

A NEW SPECIES OF *BRACHYLECITHUM HECKMANNI* N. SP. (DIGENEA: DICROCOELIIDAE) FROM THE CATTLE EGRET (*BUBULCUS IBIS* L.) IN SINDH, PAKISTAN

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خلاصہ

Brachylecithum Heckmanni ایک نئی نوع ہے۔ جو سندھ میں Cattle Egret سے دریافت کی گئی ہے۔ *brachylecithum* کی یہ نئی نوع prepharynx and pharynx کی غیر موجودگی اور انڈوں کے بہت چھوٹے سائز کی وجہ سے اسے دوسری نوع سے ممتاز بناتی ہے۔

Abstract

The new species is distinguished from all its congeners in having: a typical body shape, absence of prepharynx and pharynx, a short oesophagus, caeca terminating posterior to ovary behind the mid body region, preovarian extra large testes, coiled preacetabular cirrus sac with post-bifurcal genital opening and typically elongated and curved eggs, smallest in size among the species in the genus *Brachylecithum*.

Introduction

Literature search indicates about seventy species of the genus *Brachylecithum* Shtrom, 1940 reported from variety of Avian hosts almost from all over the Globe.

Brachylecithum bilqeesae Khan *et al.*, (2018) is reported from Cattle egret (*Bubulcus ibis*) in Pakistan. Besides *B. bilqeesae* species of the genus reported from Pakistan are: *B. accipiteri* Bhutta and Khan (1975) and *B. jehangiri* Soomro and Soomro (2016) from Pied myna *Gracupica contra* in Sindh.

Ten species reported from the avian hosts Cattle Egret (*Bubulcus ibis*) in Pakistan are: *Brachylecithum bilqeesae* Khan *et al.*, (2018); *Echinochasmus oderolalensis* Khan *et al.*, (2015); *Echinostoma sindhenses* Dharejo *et al.*, (2009); *E. cribbi* Khan *et al.*, (2017); *Nephrostomum ramosum* (Sonsino, 1895) Bhutta and Khan (1975); *N. oderolalensis* Khan and Ghazi (2011); *Pseudopsilostoma oderolalensis* Khan *et al.*, (2017); *Schwartzitrema bilqeesae* Khan *et al.*, (2009); *Apharygostrigea oderolalensis* Khan *et al.*, (2018); *Strigea brayi* Khan *et al.*, (2017).

Materials and Methods

Twelve Cattle egret (*Bubulcus ibis* L.) collected from Saraswati farms, district Matiari, Sindh, Pakistan were examined for endohelminths. Three trematodes collected from biliary duct were transferred into saline, fixed under slight cover glass pressure in a formalin-acetic acid and alcohol mixture for 24 hours (AFA), stained with Mayer's carmalum in a graded series of ethanol solutions, cleared in clove oil and xylol, specimens were mounted in Canada balsam. Diagrams were made with aid of camera Lucida. All measurements are given in millimeter (mm). Photomicrograph was prepared with the courtesy of Department of Zoology, University of Karachi using Olympus Digital microscope. Specimens are in possession of the second author (A.K).

Results

Description

***Brachylecithum heckmanni*, n. sp.**

(Figs. 1-2)

Host:	Cattle egret
Site of infection:	Biliary duct
Locality:	Saraswati farms, district Matiari, Sindh, Pakistan
No. of hosts examined:	12
No. of specimens recovered:	3 from 2 hosts.

Diagnosis: (Based on three worms).

Body elongated muscular with anterior region bend measuring 1.75-1.94 by 0.55-0.63. Oral sucker small subterminal, measuring 0.025-0.028 by 0.025-0.027; almost half the size of acetabulum, both suckers close to each other, acetabulum measuring 0.050-0.052 by 0.050-0.051. Esophagus very short 0.090-0.14 by 0.070-0.085. Caeca terminating a little posterior to ovary. Testes preovarian, large, separated from each other, the right testis measuring 0.42-0.45 by 0.20-0.24, the left testis measuring 0.43-0.45 by 0.20-0.23. ovary little posterior and separated by uterus from testes measuring 0.22-0.32 by 0.24-0.27. The distance of ovary from posterior end of body 0.62-0.78. Cirrus sac, somewhat coiled, pre-acetabular, large measuring 0.30-0.33 by 0.050-0.056. Genital pore prebifurcal, vitellaria occupying small lateral area from posterior level of testes to a little posterior to ovary. The uterus occupies most part of the body and is thrown into closely packed coils. Excretory vessel is tubular. Eggs numerous, elongated, curved, measuring 0.012-0.014 by 0.0022-0.0025.



Fig. 1. Photomicrograph of *Brachylecithum heckmanni* n. sp.

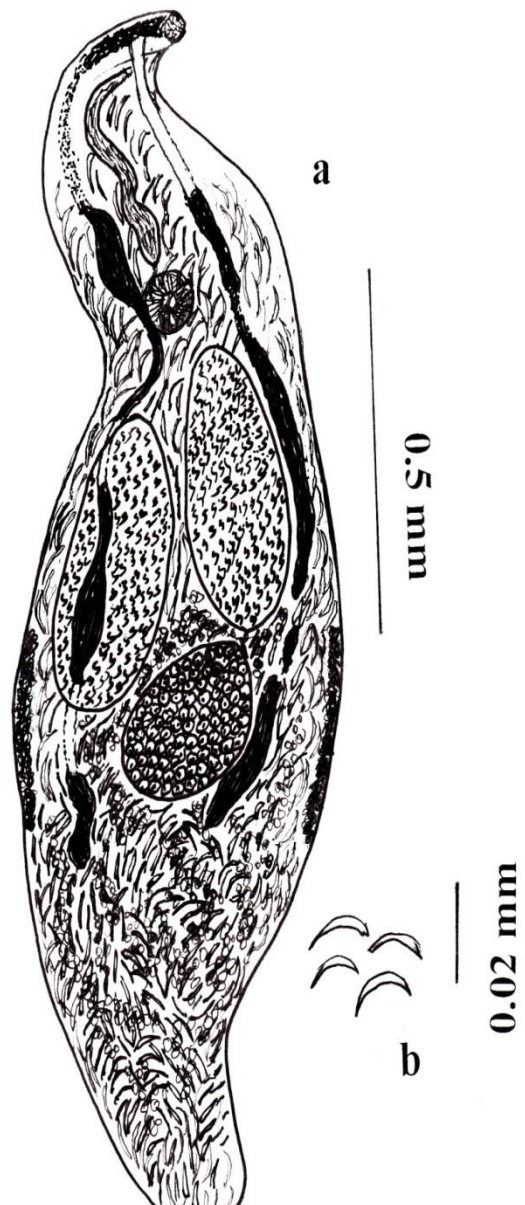


Fig. 2. *Brachylecithum heckmanni* n. sp.
a. Entire specimen, holotype b. Eggs.

Discussion

It is closest to *B. platynosomoides* (Potekhina, 1948) and *B. bilqeesae* (Khan *et al.*, 2018). From the former it is similar in shape of testes and ovary, position of vitellaria but at the same time it differs in body shape, absence of pharynx, position of testes and shape of eggs and from the later it is similar in shape of ovary and testes but differs in body shape and absence of pharynx. Furthermore, the fluke differentiates from all the existing species in having bend anterior region of the body, absence of pharynx and shape of eggs. The eggs in the present species are smallest than all the species reported so far. Hence the present specimens are considered new and named as *Brachylecithum heckmanni*. The name of the species is in honour of renowned Parasitologist Dr. Richard A. Heckmann, Brigham Young University-Provo, Utah, USA.

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