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ALLODISCOCOTYLA PAKISTANENSIS N.SP (MONOGENEA, DICIIDOPHOROIDEA: DISCOCOTYLIDAE) FROM THE FISH *CHORINEMUS TOL* OF KARACHI COAST, PAKISTAN

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ABSTRACT

Allodiscocotyla pakistanensis n.sp is described from the gills of the fish *Chorinemus tol* (Carangidae), from the Karachi coast. The new species is characterized by having bean-shaped genital atrium, 3 pairs of testes. Ovary tubular, posttesticular, uterus spindle-shaped, vagina prominent. Four pairs of clamps, clamps large and without accessory sclerites. Anchors absent.

Key Words: Monogenea, *Allodiscocotyla, Allodiscocotyla pakistanensis* n.sp, *Chorinemus tol*,gills, Karachi coast.

INTRODUCTION

Monogenetic trematodes from the fishes of Karachi coast are poorly known. The only published reports are those of Kritsky and Bilqees, (1973) who described three species from the fish *Pellona elongate* of Karachi coast including *Paramazocraes tripathi, Choricotyle pellonae* and *Pellonicola lanceolata.* Another publication by Kritsky et al. (1978) reported *Neocalceostoma elongatum* Tripathi, 1957 from the gills of *Arius serratus* from the Karachi coast. Previously only one species *Allodiscocotyla elongatum* of family Discocotylidae Price, 1936 has been reported by Bilqees and Shabbir, 2004 from the fish *Chorinemus moadetta.* During the present studies peculiar monogenian were collected from the gills of *Chorinemus tol.* These appeared as undescribed species of the genus *Allodiscocotyla* Yamaguti, 1953.

MATERIALS AND METHODS

100 specimens of *Chorinemus tol* of were collected from West Wharf, Karachi coast. Gills were removed and placed in beaker containing formaline and were transferred into Petri dish containing the same solution. The liquid from the beaker was left till the solid parts settle down. The supernatant was poured out and remaining part was examined under a binocular microscope and monogenea were recoverd. Specimens were fixed in AFA (A mixture of 70% ethyle alcohol, formaline and Acetic acid in the ratio of 90:7:3) solution for 24 hours. The gills were also examined , monogenea were collected and processed as mention above.After 24 hours these parasites were washed several times with 70% alcohol, stained with Mayer's carmalum, dehydrated in graded series of alcohols, cleared in clove oil and xylene and mounted permanently in Canada balsam.(Bilqees, *et al.*, 2004).

Illustration were made with the aid of camera Lucida. All measurements are given length by width in millimeters. Photographs of holotype specimens was also prepared. Holotype and Paratypes are in the collection of the first author.

Allodiscocotyla pakistanensis n.sp
(Figs 1-2)

RESULTS

Host: *Chorinemus tol* (Cuvier, 1832)
Location: Gills
Locality: West Wharf., Karachi coast
No of specimens: 20 specimens from 15 fishes, 100 fishes examine.
Material Examined: Holotype. JUW.M. 1
Etymology: The name *Allodiscocotyla pakistanensis* refers to the locality of the host.

DESCRIPTION

Body is elongated, anterior end narrow, posterior end broader. Total length 4.7-4.9mm, maximum width 0.85-0.85mm at the posterior (fig-1). Anterior end narrow, rounded, mouth terminal. Eye spots are absent. Two oral suckers are present, 0.06-0.09 long, 0.06-0.11wide, oral suckers are transversely elongated, Pharynx is muscular, rounded 0.08-0.09 long, 0.07-0.07 wide .Esophagus is weekly muscular, pyrifom 0.05-0.06 long, 0.02-0.03 wide. Prepharynx is absent (fig-2). Genital atrium is small, bean-shaped 0.02-0.4 long, 0.02-0.02 wide. Testes are six in number 0.2-0.14 long,0.07- 0.07 wide situated anterior to ovary .Ovary long and tube- like ,0.37-0.5 long,0.07-0.1 wide. Uterus spindle shaped 0.75-1.13 long, 0.1-0.1 wide, containing a single spindle-shaped egg 0.22-0.3 long, 0.08-0.09 wide.Vagina consists of two parts upper rounded, 0.09-0.1 long, 0.09-0.09 wide, muscular, lower part is elongated and membranous 0.18-0.18 long,0.04-0.06 wide(fig-2). Vitellaria consist of numerous small follicles scattered from behind post vaginal region to posterior near to posterior end, confluent posteriorly, anterior narrow part devoid of vitellaria. Anchors are absent. Eight large clamps are present at the posterior extremity (fig-3). Each clamp consists of (a) anterior marginal sclerites (b) anterior sub-marginal sclerite (c) median sclerites (d) median lateral plate.

