

NEW LOCALITY RECORD OF *ISOPARORCHIS HYPSELOBAGRI* (BILLET, 1898) EJSMONT, 1932 (TREMATODA: ISOPARORCHIIDAE) FROM THE BODY CAVITY OF *WALLAGO ATTU* (FRESHWATER FISH) IN NAUSHAHRO FEROZE, SINDH, PAKISTAN

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ABSTRACT

The helminth fauna of twelve specimens of *Wallago attu* from District Naushahro Feroze Sindh, Pakistan were studied. From all the studied specimens, the single host was infected with the helminth parasitic infection of single trematode, the specimen was recovered from the body cavity. The fluke was studied in detail which belongs to Genus *Isoparorchis* (Southwell 1913). The characterized by having flattened to oval body 6.95 x 3.28 without spines, narrower anterior end than posterior. Oral sucker is subterminal measuring 0.59 x 0.57. Prepharynx absent, pharynx smaller 0.33 x 0.30, esophagus absent. Caeca are serpentine. Acetabulum is present in the anterior half of the body measures 0.75 x 0.72. Testes are symmetrical, intercaecal oval to rounded in shaped, right testis measure 0.37 x 0.53 while the left testis measures 0.50 by 0.37. Genital pore in between the ventral sucker and oral sucker. Ovary is tubular in shape measured 0.72 x 0.10. Eggs were larger in size, oval in shape measures 0.21 x 0.17.

Key words: New locality record, *Isoparorchis hypselobagri*, *Wallago attu*, Naushahro feroze, Sindh, Pakistan.

INTRODUCTION

Present specimen belongs to Family Isoparorchidae Poche 1926, Genus *Isoparorchis* (Southwell 1913) (Syn. *Laptoleicithum*, Kobayashi, 1915). *Isoparorchis hypselobagri* (Billet, 1898) Ejsmont, 1932 is the helminth parasite of freshwater fishes in such as Australia and Asia (Gibson, 2002). This trematode species has been recorded in various countries, Australia (Cribb, 1988), Russia (Bykhovskaya-Pavlovskaya *et al.*, 1987) and from many countries of Asia, i.e., Japan (Shimazu *et al.*, 2011), China (Chen *et al.*, 1973), Korea, Sohn *et al.*, 2018, Vietnam (Moravec *et al.* 1989), Indonesia (Bovien, 1927), Bangladesh (Chandra, 2006), India (Bhalerao, 1936) and Pakistan (Bilqees *et al.*, 1972), *I. hypselobagri* is recovered from the hosts, *Tandanus tandanus*, *Wallago attu*, *Parasilurus asotus*, *Pseudobagrus pelleobagrus*, from Australia, Indonesia, China, Siberia and Japan (Yamaguti, 1934). In Pakistan, Bilqees *et al.* (1972) reported new species *I. pakistani* (Syn. *I. hypselobagri*) recovered from the intestine and air bladder of *Ophiocephalus striatus* and *Wallago attu*. Bhutta and Khan (1975) reported *I. hypselobagri* from Air bladder of *Wallago attu*, Khan *et al.* (1990) reported *I. hypselobagri* from the ovary and air bladder of *Wallago attu*. The present specimen was recovered from the body cavity of *Wallago attu*, from Naushahro feroze, Sindh Pakistan. This is the new locality record of species *I. hypselobagri* (Billet, 1898) Ejsmont, 1932 in Naushahro feroze, Sindh, Pakistan.

Wallago attu is freshwater predatory fish; locally this fish is called Mulee, belongs to order Siluriformes and family Siluridae. It is commonly called as *Wallago* catfish or helicopter catfish due to its shape resemble like helicopter. It has different names in various regions.

MATERIAL AND METHOD

The freshwater fishes *Wallago attu* were caught from freshwater of District Naushahro Feroze Sindh, Pakistan. Freshwater fishes were placed in plastic bags containing water and brought to Parasitological

laboratory, Department of Zoology, University of Sindh, Jamshoro. For examination of the helminth parasites. The fish was dissected mid-ventrally. During examination one mature egg bearing specimen was recovered from the body cavity of fish. After that the specimen was killed and fixed in steaming 70% alcohol, the specimen was kept between two glass slides pressed lightly, unite with thread under light pressure, fixed in Formalin Acetic Acid and 70% ethanol solution for 24 h. Then, specimen was transferred to 70% ethanol, and stained with Mayer's carmalum-stain, dehydrated in graded series of alcohol, then specimen cleared in clove oil, rinsed with xylene and permanently mounted in Canada balsam. Diagram are made with the help of camera Lucida and photograph was taken with Digital Olympus microscope at "Centre for Pure and Applied Geology, University of Sindh, Jamshoro". All measurements are length by width, in millimeters. The specimen is deposited in the Parasitological Laboratory, University of Sindh, Jamshoro.

