New Records of *Thecacineta cothurnioides* and *Trematosoma rotunda* (Ciliophora, Suctorea) as epibionts on nematodes from the Indian Ocean

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**Summary**

This article deals with the report of two suctorian ciliates species viz. *Thecacineta cothurnioides* Collin, 1909 and *Trematosoma rotunda* (Allgé, 1952) as epibionts on *Tricoma* sp. and *Pseudochromadora* sp. (Nematoda) respectively from Ratnagiri, west coast of India, Arabian Sea (Indian Ocean). Redescription of two species with distribution and nomenclatural notes are given. Both species are recorded here first time from Indian coast and the Indian Ocean. Genus *Tricoma* Cobb, 1894 is also recorded here first time as a host of *Th. cothurnioides*.

**Key words:** Suctoria, fauna, Indian Ocean, *Trematosoma*, *Thecacineta*

**Introduction**

Suctorian ciliates are common epibionts on benthic marine and interstitial invertebrates such as harpacticoid copepods, nematodes, halacarid mites etc (Jankowski, 1981, 2007, Dovgal, 1996, Dovgal et al., 2008). Several specimens of suctorian ciliates which correspond to species *Thecacineta cothurnioides* Collin, 1909 and *Trematosoma rotunda* (Allgé, 1952) from nematodes have been collected from central west coast of India. Both species are recorded here first time from Indian Ocean. Nematode genus *Tricoma* Cobb, 1894 is also recorded here first time as a host of *Th. cothurnioides*. The original description from type locality for both species are fragmentary, the modes of reproduction were unknown. Redescription with distribution and nomenclatural notes are also given.

**Material and Methods**

The meiofauna were collected from Ratnagiri (Lat: 17° 00' 38" N, Long: 73° 15' 34" E), west coast of India, Arabian Sea (Indian Ocean). Collection was part of the sediment sampling conducted using Van Veen grab (0.04m² area) in the water depth of 14.5 meters on 14th January 2006 (Ingole et al., 2006).
The infested nematodes were isolated from the meiofauna. Salinity of the bottom water was 33.8 PSU. Dissolved oxygen: 3.7 ml per litre. The sediment has very high content of sand 98%, 1.5% silt and low clay content 0.5% and sedimentary chlorophyll was 0.4 microgram per gram.

10 individuals of *Thecacineta cothurnioides* were found on one specimen of nematode whereas the *Tematosoma rotunda* were investigated from three individuals of nematode host with 6, 3 and 7 ciliate individuals respectively for each nematode.

The measurements of ciliates were made using the computer program ScopePhoto 2.0 for processing of digital images. Five similarly aligned individuals were measured for each ciliate species. For slide preparing the material was stained by Boehmer’s hematoxylin and mounted in Canada balsam. The permanent slides of infested nematodes are deposited in the collections of the Department of Fauna and Systematics of Invertebrate Animals of Schmalhausen Institute of Zoology NAS of Ukraine.

**SYSTEMATICS**

**Class** SUCTOREA Claparede et Lachmann, 1859

**Subclass** VERMIGENIA Jankowski, 1978

**Order** SPELAEOPHYRIDA Jankowski, 1978

**Family** THECACINETIDAE Matthes, 1956

*Thecacineta cothurnioides* (Collin, 1909) charact. emend. (Figs 1-3)

= *Acineta cothurnioides* Collin, 1909

= *Lissacineta cothurnioides* (Collin, 1909)

**Diagnosis.** Marine loricate suctorian. Cell body no flattened laterally, entirely fill up the loria and clamped to their bottom. Apical part of the body conical pared-down. About 15 tentacles placed at the upper body surface and just projected from loria. Macronucleus spherical posterior located. Contractile vacuole small, single and placed closed under macronucleus. Loria smooth. Stalk long, slightly curved, in the area of junction with loria fitted with very small widening (physon). Reproduction by vermigemmic budding.

From another species of the genus *Thecacineta* the species is differs by not ribbed smooth loria and by characteristic stalk widening (physon).

**Body dimensions.** Measurements are made using materials from India, in parentheses measurements of individuals given by Collin, 1909. Loria length 33-39 µm (50 µm after Collin, 1909), loria width, wide of loria mouth 17-21 µm, (18-20 µm), stalk length 3-18 µm (28 µm), macronucleus diameter 7-10 µm.

