



**ON A NEW TREMATODE PARASITE *EPISTHMIUM SOLANENSIS* N. SP.  
(ECHINOSTOMATIDAE : ECHINOSTOMATINAE) FROM A BIRD HOST,  
*BUBULCUS IBIS COROMANDUS* BODDAERT FROM SOLAN,  
HIMACHAL PRADESH, INDIA**

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### INTRODUCTION

Birds show a good number of trematode infection in their internal organisms which may not fatal to them, parasitized with symbiotic effect. Nine examples of Bulbul, *Bubuicus ibis coromandus* Boddaert were caught by mist net at Solan Camp during the faunal exploration. Out of which two were been dissected out to examine the faunal biodiversity of helminthes infection, rest were allowed to fly again to the sky. Three trematodes were collected from two , Abird hosts and are identified as *Episthmium (solanensis)*, which are new to science.

### MATERIAL AND METHOD

Materials were collected in normal saline(4%), narcotized in 70% alcohol. Stained with borax carmine; measurements are in this communication are in mm.

### SYSTEMATIC POSITION

Family ECHINOSTOMATIDAE Poche, 1925

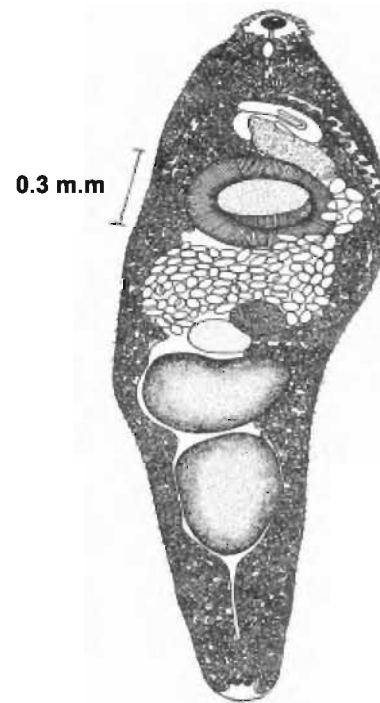
Subfamily ECHINOSTOMATIDAE Faust, 1929

Genus *Episthmium* Luhe, 1909

*Episthmium solanensis* n. sp. (Fig. 1)

*Details of Host* : *Bubuicus ibis coromandus* (Boddaert); *Location* : Intestine; *Locality* ; Solan, Himachal Pradesh, India; *Date of collection* : 27th March, 2011; *Collector* : S. Chakrabarti & Party.

Body of the fluke elongate , 2.688-4.64 in length and 0.656-1.194 in maximum width attained at the level of the acetabulum; cuticle studded with spines



**Fig. 1**

**Fig. 1.** *Episthmium solanensis* n.sp from *Bubulsus ibis coromandus* of Solan, Himachal Pradesh; holotype, Dorsal view.

which are backwardly directed ; head collar (Fig. 2) reniform with a / crown of 24 spines, dorsally interrupted, there are twelve spines on each side with four forming the corner spines; oral sucker sub-terminal, 0.08-0.096 in diameter; prepharynx small, pharynx well developed, 0.112-0.16 x 0.128-0.16, esophagus small, bifurcates into caeca in front of acetabulum; caeca almost to posterior end of body; acetabulum much larger than oral sucker

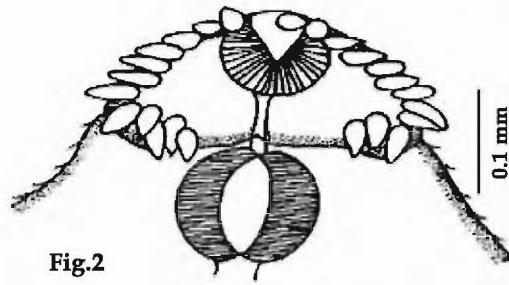


Fig.2

Fig. 2. Same, collar with spines.

and  $0.4-0.56 \times 0.368-0.544$ , fore body  $0.528-0.96$ , approximately  $1/5$ th of body length. Testes large, smooth, situated in posterior half of body, anterior one transversely elongate and posterior one longitudinally elongate,  $0.335-0.672 \times 0.368-0.688$  and  $0.448-0.8 \times 0.32-0.528$  respectively; cirrus sac (Fig. 3) is strongly muscular,  $0.8-1.12 \times 0.112-0.128$ , lies dorsal to acetabulum, overlapping its anterior half; seminal vesicle occupying the major portion of cirrus sac, is bent on itself, thereby giving a bipartite appearance; pars prostatica small and opens into the cirrus; genital pore lies immediately in front of acetabulum in the median line; cirrus eversible.

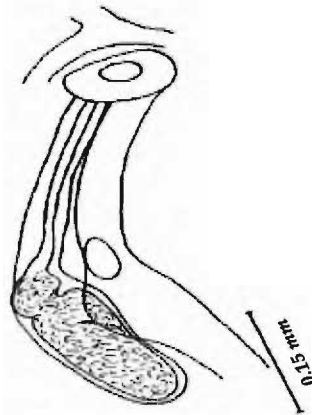


Fig. 3

Fig. 3. Same, showing the terminal genitalia.

Ovary small, almost round, placed slightly towards right side anterior to testis,  $0.16-0.24 \times 0.16-0.272$ ; receptaculum seminis absent; vitellaria profusely developed extending in lateral fields as far forward as pharynx, usually confluent across median line anterior to genital pore and posterior to testes; uterus occupying the intercaecal space between ovary and acetabulum; eggs oval, operculate,  $82-54 \mu$ ; excretory vesicle not observed.