RESULTS

Isoparorchis (Southwell, 1913)

(Figs. 1-2)

Host: *Wallago attu*
Locality: Body cavity
Location: Naushahro feroze
No. of host examined/infected: 12/ 01

DESCRIPTION

Description Is Based On Single Permanent Mounted Egg Bearing Mature Specimen

Body is large flattened, foliate, oval to oblong without spines measures 6.95 by 3.28 anterior end is narrower as compared to the posterior. Oral sucker is subterminal, spherical, oval to rounded in shape measures 0.59 by 0.57, without papillae. Pre pharynx is absent. Pharynx is smaller measures by 0.33 by 0.30. Esophagus is not prominent. Caeca bifurcation starts from near to oral sucker upto posterior region of body. Caeca are serpentine changing in diameter throughout their extent and terminate a short distance in front of the posterior extremity and provided with a short diverticula. Acetabulum is present above the mid of the body measures 0.75 by 0.72. Distance between oral sucker and ventral sucker is 0.98. Testes are symmetrical, intercaecal at posterolateral to postacetabular and oval to round in shaped, right testis measure 0.37 by 0.53 while the left testis measures 0.50 by 0.37. The distance between acetabulum and right testis measures 0.10, while the distance in between left testis and ventral sucker measures 0.72. The distance between two testes is 0.72. Duct of hermaphrodite is enclosed in sac. Prominent genital pore situated between the oral sucker and ventral sucker. Cirrus pouch is absent, vesicular seminal is long, tubular and winding and for the most part lying in front of the acetabulum. Ovary is tubular in shaped, winding, submedian intercaecal near posterior extremity, measures 0.72 by 0.10. Vitellaria consisting of masses of follicles are dendritic, tubular branched organ near to the posterior extremity, median in position and its branches laterally over reach caeca, anteriorly extending to a short distance in front of ovary, posteriorly terminating a little above caecal ends. Uterus occupying most of the postacetabular region of the body. Eggs are larger in size, oval in shaped measures 0.21 by 0.17. Y-shaped excretory vesicles, excretory arms are sigmoid, serpentine, expanding prior to nearly pharyngeal level.

DISCUSSION

Present specimen resemble the *Isoparorchis hypselobagri* (Billet, 1898) Ejsmont, 1932, in general body shape including anterior end narrower and posterior end broader, Terminal oral sucker. Present form are however smaller in body size, ventral sucker and oral sucker, absence of Prepharynx, smaller pharynx esophagus absent, caecal bifurcation starts from near to oral sucker, vitelline follicles distribution dense in posterior broader of body, testis are oval to rounded in shape and present at intercaecal, larger size of eggs.

Originally the species *Isoparorchis pakistani* was reported by (Bilqees *et al.*, 1972) recovered from the intestine and air bladder of *Ophiocephalus striatus* and *Wallago attu* of Pakistan, Zaidi and Khan 1977 reduced the species to synonym *I. hypselobagri*, Bhutta and Khan 1975 reported *I. hypselobagri* recovered from the air bladder of *Wallago attu* in Pakistan. Khan *et al.* (1990) reported *I. hypselobagri* from the ovary and air bladder of *Wallago attu*. Therefore this is regarded as same species.

The freshwater fishes host *Wallago attu* and locality Naushahro Feroze Sindh, Pakistan, is a new locality for the species.

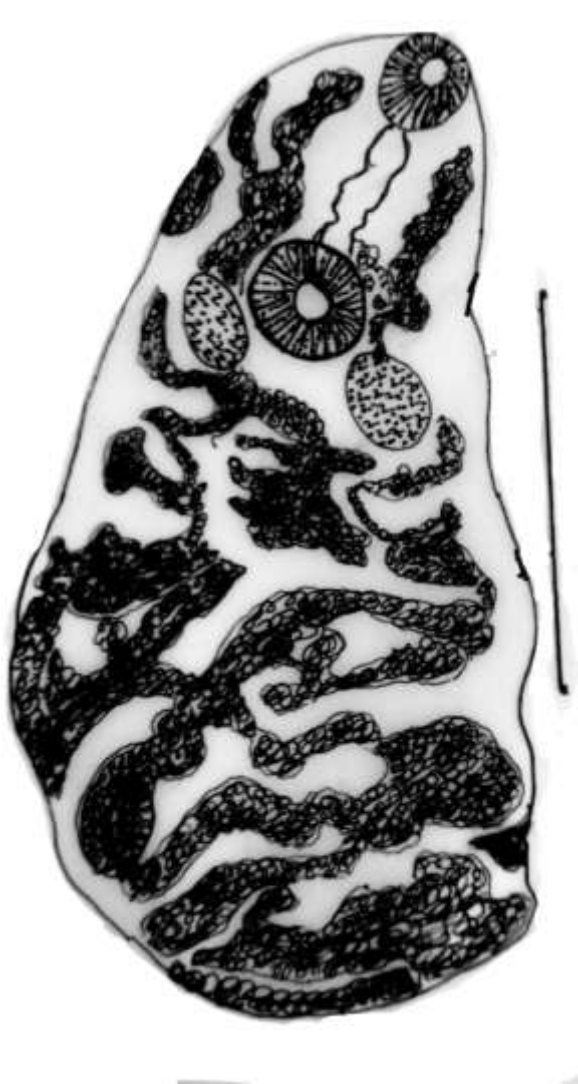


Fig.1. *Isoparorchis hypselobagri* (Billet, 1898) Ejsmont, 1932
Entire lateral view; Scale bar 0.5mm



Fig. 2. lateral view, Photograph 39X

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