

TAXONOMIC NOTES ON SOME FRESHWATER GASTROTRICHA FROM WEST BENGAL, INDIA

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Abstract

The present paper is a taxonomic account of seven species of gastrotrichs (Gastrotricha: Chaetonotidae) collected from Calcutta and its adjacent areas (Lower Bengal). All the reported species represent new records from the north-eastern region of this subcontinent and three of them are new records from India.

Introduction

Very little is known regarding the distribution of different species of freshwater Gastrotricha in India. Up till now, 20 species spread over 6 genera have been reported from different parts of India. The earlier records are by Stewart (1908) from Tibet; Vanamala Naidu (1962); Dhanapathi (1976) and Rao & Chandra Mohan (1977) from Andhra Pradesh and Visvesvara (1963, 64) from Nagpur (Maharashtra). There is practically no report from north-eastern India except for one species dealt with by Annandale (1907).

While working on the freshwater zooplankton samples collected in Lower Bengal (Calcutta and its adjoining areas), the author came across seven species of gastrotrichs (Gastrotricha: Chaetonotidae) which are briefly described here. All the reported species represent new records from the northeastern region of this country and three of them are new records from India.

Material and methods

The material for this study was collected using methods suggested by Brunson (1959). The live specimens were narcotised with 5% novacaine and preserved in 70%

alcohol. Plankton samples fixed in 5% formalin were also used. Forms stained in borax carmine were mounted in Canada balsam. Drawings were made using a camera lucida and measurements given in microns.

List of localities

1. Indian Museum Tank, Calcutta (IMT).
2. Botanical Gardens, Sibpur, Howrah (BG).
3. Amtala, 24-Parganas (AMT).
4. Achipur, 24-Parganas (APR).
5. Bon-Hooghly, 24-Parganas (BH).

TAXONOMIC NOTES

CLASS: GASTROTRICHA

FAMILY: CHAETONOTIDAE

1. *Chaetonotus anomalus* Brunson, 1950 (Fig. 1)

Material: BG.

Head with five lobes. Body with 6-8 longitudinal rows of 8-10 spines which increase in size posteriorly; seven long, twice bifurcate spines originate from trunk and project beyond the other spines.

The present specimens agree with those described by Brunson (1950), but differ from the forms from Andhra Pradesh (Dhanapathi, 1976) in that the long spines do not project far beyond the body.

This species has been recorded by Dhanapathi (1976) from Andhra Pradesh.

Measurements: Total length 160; length of long spines 45-60.

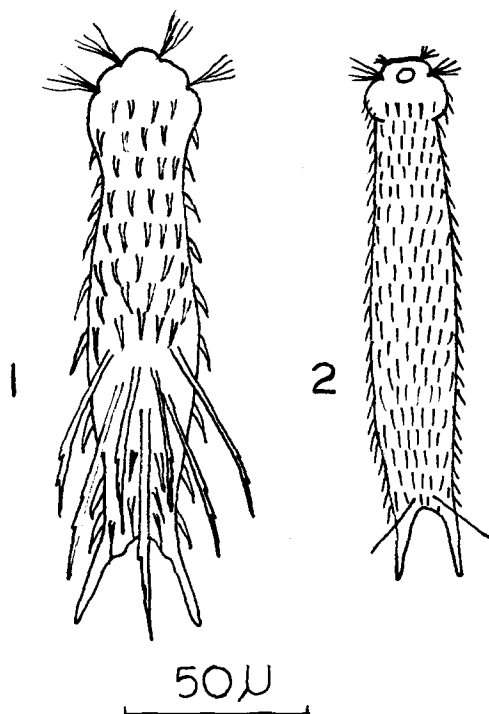


Fig. 1. *Chaetonotus anomalus* Brunson, 1950; Fig. 2. *Chaetonotus formosus* Stokes, 1887.

2. *Chaetonotus formosus* Stokes, 1887 (Fig. 2)

Material: AMT.

Head three-lobed, cuticle at the anterior end thickened; oral bristles retractible. Body with short spines; about 30 spines in each of 8-12 longitudinal rows.

Reported by Dhanapathi (1976) from Andhra Pradesh, India.

Measurements: Total length 140; furca length 20.

3. *Chaetonotus longispinosus* Stokes, 1887 (Fig. 3)

Material: APR.

Head five-lobed; head and neck without spines. Body with two transverse rows of 8 long dorsal spines, long spines bifurcate; shorter spines present on body just anterior to long spines.

This species represents a new record from India.

Measurements: Total length 82; spines 28-32.

4. *Chaetonotus octonarius* Stokes, 1887 (Fig. 4)

Material: APR.

