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New record of genus *Aphanuroides* Nagaty and Abdel-Aal, 1962 from Siluriform host fish *Rita rita* of Indus River, Sindh, Pakistan

HIRA SOOFI[1*], ARIFA BHUTTO[2], ABDUL RASOOL ABBASI[3] & GHULAM SARWAR GHACHAL[1]
[1]*Department of Zoology, University of Sindh, Jamshoro, Sindh, Pakistan*
[2]*Department of Information and Communication Technology, University of Sindh, Jamshoro, Sindh, Pakistan.*
[3]*Department of Fresh Water Biology and Fisheries, University of Sindh, Jamshoro, Sindh, Pakistan.*

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***Corresponding Author:**

Hira Soofi:
hirasoofi@gmail.com

Short Communication

ABSTRACT

The parasitic study on catfish *Rita rita* of river Indus, Jamshoro, Sindh, Pakistan. A total of 22 host catfishes were collected from study area and brought to the Parasitological Laboratory, Department of Zoology University of Sindh Jamshoro. During examination of helminths a total of 28 trematodes were collected from intestine and stomach. The trematodes were resemble with species *Aphanururoides lethrini* in all diagnostic characteristics and identify as such. Present genus reported first time from *Rita rita* of Pakistan, hence this report is new locality and host record.

Keywords: Trematodes, Catfish *Rita rita*, new record, Indus River, Pakistan

INTRODUCTION

Bagridae is a family of catfishes widely distributed in Africa and Asia (Nelson, 2006). The catfishes belong to the family Bagridae are commonly known as naked catfishes or bagrid catfishes. Catfish belong this family have great economic importance and use as the main source of food worldwide. These catfishes are carnivorous (Nawaz *et al*., 1994), due to their feeding habit, these fishes can act as an intermediate or a final host for many helminth parasites. The reports on helminth parasites of Bagridea catfishes is so diverse and reported from the different countries of the world, but the reports on helminth parasites of catfish *Rita rita* belong to Bagridae family reported from Pakistan are limited those of (Ahmad *et al*., 2014), (Ayaz *et al*., 2013), (Khanum *et al*., 2008), (Kakar and Bilqees, 2008), (Shakir and Khan, 2006), (Soofi *et al.,* 2015, 2016a, 2016b, 2016c, 2016d, 2016e, 2017). So the present research work has great contribution in field of science especially in taxonomic filed and help to control the economic loss of fish industry cause by parasites.

MATERIALS AND METHODS

Study area

During current study *Rita rita* (Siluriformes: Bagridae) host fishes were collected from River Indus study area, brought to the Parasitology Laboratory, Department of Zoology, University of Sindh, Jamshoro, Pakistan.

Dissection of host fish and collection of helminthes

Fishes were set on dissecting tray and cut longitudinally. Viscera were separated in Petri dishes and examined under stereo dissecting microscope for helminth parasites. Total of 28 specimens belonging to genus *Aphanuroides* were collected.

Processing of helminthes

The methods described by (Garcia and Ash, 1979) and (Schmidt, 1988) were followed for collection and processing of helminths. Trematodes were fixed under slight cover glass pressure, stained with borax carmine, dehydrated in a grade series of ethanol solutions, then cleared in Clove oil and Xylol, and mounted in Canada balsam.

Drawing and identification

Photographs were taken with the help of Olympus DP12 camera, Illustrations were made with aid of Camera-Lucida. All measurements are given in millimeters (mm). Specimens were identified with the literature and trematode keys.

