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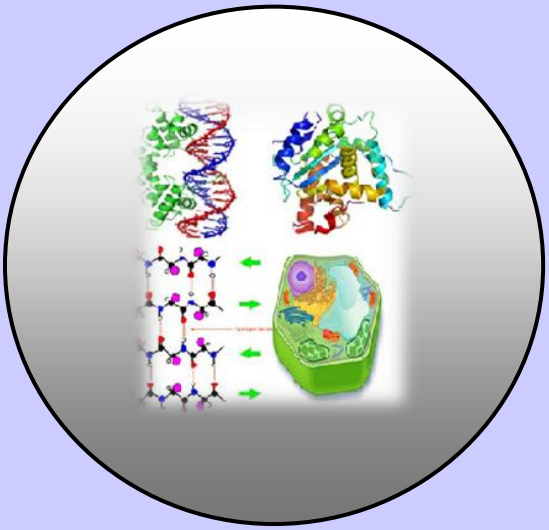

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RESEARCH PAPER

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Description of a New Species of the Genus *Thaparocleidus* Jain, 1952 (Monogenea, Dactylogyridae) from Freshwater Fish *Sperata*, in Lucknow, India

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ABSTRACT

During the survey of cat fishes a new species of Thaparocleidus was encountered from Sperata aor from Lucknow. Sperata is distributed in Asian region mainly in India, Pakistan, Nepal, Bangladesh and upper Myanmar. In India, it inhabits Ganges, its tributaries, Gangetic estuaries, Cauvery and Gomti. The genus Sperata included four species viz. S.aor, S. seenghala, S. aorella, S. acicularis. They have a moderate to high commercial fish food importance. The genus Thaparocleidus established by Jain, 1952 from Lucknow India. Lim et al, in 2001 listed 77 species of the genus Thaparocleidus Jain, 1952. Thaparocleidus robustus n.sp., differ in having short and broad ventral anchor, dorsal bar, dorsal patches, Sclerotised funnel shaped vagina. Copulatory complex consist of relatively long tube, medially twisted, and a massive accessory piece.
Keywords: Monogeneans, Thaparocleidus, and Sperata.

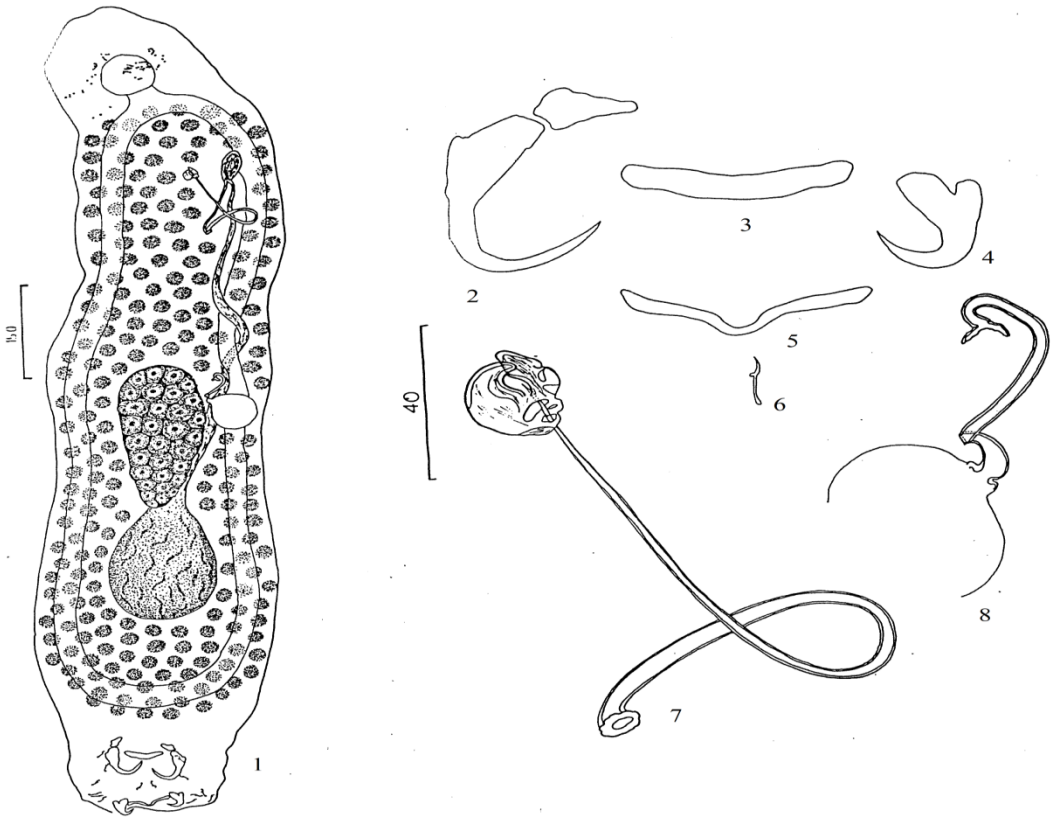
INTRODUCTION

The research work focused on monogenean parasites of freshwater catfishes (Order : Siluriformes). The present paper deals with genus *Thaparocleidus* Jain, 1952 (Family Ancylodiscoidinae Gusev, 1961), described from catfish *S. aor,* and belongs to family Bagridae. The purpose of this work is to add to the existing knowledge of taxonomy and morphology of this very interesting and successful group of parasites. It has the greatest species diversity among the members of Ancylodiscoidinae. Lim *et al*, 2001 listed all the *Thaparocleidus* species from Siluriformes fishes of Old World. More recently, Pandey *et al*, 2003 validated some species of *Thaparocleidus* from India. The genus *Thaparocleidus* is restricted to the fresh water siluriformes fishes.

