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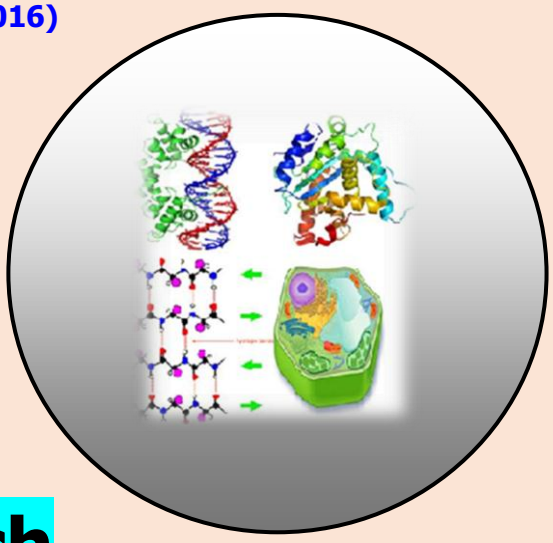
ISSN 2319-3077 Online/Electronic
ISSN 0970-4973 Print

UGC Approved Journal No. 62923
MCI Validated Journal
Index Copernicus International Value
IC Value of Journal 82.43 Poland, Europe (2016)
Journal Impact Factor: 4.275
Global Impact factor of Journal: 0.876
Scientific Journals Impact Factor: 3.285
InfoBase Impact Factor: 3.66

J. Biol. Chem. Research
Volume 34 (2) 2017 Pages No. 997-1001



Journal of Biological and Chemical Research

An International Peer Reviewed / Referred Journal of Life Sciences and Chemistry

Indexed, Abstracted and Cited: Index Copernicus International (Europe), Validated Medical Council of India, World Science Index, Polish Ministry of Science and Higher Education (Poland, Europe) Research Bible (Japan), Scientific Journals Impact Factor Master List, Directory of Research Journals Indexing (DRJI), Indian Science. In, Database Electronic Journals Library (Germany), Open J-Gate, J Gate e-Journal Portal, Info Base Index, International Impact Factor Services (IIFS) (Singapore), Scientific Indexing Services (USA), International Institute of Organized Research (I2OR), Cosmos Science Foundation (Germany), Science Library Index (UAE), Eye Source, Swedish Scientific Publication, World Cat, International Innovative Journal Impact Factor, Einstein Institute for Scientific Information {EISI} and Impact Factor.pl - Kompendiumwiedzy o czasopismachnaukowych, Philadelphia citefactor.org journals indexing Directory Indexing of International Research Journals

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J. Biol. Chem. Research. Vol. 34, No. 2: 997-1001, 2017
(An International Peer Reviewed / Refereed Journal of Life Sciences and Chemistry)
Ms 34/02/0990/2017

ISSN 2319-3077 (Online/Electronic)
ISSN 0970-4973 (Print)

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RESEARCH PAPER

Received: 06/12/2017 Revised: 30/12/2017 Accepted: 31/12/2017

A New Host Specific species of *Thaparocleidus* Jain, 1952 (Monogenea, Ancylodiscodidiae) from *Sperata seenghala* (Skyes).

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ABSTRACT

The new species of Thaparocledius Jain, 1952 (Ancylodiscoidinae, Anchyrocephalidae) were obtained from freshwater catfishes collected from river; Gomti, Lucknow; adjoining water bodies of Lucknow, river Ganga; Kanpur, U.P., India. The described species increase the number of the known Thaparocledius (Lim et al, 2001 listed dactylogyridean monogeneans of Old world and have considered 77 species of Thaparocledius valid).
Keywords: Monogenea, Thaparocleidus, New species, Fish and Sperata seenghala.

