

A New Species of Rare Monogenoidean Genus *Thaparogyrus* Gusev, 1976 From gills Of *Labeo bata* (Hamilton, 1822)

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Abstract: A new species of rare monogenoidean genus *Thaparogyrus* Gusev, 1976 has been described. The worms were collected on the gills of *L. bata* at Manjhura, District Kheri. It is characterized by the dissimilar size of hooks and copulatory tube broad at base pointed at ends; accessory piece with two short flaps support to hold the tube medially and solid tip of tube by terminal flap and broad base of copulatory tube also attached to accessory piece of copulatory complex.

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I. INTRODUCTION

Labeo bata is a native fish to India and Bangladesh commonly called as minor carp. It is a popular game fish and is popular for its taste. Its maximum length is 25–35 centimetres (9.8–13.8 in). It eats protozoa, algae, and tiny fishes. *L. bata* is an important commercial species for aquaculture. It is a much sought-after fish with a high value in the market, however fishing is not considered to be a great threat to the species due to the extent of aquaculture but monogenoidean can cause major threat for survival. They harbor many genus of ectoparasite like Monogenoidean parasites which are the most ubiquitous and abundant parasites like *Dactylogyrus*, *Thaprogyrus* that interrupt in respiration resulting death. Of these parasites genus *Thaprogyrus* included only one type species *T. lucknowius* from *Labeo bata*. Another new species is reported from new locality Majhura, district Kheri from the same host.

II. MATERIALS AND METHODS

Labeo bata (Hamilton, 1822) and *Labeo calbasu* (Hamilton, 1822) were collected by drag net during December 2006 to March 2008 from river Sharda at Pallia and river Ghaghra at Manjhura, District Kheri. Gill baskets were removed from the hosts, immediately placed on ice to narcotize the worms and subsequently preserved in hot 4 % formalin. Some of the worms were studied alive. Method of staining, mounting and illustration of *Thaprogyrus* were those described by Kritsky, Thatcher and Boeger (1986). Measurements (in micrometer) were made using a calibrated micrometer; the average measurements are followed by range and number of specimens measured (n) in parantheses. Unstained flattened specimens mounted in glycerine were used to obtain measurements of haptor sclerites. Numbering of hook pair follows Kulwiec (1927). Voucher specimens used in the present study were deposited in the museum of India (Helminths Section). Host names follow those in the FAO Fish Base (Froese and Pauley, 2008).

Thaparogyrus gusevi n. sp.

Host: *Labeo bata* (Hamilton, 1822)
Locality: River Ghaghra, Majhura, district Kheri.

Site of infection: Gills
No. of hosts examined: 25
No. of hosts infected: 02
Total worms collected: 08

DESCRIPTION:

Body fusiform, 425 μ m (393- 443; n=8) long; greatest width 24 μ m (18- 29; n=8) in the posterior trunk region at the level of gonads. Cephalic lobes moderately developed, one pair; cephalic glands three pair. Eye spots two pair, non-equidistant, posterior pair larger; accessory granules absent. Pharynx oval, 34 μ m (31- 36; n=8) long, 27 μ m (25- 29; n=8) wide. Peduncle narrow. Haptor 63 μ m (58- 69; n=8) long, 55 μ m (47- 57; n=8)

wide. Dorsal anchor slightly placed towards each other, stout poorly developed roots, inner length 34 μm (31-38; n=8), outer length 28 μm (27-29; n=8), 9 μm (8-11; n=8) wide, with recurved shaft and a sharp point 6 μm (5-7; n=8) long. Dorsal bar arch-shaped, stout lateral ends dilated in the shape of articulation, 34 μm (31-38; n=8) long, 12 μm (10-14; n=8) wide. Hooks 14, dissimilar, two types, one with protruding thumb, point and shank comprising two subunit, longest 4 pair, 15 μm (13-16; n=5); 1, 2, 5, 7 pair 12 μm (10-13; n=5), second larval type 3, 6 pair 12 μm (10-13; n=5) long, the 4thA hook not observed. Copulatory complex consist of an accessory piece and a tube; copulatory tube broad at base pointed at the end 23 μm (18-27; n=5) long; accessory piece solid shaft shaped, two short flaps support to hold the tube medially and solid tip of copulatory tube by a terminal flap, 24 μm (22-29; n=8) long, broad base of copulatory tube also attached to accessory piece. Prostatic reservoirs opening at the base of copulatory tube. Testis pear shaped, 49 μm (44-51; n=8) long, 35 μm (32-38; n=8) wide, vas deferens arises from anterior end of testis, runs anteriorly to loop left intestinal caecum and dilating to form seminal vesicle which opens at the base of copulatory complex by long ductus ejaculatorius. Ovary oval, 48 μm (45-53; n=8) long, 27 μm (23-29; n=8) wide. Vagina not observed. Vitelline follicle dense, extend throughout trunk except in regions occupied by reproductive organs.

III. DISCUSSION

Genus *Thaparogyrus* was established by Gusev in 1976 on gills of *Labeo bata* (Hamilton, 1822) from the water bodies near Lucknow with *T. lucknowius* as its type species. Another species *T. magnaclithrium* was collected on the gills of *Cirrihnus jullieni* in Thailand and described by Chinabut and Lim, 1991. Thus, the genus *Thaparogyrus* includes only two species. The present form chiefly differs from *T. lucknowius* in the shape of hooks and copulatory complex. It further differs from *T. magnaclithrium* in the shape of copulatory complex and anchor. Therefore, the species is regarded as new and named *T. gusevi* n. sp. after Dr. A. V. Gusev.

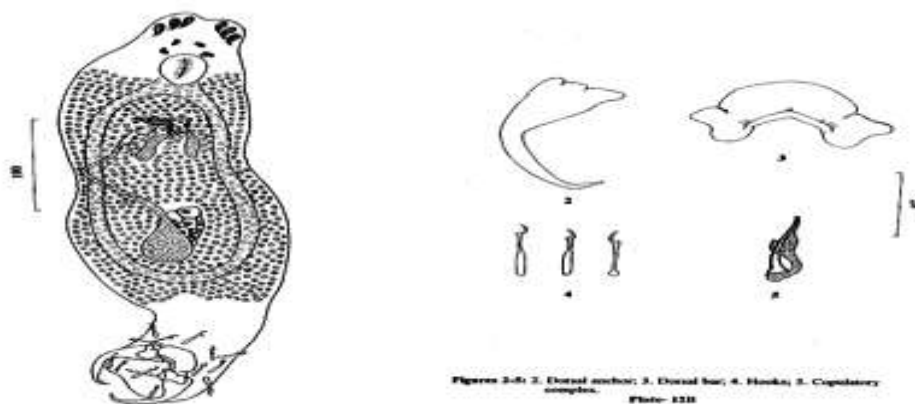


Fig. 1. *Thaparogyrus gusevi* n. sp. whole mount (dorsal view).
Plate- 12A.

Figures 2-5: 2. Dorsal anchor; 3. Dorsal bar; 4. Hooks; 5. Copulatory complex.
Plate- 12B.

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