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PROSORCHIS MACROACETABULUM N.SP. (TREMATODA: HEMIURIDAE) FROM THE FISH *STROMATEUS NIGER* (BL.) OF KARACHI COAST, PAKISTAN

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ABSTRACT

A new hemiurid trematode *Prosorchis macroacetabulum* is described here from the fish *Stromateus niger* (Bl) collected from the fish harbour, Karachi coast, Pakistan. Body of this fluke is dorsoventrally flattened, wide. Oral sucker is subterminal, prepharynx absent, pharynx comparatively small, esophagus indistinct, ceca wide projecting anteriorly towards oral sucker and reaching to the posterior end of the body. Acetabulum more than three times larger than oral sucker, almost equatorial. Testes two, preacetabular, seminal vesicle anterior to testes, slightly twisted, pars prostatica small, well differentiated, hermaphroditic duct is also small, genital pore ventral to posterior border of pharynx. Ovary is postacetabular and postequatorial, receptaculum seminis small, vitellaria composed of seven, long, convoluted tubules, uterus reaching to near about posterior region of the body, joining hermaphroditic duct anteriorly at the level of cecal bifurcation, eggs numerous, small, excretory vesicle is Y-shaped.

Keywords: New hemiurid trematode, intestine, *Stromateus niger*, Karachi coast.

INTRODUCTION

Three species of hemiurid genus *Prosorchis* Yamaguti, 1934 are known in two fish species of Karachi coast including two species from *Stromateus sinensis* and one from *Harpodon nehreus* (Bilqees, 1971, Zaidi and Khan, 1977). A fourth species *Prosorchis macroacetabulum* n.sp., is described here from the fish *Stromateus niger* of Karachi coast, Pakistan. It appears that fishes of family Stromateidae are favourable hosts for species of the genus *Prosorchis*.

MATERIALS AND METHODS

Thirty-nine fishes (*Stromateus niger*) were collected from the fish harbour, Karachi. Out of these two fish were infected with trematodes, two from one fish and one from other. These were fixed in hot AFA solution, a mixture of 70% ethyl alcohol, formalin and acetic acid in the ratio of 93:7:3. After 24 hours specimens were washed several times with 70% ethanol, stained with Mayer's carmalum, dehydrated in graded series of ethanol, cleared in clove oil and xylene and mounted permanently in Canada balsam. Diagrams were made with the help of a camera Lucida and measurements are given length by width in millimeters. Holotype and paratype specimens are in the collection of first author, Department of Zoology, Jinnah University for Women, Karachi.

***Prosorchis macroacetabulum* n.sp.**

(Fig. 1)

Host:	*Stromateus niger* (Stromateidae)
Location:	Intestine
Locality:	Fish harbour, Karachi coast
No. of specimens:	3 from 2 fish 39 fish were examined
Holotype No.:	BMC-T229

Relatively large trematodes, body dorsoventrally flattened, almost of uniform thickness, with anterior and posterior ends slightly tapering, anterior rounded, posterior flat. Body length, 3.1-4.0, width, 1.13-1.15 greatest width at acetabular level. Oral sucker subterminal, preoral lobe prominent, 0.21-0.26 × 0.29-0.31 in size, prepharynx absent, pharynx small, 0.09-0.10 × 0.08-0.09. Esophagus is absent, ceca wide projecting anteriorly towards the oral sucker, surrounding its posterior border and reaching to posterior end of body. Acetabulum more than three times larger than oral sucker 1.02-1.04 in diameter, sucker-width ratio, 1:3.2-3.5. Testes two, preacetabular, intercecal, almost rounded, posterior submedian, anterior median. Anterior slightly smaller than the posterior testis measuring 0.15-0.17 × 0.16-0.17, seminal vesicle pretesticular, elongate, slightly twisted anteriorly, 0.18-0.19 × 0.02-0.03 in

size. Pars prostatica small, surrounded by prostatic cells, hermaphroditic duct is also small, tubular, genital atrium not distinct, genital pore small, posterolateral to pharynx.

Ovary postacetabular, median, smaller than testes, in posterior third of the body, at a distance of 0.80-0.85 from the posterior end. Seminal receptacle small, rounded, posteroventral to ovary, 0.50-0.052 in diameter. Vitellaria consist of seven, long, delicate, convoluted tubules, four tubules laterally reaching to cecal region while three are intercecal, not reaching to posterior end of the tail. Uterus is coiled posterior to ovary, ascending in the preacetabular region, passing lateral to testes and joining anteriorly to the hermaphroditic duct. Eggs small, oval, numerous, 0.07-0.09 × 0.06-0.08. Excretory vesicle is Y-shaped, arms joining at the level of oral sucker.

