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UROPROCTEPISTHMIUM BILQEESAE N.SP. (DIGENEA: ECHINOSTOMATIDAE) IN A BIRD FROM SINDH, PAKISTAN

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ABSTRACT

A new trematode species *Uroproctepisthmium bilqeesae* sp.n. is described here from the small intestine of cattle egret (*Bubulcus ibis* Linn.) from Sindh, Pakistan. The new species is characterized by having body small and stout; entire tegument armed with spines, oral sucker subterminal; acetabulum median, muscular, spherical, pre-equatorial; prepharynx small; pharynx smaller than oral sucker, esophagus lined with thick epithelium; caeca reach posterior end. Testes two, tandem, contiguous, smooth, oval, subequal, equatorial or just post-equatorial. Post testicular field short; ovary pretesticular, uterus short, vitelline follicles from the level of pharynx to posterior end confluent in forebody and behind posterior testis; uroproct present and few eggs.

Keywords: Trematodes, bird, *Uroproctepisthmium bilqeesae* n.sp., Sindh, Pakistan.

INTRODUCTION

A new genus *Uroproctepisthmium* with *Uroproctepisthmium taiwanse* as type species was recorded from *Bubulcus ibis* (Boddaert) from Taiwan by Fischthal and Kuntz (1976). Later Kostadinova and Gibson (2001) pointed that the only difference between *Uroproctepisthmium* and *Episthmium* Lühe, 1909 was the presence of a uroproct in the former. Recently, we examined trematodes collected from cattle egret (*Bubulcus ibis* Boddaert) from Saraswati farms, District Matiari, Sindh, Pakistan. Our study revealed the presence of a uroproct in the three specimens collected. This paper reports a new species of the genus *Uroproctepisthmium* Fischthal and Kuntz, 1976.

MATERIALS AND METHODS

Eight birds (Cattle egret (*Bubulcus ibis* Linnaeus, 1758) were caught from Saraswati farms, District Matiari, Sindh, Pakistan and were anaesthetized in the laboratory. Viscera were cut open in different Petri dishes containing saline. Three specimens were recovered from two birds. The flattened worms were then transferred to a fixing agent-alcohol-formalin-acetic acid (A.F.A. for 24h). After fixation the specimens were dehydrated in graded series of alcohol stained with Mayer's carmalum and subsequently whole worms were mounted in Canada balsam. Measurements are given length by width in millimeters. Drawings were prepared with the aid of camera Lucida. Holotype and paratype are in collection of the senior author.

***Uroproctepisthmium bilqeesae* n.sp.**
(Figs. 1–2)

Host: Cattle egret (*Bubulcus ibis* Linneus)
Locality: Saraswati farms, District Matiari (25° 36'N, 68° 26'E), Sindh, Pakistan
Location: Small intestine
No. of host examined/infected: 8/2
No. of specimens recovered: 3

Description

Body small, stout measuring 1.50–1.64 long, maximum width at the level of oral sucker measuring 0.60–0.65. Entire tegument armed with spines in forebody smaller as compared to hindbody, collar spines 20 in a single row. Oral sucker subterminal smaller as compared to acetabulum 0.15–0.17 by 0.15–0.20. Ventral sucker median, muscular, spherical, pre-equatorial measuring, 0.32–0.36 by 0.32–0.33. Prepharynx small 0.032–0.038 in length. Pharynx smaller than oral sucker, measuring 0.092–0.120 by 0.092–0.122. Esophagus lined with thick epithelium

measuring 0.052–0.053. Distance between oral sucker and ventral sucker 0.16–0.18. Caeca thick-walled reach close to posterior extremity and open into excretory bladder to form uroproct. Testes 2, tandem, contiguous, smooth, subequal, oval, equatorial or just post-equatorial, the anterior measuring 0.28–0.32 by 0.17–0.20 and the posterior measuring 0.26–0.31 by 0.23–0.25. Post testicular field short. Genital pore median just posterior to intestinal bifurcation. Cirrus sac unspined, a little posterior to intestinal bifurcation. Ovary pretesticular, slightly overlapping anterior testis, at a distance of 0.172–0.184 from ventral sucker measuring 0.13–0.16 by 0.13–0.15. Mehlis gland diffuse. Uterus very short. Vitelline follicles from the level of pharynx to posterior end, confluent in forebody and behind posterior testis. Excretory vesicle Y-shaped. Eggs few measuring 0.072–0.092 by 0.049–0.051.