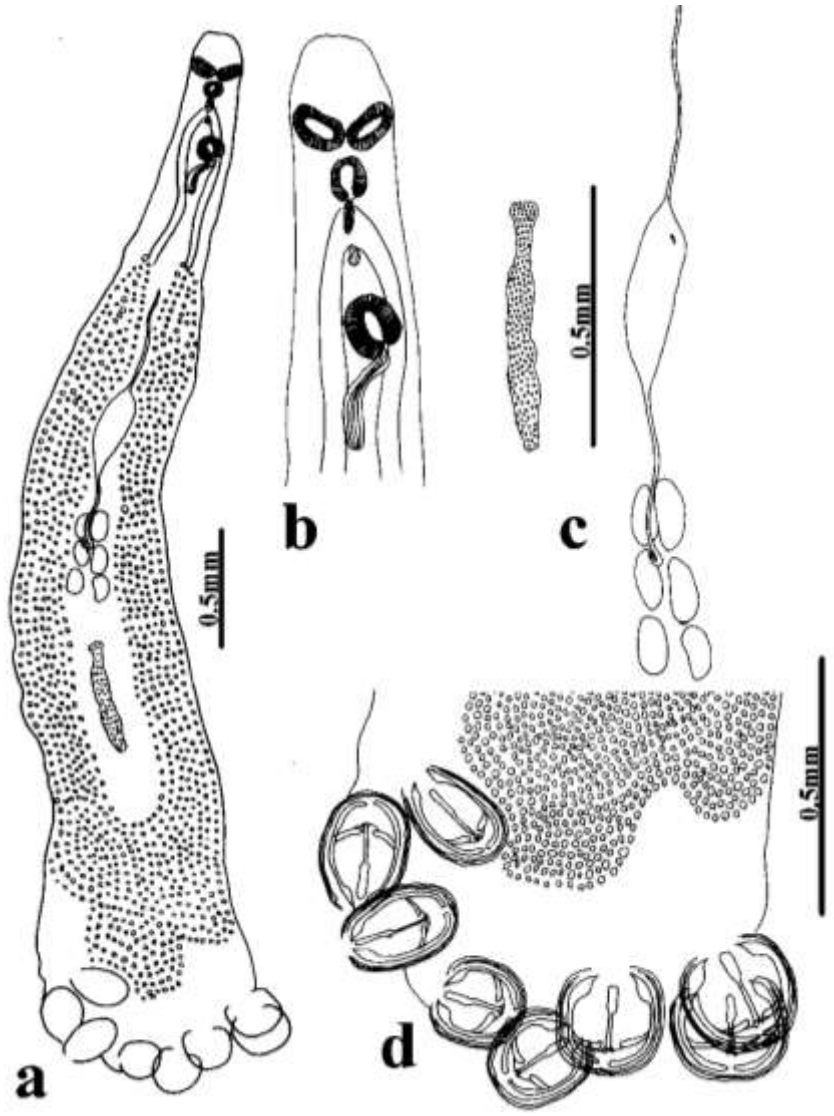

Fig.1. (a-d) *Allodiscocotyla pakistanensis* n.sp., a. Whole mount of holotype (ventral view), b. Anterior portion showing genital atrium, c. Ovary, uterus, egg and testes, d. Haptor portion showing clamps.

