

***Echinochasmus mohiuddini*, new species (Trematoda: Echinostomatidae) from Paddy Bird *Ardeola grayii* (Ardeidae) of Hyderabad, Sindh, Pakistan**

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Abstract. Examination of four Paddy birds *Ardeola grayii* revealed 23 trematodes from the gut contents of a single bird. Morphometric studies specify that the trematodes under studies are new to science and named as *Echinochasmus mohiuddini*. The new species differ from its congeners in size of body, number of collar spines and size of eggs.

Key Words: Trematodes, *Echinochasmus mohiuddini*, new species, *Ardeola grayii*, paddy birds.

INTRODUCTION

Paddy bird, *Ardeola grayii*, is piscivorous, a feeding habit which enhances chances of acquiring trematode infection from their environment (Dharejo, 2006). The diet of *Ardeola grayii* is very variable comprising mostly amphibian and small fish. In Indus Delta they feed on small ghost crabs (*Ocypodii*), fiddler crabs (*Uca* sp.), mud skippers, insects, small mollusks and crustacean when available (Roberts, 2001). *Ardeola grayii* was therefore, looked for trematodes.

MATERIALS AND METHODS

Paddy birds, *Ardeola grayii*, were collected from Hyderabad city, brought to the laboratory and immediately examined for the intestinal trematodes. Trematodes were fixed in AFA solution under slight cover glass pressure, stained with Mayers carmalum, dehydrated in graded series of alcohol, cleared in clove oil and xylol. Specimens were finally mounted permanently in Canada balsam for detailed study. Diagrams were made with help aid of camera lucida. Measurements are given in millimeters except those of eggs which is in μm . The specimens are deposited in the Department of Zoology, University of Sindh, Jamshoro, Pakistan.

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***Echinochasmus mohiuddini*, new species (Fig. 1)**

Host

Paddy bird, *Ardeola grayii* (Ardeidae).

Habitat

Intestine.

Locality

Hyderabad.

Number of specimen recovered

23 from a single host, 4 birds examined.

Holotype No.

SUZDT-5.

Paratype No.

SUZDT 6-27.

Description

Body small, spinose, elongate, with rounded posterior end with slightly tapering anterior end, body size 0.780-1.613x0.215-0.416, broadest at the testicle region. Head collar is 0.068-0.102x0.090-0.166 in size and bears 24 spines in a single row. Oral sucker slightly protruding, 0.032-0.083x0.039-0.083 in size. Prepharynx 0.030-0.083 in length;

pharynx elongated to oval in shape measuring, 0.037 - 0.106 in length. Acetabulum situated in 0.045-0.098x0.030-0.071 followed by esophagus,

