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34. FIRST RECORD OF A CILIOPHORAN *TRICHODINA DOMERGUEI* F. MAGNA LOM, 1960 FROM FRESHWATER FISH *PSEUDOAPOCRYPTUS LANCEOLATUS* (BLOCH AND SCHNEIDER) FROM INDIA

(With one plate and one text-figure)

Trichodina domerguei f. *acuta* f. n. was found by Lom on the body surface (skin, fins and occasionally gills) of *Cyprinus carpio*, *Perca fluviatilis*, *Lucioperca lucioperca*, *Leucaspis delineatus*, *Rhodeus sericen*. On the skin of tadpoles of several species of frogs, it was identified as *Trichodina domerguei* f. *latispina* Dogel, 1940. The freshwater fish *Pseudoapocryptus lanceolatus* (Family Gobidae) were examined from September, 1999 to January, 2000 for ciliophoran parasites, and the host fish was found to be infested with a European trichodinid *Trichodina domerguei* f. *magna* Lom, 1960.

Trichodinid ciliophorans are known to be dangerous ectoparasites of fishes, causing damage to the gills. In highest degree of infestation, hypersecretion of mucus occurs. In spite of this, erosion or proliferation of the branchial epithelium and occasional haemorrhage occurs. We confirm the existence of an introduced European trichodinid ciliophoran *Trichodina domerguei* f. *magna* Lom, 1960 in India.

Host fishes *Pseudoapocryptus lanceolatus* (Bloch and Schneider) were collected live, brought quickly to the laboratory and gill smears were made on grease-free slides. Smears containing the trichodinid ciliophorans were separated and impregnated with 2% silver nitrate solution. The impregnated slides were exposed to ultraviolet rays for about 25 minutes.

Photomicrographs were taken to study morphological variation in the population of the trichodinid. Measurements are given in microns. The terminology and detailed structure of the various parts of the adhesive discs are after Lom (1958), Wellborn (1967), Arthur and Lom (1984), Vanas and Basson (1989, 1992).

***Trichodina domergui* f. *magna* Lom, 1960**
(collected from India)
(Plate 1, Figs 1-4)

Material examined: (G/23/99) in the collection of the author. Denticle drawings and description based on Vanas and Basson (loc. cit). Blade broad. Apex rounded, parallel with border membrane. Tangent point narrow, pointed at the same level as distal surface. Anterior margin takes a sudden turn to form a notch-shaped structure, occasionally crossing Y-axis (Fig. 1d). Anterior and posterior margins not parallel. Posterior margin of the blade forming deep semilunar depression, slightly above apex. Blade connection thin and short. Central part well developed, angular, fitted tightly with preceding denticle. In most specimens, central part extends almost entirely beyond Y-axis. Ray connection broad. Rays stout, occupying the Y-axis (Fig. 1a-d). Tips of rays blunt, turned towards Y-1 axis (Fig. 1b). Central area with distinct clear portion having argentophilic granules.

TABLE 1
BIOMETRICAL DATA (IN μM) OF *TRICHODINA DOMERGUEI* F. MAGNA LOM. 1960

<i>Trichodina</i> species	<i>Trichodina domerguei</i> f. <i>magna</i> Lom. 1960 collected from India	<i>Trichodina domerguei</i> f. <i>magna</i> Lom. 1960
Host	<i>Pseudoapocryptus lanceolatus</i>	<i>Nemachilus barbatulus</i> , <i>Tinca tinca</i>
Locality	Midnapore, West Bengal, India	Bohemia
Area of infestation	Gill filaments	Skin
Diameter of body	35.9-42.8 (39.8 ± 1.7)	97-98 (82-111)
Adhesive disc	29.6-34.7 (32.7 ± 1.6)	70-76 (62-82)
Denticulated ring	19.9-25.5 (21.6 ± 1.9)	45-49 (41-55)
Central area	10.7-15.8 (12.7 ± 1.5)	-
No. of denticles	18-22 (22.6 ± 1.7)	27 (25-31)
No. of radial pins on denticle	6-7 (6.7 ± 0.9)	13-14
Dimensions of denticle		
Length of blade	3.57-4.1 (3.91 ± 0.2)	7-8
Width of central part	1.6-2.0 (1.8 ± 0.9)	4-4.5
Total length of denticle	4.9-5.8 (4.9 ± 0.7)	17
Length of thorn	2.7-4.1 (3.1 ± 0.4)	5-7
Width of border membrane	3.1-4.1 (3.6 ± 0.4)	5-6.5
Adoral ciliary spiral	375°-390°	-
Incidence	5 of 12 (41.6%)	-

