anas querquedula* (Garganey Teal).

Location : Intestine.

Locality : Allahabad, U.P.

Discussion : Luhe (1911) erected the genus *Polymorphus* with the type species *P. minutus* (Goez, 1782). Ralliet (1919) synonymised *Echinorhynchus boschadis* Schrank, 1788 with *Polymorphus*. Yamaguti (1963) described *Polymorphus boschadis* (Schrank, 1788) as the type species of the genus *Polymorphus*. This appears to be erroneous. Both *E. minutus* and *E. boschadis* have been synonymised with *Polymorphus* by Luhe (1911) and Ralliet (1919) respectively. As a rule, *E. minutus* (Goez, 1782) claims its priority over *E. boschadis*. Therefore, *P. minutus* is prior to *P. boschadis*. Thus, *P. minutus* as the type species of *Polymorphus* is justified.

P. minutus resembles *P. magnus* except in length of the body, size of proboscis, size of hooks etc. The present form closely resembles *P. magnus* with respect to body length, length of proboscis, number of hooks, size of hooks etc. Variation in egg size and body spines between the two is carefully observed.

Hence, the species is reported here as *P. magnus* with a new host record from India. Juvenile of *P. magnus* has also been reported in *Rana cyanophlyctis* by Fotedar et al (1973) from Kashmir.

SUMMARY

Six specimens comprising male and female were collected by Dr. B. K. Tikadar, Z.S.I. from wild boar (*Sus scrofa cristatus*) at Raimona of Goalpara, Assam. The species, *M. hirudinaceus* has been redescribed here with a new host record from India.

Six specimens comprising male and female were collected from Garganey Teal during survey tour of Z.S.I. to U.P. Garganey Teal is a Palaearctic breeding species wintering in Europe, South America and Southern Asia. In India it is found in winter. The species, *P. magnus* has been redescribed here with a new host record from India.

ACKNOWLEDGEMENTS

The author is thankful to the Director, Zoological Survey of India for providing laboratory facilities and allowing to present the paper in 10th All India Congress of Zoology held at Magadh University, Bodh Gaya on 14th-18th, October, 1998. Thanks are due to Dr. Ashok Kumar Das Sc "E" and Dr. Amalendu Chatterjee Sc 'D' for their co-operation and guidance. Author is also thankful to Dr. R. K. Ghosh Ex-Sc 'E' for his valuable advice in finalising the paper.

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