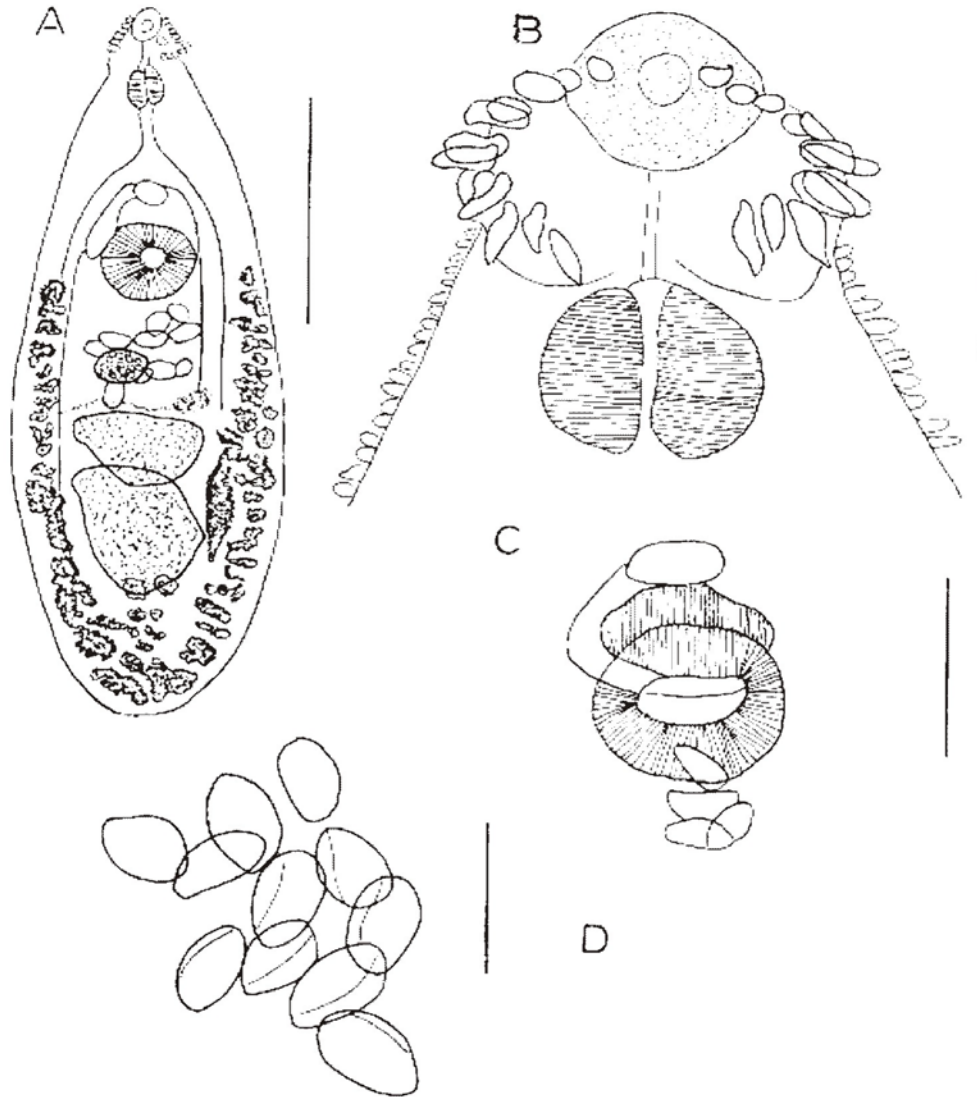


Fig. 1. *Echinochasmus mohiuddini*, new species; A, entire worm; B, head collar; C, cirrus pouch; D, eggs. Scale-bars: A, 0.5 mm; B, C, 0.2 mm; D, 100 μ m.

middle of second quarter of body and measures, 0.106-0.227x0.090-0.189 in diameter nearly twice as large as the oral sucker and also well apart from oral sucker at a distance of 0.219-0.401. Sucker width ratio is 1:2.28.

Testes subequal, large, median, tandem, irregular in shape, slightly overlapping in some specimens; anterior testis lies slightly behind the

middle of the body. Anterior testis 0.079-0.227x0.090-0.212 while posterior one is 0.109-0.280x0.090-0.204 in size. Cirrus sac small 0.030-0.128x0.041-0.075 in size, situated dorsally behind esophageal bifurcation and anterior to the ventral sucker.

Ovary oval, 0.030-0.090x0.026-0.106 in size, submedian, and situated towards right of the middle

line and between ventral sucker and anterior testis. Vitellaria composed of large follicles extending backward from lower level of acetabulum in lateral fields and almost meet behind the posterior testis. Uterus short, confined between acetabulum and ovary with few windings and indistinct outline containing relatively few large eggs, 56-70x32-44 in size.

DISCUSSION

Trematodes of birds show world wide distribution and a large number of trematode species have been reported from several countries of the world (Yamaguti, 1971; Gibson, 2001). The genus *Echinochasmus* Dietz, 1909 was erected to accommodate trematodes from birds. Bhutta and Khan (1975) reported *Echinochasmus accipteri*, *Echinochasmus amphibolus* and *Echinochasmus bugulai* from birds *Accipter bodious*, *Gallimula chloropus* and *Ardeola grayii* respectively from Pakistan. In this study a new species of the genus *Echinochasmus* Dietz, 1909 is reported from the intestine of Paddy bird *Ardeola grayii* of Hyderabad Sindh. The present new species is larger in size (0.780-1.613x0.215-0.416) than *E. bagulai* (0.77-1.35x0.26-0.4), *E. zubedakhaname* (0.74-1.25x0.22-0.39), *E. beleocephalus* (0.715-0.924x0.253-0.33), *E. microacetabulum* (0.702-0.936 x 0.28-0.34), *E. japonicus* (0.6-0.9x0.16-0.18), *E. lilipitanus* (0.5-0.8x0.2) and *E. milvi* (0.7-1.2x0.27-0.32).

