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NEPHROSTOMUM ODEROLALENSIS N. SP. (TREMATODA: DIGENEA) IN CATTLE EGRET (*BUBULCUS IBIS* L.) FROM SINDH, PAKISTAN

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ABSTRACT

A new species trematode, *Nephrostomum oderolalensis*, was recovered from the intestine of Cattle Egret (*Bubulcus ibis* (Linn.) collected from wheat fields of Oderolal Station, Sindh, Pakistan is described here. The new species is characterized by having a elongated stout medium sized, narrow anteriorly, broader posteriorly body; pharynx muscular; oral sucker subterminal; single row of 40-48 very small spines; acetabulum large and funnel shaped; cirrus pouch globular, preacetabular; testes oval, pre-equatorial ovary, pretesticular ovoid, median, uterus long strongly winding between acetabulum and ovary; vitellaria lateral extending from mid-acetabulum to posterior end. Eggs numerous, yellowish and oval.

Key words: Trematode, *Nephrostomum oderolalensis* n.sp., Cattle Egret (*Bubulcus ibis* (L.), Sindh, Pakistan

INTRODUCTION

Cattle Egret (Buff-backed Heron) *Bubulcus ibis* L., is a species which has spread rapidly in Pakistan with the development of irrigation. It is well adapted to grassland areas in the riverain "Kutchas" or cultivated area and is absent from tidal creeks or large bodies of water. It is common throughout Punjab and Sindh. Absent from Balochistan and hilly areas of Khyber-Pakhtoonkhwa (Roberts, 1991). They are gregarious in foraging, roosting and breeding. Their main diet comprises of ticks, spiders, worms oligochaeta and amphibia but no fish. In the present study a new trematode, *Nephrostomum oderolalensis* n.sp., collected from the intestine of *Bubulcus ibis* (L.) in Oderolal, Sindh, Pakistan is being reported.

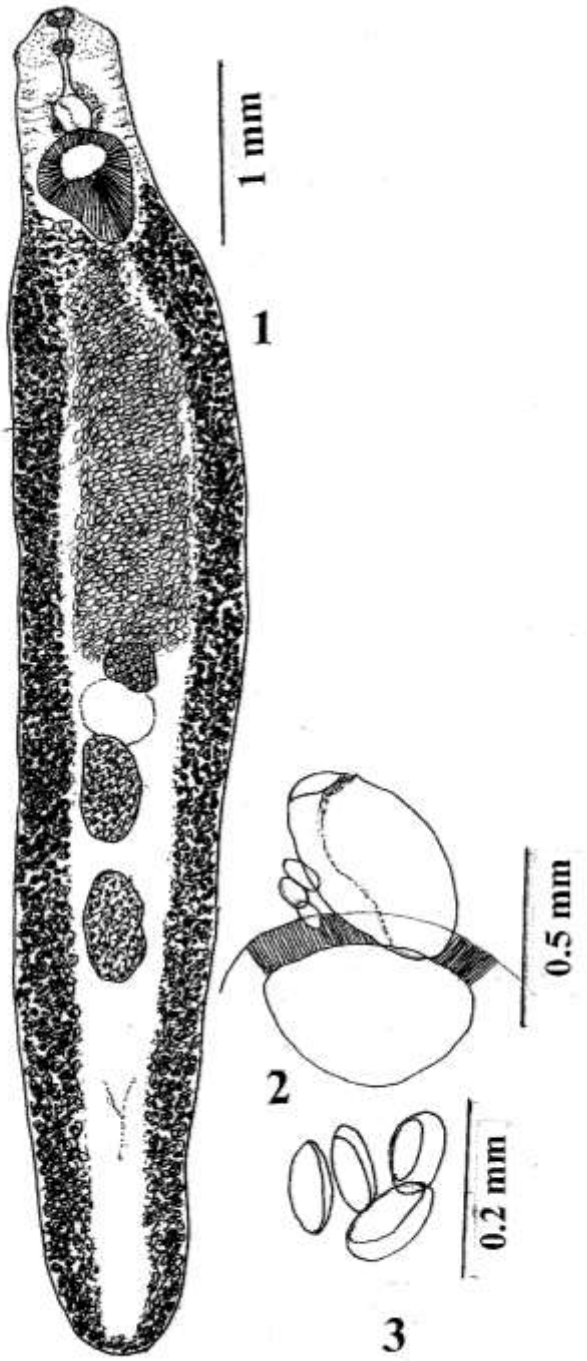
MATERIALS AND METHODS

Twelve live Cattle Egret (Buff-backed Heron) *Bubulcus ibis* (L.) caught from wheat fields of Oderolal Station, Sindh, Pakistan were anesthetized and dissected for the presence of helminth parasites. During the examination 3 trematodes belonging to the genus *Nephrostomum* were collected from the intestine of the host. Specimens were fixed in F.A.A. solution under slight cover glass pressure, stained with Mayer's carmalum dehydrated in graded series of ethanol, cleared in clove oil and xylol and mounted in Canada balsam. Measurements are in millimeters; Photographs were taken by Nikon (Optiphot-2 photomicrograph camera using Fuji colour film. Specimens shall be deposited in the Department of Zoology, University of Karachi, Karachi-75270, Pakistan.