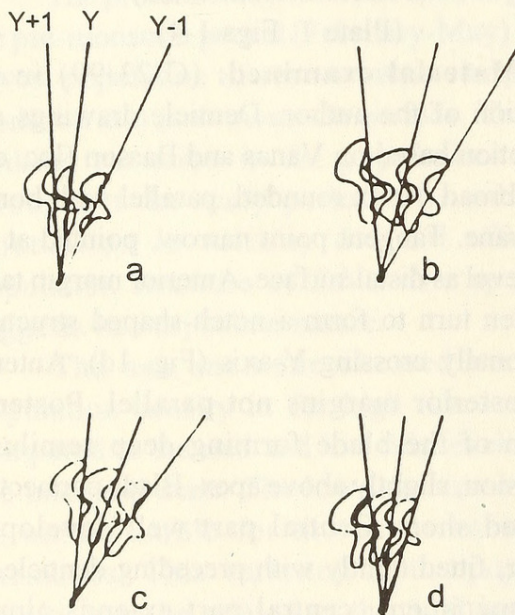


Fig. 2: Comparison of denticles of: (a-b) *Trichodina domerguei* f. *magna* found from (c-d) *Pseudoapocryptus lanceolatus* with the same reported by Lom in 1960

The population of trichodinids studied by us has been identified as *Trichodina domerguei* f. *magna* Lom, 1960 after scanning the adhesive disc structure. But the biometrical data does not fall within the reported range of *Trichodina domerguei* f. *magna*. (Table 1). The specimens found on *Pseudoapocryptus lanceolatus* were compared with the trichodinids inhabiting freshwater fishes, and it was noted that the blades of both the specimens are curved in the same direction. Anterior and posterior margins of both blades of the specimens are not parallel. The apex in both the specimens almost touches the Y-axis. The posterior margin also forms a deep semilunar curve with Y-axis. The central part is short, triangular in both the specimens. The rays are short with blunt end and directed towards the geometrical centre of adhesive disc. Moreover, no differences in morphology and denticle structure of both the specimens have been noticed. Considering all these factors, we may conclude that the specimen examined is *Trichodina domerguei* f. *magna*.

