

A new caryophyllid cestode *Pseudolytocestus jagdishii* n.sp. from *Heteropneustes fossilis*

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ABSTRACT

A new cestode, *Pseudolytocestus jagdishii* n.sp. is described here from the intestine of fresh water catfishes, *Heteropneustes fossilis* at Muhana, District Jalaun, Uttar Pradesh, India. After morphological study of worm we reach on the conclusion that present species differs from all known species of genus *Pseudolytocestus* in the presence of larger worms, short neck, internal seminal vesicle, larger ovary lobes with equal wings and other characters.

Figures : 05

References : 06

Table : 01

KEY WORDS : Capingentidae, Jalaun, Muhana, *Heteropneustes*

Introduction

During the course of investigation of piscian tape worm, ten fishes, *Heteropneustes fossilis* were collected from Betwa river at Muhana, District Jalaun (U.P.). Four of them harbored six cestodes in their intestine. Detail studies showed that it differs from other species of the Genus *Pseudolytocestus* family Capingentidae in various characters.

Material and Methods

The fishes were caught by the local fishman from Betwa river at Muhana village, District Jalaun. Usual techniques for collection, preservation adopted. Worm stained in Haemalum and cleared in xylol. Figures were drawn with camera lucida. All the measurements have been given in millimeters unless otherwise stated.

Observation

Pseudolytocestus jagdishii n.sp. (Figs. 1-5)

Large sized cestodes measure 17.0-30.0 (23.0) in length and 1.0-1.656 (1.356) in width, Scolex smooth, flat, blunt measures 0.370-0.428x0.184-0.314(0.4x0.249). Distinctly demarcated short neck measures 1.6- 1.870x0.421-0.435 (1.770x0.428). Testes oval to round, numerous measure 0.091-0.107x0.128-0.214 (0.1x0.170) in medullary region, anterior to cirrus pouch. Cirrus pouch oval to round, median measures 0.5-0.570x0.356-0.414 (0.528x0.384). Internal seminal

vesicle measures 0.091-0.114x0.63-0.091(0.107x0.077). External seminal vesicle absent.

Female genitalia posteriorly situated. Ovary H-shaped measures 2.5 - 2.9x1.1-1.4 (2.7x1.256) behind the cirrus pouch. Lateral lobes of ovary situated in cortex and medullary regions and isthmus in medullary region.

Vitellaria measures 0.028-0.056x0.049-0.084 (0.042x0.063), innumerable located in partly cortical and partly medullary regions. Postovarian vitellaria absent. Receptaculum seminis absent.

Uterus long, nonglandular, coiled, medullary situated posterior and anterior to the ovarian isthmus. Separate male and female gonopores situated upper and lower side of cirrus pouch. Eggs oval, nonoperculate measure 0.025-0.0342x0.0332-0.0442 (0.0294x0.0384). Excretory pores measure 0.014-0.028x0.070- 0.084 (0.021x0.077).

Result and Discussion

The present form comes closer to *Pseudolytocestus clariae*¹, *Pseudolytocestus thapar*², *Pseudolytocestus pandei*³, *Pseudolytocestus dayal*⁴, and *Pseudolytocestus fossilis*⁵. (Table-1)

The present form differs from *Pseudolytocestus clariae*¹ in having larger worms, larger scolex, larger ovary, larger vitellaria, absence of postovarian follicles and smaller eggs.

TABLE-1 : Comparison of the characters of the species closer to *Pseudolytocestus jagdishii* n.sp.

