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**Research Paper**

# Morpho-taxonomic study of an interesting cestode, Mystoides chhaviensis N species of *Channa punctatus* (Bloch) from Parichha Dam District Jhansi Uttar Pradesh India

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**Abstract:** Fresh water edible fish, *Channa punctatus* (Bloch) were examined for the study of piscine cestodes and few cestodes we obtained from the intestine of host.Morphological studies of the worm revealed that it is the new record in the genus *Mystoides* (Mathur,*et al.* 2014) of the family Capingentidae (Hunter, 1930) order Caryophyllidea (Benden1893) and regarded as new species *Mystoides chhaviensis*.

**Keywords:** Jhansi, Parichha dam, Fresh Water Fish, Cestodes, Morpho-taxonomy.

## INTRODUCTION

Most of the fresh water fish constitute highly nutritive food for human beings. These edible fish are known to harbour a number of cestode parasites. Capingentidae (Hunter, 1930) is a small group of unsegmented cestodes, mainly parasitic in economically important fish, sometimes causing severe damage with 28 genera and 99 species described in Indian sub-continent (Pandey, *et. al.,* 2010). This number is not the last score because these parasites constitute more than half of the biodiversity (Toft, 1986) It was an attempt to explore the cestode parasites from edible fish.

## MATERIAL AND METHODS

The host *Channa punctatus* (Bloch) were obtained from Parichha dam (Betwa river) district Jhansi (U.P.) India through local fish catchers. The intestines were cut open in normal saline water and then cestodes infection was observed. Worms were stretched in lukewarm water and preserved in 5% formalin. The whole mounts were stained in Mayer's haemalum, cleared in xylol and mounted in canada balsam. Figures were drawn with camera lucida. All the measurements have been given in millimeters unless otherwise stated. These cestodes were prepared for identification (Yamaguti, 1959)

## DESCRIPTION

***Mystoides chhaviensis* n. sp.** (Fig.01) Medium sized, unsegmented worm

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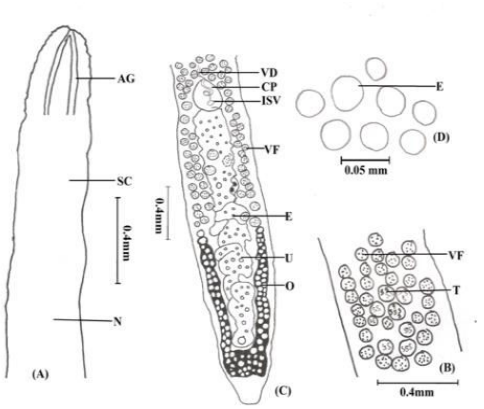


Fig. (01) *Mystoides chhaviensis* (A) Scolex with Neck (50X) (B) Middle region of the body (50X)(C) Posterior region of the body (50X) (D) Eggs (225X)

measures 20.140-22.541X 0.157-0.550. Scolex fimbricatedmeasure 0.565-0.812 X0.208-0.279 with two grooves. Neck medium sized measures 1.904-2.004 X 0.219-0.357. Testis numerous, oval to round, elongated and medullary in region measures 0.06-0.15 X 0.05-0.0685, never reaches up to the level of cirrus pouch. Cirruspouch elongated, median measure 0.21-0.25 X 0.134-0.1975. Internal seminal vesicle present and external seminal vesicle absent. Vas deferens measure 0.01-0.025 in diameter. Female genitalia anteriorly situated. Ovary 'U' shaped measures 1.112-1.89 X 0.199-0.315, lies in cortical as well as in medullary region. Vitelline follicles oval to round, touches the ovarian lobe, numerous in number, partly cortical, partly medullary and reaches below the level of cirrus pouch measure 0.025-0.0938X 0.025-0.0788. Post-ovarian vitellaria absent. Receptaculum seminis present. Uterus long, coiled, non-glandular and medullary measures, 1.321-1.815 X 0.105-0.199, uterine coils not extending anterior to cirrus pouch but extend between cirrus pouch and ovary.