Head five-lobed. Body with only 8 bifurcate spines originating from the posterior half of the body and

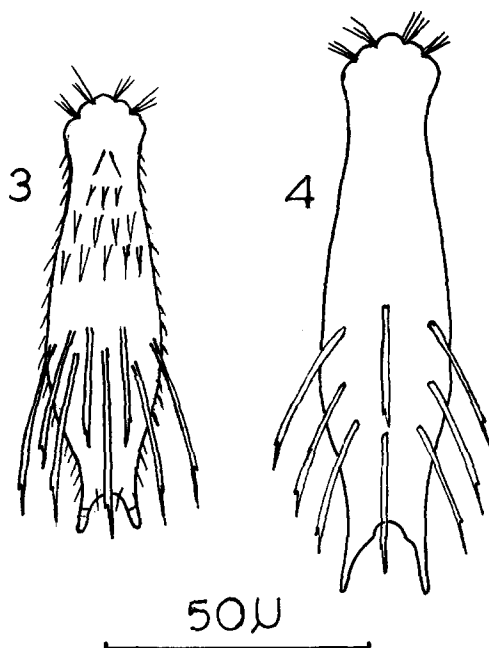


Fig. 3. *Chaetonotus longispinosus* Stokes, 1887; Fig. 4. *Chaetonotus octonarius* Stokes, 1887.

arranged in 4 transverse rows (3 + 2 + 2 + 1).

Represents a new record from this country.

Measurements: Total length 105; length of spines 25.

5. *Chaetonotus similis* Zelinka, 1889 (Figs. 5 & 6)

Material: IMT, BG.

Head five-lobed. Body spines increase in size posterior-

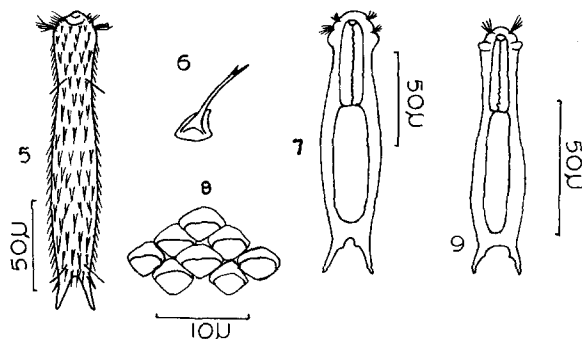


Fig. 5. *Chaetonotus similis* Zelinka, 1889; Fig. 6. side view of body spine of *C. similis*; Fig. 7. *Lepidodermella squamatum* (Dujardin, 1841); Fig. 8. scales of *L. squamatum* (enlarged); Fig. 9. *Ichthydium auritum* Brunson, 1950.

ly; each bifurcated distally, embedded in a raised portion of cuticle.

This species has been reported from Andhra Pradesh (Vanamala Naidu, 1962; Dhanapathi, 1976; Rao & Chandra Mohan, 1977).

Measurements: Total length 160-178.

6. *Lepidodermella squamatum* (Dujardin, 1841)
(Figs. 7 & 8)

Material: BH, BG.

Head distinctly five-lobed. Body covered with distinct scales; scales arranged in alternate rows and project from the surface of the body.

Reported earlier by Stewart (1908) from Tibet and Rao & Chandra Mohan (1977) from Andhra Pradesh.

Measurement: Total length 140-152.

7. *Icthydium auritum* Brunson, 1950 (Fig. 9)

Material: APR.

Head three-lobed; posterior lobes with dorsal earlike flaps. The present specimens differ from *Icthydium* sp. reported from Andhra Pradesh (Rao & Chandra Mohan, 1977) in the presence of earlike flaps on the posterior head lobes.

This species is a new record from India.

Measurements: Total length 94; pharynx 30; caudal furca 11.

Remarks

As a result of this study, the total number of recorded freshwater gastrotrich species from India has increased to 23. Amongst these, the genus *Chaetonotus* is represented by 15 species. The various species reported in this account were found to be associated with aquatic plants i.e., *Hydrilla*, *Ceratophyllum*, *Utricularia*, *Polygonum* etc. and also preferred habitats with detritus and decaying organic material. The values of pH and dissolved oxygen content of the different localities varied from 7.4-8.9 and 2.8-5.6 ppm. respectively. However, in the Indian Museum Tank, Calcutta (IMT) complete depletion of dissolved oxygen, at times, was noticed when there was excessive growth of *Ceratophyllum* and also a surface scum of *Oscillatoria* sp. The abundance of gastrotrichs in localities with low dissolved oxygen content has also been mentioned by Rao & Chandra Mohan (1977).

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