

A New Acanthocephalan Species *Porrorchis jonesae* from a Bird, *Acridotheres tristis* (Linn.) from Karachi, Sindh

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Abstract.- *Porrorchis jonesae* new species (Acanthocephala: Prosthorhynchidae) is described from the small intestine of the bird *Acridotheres tristis* (Linn.) from Karachi, Sindh, Pakistan. The new species differs from its congeners in a number of characters such as arrangement of proboscis hooks, body size, testes size and shape, size of eggs and in having a different host.

Key words: Acanthocephala, *Porrorchis jonesae*, *Acridotheres tristis*.

INTRODUCTION

During a survey of helminth parasites from birds of Sindh, Pakistan specimens belonging to the genus *Porrorchis* Fukui, 1929 were collected from small intestine of the bird (*Acridotheres tristis* Linn.). This is the second record of the genus *Porrorchis* from Pakistan.

MATERIALS AND METHODS

Eighteen birds were collected from Karachi, Sindh, Pakistan and brought to the Parasitology Laboratory of Zoology Department, University of Karachi. After anesthetizing birds were dissected and examined for helminth parasites.

During examination of small intestine acanthocephala were recovered. The specimens were fixed in formaline acetic acid solution, flattened under slight cover glass pressure to prevent curling, stained with Mayer's carmalum, dehydrated in graded series of ethanol, cleared in clove oil and xylol. Specimens were finally mounted permanently in Canada balsam for detailed studies. Diagrams were made with camera Lucida. Measurements are in millimeters. The specimens are in possession of the first author (M.U.R.).

Genus *PORRORCHIS* Fukui, 1929 *Porrorchis jonesae*, new species

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|----------------------------|-------------------------------------|
| Host | <i>Acridotheres tristis</i> (Linn.) |
| Locality | Karachi, Sindh, Pakistan |
| Location | Small intestine |
| No. of hosts examined | 18 |
| No. of parasites recovered | 6 male and 4 females from 2 hosts |
| Specimen numbers | MRZ 206 – 215 |

Male

Trunk aspinose, cylindrical, somewhat swollen, measuring 10.24 – 11.12 by 1.88 – 2.04. Lacunar system consisting of main longitudinal vessels and reticular anastomoses. Proboscis ovoid measuring 0.48 by 0.40 armed with 12-14 rows of longitudinal hooks each row having 12-16 hooks. The hooks possess simple posteriorly directly roots and measure 0.024 – 0.045 by 0.0076 – 0.011, on the portion anterior to insertion of proboscis receptacle, but the portion posterior to it (neck) is devoid of hooks. The hooks in the anterior most rows are the smallest. Proboscis receptacle double walled with ganglion, the ganglion is situated at a distance 0.22 – 1.56 from the posterior end of the proboscis receptacle. Lemnisci 2, stout, longer than proboscis receptacle, subequal the left 2 – 2.24 by 0.24 – 0.32 and the right 2.22 – 2.24 by 0.24 – 0.32. Testes in anterior part of the trunk, close together, the anterior 1.20 – 2.48 by 0.68 – 1, while the posterior measures 1.24 – 1.8 by 0.84 – 1. Cement gland tubular 1.20–1.92 by 0.36 – 0.68. Saefftigen's

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0030-9923/2010/0002-0157 \$ 8.00/0
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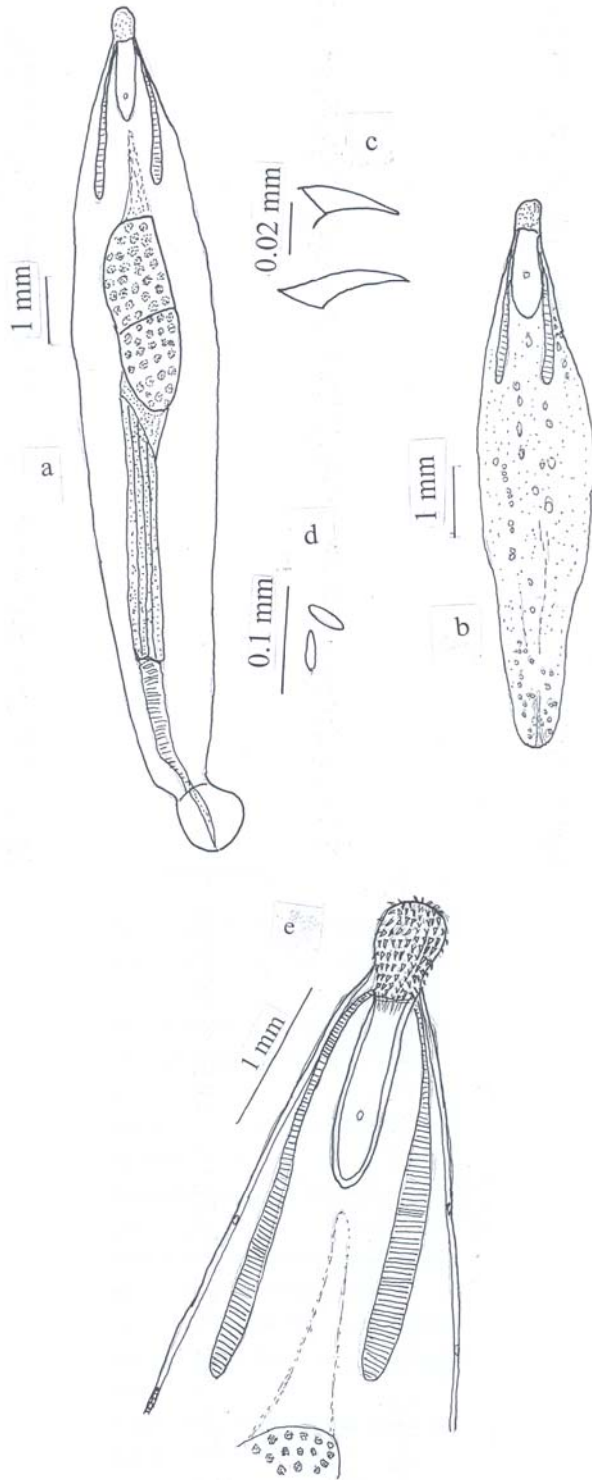