**Distribution and host prevalence.** The species was described (Collin, 1909) from abdomen of interstitial harpacticoid copepod *Cletodes longicaudatus* (Boeck) (type host, indicated here) from Banyuls-sur-Mer at Mediterranean coast of France (type locality, indicated here) (Fig. 1). *Th. cothurnioides* was also listed for river Seversky Donets basin in Ukraine (Dovgal, 1988). However, the species is not characteristic for freshwater biotopes and we believe that it was erroneous identification. We found *Th. cothurnioides* on nematode *Tricoma* sp (Superfamily...
Desmoscolecoidea Shipley, Family Desmoscolecidae Shipley, Subfamily Tricominae Lorenzen, Genus *Tricoma* Cobb) from Ratnagiri, Maharashtra state, central west coast of India (Arabian Sea).

**Remarks on the systematics and nomenclature.** Jankowski (1981) has been proposed the new genus *Lissacineta* for representatives of *Thecacineta* that have the lorica without folds and indicated the *Th. cothurnioides* Collin, 1912 as the type species of the genus. However the generic name *Lissacineta* Jankowski, 1981 was synonymized with *Thecacineta* Collin, 1909 by Dovgal (2002).

**Subclass ENDOGENIA** Collin, 1912
**Order ACINETIDA** Raabe, 1964
**Family ACINETIDAE** Ehrenberg, 1838

* Trematosoma rotunda (Allgén, 1952) charact. emend. (Figs 4-8)

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**Fig. 3.** *Thecacineta cothurnioides* from nematode *Tricoma* sp. from India. Scale bar: 50 µm.

**Fig. 4.** *Trematosoma rotunda* at the nematode Desmodora sp. (after Allgén, 1955).

**Fig. 5.** The arrangement of *Trematosoma rotunda* at the body of *Pseudochromadora* sp. from India.

**Fig 6.** Frontal view of *Trematosoma rotunda* from Indian specimen. Scale bar: 20 µm.
*Acineta rotunda* Allgén, 1952  
*Nematacineta rotunda* (Allgén, 1952)  
*Conchacineta rotunda* (Allgén, 1952)  
*Acineta ovoidea* Allgén, 1952

**Diagnosis.** Marine loricate suctorian. Cell body short, rounded, laterally flattened, entirely fills up the lorica and clamped to their aperture border. Lorica delicate, gently striated. Tentacles clavate, short, arranged at the upper body surface as a row in two groups. Macronucleus spherical or oval, centrally located. Stalk short, thin, slightly ribbed. Reproduction by endogemmic budding.

**Body dimensions.** Measurements were made using materials from India, in parentheses measurements of individuals given by Allgén, 1955. Lorica length 7-14 µm (26.52–32.64 µm after Allgén, 1955), lorica width 6-14 µm (15.30–28.56 µm), body length 15-22 µm, body thickness 8 µm, stalk length 4-16 µm (7.14–16.32 µm), stalk thickness 1.51–2.04 µm (after Allgén, 1955), length of tentacles 3-9 µm (4.08–6.12 µm), macronucleus diameter 6-8 µm (5.1x4.8–6.12x4.08 µm).

Distribution and host prevalence. The species was described by Allgén (1952, 1955) from nematodes Desmodora tenuispiculum Allgén (type host, indicated here) and *D. stateni* Allgén from the Antarctic (Graham Land, type locality, indicated here) and Falkland Islands. We found *Tr. rotunda* on nematode *Pseudochromadora* sp. (Superfamily Desmodoroideidae Filipjev, Family Desmodoridae Filipjev, Subfamily Desmodorinae Filipjev, Genus *Pseudochromadora* Daday) from Ratnagiri, Maharashtra state, central west coast of India (Arabian Sea). Microphotograph of unidentified suctorian, Fig. 1 of Fisher, 2003, found at nematode *Pseudochromadora cazca* Gerlach, 1956 from intertidal zone of North-Eastern Queensland, Australia we identified it as (probably) *Tr. rotunda*.

**Remarks on the systematics and nomenclature.** *Acineta rotunda* was described by Allgén (1952) found attached to the nematodes from genus *Desmodora*. In the same paper another species (*A. ovoidea*) was described from the same host, however Curds (1985) synonymized *A. ovoidea* with *A. rotunda* showing that *A. ovoidea* is nothing but lateral view of *A. rotunda*. Jankowski (1978) proposed a new genus *Nematacineta* Jankowski, 1978 for *A. rotunda* with short diagnosis: “*Ac. rotunda* Allgén; with an arcu-
ate row of tentacles”. In turn Curds (1985) believed that this characteristic is obscured by diagnosis of already described genus Conchacineta Jankowski, 1978. Dovgal (2002) synonymized the generic name Conchacineta with Trematosoma Batisse, 1972 and all species assigned by Jankowski and Curds to the genus Conchacineta were transferred to Trematosoma including A. rotunda.

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