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## On a new Caryophyllaeid *Pseudolytocestus assamensis* n. sp. from the intestine of *Mystus bleekeri* (Day) from Chatla Haor, Silchar, Assam

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**Abstract :** The present paper deals with a new Caryophyllaeid species of genus *Pseudolytocestus* Hunter, 1929. It differs from all the known species of this genus in having vitellaria smaller than testes, cortical ovarian lobes, operculated eggs, in the presence of shell gland and in the extension of vitellaria. The present report is a new host record for the said genus.

**Key words:** *Pseudolytocestus assamensis* n. sp., *Mystus bleekeri*, Chatla Haor, Silchar, Assam.

### INTRODUCTION

While working on the helminth parasites of the fishes of Chatla Haor, Silchar, Assam, two cestode parasites were collected from the intestine of *Mystus bleekeri* (Day) which on further study were found to belong to the genus *Pseudolytocestus* Hunter (1929)<sup>1</sup>.

The genus *Pseudolytocestus* was erected by Hunter (1929)<sup>1</sup> with the type species *P. differtus* in *Ictiobus bubalus* in Mississippi. Another species *P. clariae* was described by Gupta (1961)<sup>2</sup> from *Clarias batrachus* in the river Brahmaputra, Guwahati (Assam). Later, Gupta and Parmer (1990)<sup>3</sup> described another species, *P. thapari* from the same host from river Gomati, Lucknow and Pande *et al.* (2000)<sup>4</sup> described *P. fossilisi* from *Heteropneustes fossilis* from Lucknow.

### MATERIALS AND METHODS

The fish hosts were collected from the study area and brought to the laboratory for parasitic examination. The external body organs as well as the internal body organs were thoroughly examined for the parasites. The

collected worms were washed and relaxed in normal saline. Then the specimens were fixed and preserved in 5 % formalin. Then the cestodes were stained in alum carmine and mounted in Canada balsam. Diagrams were made with the help of camera lucida and measurements were taken with ocular micrometer. All the measurements are in millimetres. Identification of cestode was done following Yamaguti (1959)<sup>5</sup>.

### DESCRIPTION

*Pseudolytocestus assamensis* n. sp. (Fig. 1)

Body elongated, flat, 8.63-9.43 mm long 0.83-0.91 mm wide anterior to cirrus sac. Scolex little specialized, bluntly rounded, narrower than body, 1.00-1.10 mm long, 0.73-0.81 mm wide, followed by very short neck like constriction. Posterior end rounded.

Testes numerous about 117-129 in number, 0.08 mm long, 0.08-0.13 mm wide, in broad median field anterior to ovary. Cirrus sac oval, opening separately in front of utero vaginal pore. Utero vaginal pore into the cirrus sac. Uterine coils extend upto a little anterior to posterior end of cirrus sac.

Ovary H-shaped and distinctly bilobed, at posterior extremity, almost entirely medullary, with its lateral follicles

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extending into cortex. Right ovarian lobe measures 1.20-1.27 mm long, 0.14-0.16 mm wide. Left ovarian lobe, 1.00-1.25 mm long, 0.11-0.19 mm wide. Vitelline glands oval in shape, smaller than testes, 0.05-0.06 mm long, 0.11 mm wide, mostly cortical in position, partly intruding into medulla in testicular zone extending from a little posterior to base of neck upto the anterior end of ovarian lobes. Post ovarian follicles are absent. Eggs 0.03-0.04 mm long, 0.02 mm wide. Shell gland present.

Host: *Mystus bleekeri* (Day)

Location: Intestine

Locality: Chatla Haor, Silchar (Assam).

## DISCUSSION

The present form differs from *P. differtus* Hunter, (1929)<sup>1</sup> and *P. clariae* Gupta (1961)<sup>2</sup> in having vitellaria smaller than testes, cortical ovarian lobes, in the presence of shell gland and in the extension of vitellaria up to the anterior end of ovarian lobes instead of extending upto the posterior end of cirrus sac. The present form further differs from *P. clariae* in the shape of ovary and much smaller

body size than the later.