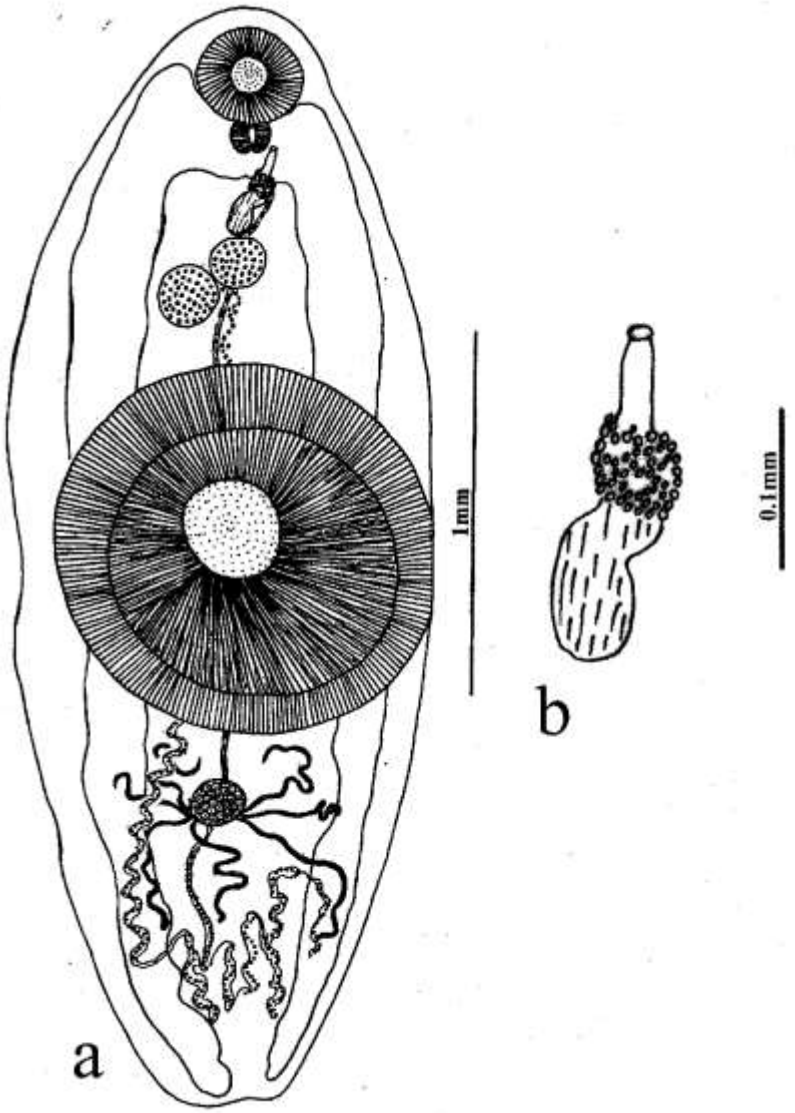

Fig.1, a) Whole mount holotype specimen of *Prosorchis macroacetabulum* n.sp.,
b) Seminal vesicle and associated structure.

DISCUSSION

The subfamily Prosorchinae and the genus *Prosorchis* was proposed by Yamaguti, 1934 with the type species *Prosorchis psenopsis* in esophagus of *Psenopsis anomala*, Japan. Another species *P. breviformis* Srivastava, 1936 in intestine of *Seriolichthys bipinnulatus* was described from India.

The type species *P. senopsis* is different from the new species in having a long body with small preacetabular region and comparatively thin and about five time longer postacetabular region, testes close to acetabulum and vitelline tubules reaching to posterior end of the body.

The present species is also different from *P. hexavitellatus* Bilqees, 1971, in having elongate body, tandem testes, close to acetabulum, oval seminal vesicle, long and narrow pars prostatica, hermaphroditic duct enclosed in a thin sinus sac, receptaculum seminal is longer than ovary, vitellaria consist of six, long tubules with four tubules laterally overlapping ceca and reaching to posterior end of body. While in the present specimens body is flattened, almost uniformly thick, testes oblique, far from acetabulum, elongate seminal vesicle, slightly twisted anteriorly, pars prostatica small and hermaphrodictic duct is not enclosed in sinus sac, seminal receptacle is smaller than ovary and vitellaria consist of 7 delicate tubules not reaching to posterior end of body.

The other species reported from Pakistan *Prosorchis stromatei* Bilqees, 1971, can also be separated from the present new species which has long, slender body, broader anteriorly and narrow posteriorly, three testes, two tandem, intercecal, close to acetabulum and third much smaller, extracecal, seminal vesicle S-shaped, prostatic complex long, genital pore is posteroventral to oral sucker, vitellaria are composed of six long convoluted tubules, four posteriorly reaching to posterior end of body and in extracecal zone. But the new species has a flattened body, slightly tapering at anterior end and flat posterior region, testes are two, far from acetabulum, seminal vesicle is elongate, pars prostatica small, genital pore posterolateral to pharynx. Vitellaria consist of seven tubules terminating far anterior to posterior end of the body. The above mentioned differences between the two species are sufficient to separate these.

The third species *P. breviformis* Srivastava, 1936 of the genus has been reported by Zaidi and Khan, 1977 from the fish of Karachi coast, is small with tandem testes immediately anterior to acetabulum, the posterior overlapping its anterior border, and genital pore is at the level of pharynx. Vitellaria consist of 7 tubules reaching to posterior end of body. These characteristics separate the present new species from this species, while the new species has testes far anterior to acetabulum and vitelline tubules do not reach to posterior end of body.

Other species *P. ghanensis* Fishthal et Thomas, 1972 from fish of Ghana and *P. saicevi* Parukhin, 1985 from commercial fish of Indian Ocean are also different in the above mentioned diagnostic features.

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