S.N.	Structure	<i>P. clarie</i> ¹	<i>P. thapar</i> ²	<i>P. pandei</i> ³	<i>P. dayal</i> ⁴	<i>P. fossilis</i> ⁵	<i>P. jagdishii</i> n.sp.
1.	Size	15.32x4.02	9.04-9.08x1.77-1.82	5.0-17.0x0.392-0.784	14.0x1.0	12.7-15.0x0.37-0.39	17.0-30.0x1.0-1.656
2.	Scolex	1.78x0.8	1.72-1.75x0.98-1.00	1.17-1.37x0.212-0.628	0.728x0.728	0.22-0.29x0.125-0.129	0.370-0.428x0.184-0.314
3.	Neck	Like a constriction	Like a constriction	Long Neck	Absent	Very short Neck 0.091 in Length	Short Neck 1.6-1.870x0.421-0.435
4.	Cirrus pouch	0.9x0.6	0.25-0.27x0.15-0.16	0.238-0.352x0.117-0.196	0.54x0.404	0.11-0.13x0.07-0.09	0.5-0.570x0.356-0.414
5.	Internal Seminal Vesicle	-	-	Absent	Absent	Present	Present
6.	Ovary	H-shaped Left wing- 1.12x0.4 Right wing- 1.06x0.6	H-shaped 0.25-0.27x0.15-0.16	H-shaped Left wing larger than right 0.392-0.548x0.392-0.548	H-shaped 1.306x0.784	H-shaped ovary lobes small	H-shaped larger ovary with equal wings 2.5-2.9x1.1-1.4
7.	Vitelline Size	0.11-0.2x0.11-0.17	0.67-0.8x0.04-0.05	0.013-0.052x0.013-0.052	0.026-0.104x0.04-0.05	0.004-0.005x0.009-0.1	0.028-0.056x0.049-0.084
8.	Follicles Extension	Postovarian follicles present	Postovarian follicles Absent	Postovarian follicles Absent	Postovarian follicles Absent	Postovarian follicles Absent	Postovarian follicles Absent
9.	Eggs	0.04-0.043x0.03-0.04	0.032-0.034x0.18-0.2	-	0.019-0.029x0.019-0.029	0.01-0.02x0.015-0.025	0.025-0.0342x0.0332-0.0442