## DISCUSSION

Luhe, 1909 created the Genus *Episthmium* designating *E. africanum* as its type but the generic status of the genus *Episthmium* Luhe, 1909 has been a matter of controversy. It was considered as a synonym of *Echinochasmus* Dietz, 1909 by Odhner, 1910, Nicoll, 1914, Bhalerao, 1926, Mendhiem, 1943 and Dawas, 1946. Baschkirova, 1941 has considered this genus as a subgenus of *Echinochasmus* but it has been considered as a separate genus by

Luhe, 1909, Travassos, 1938, Shigin, 1958, Yamaguti, 1958, Sulgostowska, 1960, Rai, 1963, Odening, 1963, Hodasi, 1967, Karyakarte, 1969 and Gupta et Mehrotra, 1971. In the present study the view that *Episthmium* as separate genus has been taken.

At present the genus *Episthmium* Luhe, 1909 comprises the following valid species recorded so far from the bursa fabricii or intestine of birds are shown in Table : I

Yamashita, 1937 and Szidat, 1940 suggested that *E. africanum* is identical with *E. bursicola*. Yamaguti, 1971 suggested that the contrary seems true because in *E. africanum* the post testicular area is much bigger and the eggs are much larger.

The present species resembles with *E. africanum* (Stiles, 1901) Luhe, 1909 in general structure and appearance but differs from it in having a long cirrus sac, larger testes, shorter post ovarian space and the tapering hind body. Eggs are larger and more numerous in the present form.

## SUMMARY

Present study deals with eleven valid species under the genus *Episthmium* Luhe, 1909 and with a new creature which is unique in feature and seems as new to science. Three examples of that were collected from Solan, Himachal Pradesh, so it is described as *Episthmium solanensis* n. sp.

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Table: I

Sl. No.	Name of the parasite	Diagnostic characters	Host	Location of the parasite in their host
01	<i>E.africanum</i> (Stiles, 1901) Luhe, 1909	3.3-4.0x0.7-0.8 22 collar spines	<i>Milvus parasiticus</i> <i>Numidaptilo rhyncha</i>	Intestine Bursa fabricii
02	<i>E.bursicola</i> (Creplin,1837) Luhe, 1909	2.96x0.75 22 collar spines	<i>Circaetus gallicus</i> <i>Ardea cinerea</i> <i>Ardea purpurea</i>	Intestine Bursa fabricii
03	<i>E.chauhani</i> Rai, 1962	2.68-4.12x0.92 -1.56 24 coilar spines	<i>Bubulcas ibis</i>	Bursa fabricii
04.	<i>E.gaiinum</i> Tubangui et Musilungan,1941	1.1x0.4	<i>Gailus gailus domesticus</i>	Intestine
05.	<i>E.ghanense</i> Hodasi,1967	1.4-2.4x0.4-0.5	<i>Gailus gailus domesticus</i>	Intestine
06	<i>E.intermedium</i> Skrjabin,1919	2.68-3.48x0.88-1.04 24 coilar spines	<i>Batauria aeruginosus</i>	Bursa fabricii
07	<i>E.mathevossianee</i> (Shakhtaktinskia, 1953) Sulgostowska, 1960	1.65-1.85x0.56-0.58	<i>Coiyimbus cristatus</i> , <i>Natta rufina</i> <i>Aythya fuligui</i>	Bursa fabricii
08	<i>E.oscari</i> Travassos, 1922	6x2	<i>Gailus domesticus</i>	Intestine
09	<i>E.prosthoitellatum</i> (Nicoll, 1914) Price,1931	2.0-2.4x0.75-0.9 24 collar spines	<i>Hyeracidea</i> sp.	Intestine
10.	<i>E.proximum</i> Travassos, 1922	7x2	<i>Ardea cocoi</i> <i>Euxenuramaguari</i> sp.	Bursa fabricii
11.	<i>E. skrjabini</i> (Oshmarin et Skrjabin,1947) Skrjabin et Baschkirova,1956	0.79x0.306 22 collar spines	<i>Coiyimbus stellatus</i>	Intestine
12	<i>E. solanensis</i> (Present species)	2.688-4.64x 0.656-1.194 24 collar spines	<i>Bubulcus ibis coromondus</i>	Intestine

Table: II : Comarison between *E. africanum* (Stiles, 1901) Luhe, 1909 and *E. solanensis* (present species

SI. No	Name of the Parasite	Length of the parasite	Width of the parasite	No of collar spines	Length and nature of the cirrus sac of the parasite	Length and width of the testes of the parasite	Measurement of the post ovarian space of the parasite	Eggs of the parasite
01	<i>E. africanum</i> (Stiles, 1901) Luhe, 1909	3.3-4.0	0.7-0.8	22	Mucular 0.4-0.9x 0.01-0.11	0.221-0.421 x0.214-0.413 & 0.243-0.4 x0.11-0.22	0.82	64-34u
02	<i>E. solanensis</i> n. sp	2.688-4.64	0.656-1.194	24	Strongly muscular 0.8-1.12x 0.112-0.128	0.335-0.672x 0.368-0.688 &0.448-0.8x 0.32-0.528	0.43	82-54u

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