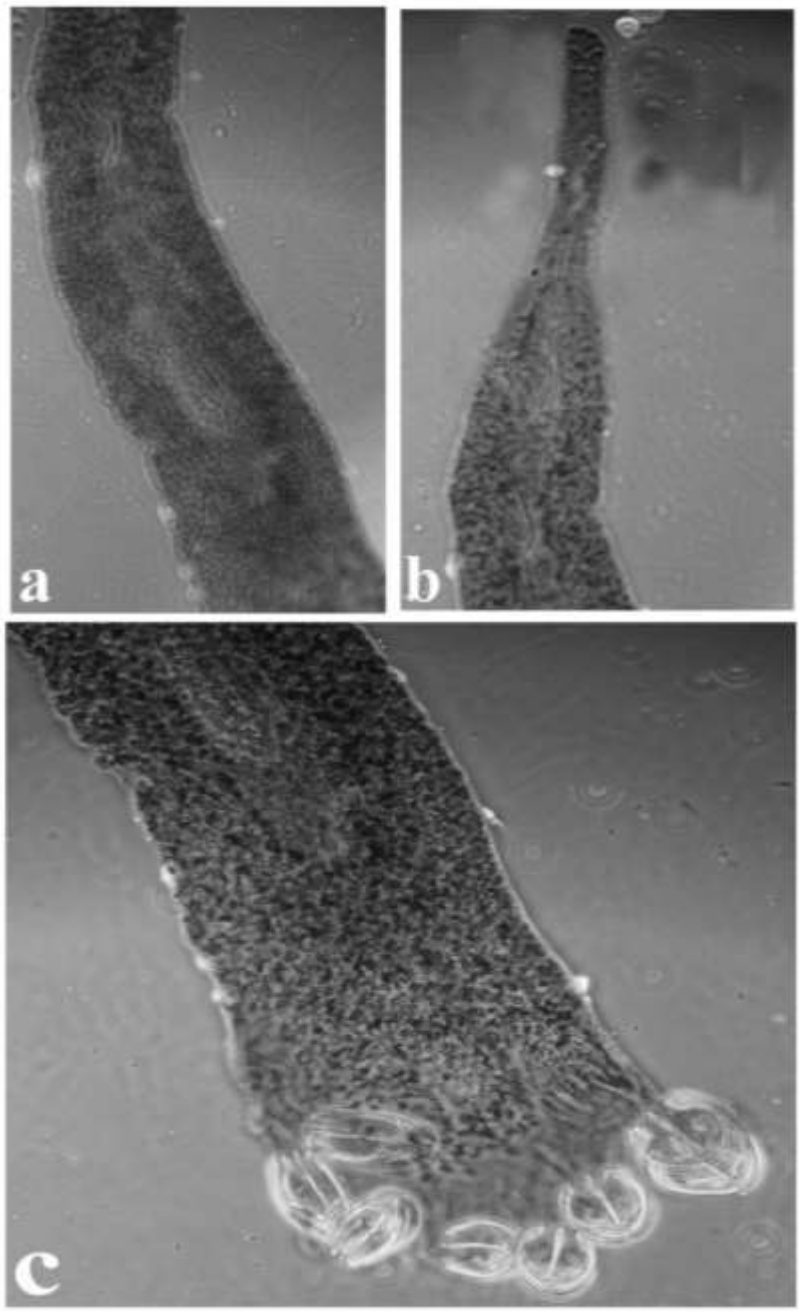

Fig.2. (a-c) Phase contrast microscopy of *A. pakistanensis* n.sp., holotype, a. Anterior portion, b. Ovary, eggs and testes, c. Haptor portion showing clamp.

DISCUSSION

The genus *Allodiscocotyla* was proposed by Yamaguti 1953 to accomadate an undescribed monogenetic trematode from the gills of fish *chorinemus moadetta* from Macassar. The species described in genus *Allodiscocotyla* are *Allodiscocotyla chorinemi* Yamaguti 1953, on *chorinemus moadetta* in Macassar, Rohde.K.1979, on *C.tol* in Papua New Guinea, Unnithan 1962, *Chorinemus sanctipetri* in Trivandrum, *C.taloo,C.lysan,C.sanctipetri* Radha 1975, in Madras coast,Gupta and Khanna,1976, from unidentified teleosts and Gemmaecaputia brink in Andaman and Nicobar Islands, Ramasamy *et al*., 1985, on *S.commersonianus, S.tol, S.lysan* and *S.tala* in India, Zhang 2001, in South China sea, and on *scomberoides tol* in East China sea, on

Scomberoides lysan in South China sea, *A .mexicana* Caballero 1964, on *Caranx hippos* in maxican waters, *A.lae* Yamaguti 1968, on *Scomberoides sanctipetri* in Hawii, *A.diacanthi* Unnithan 1962, *Chorinemus sanctipetri* in Trivandrum and on *Decapetrus* sp in South China sea, Gupta and Khanna 1976, on unidentified teleost and Gemmaecaputia brink in India, Ramasamy *et al*., 1995, *Scomberoides tol* off Madras, *A.elongatum* Bilqees and Shabbir 2004, from *chorinemus moadetta* in Karachi.

The present species in longer (4.7-4.9 x 0.85-0.85) than *A,.chorinemi* (1.5-2.6 x 0.2-0.25), *A. lae* (1.8 - 3.1 x 0.18 – 0.4) and *A.elongatum* (2.1 – 2.5 x 0.41- 0.43) Testes in the present species are 6 in number while in *A.chorinemi* numerous, in *A. Lae* 10-26, and *A.elongatum* has 6 pairs.

In all essential features the present species are similar to genus *Allo discocotyla* but cannot be included in any of the described species because of differences in important diagnostic features such as body size, number of testes and structure of clamps.The present species closely resembles to *A.elongatum* in structure of the body , four pairs of clamps,tubular single ovary but differs from it distinctly in body size, the present species is longer than *A.elongatum*, having 3 pairs of testes , while there are 6 pairs of testes in *A. elongatum* In the present species anchors are absent, while there are two pairs of anchors in *A. elongatum* .

In the present species clamps are large and without accessory sclerites while in *A.elongatum* clamps are smaller than present species and seven pairs of accessory sclerites are present .The present species is therefore regarded a new species.

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