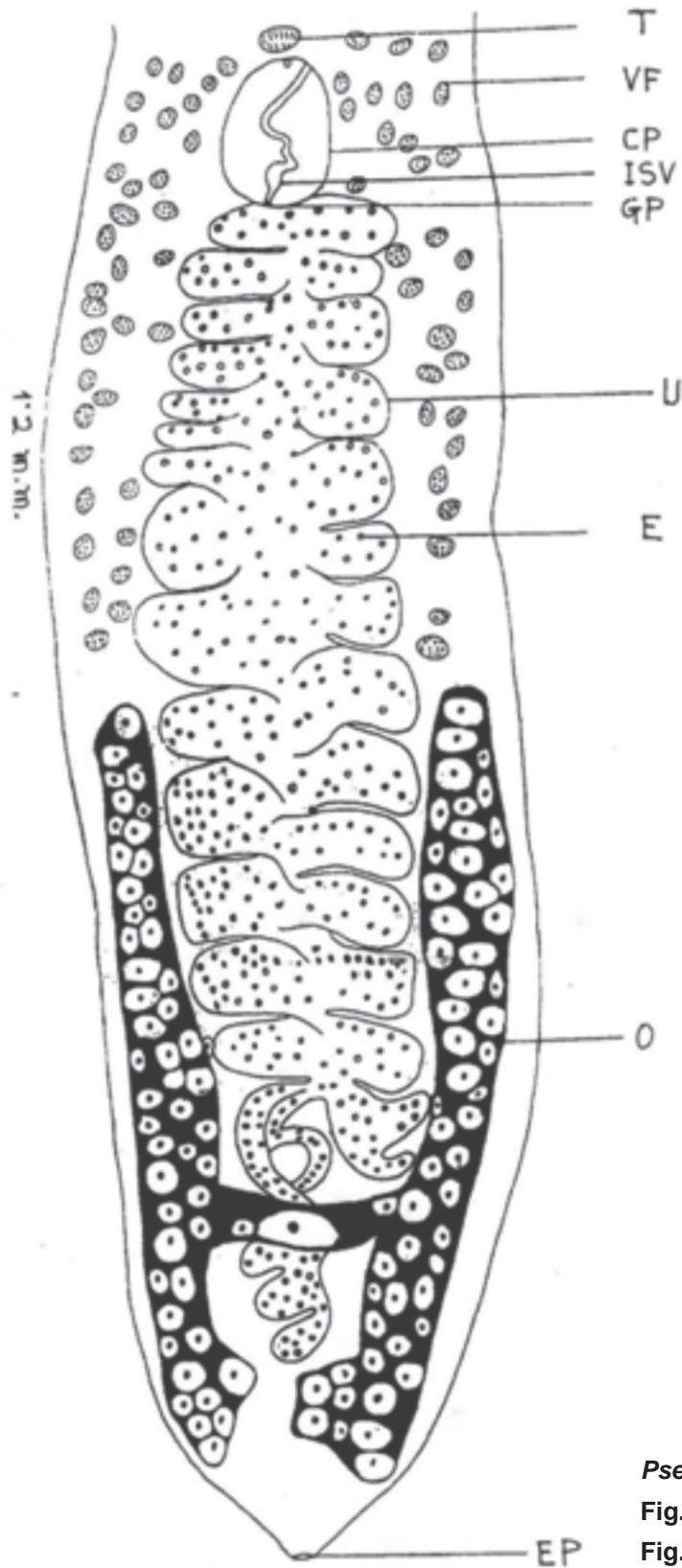


Fig. 3

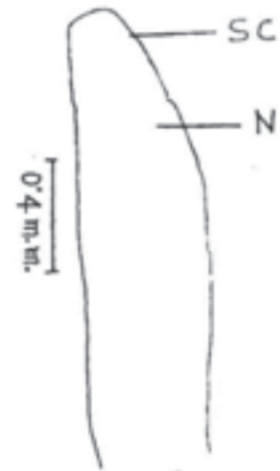


Fig. 1

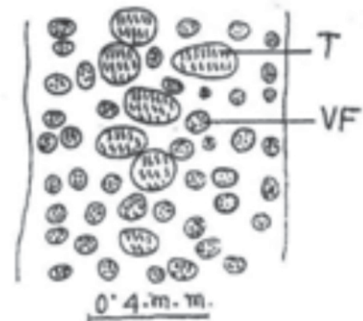


Fig. 2



Fig. 4



Fig. 5

Pseudolytocestus jagdishii n.sp. (Figs. 1-5)

Fig. 1 - Scolex with neck (5x10)

Fig. 2 - Middle region of the body (5x10)

Fig. 3 - Posterior region of the body (5x10)

Fig. 4 - Eggs (5x45)

Fig. 5 - Transverse Section - A portion through testes and Vitellaria (5x10)

From *Pseudolytocestus thapar*² it differs in having larger worm, larger scolex, larger cirrus pouch, larger ovary, smaller vitellaria and wider eggs.

From *Pseudolytocestus pande*³ it differs in having smaller worm, smaller scolex, smaller neck, larger cirrus pouch, presence of internal seminal vesicle, equal ovarian wings and larger vitelline follicles.

From *Pseudolytocestus dayali*⁴ it differs in having larger worm, smaller scolex distinct neck, presence of internal seminal vesicle, larger lobes of ovary, smaller vitellaria and larger eggs.

From *Pseudolytocestus fossilis*⁵ it differs in having larger worm, larger scolex, smaller cirrus pouch, wider vitellaria and larger eggs.

In the light of above discussion it may be proposed to accommodate the present form as a new species *Pseudolytocestus jagdishii* n.sp. .

The new species is named after the great helminthologist late, Dr. Jagdish Prasad Tiwari former Head of the Zoology Department, Bipin Bihari College Jhansi (U.P.) India.

Type species	- <i>Pseudolytocestus jagdishii</i>
Host	- <i>Heteropneustes fossilis</i> (Bloch.)
Habitat	- Small intestine
Locality	- Betwa river, Muhana District

Jalaun (U.P.)

Date of collection - 02/11/1999

Number of Specimens - 06

Deposition - Parasitological laboratory
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REVISED KEY TO SPECIES OF GENUS *PSEUDOLYTOCESTUS* HUNTER 1929

- 1- Neck absent—————3
Neck like a constriction -----2
Clear Neck Present—————4
- 2- Postovarian follicles present—————
—————*Pseudolytocestus clarie*¹
Postovarian follicles absent—————
—————*Pseudolytocestus thapar*²
- 3- Internal seminal vesicle absent, Large ovary lobes—
-----*Pseudolytocestus dayali*⁴
- 4- Long neck, ISV absent, ovary left wing larger than
right—————*Pseudolytocestus pande*³
Very short neck, ISV present, small ovary lobes—
—————*Pseudolytocestus fossilis*⁵
Short neck, ISV present, larger ovary lobes with equal
wings-----*Pseudolytocestus jagdishii* n.sp.

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