Nephrostomum oderolalensis n.sp.
(Figs. 1–4)

Description. Body stout, elongated, medium sized narrow anteriorly broader posteriorly, measuring 7.80–8.82 by 1.28–1.31. Oral sucker subterminal, small, measuring 0.12–0.20 by 0.13–0.22. Prepharynx 0.10–0.17 in length, pharynx muscular 0.11–0.23 by 0.10–0.20; oesophagus 0.30–0.37 by 0.06–0.08. Head collar reniform with shallow dorsal incision and single uninterrupted row of 40–44 spines which are very small in size. Ceca long reach upto posterior extremity. Acetabulum large, funnel shaped, well developed in first quarter of the body fairly close to anterior extremity, measuring 0.66–1.26 by 0.44–1.14. Testes oval, equatorial, the anterior measuring 0.63–0.65 by 0.32–0.35, while the posterior measuring 0.58–0.63 by 0.32–0.34. The distance between two testes 0.10–0.14. Cirrus pouch globular, pre-acetabular measuring 0.43–0.53 by 0.40–0.50, within the cirrus sac are vesicula seminalis, ductus-ejaculatorius, prostatic complex and the cirrus. The common genital opening is pre-acetabular. Ovary, pretesticular, ovoid, median, measuring 0.23–0.27 by 0.24–0.26, uterus long strongly winding extending between acetabulum and ovary. Vitellaria lateral extending from mid of acetabulum to posterior end. Eggs yellowish, oval, numerous, measuring 0.09–0.11 by 0.46–0.59.

Host: Cattle Egret (*Bubulcus ibis* (L.)
Location: Intestine
Locality: Oderolal, Sindh, Pakistan
Number of specimen: 3 from 2 hosts, 12 hosts examined



Remarks

According to the available literature the species of the genus *Nephrostomum* Dietz, 1909 reported from avian hosts are viz. *N. ramosum* (Son Sino, 1895) Dietz, 1909 from the Nile Delta; *N. garzettae* (MacCallum, 1904) from Sumatra; *N. limai* Travassos, 1922 from Brazil; *N. bicolanum* Tubangui, 1933 from Philippines; *N. robustum* Perez Vigueraz, 1944 from Havana; *N. skrjabini* Kasimov *et al.*, 1959 in Azerbaidzhan; *N. sinchirocai* Ibanez, 1966 and *N. legonum* Ukoli, 1967 from Ghana.

The species reported from India are *N. chandigarhensis* Gupta and Mehrotra, 1970; *N. udaipurensis* Gupta, 1983 and *N. guptai* Gupta and Singh, 1985.

The species reported from Pakistan are *N. dubashi* Bilqees, *et al.*, 1972 and *N. ramosum* (Son Sino, 1895) Bhutta and Khan, 1975. The former one was reported in an unknown bird from Sindh while the later was reported in *Bubulcus ibis* from Sialkot, Punjab. This is the third species being reported from *Bubulcus ibis* (L.) from Oderolal Station, Sindh, Pakistan.

The body size (7.80–8.82 by 1.28–1.31) is smaller as compared to *N. chandigarhensis* Gupta and Mehrotra, 1970 (12.28–16.47 by 2.45–2.73); *N. garzettae* (MacCallum, 1904) (10 by 3.0–3.5); *N. bicolanum* Tubangui, 1933 (15.15 by 1.2–2.4); *N. dubashi* Bilqees *et al.*, 1972 (9.05–10.90 by 2.09–2.50); *N. ramosum* (Son Sino, 1895) Bhutta & Khan, 1975 (10.60–12.42 by 1.66–2.27) and *N. sinchirocai* Ibanez, 1966 (16.67 by 2.93).

The number of collar spines in present species are 40 to 44, while *N. rumosum* has (48 spines); *N. bicolanus* (47 spines); *N. garzetta* (47 spines); *N. limai* (38 spines); *N. robustum* (50 spines); *N. sinchirocai* (26 spines); *N. skrjabani* (47 spines) and *N. dubashi* (27–34 spines).

Fig.1-3. *Nephrostomum oderolalensis* n.sp., 1. Entire specimen, 2. Citrus pouch, 3. Eggs.

Among all the species of the genus *Nephrostomum* Dietz, 1909, the new species closely resembles *N. dubashi* Bilqees, *et al.*, 1972 but differs in the extension of vitellaria. In *N. dubashi* they extend from a little posterior of acetabulum to the posterior end while in present specimens they extend from the mid of acetabulum to the posterior end of the body, in *N. dubashi* there is no space between the two testes and their shape is irregular while in the present specimens they are at a distance from each other and their shape is oval. The number of spines in *N. dubashi* are 27–34 while in the present spines they are 40 to 46. Moreover, the eggs in the present species are smaller as compared to *N. dubashi* (0.12– 0.16 by 0.6–0.8). Keeping in view the specific differences the present specimens can be readily distinguished from *N. dubashi*. The name "oderolalensis" is proposed for the new species referring to the locality of the host.

Fig. 4. *Nephrostomum oderolalensis* n.sp., Photograph showing a small oral sucker and funnel shaped acetabulum.

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