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Occurrence of *Isoparorchis hypselobagri* (Billet, 1898) Odhner, 1927 (Family: Isoparorchidae Poche, 1926) as parasite of *Oxygaster bacaila* (Ham.) and *Gagata cenia* (Ham.) in Baruasagar Reservoir, Jhansi

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ABSTRACT

The present investigation was carried out on helminth parasites of Bundelkhand Region, Jhansi. The Metacercaria of *Isoparorchis hypselobagri* (Billet, 1898) Odher, 1927 was described from the body cavity of the *Oxygaster bacaila* (Ham.) and *Gagata cenia* (Ham.) from Barua sager Dam, Jhansi. *Isoparorchis hypselobagri* characterized by having, anterior sucker, sub-terminal, spherical and circular; Ventral sucker much larger than oral sucker, spherical; Pre-pharynx, oval; Oesophagus short, tubular; Intestinal caeca, broad, and appear yellow or brown colour, run from oesophagus up to posterior end of body; Testes two, rounded, spherical, intercaecal, anterior testis was larger than posterior one; Ovary was present on the right side in oval shape structure in the hind region of the body in front of excretory bladder; cylindrical shaped excretory bladder. *I. hypselobagri* were collected from *O. bacaila* and *G. cenia*. *Gagata cenia* on added one more fish to the list of hosts recorded from India.

Keywords: *Isoparorchis hypselobagri*, Baruasagar Reservoir, *Oxygaster bacaila* (Ham.) *Gagata cenia*.

1. Introduction

In the hot climatic condition of the region Bundelkhand the fishes *O. bacaila* (Ham.) and *G. cenia* (Ham.) are widely distributed in rivers, dams, reservoir and ponds. Being an important link in the food chain as primary and secondary consumers, fishes constitute a useable proteinous source of diet. Such an important source of food is continuously depleting due to the parasitic load on them and thus making their use unfit for human consumption. An acute infection of digenetic is found to be one of the causes of the mass mortality of fishes. Parasites of fish constitute one of the major problems faced by modern fish aquarium culturists. The present study was aimed that determining the intestinal digenetic metacercariae found in fishes of Baruasagar reservoir, Jhansi.

2. Material and Methods

Fishes for the present investigation have been collected from Barua sager reservoir, Jhansi. *Isoparorchis hypselobagri* were obtained from the body cavity of *O. bacaila* (Ham.) and *G. cenia* (Ham.). These were found in non-encysted free stage on visceral organs and appeared golden yellow or brown in colour. When these parasites were taken out in normal saline from the body cavity of hosts, they showed active movements by of expansions and contractions of the body. The parasites were taken out and fixed in 70% Alcohol. These were stained in aceto-alum carmine, dehydrated and mounted in Canada balsam. Figure was drawn with the aid of Camera lucida and all measurements done in micrometer. The identification and classification of the metacercariae was done using Yamaguti, 1958.

3. Result

3.1 Metacercaria of *Isoparorchis hypselobagri* (Billet, 1898) Odher, 1927.

Body aspinose, thick and elongated, anterior end being more attenuated than posterior end. Body 1.9-1.95 mm long, 0.85-0.9 mm wide. Anterior sucker, sub-terminal, spherical 0.2-0.25 mm long, 0.22-0.28 mm wide.