Author's Contribution: H.S., Data collection, data processing and manuscript writing**; A. B.,** manuscript writing**; A. R. A.,** Data collection**; G. S. G.,** manuscript writing**.**

RESULTS

Systematic position

Family Hemiuridae Looss, 1899
Subfamily Aphanurinae Skrjabin and Guschanskaja, 1954
Genus *Aphanuroides* Nagaty and Abdel-Aal, 1962
Aphanururoides lethrini Nagaty and Abdel-Aal, 1962
(Fig. 1 and 2)
Host: *Rita rita*
Number of host infected: 22
Number of specimen recovered: 31
Site of infection: Intestine and Stomach
Locality: River Indus Jamshoro, Sindh, Pakistan

Description

Body of trematode is elongate, small with narrow anterior end, wider posterior end measures 1.73-1.82 millimeters (mm). Widest at post-equatorial region of body measures 0.56-0.58. Oral sucker cup shape measures 0.13-0.17 x 0.16-0.17 mm. Ventral sucker rounded, large, partially overlapped by seminal vesicle measures 0.18-0.19 x 0.21-0.25 mm. Pharynx small rounded measures 0.02-0.05 x 0.02-0.03 mm. Seminal vesicle elongate, secular, curved, extending between ventral sucker and anterior testis measures 0.63-0.67 x 0.10 mm. Esophagus elongate, curved, extending from posterior of oral sucker to ventral sucker measures 0.38-0.39 x 0.02 mm. Intestinal bifurcation at the ventral sucker. Two testes rounded to oval in shape, tandem, parted from each other by uterus anterior testis measures 0.21-0.23 x0.21 mm, posterior testis measures 0.21 x 0.15-0.17 mm. Ovary oval shape and posteromedial measures 0.32-0.35 x 0.12-0.14 mm. Vitelline follicle in the form of bilobed mass measures 0.28 x 0.15-0.17 mm. Hermaphroditic duct present which opens into genital atrium. Genital pore posteroventral to oral sucker. Uterus in thick compact loops overlapped whole hind-body, extending form posterior of oral sucker to backward of body. Excretory pore at posterior end of body. Eggs oval in shape.

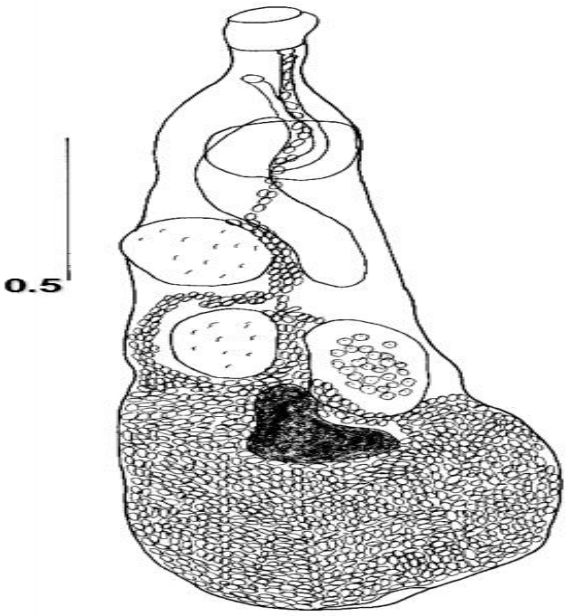

Fig. 1: *Aphanururoides lethrini.* Diagram of entire worm. Scale bar: 0.5 mm

Fig. 2: *Aphanururoides lethrini.* Photograph of entire worm

DISCUSSION

Family Hemiuridae (Looss, 1899), which include the trematode parasites of marine, freshwater fishes and sea snakes. They cause infection in intestine, stomach and lungs. Genus *Aphanuroides* (Nagaty and Abdel-Aal, 1962) belong to family Hemiuridae and type species of genus is *Aphanuroides lethrini* (Nagaty and Abdel-Aal, 1962).

Present trematode specimens compare with type species *Aphanuroides lethrini* (Nagaty and Abdel-Aal, 1962) of genus *Aphanuroides* collected from *Lethrinus nebulasusa* and other teleosts of marine and freshwater of Europe and Asia, which are complete resemblance in all diagnostic characteristics such as body shape and size, suckers shape, pharynx shape, seminal vesicle shape and size, testes shape and position, ovary shape and position, eggs shape and size, identified as such. Present species and genus reported first time from the new host *Rita rita* and locality Pakistan. This new host and locality record is great contribution in taxonomic research.

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