INTRODUCTION

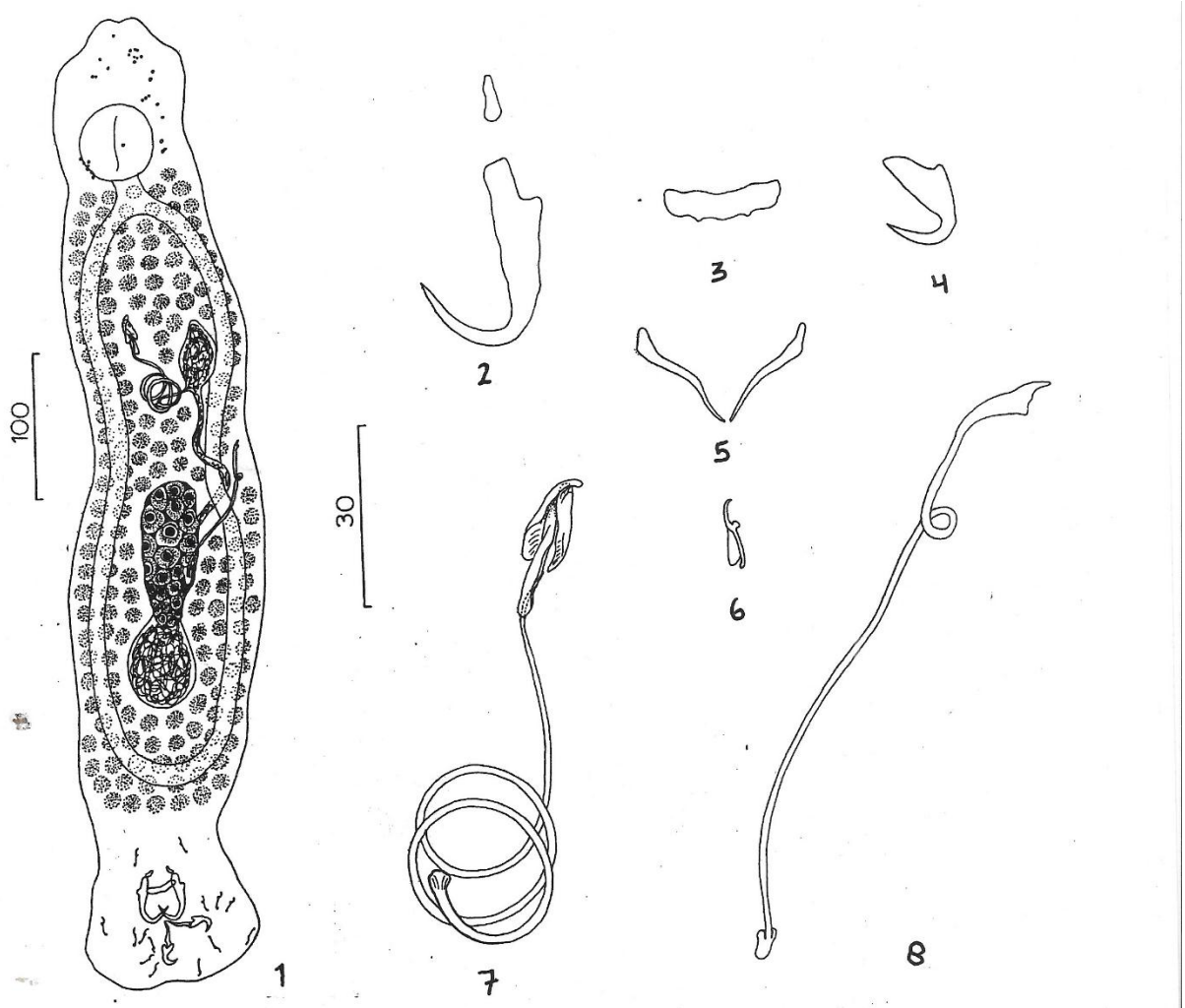
Lim *et al*, 2001 while listing species of the genus *Thaparocleidus* Jain, 1952 of Old World have recognized 77 species. They have also questioning validity of some Indian species. Pandey *et al*, 2003 surveyed monogeneans on some catfishes in India and validated six species of *Thaparocleidus* and consider some worms as their synonyms. In an attempt to follow up their work, present study has been undertaken. For the purpose catfishes of the genus *Sperata,* were screened for monogenean infection.

The genus *Sperata* is distributed in Asian region mainly in India, Pakistan, Nepal, Bangladesh and upper Myannar. In India, it inhabits Ganges, tributaries of Ganga, Gangetic estuaries, Cauvery and Gomti. It represents two species of large fishes viz., *S. seenghala* and *S. aor*. They are of moderate to high commercial food fish importance.

MATERIALS AND METHODS

Fish host were collected from water bodies and fish markets in Lucknow. Names of hosts follow those provided in fish base (Froese and Pauly, 2004). For this purpose live fish were killed and their gills were either gently scraped to dislodge the live monogeneans or left in water to allow the parasite to detach.

Detached worms were transferred on slides to small droplets of water, covered by clean coverslips and studied live under a phase-contrast microscope. Host gills were surgically removed and placed in vials containing hot (60ºC) 5% formalin solution for relaxation and fixation of helminthes. Examination of these gills was done under stereomicroscope to ensure collection of monogeneans. Some specimens were mounted unstained in Malmberg's medium and Hoyer's medium for study of sclerotised structures; other specimens were stained with Aceto-alum-carmine and Gomori's trichrome, dehydrated in an ethanol series, cleared in xylene and mounted in Canada balsam to determine internal features (Humason, 1979; Malmberg, 1957). Illustrations were prepared with the aid of camera lucida. Measurements, all in micrometers, were obtained using a calibrated micrometer and phase-contrast microscope and are represented as the average followed by the range and number (n) of measurements taken in parentheses. Dimensions of organs and other structures represent the greatest measurement in dorsoventral view.