Eggs elongated, numerous, non-operculated measures 0.0396-0.0612 X 0.0187-0.0298. Male and female genital pores separately situated at the base of cirrus pouch.

In the light of above discussion the present form may be provisionally accommodated as a new species, *Mystoides chhaviensis* n.sp.

The species is named after social worker Smt. Chhavikala Srivastav, Surypurm Jhansi (U.P.)

## DISCUSSION

The present form comes closer to *Mystoidesrajwaraensis* (Srivastav, *et. al.,* 2011) *Mystoidesbundelkhandensis* (Mathur, 2014) and *Mystoidesmuraiensis* (Narayan and Yadav, 2017).

The present form differs from *Mystoidesrajwaraensis* (Srivastav, *et. al.,* 2011) it differs in having smaller worm, large scolex and fimbricated with two groove, presence of internal seminal vesicle, large ovary, presence of receptaculumseminis and elongated large eggs.

The present form differs from *Mystoidesbundelkhandensis* (Mathur, *et al.,* 2014) it differs in having smaller worm, smaller scolex and fimbricated with two groove, smaller testes and never near to anterior part of cirrus pouch, presence of internal seminal vesicle, female genitalia anteriorly situated, smaller ovary, presence of receptaculumseminis, large elongated eggs.

The present form differs from *Mystoidesmuraiensis* (Narayan and Yadav, 2017) it differs in havinglarge worm, smaller scolex and fimbricated with two groove, smaller cirrus pouch, female genitalia anteriorly situated, large ovary, presence of receptaculumseminis, and large elongated eggs.

Type species: *Mystoides chhaviensis* n. sp.
Host : *Channa punctatus* (Bloch)
Habitat : Intestine
Locality : Parichha Dam District - Jhansi (U.P.) India

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**Table: 01. Comparison of the characters of the species closer to *Mystoides Chhavinsisn* sp.**

| S. No. | Character | *Mystoides rajwaraensis* (Srivastav, et.al 2011) | | *Mystoides bundelkhandensis* (Mathur, et.al. 2014) | *Mystoides muraiensis* (Narayan and Yadav,2017) | *Mystoides chhaviensis* n.sp. |
|---|---|---|---|---|---|---|
| 1 | Size | 18.0-30.0 X0.53-1.55 | | 37-2X1.6 | 15.0X1.40 | 20.140-22.541 x 0.864-0.964 |
| 2 | Scolex | Size | 0.557-0.662 X0.413-0.45 | 1.60X0.57 | 2.15 X 0.66 - 0.8 | 0.565-0.812 X 0.208-0.279 |
| | | Shape | Thumb like | Tube like | Knife like | Fimbricated with two groove |
| 3 | Neck | Present | | …….. | Absent | Present |
| 4 | External Seminal Vesicle | Present | | Absent | Absent | Absent |
| 5 | Internal Seminal Vesicle | Absent | | Absent | Present | Present |
| 6 | Ovary | Size | 1.02-1.80X0.675-1.32 | 4.19-4.65X1.37 | 1.35 X 1.2 | 1.12-1.89 x 0.199-0.315 |
| | | Shape | U shaped | U shaped | U shaped | U shaped |
| 7 | Receptaculum Seminis | Absent | | Absent | Absent | Present |
| 8 | Eggs | Size | 0.026-0.036 X 0.026 - 0.038 | 0.026-0.039X 0.026-0.039 | 0.03-0.04X 0.033-0.37 | 0.0396-0.0612 X0.0187-0.0298 |
| | | Shape | Oval to round | Spherical | Oval to round | Oval to round |
| 9 | Host | | *Heteropneustes fossilis (Bloch)* | *Mystus aor (Ham.)* | *Heteropneustes fossilis (Bloch)* | *Channa punctatus (Bloch)* |

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