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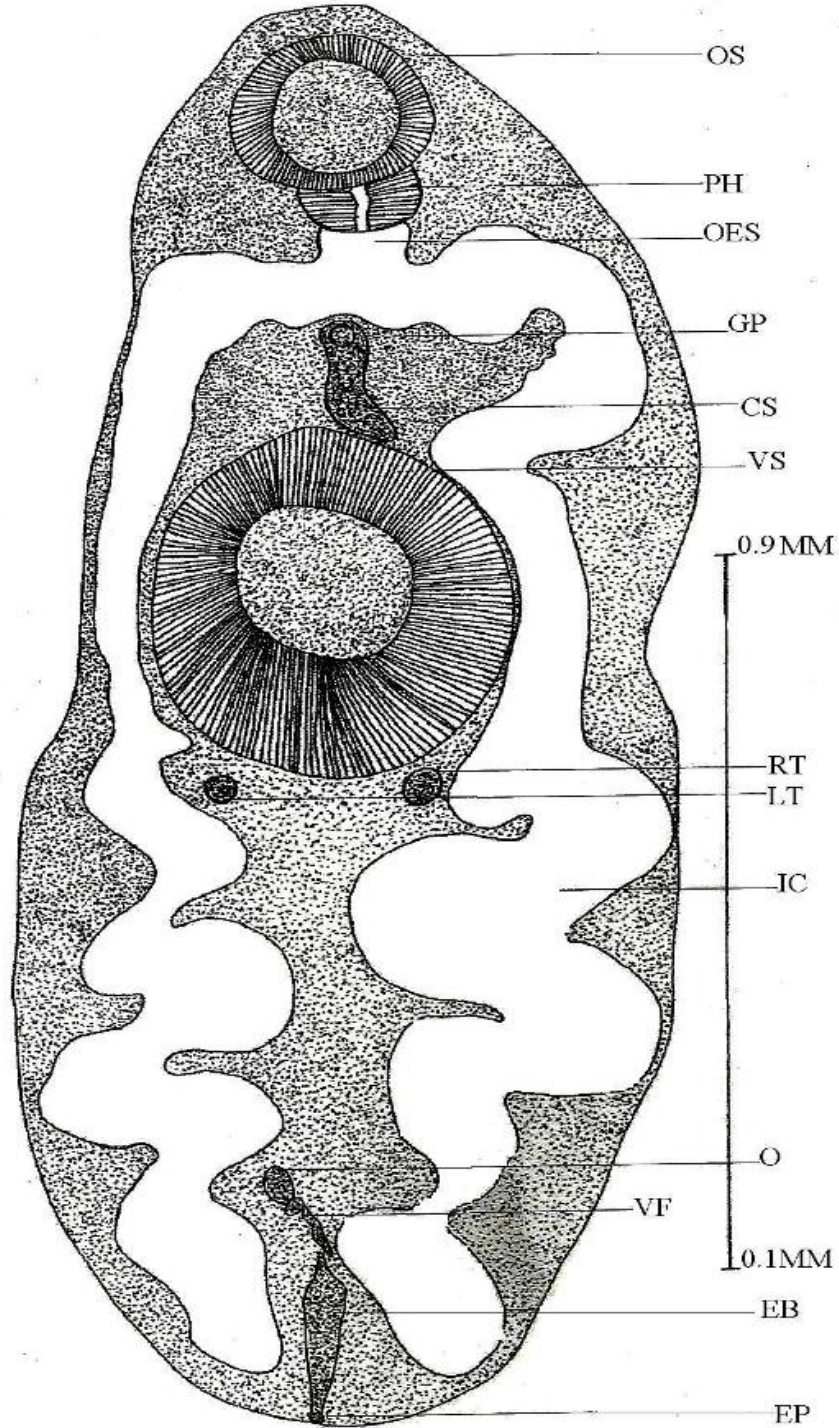
Ventral sucker much larger than oral sucker, spherical, 0.32-0.44 mm long, 0.35-0.41 mm wide, at 0.5-0.54 mm from anterior extremity. Pre-pharynx, oval, well developed, 0.05-0.12 mm long 0.08-0.14 mm wide. Oesophagus short, tubular, 0.05-0.09 mm long, 0.08-0.11 mm wide. Oesophagus ran into intestinal caeca. Intestinal caeca, broad, and appeared yellow or brown with the contained food matters. It ran from oesophagus up to posterior end of body.

Testes two, rounded, intercaecal, 0.05-0.09 mm long, 0.03-0.05 mm wide, anterior testis was larger than posterior one. Vesicula

seminalis was continued into a short ejaculatory but enclosed in the so-called "Sinus sac" of Manter (1936). Genital pore was median and present just below the intestinal bifurcation.

Ovary was present on the right side in oval shape structure in the hind region of the body in front of excretory bladder. A small oval shaped Receptaculum- seminis was present. Vitellaria were in the incipient stage of development were represented by dark staining cells in front of excretory bladder.