Figures 1 - 8. *T. arrowpointalis* 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.

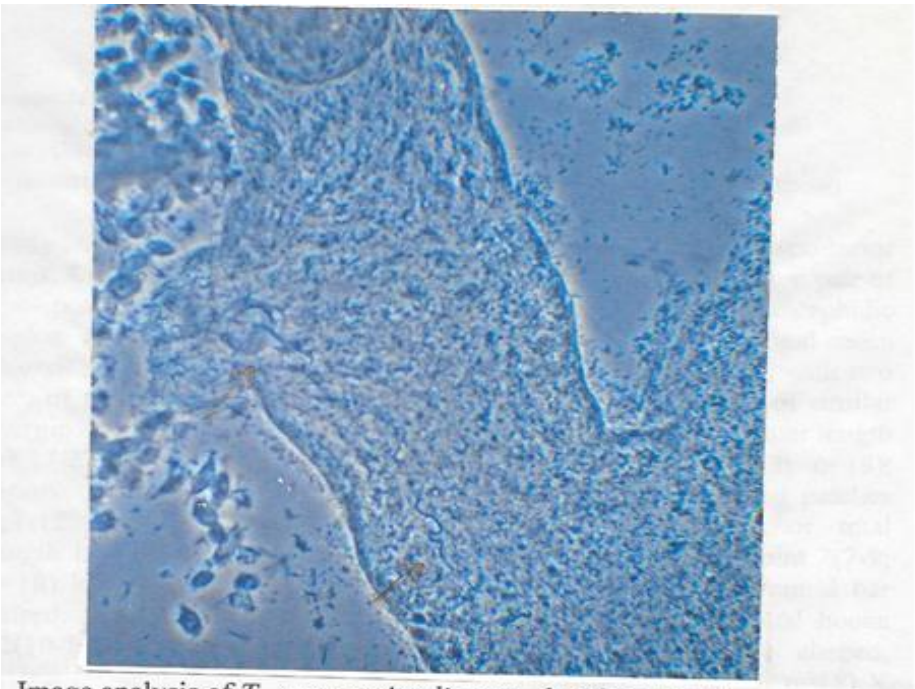


Image analysis of *T. arrowpointalis* n.sp. showing copulatory complex

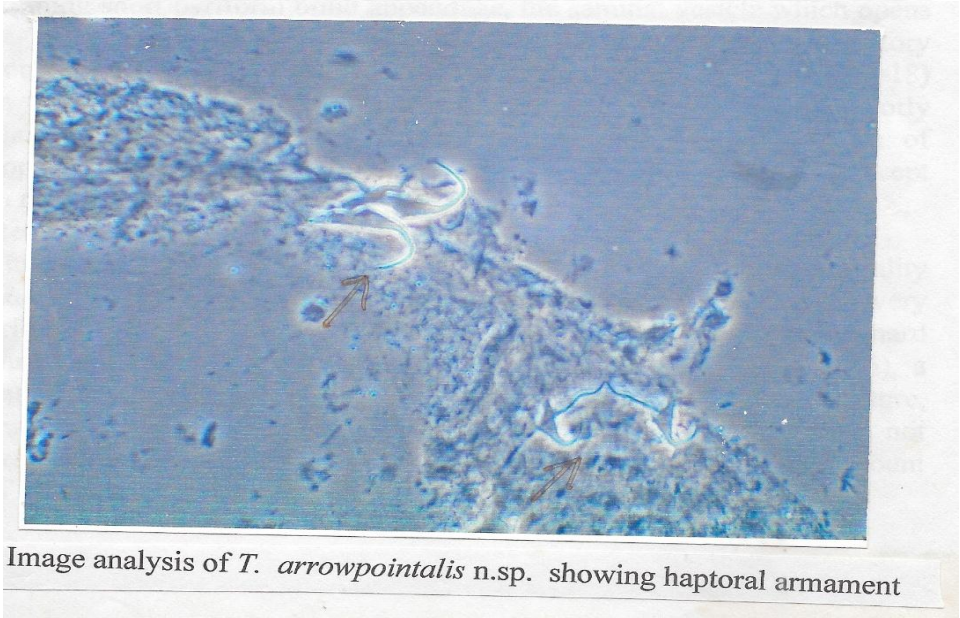


Image analysis of *T. arrowpointalis* n.sp. showing haptoral armament

DESCRIPTION

T. arrowpointalis n.sp.
Hosts: *Sperata seenghala* (Sykes)
Locality: Water bodies at Lucknow.
Site: Gills
No. of specimens collected and studied: 32
No. of specimens measured: 16
Description (Fig. 1-8) (Based on fresh material collected from Lucknow)