Fig. 1. *Porrorchis jonesae*, new species; a, holotype, male; b, female; c, hooks enlarged; d, eggs; e, proboscis enlarged of male.

pouch elongated measuring 1.2 – 1.76 by 0.40 – 0.68. Vesicular seminalis 1.52 by 1.8 0.32 – 0.40. Bursa well developed 0.88 – 1.52 by 0.76 – 0.88.

Female

Body elongated, cylindrical, somewhat swollen, measuring 7.92 – 10.28 by 1.60 – 1.92. Proboscis 0.52 – 0.60 by 0.42 – 0.44. The hooks 0.0342 – 0.0437. Proboscis double walled receptacle. 1.12 – 1.20 by 0.44. The lemnisci, long, subequal 1.92–2.24 by 0.32–0.36. The ovarian balls 0.21 – 0.35 by 0.0018 – 0.075. Eggs few, small, oval measuring 0.036 – 0.038 by 0.016 – 0.018.

DISCUSSION

Fukui (1929) erected the genus *Porrorchis* with *P. elongatus* as its type species in the hosts *Nycticorax n. nycticorax*, the night heron in Japan. Similarly Fukui and Morisita (1936) recorded *P. ogatai* from *Merula pallida* in Japan. Later the following five species were added viz. *P. keralensis* George and Nandakal, 1984; *P. chauhani* Gupta and Fatma, 1985; *P. crocidurai* Gupta and Fatma, 1985; *P. brevicanthus* (Das, 1949) Golvan, 1994 (syn. *Centrorhynchus brevicanthus*) *P. nickoli* Salgado Maldonado and Cruz-Reyes, 2002 and *P. tyto* Amin et al., 2008. In the arrangement of proboscis hooks the present species (12–14 rows having 12–16 hooks) differs from *P. elongates* Fukui, 1929 (32–34 rows having 12–14 hooks); *P. ogatai* Fukui et Morista, 1936 (18 rows of 14–15 hooks); *P. oti* Yamaguti, 1939 (46–50 rows having 10 hooks); *P. heckmanni* Bilqees et al., 2007 (20 rows of 8–10 hooks) and *P. tyto* Amin et al., 2008 (25–29 rows having 5–7 hooks and 4–6 spines). As compared to all the other species of *Porrorchis*, *P. tyto* Amin et al., 2008 comes close to the present species.

Males are smaller (10.24 – 11.12) in length as compared to *P. tyto* (24.1 – 26.8). Similarly the anterior testis (1.20 – 2.48 by 0.68 – 1) and posterior testis (1.24 – 1.8 by 0.84 – 1) are bigger as compared to *P. tyto* (0.82 – 1.02 by 0.35 – 0.45) (0.87 – 1.17 by 0.37 – 0.42). In *P. tyto* the testis are separated from each other while in the present species they are close together. *P. tyto* was reported from *Tyto* sp. and *Gorsachius melanolophus*, while the present specimens were recovered from

Acridotheres tristis. The present species differs from *P. heckmanni* Bilqees *et al.* (2007) reported from eagle (*Butastur teesa* Franklin) from the same locality in the arrangement of hooks, body size, testes size and in having a different host.

Due to these above mentioned morphological and morphometric differences between present and previously described species of the genus *Porrorchis* Fukui, 1929, a new species *P. jonesae* is proposed. The new species is named in honour of Dr. Arlene Jones, England.

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(Received 14 March 2009, revised 7 September 2009)