

PSEUDOPSILOSTOMA ODEROLALENSIS SP.N. (TREMATODA: PSILOSTOMIDAE) IN A BIRD FROM SINDH, PAKISTAN

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ABSTRACT

During the investigation of the nematodes of birds in district Matiari, Sindh, Pakistan, three specimens of the genus *Pseudopsilostoma* Yamaguti, 1958, were collected from the intestine of Cattle egret (*Bubulcus ibis* Linn., 1958). The specimens were studied and identified as *Pseudopsilostoma oderolalensis* new species on the basis of shape of the body, position of ventral sucker, pharynx, cirrus pouch, seminal vesicle, position of ovary and testes, egg size and the most important position of vitellarium which are strongly developed in lateral margins from the acetabulum to the posterior end, confluent behind the testis. The genus is being retained on the position of the vitellarium.

Keywords: *Pseudopsilostoma oderolalensis* sp.n., bird, Sindh, Pakistan

INTRODUCTION

Cattle egret (*Bubulcus ibis* Linn., 1758) are white coloured small birds that sit comfortably on the back of cows and buffaloes. This bird sometimes hunt like other wading birds catching frogs and fish. It is originally a native of parts of Asia, Africa and Europe and has undergone a rapid expansion in its distribution and successfully to the rest of the world in the last century.

The cattle egret is a popular bird with cattle ranchers for its perceived role as biocontrol of cattle parasites such as flies and ticks (McKilligan, 1984), and is abundantly found in Sindh, Pakistan.

During the recent studies on the trematode fauna of birds of Sindh, Pakistan a new species *Pseudopsilostoma oderolalensis* from the small intestine of cattle egret was identified and described here. The genus *Pseudopsilostoma* Yamaguti, 1958 is being reported for the first time from Pakistan.

MATERIALS AND METHODS

A total of six cattle egrets were shot by air-gun during October 2013 from Oderolal station, district Matiari, Sindh, Pakistan and brought to the laboratory for examination. Their viscera were dissected for presence of trematode parasites and recovered three specimens from small intestine of a single bird. The trematodes were collected in saline, pressed slightly between two clean glass slides and fixed in AFA (Alcohol-Formalin-Acetic acid) solution for 24 hours followed by dehydration in graded series of 30%, 50%, and 70% ethanol. The specimens were stained in Mayer's carmalum and again dehydrated by 70%, 80%, 90% and 100% alcohol. These were cleared in clove oil rinsed in xylene and permanently mounted in Canada balsam, camera Lucida was used to make diagrams. Measurements are in millimeters. Holotype and paratypes are in possession of the senior author (A.K.).

Genus *Pseudopsilostoma* Yamaguti, 1958

Pseudopsilostoma oderolalensis sp.n.

(Figs. 1a–b)

Host: Cattle egret (*Bubulcus ibis* Linn., 1758)

Location: Intestine

Locality: Oderolal station, District Matiari, Sindh, Pakistan

No. of specimens recovered: 3 from a single host

No. of hosts examined: 6

Description: Based on three specimens. Body elongate, aspinose with blunt posterior extremity measuring 5.40–6.22 by 1.88–1.96. Oral sucker subterminal, smaller as compared to ventral sucker measuring 0.62–0.64 by 0.63–0.67. Prepharynx absent, pharynx well developed measuring 0.28–0.34 by 0.32–0.36. Esophagus short measuring 0.12–0.18 in length. Caeca terminating at posterior extremity. Acetabulum very large, longer than broad measuring 1.61–1.69 by 0.64–0.72 at a distance of 1.68–1.78 from oral sucker in anterior half of the body. Testes tandem, postovarian in posterior half of the body, the anterior testis oval measuring 0.60–0.70 by 0.30–0.33, whereas the posterior indented measuring 0.60–0.68 by 0.30–0.34. Cirrus pouch elongate enclosing saculate tubular vessel, overlapping acetabulum, not reaching its anterior end. Genital pore median at a level of posterior end of the pharynx. Seminal vesicle and Laurer's canal apparently absent. Ovary submedian, pre-testicular rounded at a distance of 0.10–0.18 from the acetabulum measuring 0.23–0.28 by 0.23–0.28. Uterus preovarian and intercaecal. Laurer's canal absent. Vitellaria strongly developed, in lateral margins from the acetabulum to posterior end, confluent behind the testis. Vitelline follicles measure 0.06–0.24 in length. Eggs numerous, small, oval, measuring 0.026–0.031 by 0.016–0.018.