Dash, G.: *Trichodina domerguei*

PLATE 1

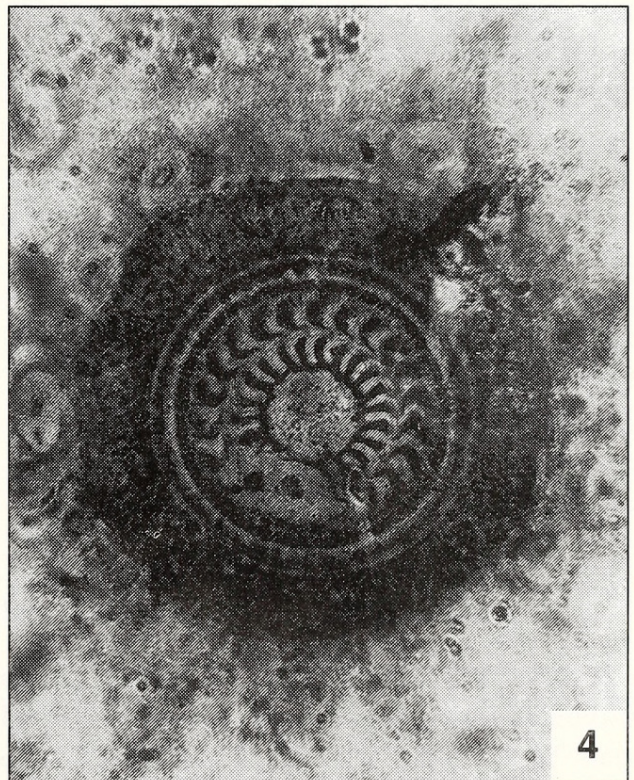
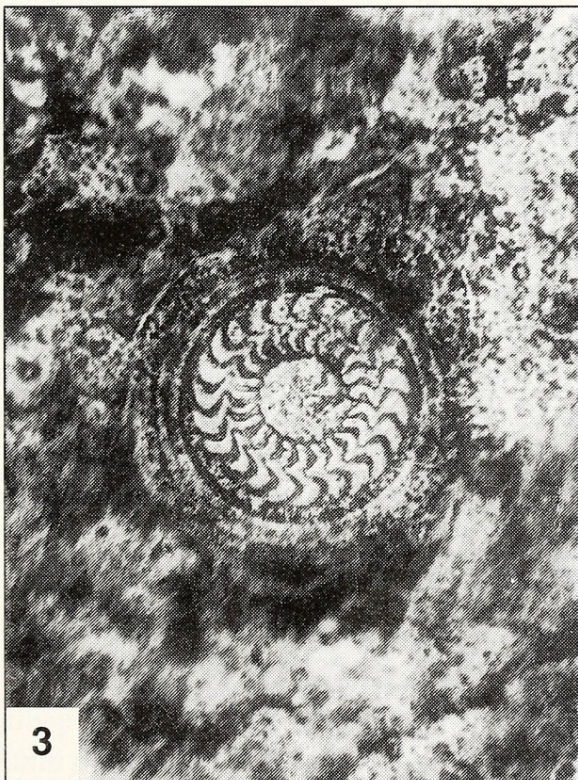
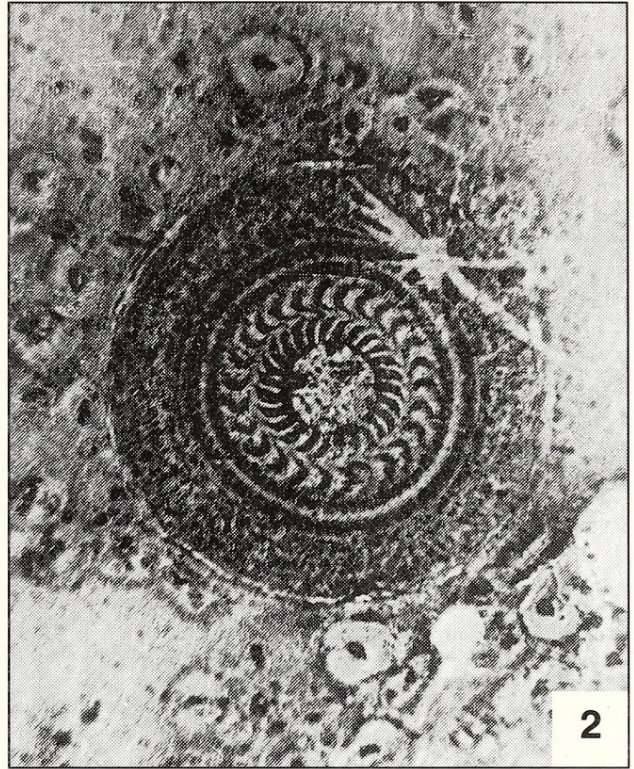
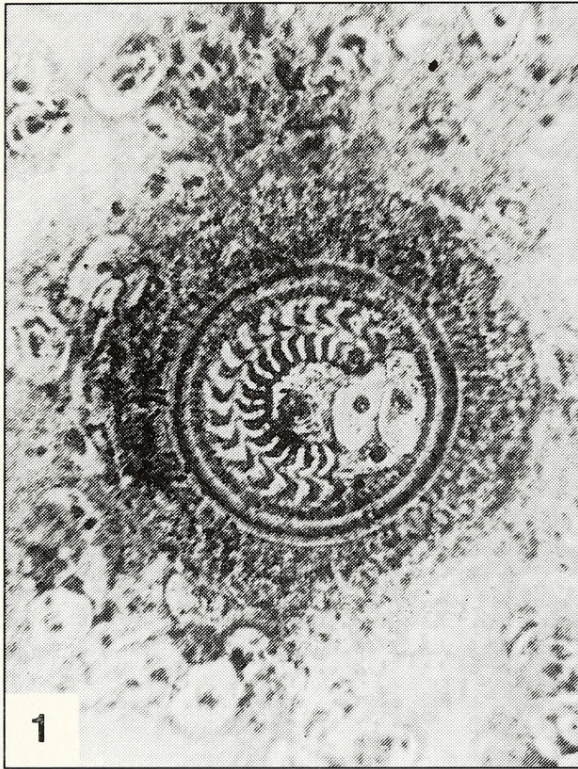


Fig. 1-4: Photomicrographs of *Trichodina domerguei* infecting *Pseudoapocryptus lanceolatus*



Bandyopadhyay, P. K. and Dash, G. 2001. "First Record of a Ciliophoran Trichodina Domerguei F. Magna Lom, 1960 from Freshwater Fish Pseudoapocryptus Lanceolatus (Bloch and Schneider) from India." *The journal of the Bombay Natural History Society* 98, 311–314.

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