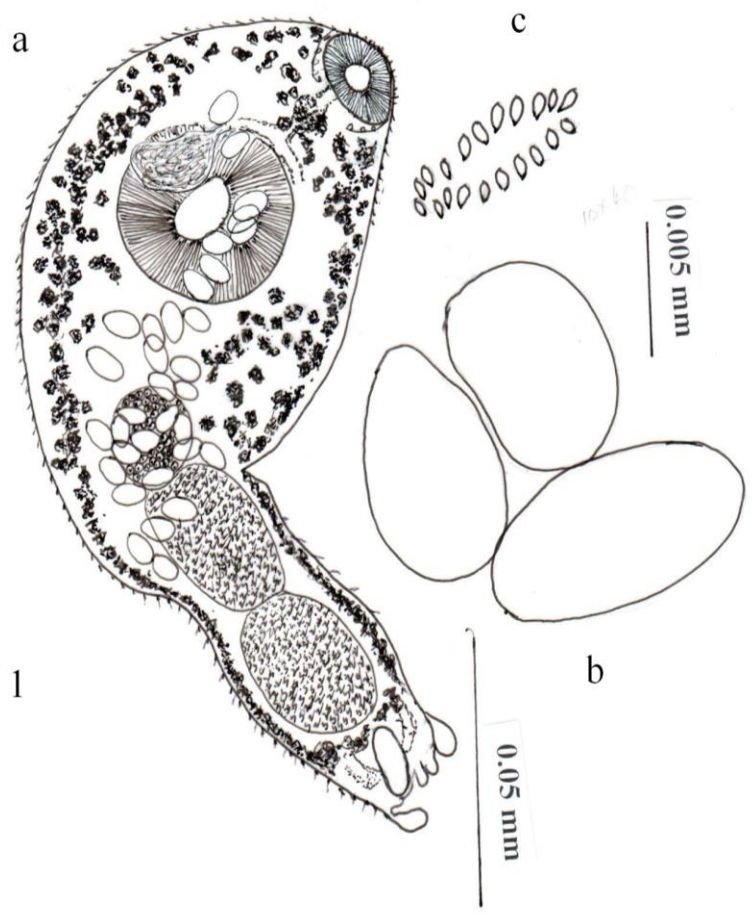

Fig.1. *Uroproctepisthmium bilqeesae* n.sp. (a) Holotype, entire (b) Eggs (c) Collar spines.

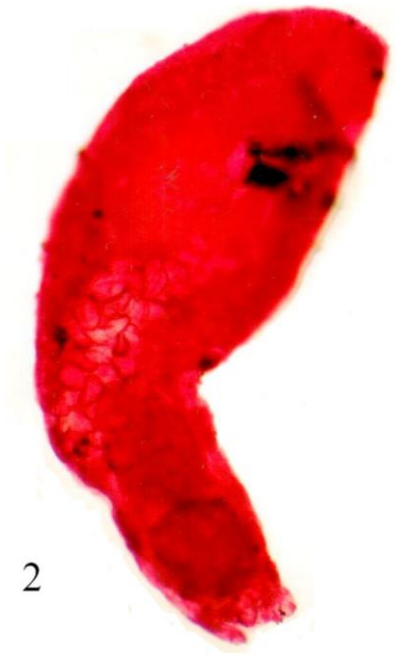

Fig.2. Photomicrograph of *Uroproctepisthmium bilqeesae n*.sp..

DISCUSSION

The genus *Uroproctepisthmium* Fischthal and Kuntz, 1976 comprises of three species namely, *U. taiwaense* Fischthal and Kuntz, 1976, *U. bursicola* (Braun, 1901) and *U. proximum* Travossos, 1938.

The present species differs in body size (1.50–1.64 by 0.60–0.65) from *U.taiwaense* Fischthal and Kuntz, 1976 (2.60–2.90 by 0.8); *U. bursicola* (Braun, 1901) Kostadinova and Gibson, 2001 (1.97–2.76 by 0.51–0.91) and *U. proximum* Travossos, 1938 (4.00–9.00 by 1.20–2.40). The eggs in the present species (0.072–0.092 by 0.049–0.051) are smaller as compared to *U. proximum* (0.12–0.14 by 0.07–0.08). The present species differ from *U. taiwaense* which have larger testes and acetabulum transversely oval. The present species further differs from *U. bursicola* in the shape of the testes, in *U. bursicola* there is no space between acetabulum and anterior testis while in the present specimens they are at a distance. In *U. bursicola* the ovary overlaps ventral sucker but in the present specis both are at a distance from each other. This is the first record of the genus *Uroproctepisthmium* from Pakistan. The species is

named as *Uroproctepisthmium bilqeesae* in honour of Prof. Dr. Fatima Mujib Bilqees for her immense dedication to promote the discipline of Parasitology in Pakistan.

REFERENCES

Braun, M. (1901). Ueber einige Trematoden der Creplin'schen Helminthensammlung. Zentralblatt für Bakteriologie, Parasitenkunde und Infektionskrankheiten, 29: 258–260.

Fischthal, J.H. and R.E. Kuntz (1976). Some digenetic trematodes of birds from Taiwan. *Proceedings of the Helminthological Society of Washington*, 43: 65–79.

Kostadinova, A. and D. Gibson (2001). A redescription of *Uroproctepisthmium bursicola* (Creplin, 1837) n.comb. (Digenea: Echinostomatidae), and reevaluation of the genera *Episthmium* Lühe, 1909 and *Uroproctepisthmium* Fischthal and Kuntz, 1976. *Systematic Parasitology*, 50: 63–67.

Lühe, M. (1909). Parasitische Plattwürmer I. Trematodes: In Brauer, A. (Ed.) Die Süsswasserfauna Deatschands. Eine Exkursionfauna. *Jena Gustar Fischer*, 17: 217.

Travassos, L. (1938). Informaçoes sobre a fauna helminthologica de Matto Grosso. Trematoda II. *Memóirias do Instituto Oswaldo Cruz*, 33: 461–467.

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