Excretory bladder was cylindrical shaped between intestinal caeca, and leads to the outside by a terminal excretory pore.



A *Isoparorchis hypselobagri* (Billet, 1898) Odhner, 1927

Fig: *Isoparorchis hypselobagri*

4. Discussion

The occurrence of the Metacercariae of *I. hypselobagri* has been reported by ^[1] in fishes and hosts on its life history. ^[2] studied the helminth parasites of fishes in India. ^[3] studied the infestation of *I. hypselobagri* in fresh water cat fish *Mystus vittatus* of Bangladesh. ^[5] worked on abundance and intensity of infestation in *Mystus vittatus*, *M. tengara* and *M. cavasius*. ^[6] worked on incidence of *I. hypselobagrii* among the cat fishes of Bhavani sagar reservoir. ^[7] studied the infestation of *I. hypselobagri* in *Nandus nandus*. ^[8] re-described the early development of *I. hypselobagri*. ^[9] worked on *Isoparorchis* infestation in some unrecorded fishes. ^[11] studied *I. hypselobagri* among fishes in China. ^[10] reported various digenetic metacercariae from the freshwater fishes of River Godavari.

The present Metacercariae was referred to genus *Isoparorchis* ^[4]. The present Metacercariae closely resembled with *I. hypselobagri* (Billet, 1898) Odher, 1927 but slightly differs in having, anterior sucker, sub-terminal, spherical and circular; Ventral sucker much larger than oral sucker, spherical; Pre-pharynx, oval; Oesophagus short, tubular; Intestinal caeca, broad, and appear yellow or brown colour, run from oesophagus up to posterior end of body; Testes two, rounded, spherical, intercaecal, anterior testis was larger than posterior one; Ovary was present on the right side in oval shape structure in the hind region of the body in front of excretory bladder; cylindrical shaped excretory bladder.

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6. References

1. Bashirullah AKM. On the occurrence of the trematode, *Isoparorchis hypselobagri* (Billet, 1898), in fishes and hosts on its life history. Norwegian. Journal Zoology 1972a; 20:209-212.
2. Bhalerao, GB. Studies on the helminthes of India-Trematoda II. Journal Helminth; 1936a 14(4):225-226.
3. Chandra, K J. Infestation of *Isoparorchis hypselobagri* (Billet, 1898) in certain freshwater catfishes of Bangladesh. BAU Res. Prog 1994b; 8:543-549.
4. Chauhan. In the taxonomic position and distribution of trematode genus *Isoparorchis* Southwell, 1913. Journal Zoology Society India 1955; 7:87-90.
5. Chowdhury A, Khanum H, Begum S. *Isoparorchis hypselobagri* (Billet, 1898): its abundance and intensity of infestation in the hosts *Mystus vittatus* (Bloch), *Mystus tengara* (Hamilton) and *Mystus cavasius* (Hamilton). Bangladesh Journal Aquaculture 1986; 8:37-45.
6. Devraj M, Ranganathan V. Incidence of *Isoparorchis hypselobagri* (Trematoda: Hemiuridae Billet, 1898) among the cat fishes of Bhavani sagar reservoir. Indian Journal Fish 34, 1967:232-250.
7. Golder, MI and KJ Chandra. Infestation of *Isoparorchis hypselobagri* on the host fish *Nandus nandus*, Environment and Ecology 1987; 5:337-341.
8. Gupta SP. Redescription and early development of *Isoparorchis hypselobagrii*. Indian. Journal Helminthol 1961; 13-35
9. Rai P, Pande BP. Isoparorchid infection in some hitherto unrecorded fish species. Current .Science 1965; 20:586-588.
10. Vankara AP, Mani G, Vijayalakshmi C. A report on various digenetic metacercariae from the freshwater fishes of River Godavari, Rajahmundry. Journal Parasit Dis 2011; 35(2):177-185.

11. Wu. Occurrences of *Isoparorchis* among fishes in China. (Trematoda : Isoparorchidae) Pek. Nat His Bul 1938; 273-277.
12. Yamaguti S. Systema Helminthum Vol. I. The digenetic trematodes of Vertebrates. Part I & II. Interscience Publisher. Inc. New York, 1958; 979-1575.