Body 823 (655-940; n=16); maximum width 160(139-180; n=16) in posterior trunk. Cephalic region broad; cephalic lobes well developed. Eye spots not compact; accessory granules present in cephalic region. Pharynx spherical, 52 (48-56; n=16) in diameter. Intestinal caeca united. Haptor discoidal, 108(97-120; n=16) X 110(75-130; n=16), with two pair of anchors, dorsal bar, paired ventral bar and seven pair of similar marginal hooks. Dorsal anchor inner length 29(28-32; n=16), outer length 23(22-25; n=16); inner root 7(7-8; n=16); outer root 3(3-4; n=16); recurved point 16(16-17; n=16) long. Two short conical shaped patches 7(6-8; n=16) present near base of dorsal anchor. Ventral anchor inner length 18(17-19; n=16); outer length 13(12-14; n=16); inner root 8(7-10; n=16); outer root 2(2-3; n=16); recurved point 8(8-10; n=16) long. Dorsal bar straight 19(18-22; n=16). Ventral bar paired, V-shaped, length of one side 20(18-22; n=16). Marginal hooks 11(10-12; n=16). Vagina sinistral, vaginal opening funnel shaped, with long coil vaginal tube. Germarium oval, 115(90-120; n=16) X 40(30-45; n=16); situated in middle of body. Testis ovoid, posterio-dorsal to germarium 100(65-120; n=16) X 72(42-96; n=16). Vas deferens arises from anterior end of testis, runs anteriorly to loop left intestinal caecum, forming sausage like blind seminal vesicle, which opens at base of copulatory tube by long ductus ejaculatorius. Copulatory complex consist of cirrus, accessory piece. Cirrus, 233 (228-240; n=16) in length; coiled (2-3 coils), 19(18-22; n=16) in diameter. Accessory piece arrow headed shaped, 24(22-28; n=16). Vitelline follicles dense, extend throughout trunk, except in region of reproductive organs.

Remarks

T. arrowpointalis n.sp. has similar dorsal anchor as *T. laisensis* (Lim, 1986) Lim, 1996 and ventral bar as *T. siamensis* (Lim, 1990), Lim, 1996 but differs in the structure of arrow headed accessory piece. The species is named after the structure of accessory piece.

DISCUSSION

Jain (1952) established the genus *Thaparocleidus* Jain, 1952 with *T. wallogonius* as its type species on the gills of *Wallgo attu* at Lucknow, India. Lim (1996) enlisted the 79 species reassigned in *Thaparocleidus*. Lim *et al*, 2001 listed all *Thaparocleidus* monogeneans from Siluriformes fishes of Old World. She suggested that the original description of *T. wallagonius* Jain, 1952, the type species of genus, is incomplete and a redescription is necessary and proper status of *Wallagoterma* Tripathi, 1959 and *Mizelleus* Jain, 1957 needs redescription. Keeping the view, Pandey *et al* (2003a and b) resolved the problems by re-examing the type species of *Thaparocleidus*, *Wallagotrema* and *Mizelleus* respectively. Pandey *et al*, 2003 validate some species of *Thaparocleidus* from India. The genus *Thaparocledius* is restricted to the fresh water siluriformes. According to Srivastava, 1997 the piscine order siluriformes is represented in Uttar Pradesh (India) by seven families, of which three genera of fishes, belonging to the family Bagridae, were screened for monogeneans. The research work was focused on monogenean parasites of fresh water catfishes (Order: Siluriformes). The present paper deals with genus *Thaparocleidus* Jain, 1952 (Family Ancylodiscoidinae Gusev, 1976), which were described from catfishes of family Bagridae. The purpose of this work is to add to existing knowledge of taxonomy and morphology of this very interesting and successful group of parasites. It has greatest species diversity among the members of Ancylodiscoidinae. For the purpose catfishes of the genus *Sperata,* were screened for monogenean infection.

ACKNOWLEDGEMENTS

Author is thankful to Prof. S.D. Sharma, Principal, Shri JNMPG College, Lucknow, U.P. for providing the facilities and also thankful to my colleagues for their valuable suggestions.

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