MATERIAL AND METHODS

The host were brought to the laboratory and maintained in an aquaria. They were identified by using “Fish base” version 4.0. (Frose and Pauley, 2004). Live fishes were then killed and their gills either gently scraped to dislodge the live monogeneans or left in water to allow

the parasite to detach. Examination of these gills was done under stereomicroscope to ensure the presence of monogeneans. A droplet of water containing detached worms were then transferred on slides covered by clean coverslips and studied alive under a phase-contrast microscope. For studying hard parts glycerine and Hoyer's medium were used. These semi-permanent preparations were then sealed with sealant. Permanent preparations were made by fixing the worms in 5% formalin solution, then washed in distilled water and stained with aceto-alum-carmine. All parasites were dehydrated in an ethanol series, cleared in xylene and mounted in Canada balsam. All measurements are given in micrometers as the mean followed in parentheses by the range and number of structures measured. The numbering of Hooks follows Llewellyn (1963).



Figures 1-8: *T. robustus* n.sp. 1. Whole-mount (ventral view); 2. Dorsal anchor with patch; 3. Dorsal bar; 4. Ventral anchor; 5. Paired ventral bar; 6. Hook; 7. Copulatory complex; 8. Vaginal armament

***Thaparocleidus robustus* n.sp.**
Host: *Sperata aor* (Ham.)
Locality: Water bodies near Lucknow.
Site: Gills
No. of specimens collected and studied: 40
No. of specimens measured: 32.

Description (Fig. 1-8)

Body 1115(915-1202; n=32); maximum width 254(230-310; n=32) in posterior trunk. Cephalic region broad; cephalic lobes poorly developed. Eye spots not compact; accessory granules present in cephalic region. Pharynx spherical, 48(42-55; n=32) in diameter. Intestinal caeca united. Haptor very small comparative to rest of the body length, 145(134-160; n=32) X 138(128-145; n=32), with two pair of anchors, dorsal bar, paired ventral bar and seven pair of similar hooks. Dorsal anchor: inner length 42(32-44; n=32); outer length 36(30-38; n=32); inner root 10(8-12; n=32); rudimentary outer root; recurved point 30(28-36; n=32) long. Two conical dorsal patches 17(16-18; n=32) present near base of dorsal anchor. Ventral anchor with broad base and shaft; inner length 29(23-32; n=32); outer length 21(20-25; n=32); inner root 8(7-10; n=32); outer root 4(4-5; n=32); recurved point 16(11-18; n=32) long. Dorsal bar straight 38(36-45; n=32). Ventral bar paired, length of one side 34(29-38; n=32). Hooks 12(12-14; n=32) in length. Sclerotised funnel shaped vagina, sinistral, vaginal tube slightly sclerotised; leading into a large seminal receptacle. Ovary elongate-oval, 185(162-192; n=32) X 80(70-130; n=32); in mid-posterior of body. Testis, posterio-dorsal to ovary, 156(150-200; n=32) X 93(110-125; n=32). Vas deferens arises from anterior end of testis, runs anteriorly to loop left intestinal caecum, forming short pyriform blind seminal vesicle, which opens at base of copulatory tube by long ductus ejaculatorius. Copulatory complex consist of relatively long tube and a massive accessory piece. Copulatory organ long, medially twisted, 276(198-238; n=32). Accessory piece 25(20-28; n=32). A prostatic reservoir opens at the base of copulatory tube. Vitelline follicles dense, extend throughout trunk, except in region of reproductive organs.

DISCUSSION

Jain (1952) established the genus *Thaparocleidus* with *T . wallogonius* as a type species on the gills of *Wallgo attu* at Lucknow, India. Lim (1996) enlisted all the 77 species reassigned in *Thaparocleidus*. She suggested that the original description of *T. wallagonius* Jain, 1952, the type species of genus, is incomplete and a redescription is necessary, also the proper status of *Wallagoterma* Tripathi, 1959 & *Mizelleus* Jain, 1957 needs a redescription. Keeping this in view, Pandey *et al* (2003) resolved the problems by re-examining the type species of *Thaparocleidus, Wallagotrema* & *Mizelleus* respectively. Pandey and Agrawal (2008) listed 15 valid species from India viz. *T.wallagonius* Jain, 1952(Type species); *T. gomtius* (jain, 1952) Lim, 1996; *T.seenghali* (Jain,1961)Lim,1996; *T.indicus* (Kulkarni, 1969)Lim,1996; *T.malabaricus* (Gusev,1976)Lim,1996; *T.pussilus* (Gusev,1976)Lim,1996; *T.multispiralis* (Jain,1957)Lim,1996; *T.pangasi* (Tripathi,1959) Lim,1996; *T.vachius* (Jain,1961)Lim,1996; *T.aori* (Rizvi,1971) Lim,1996; *T. parvulus* (Gusev,1976)Lim,1996; *T. devraji* (Gusev,1976) Lim,1996; *T. vaginalis* (Gusev,1976) Lim,1996 and *T.speratai* Agrawal *et. al*, 2005. In this paper, the author added a new species to the genus *Thaparocleidus* as *T. robustus* n.sp. that differs in having a short and broad ventral anchor, a straight dorsal bar, a conical dorsal patches, and a different structure of the vaginal armament, a sclerotised funnel shaped vagina, a vaginal tube slightly sclerotised. *T. robustus* n.sp. is the largest *Thaparocleidus* species found on *Sperata aor*, but, it possesses a small haptor comparative to the rest of the body length. This species is named *T. robustus* n.sp. because of its very long and broad body shape, haptoral sclerites, copulatory organ long, medially twisted, massive accessory piece.

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