The present form differs from *P. thapari* Gupta and Parmer (1990)<sup>3</sup> in the extension of vitellaria. Vitellaria extends from a little posterior to the base of neck but a little anterior to the level of anterior testes upto the anterior end of ovarian lobes in the present form while in *P. thapari* vitellaria extends from the same level of anterior testes upto the posterior end of cirrus sac.

The present form differs from *P. fossilisi* Pande *et al.* (2000)<sup>4</sup> in the extension of uterine coils. In *P. fossilisi*, uterine coils extend up to the posterior end of cirrus sac while in the present form the uterine coils extend up to a little anterior to the posterior end of cirrus sac.

The present form differs from all the species of the genus *Pseudolytocestus* in having operculated eggs.

Therefore, considering all the above differences, it is proposed to assign to the present form the rank of a new species named *Pseudolytocestus assamensis* n. sp. after the name of its locality.

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## REFERENCES

1. Hunter, G.W. III. 1929. New *Caryophyllaeidae* of North America. *Journal of Parasitology*. 15: 185-192.
2. Gupta, S.P. 1961. *Caryophyllaeids* (Cestoda) from freshwater fishes of India. *Proc. of the Helminthological Society of Washington*. 28: 38-50.
3. Gupta, V. and Parmer, S. 1990. On two new *Caryophyllaeids* from river Gomati, Lucknow, Uttar Pradesh. *Ind. J. Helminth.* Vol. XXXXII(1): 25-30.
4. Pande, P.N., Neetu Mittal and Singh, S.R. 2000. Two new cestode parasites from fresh water fishes of North East Tarai region of U.P. *Flora and Fauna* (Jhansi). 6(2): 95-96.
5. Yamaguti S. 1959. *Systema Helminthum Vol. II. The Cestoda of Vertebrates*. Inter-Science, New York. pp. 860.

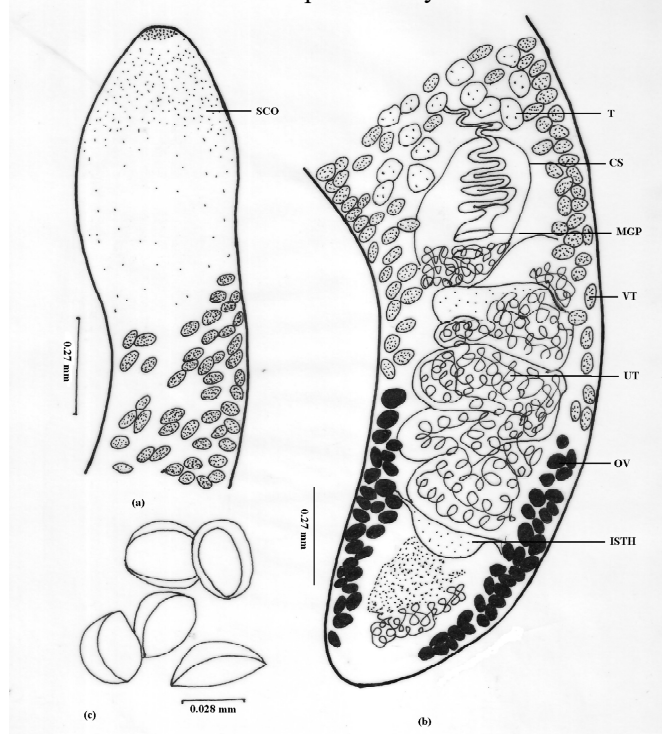


Fig. 1. *Pseudolytocestus assamensis* n. sp. (a) Anterior end, (b) Posterior end, (c) Eggs. **Abbreviations used** : CS – Cirrus sac, ISTH – Isthmus, MGP – Male gonopore, OV – Ovary, SCO – Scolex, T – Testes, UT – Uterus, VT – Vitellaria.