The present specimen are smaller in size than *E. antigonus* (11.75-12.92x1.2-1.43), *E. famelicus* (8.65x1.55), *E. tobi* (6.5-7.5x1.1-1.3), *E. amphibolus* (4.16-5.16x0.765), *E. euryporus* (3-4x0.85), *E. botauri* (3.25x0.65), *E. ruficapensis* (2.5-3.5x0.4-0.6), *E. pelecani* (2.4-3.4), *E. colymbi* (2.37x0.725), *E. novalichesensis* (2.32-3.25x0.48-0.75), *E. cohensi* (2.2x-), *E. coaxatus* (2.13-2.56x0.65-0.81), *E. mirus* (2.08x0.48), *E. spinosus* (2.0-2.25x0.4-0.5), *E. gorsaki* (1.9-3.4x0.32-0.54), *E. oligolecithosus* (1.76x0.27), *E. mordax* (1.65x0.3 - 0.35), *E. squamatus* (1.6-3.68x0.4-0.88), *E. militaris* (1.56-2.0x0.468-0.546), *E. muraschkinzewi* (1.48-1.72x0.36-0.385), *E. dietzevi* (1.13-1.47x0.39-0.55), *E. haliasturis* (1.1-1.9x0.8-0.9), *E. spinulosus* (1.09-2.7x0.41-0.43), *E. megavitellus* (1.05x0.45) and *E. dona dsoni* (0.88-1.84x0.256-0.32).

The number of collar spines in the present species is 24, while it is 20 in *E. dona dsoni* and 22 in *E. dietzevi*, *E. euryporus*, *E. cohensi*, *E. gorsaki*, *E. microacetabulum*, *E. milvi*, *E. mordax*, and *E. muraschkinzewi*. Whereas the number of collar spines is 22-24 in *E. mirus*. The number of collar spines in *E. bagulai*, *E. japonicus*, *E. beleocephalus*, *E. beleocephalus chankensis*, *E. megavitellus*, *E. novalichesensis*, *E. oligolecithosus*, *E. squamatus*, *E. tobi*, *E. lilipitanus*, *E. militaris* and *E. famelicus* is 24

The present specimen is different in having smaller eggs (56-70x32-40) than *E. militaris* (66.3-80x44-46.8), *E. bagulai* (66-75x42-51), *E. lilipitanus* (66-80x43-46), *E. euryporus* (67x42), *E. squamatus* (67-68x48-52), *E. dietzevi* (67-79x46-58), *E. militaris* (68-77x46), *E. spinulosus* (69.6-72x48-54), *E. haliasturis* (69-72x45), *E. megavitellus* (70x50), *E. ruficapensis* (70-80x38-52), *E. dona dsoni* (72-76x50-54), *E. gorsaki* (72-90x51-57), *E. mordax* (73x50), *E. beleocephalus* (73-81x34-43), *E. oligolecithosus* (73-83x54-76), *E. spinosus* (74-80x40), *E. microacetabulum* (77x46), *E. japonicus* (77-90x51-57), *E. milvi* (78-84x51-57), *E. muraschkinzewi* (81-96x43-47), *E. beleocephalus chankensis* (84x50), *E. coaxatus* (84-86.4x57.6), *E. cohensi* (84-89x49-52.5), *E. botauri* (84-97x46-65), *E. colymbi* (89-97x55-58), *E. mirus* (92-100x48-56), *E. novalichesensis* (95.6-108x58.2-70.7), *E. amphibolus* (97.2-102.6x59.4-67.5), *E. tobi* (102-117x60-72), *E. antigonus* (104-126x57-68), *E. famelicus* (110-120x70-80). While the egg size of present species is larger than *E. Zubedakhaname* (42-67x32-40).

The above mentioned differences in diagnostic features of the present and previously described species of the genus *Echinochasmus* substantiate the statement that the specimens under study are new to science and named as *Echinochasmus mohiuddini*. Name of the species refers to late Dr. Ahmed Mohiuddin, Professor of Zoology Department, University of Sindh, Jamshoro.

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