

# A comparative study of *Haplorchoides macronis* (Agrawal, 1964) with present specimen collected from the river Burhi Gandak, Akharaghat, Muzaffarpur, Bihar.

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## ABSTRACT

During the investigation made for endohelminth fauna of Siluroid fish hosts of the river Burhi Gandak, Muzaffarpur, a digenetic trematode parasite *Haplorchoides macronis* was collected from the stomach of fish host *Mystus vittatus*. The present specimen *Haplorchoides macronis* resembles and differs in various ways with *H. macronis* (Agrawal, 1964).

**KEY WORDS :** Comparative study, *H. macronis*

## INTRODUCTION:

The genus *Haplorchoides* was erected by Chen (1949) with *H. cahirinus* (Looss, 1896) as its type species.

In 1949, Dayal added a new species *H. macronis* (Syn. *Pseudohaplorchis m.D.*).

Further Agrawal (1964) added *H. macronis* from fish host *Macrones seenghala*.

During present investigation, only one specimen of *Haplorchoides macronis* was collected from the stomach of fish host *Mystus vittatus*.

## DESCRIPTION:

Body in small elongated, spinose with broader fore end, measuring 0.832 mm in length while 0.299 mm wide (**Fig.**). The oral sucker is terminal, spherical measuring 0.039 mm in diameter (**Table**). The ventral sucker is absent. The prepharynx is long tubular measuring 0.104 mm in length; pharynx is muscular, rounded, measuring 0.039 mm in diameter. Oesophagus is short, tubular, measuring 0.026 mm in length. The distance of bifurcation of intestinal caeca is 0.195 mm from anterior end of the body. It is simple extending upto hind end of the body. Testis is single, large, entire oval lying in the posterior half of the body, measuring 0.169 mm in length while 0.143 mm wide; lying at 0.39 mm from the anterior end. Cirrus pouch is elongated but rudimentary. The vesicula seminalis is bipartite, having a large anterior part measuring 0.065 mm in length while 0.078 mm wide and the posterior part is rounded measuring 0.065 mm in diameter.

The ovary is entire rounded situated between testis and receptacle seminalis measuring 0.065 mm in diameter, lying at 0.351 mm from anterior extremity.

The receptaculum seminis is oval, much larger than the ovary measuring 0.065 mm in length while 0.078 mm wide.

Vitellaria are small, follicular, mainly lateral, overlapping the intestinal caeca and extending from posterior region of receptaculum seminis upto a little in front of hind end of the body.

The eggs are numerous, oval and operculated, measuring 0.026 mm in length while 0.013 mm in width.

Table - Morphometric data of *Haplorchoides macronis* of present collections and its comparison with *H. macronis n.sp.* Agrawal, 1964.  
All measurements are in mm.

Sl. No.	Parts measured	Measurement of Present Collection	<i>H. macronis n.sp.</i> Agrawal, 1964
1.	Length of body	0.832	1.02 – 1.13
2.	Width of body	0.299	0.18 – 0.235
3.	Diameter of Oral Sucker	0.039	0.04 X 0.05
4.	Length of Prepharynx	0.104	0.155 – 0.180
5.	Diameter of Pharynx	0.039	0.03 – 0.06 X 0.02
6.	Length of Oesophagus	0.026	0.06 – 0.10
7.	Distance of bifurcation of intestinal caeca	0.195	-
8.	Length of Testis	0.169	0.13 – 0.135
9.	Width of Testis	0.143	0.09 – 0.12
10.	Distance of Testis from ant.end	0.39	0.27 – 0.28 from posterior end
11.	Length of ant. vesicular seminalis	0.065	0.04 – 0.041
12.	Width of ant. Vesicular seminalis	0.078	-
13.	Distance of ant. Vesicular seminalis from ant. end	0.208	-
14.	Diameter of Ovary	0.065	0.07 – 0.09 X 0.06 - 0.9
15.	Distance of Ovary from ant.end	0.351	0.47 – 0.475
16.	Length of Receptacle Seminalis	0.065	0.10 – 0.11
17.	Width of Receptacle Seminalis	0.078	0.055 – 0.09
18.	Distance of Receptacle Seminalis from ant. end	0.286	-
19.	Length of egg	0.026	0.025 – 0.042
20.	Width of egg	0.013	0.01 – 0.025

## DISCUSSION:

Agrawal (1964) created new species *H. macronis*. According to her the new form differs from all the known form parasitic in fishes from India in the extension of intestinal caeca upto hind end of the body.

The present worm resembles *H. silundi*, *H. attenuatum*, *H. gangeticum*, *H. ritai*, *H. brahamputraensis* and *H. taakree* in the extension of vitellaria from hind end of receptaculum seminis. It differs from *H. brahamputraensis* in not having extracaecal gonotyl. It can also be distinguished from *H. gangeticum* in having a long well developed oesophagus.

Further present worm differs from *H. silundi*, *H. attenuatum* and *H. ritai* in the position of ovary and receptaculum seminis. It has a close resemblance to *H. taakree* in the extension of vitellaria, position of receptaculum seminis and ovary but differs from it in having a long oesophagus and in the shape and size of receptaculum seminis.

The present worm resembles *H. macronis* Agrawal (1964) in having extension of intestinal caeca upto hind end of the body, in not having extra caecal gonotyl, long oesophagus and the shape and size of receptaculum seminis and hence assigned to *H. macronis*.

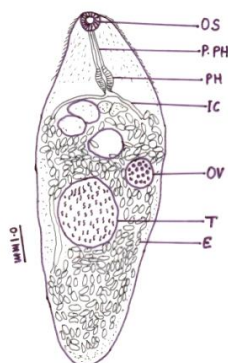


Fig. Camera Lucida Diagram of *H. macronis*

**Abbreviations:**

OS – Oral Sucker; P.PH – Pre-Pharynx; PH – Pharynx; IC – Intestinal Caecum;

OV – Ovary; T – Testis; E – Egg.

**Host:** *Mystus vittatus*

**Habitat:** Stomach

**Locality:** River Burhi Gandak, Akharaghat, Muzaffarpur.

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