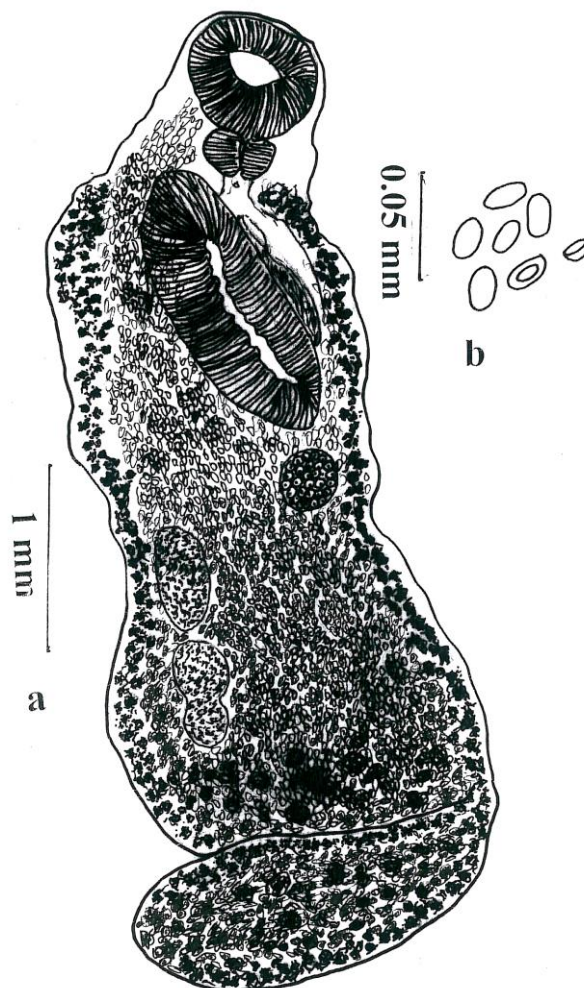


Fig. 1 *Pseudopsilostoma oderolalensis* n.sp.
a = Entire, holotype, b = Eggs

DISCUSSION

Yamaguti (1958) erected the genus *Pseudopsilostoma* with *P. varium* (Linton, 1928) as its type species in *Gavia immer* from Woods Hole, United States. Later the species added to this genus was *P. suspensum* (Braun, 1901) Yamaguti, 1958 in *Corvus* sp. from Brazil. Kostadinova (2005) suggested that the genus *Pseudopsilostoma* be

treated as genus *Inquirendum* as the author did not have enough data for the morphological description. The family Psilostomidae Looss, 1900 includes 13 genera of gastro-intestinal parasites of birds and mammals, they closely resemble Echinostomatidae in general morphology except from the absence of circumoral head collar armed with spines. The main characters observed in the present genus match with all the characters of genus *Pseudopsilostoma* including shape of body, position of ventral sucker, pharynx, cirrus pouch, seminal vesicle, position of ovary and testes, the most important vitellarium which reach into forebody, and confluent behind the testis. Thus the genus *Pseudopsilostoma* Yamaguti, 1958 is retained as a valid genus on the position of vitellarium.

As compared to other two species the present species is larger in size as compared to *P. varium* (Linton, 1928) and *P. suspensum* (Braun, 1901) Yamaguti, 1958. The eggs in the present specimens are considerably smaller as compared to *P. varium* and *P. suspensum*. Moreover, Cattle egret is a new host of the genus *Pseudopsilostoma* Yamaguti, 1956. On the basis of the above mentioned differences in the diagnostic features of the present species and the previously reported of the genus *Pseudopsilostoma*, it is indicated that the species is new to science for which the name *P. oderolalensis* is proposed.

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