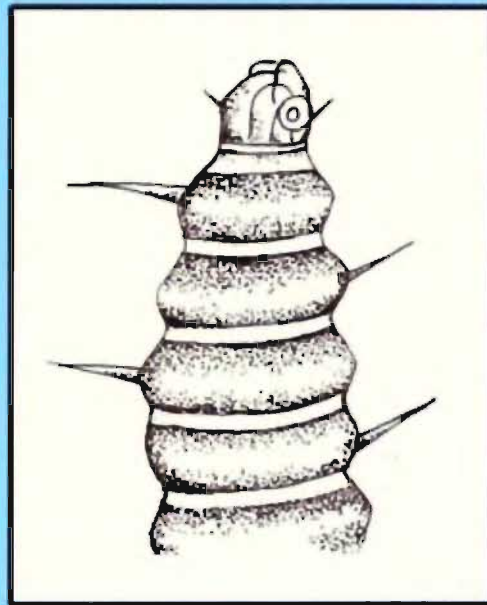


Records of the Zoological Survey of India

Free-living Marine Nematodes of Tamil Nadu Coast, India



G. SIVALEELA
K. VENKATARAMAN

Zoological Survey of India



OCCASIONAL PAPER No. 336

**RECORDS
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ZOOLOGICAL SURVEY OF INDIA**

**Free-living Marine Nematodes
of Tamil Nadu Coast, India**

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INTRODUCTION

Research on meiofauna has been carried out since the 1900's (Remane, 1933); the term "meiobenthos" (Meiofauna) was coined and defined by Mare (1942) to describe those benthic metazoans of intermediate size. It is derived from the Greek word 'meio' meaning 'smaller'. These animals are smaller than those traditionally called "macrobenthos" but larger than the "microbenthos" (i.e. algae, bacteria and protozoa). There is a wide diversity in the habitats of meiofauna. Some meiofauna are interstitial (moving between the sediment particles), others are burrowing (moving through or displacing sediment particles). While, still others have an epibenthic or phytal existence. Meiofauna is the preferred term to refer to the organisms that live interstitially. It includes all animals that pass through a 0.5-mm sieve but are retained on a 62 µm sieve. A synonym is meiobenthos.

The meiofauna may further be divided into two types:

1. **Temporary meiobenthos** are those, which spend only their larval stages as part of the meiobenthos (usually larvae of the macrofauna).
2. **Permanent meiobenthos** are those spending their complete life in this environment (Rotifera, Gastrotricha, Nematoda, Archiannelida, Tardigrada, Copepoda, Ostracoda, Mystacocarida, Turbellaria, Acarina, Gnathostomulida and some specialized members of the Hydrozoa, Nemertina, Bryozoa, Gastropoda, Aplacophora, Holothuroidea, Tunicata, Priapulida, Polychaeta, Oligochaeta and Sipunculida).

MARINE FREE-LIVING NEMATODES FROM INDIA AND TAMILNADU

In India considerable work has been done on the identification of free-living nematodes from soil and parasites of higher vertebrates while little is known about free-living nematodes found in marine brackish and fresh water etc. The identification work of marine & freshwater nematodes has almost been ignored as only about 300 species have been reported till date though they form the bulk of the total nematode fauna. It has been estimated that 20,000 nematodes species over the world approximately. Out of 20,000 hitherto known species 200 species of marine nematodes are known from India. Studies on the taxonomy of free-living nematodes (Krishnamurthy *et al.*, (1984) recorded 27 genera under 4 species from the same area. Sinha *et al.*, (1987) recorded a new species of nematode, *Anoplostoma macrospiculum* from the mangrove environment of Sundarbans, West Bengal, India. Studies on mangrove intertidal meiofauna from Pichavaram, Southeast Coast of India (Chinnadurai *et al.*, 2006) recorded 6 species as belonging to 2 orders and 7 families for the first time from Indian water. Studies on mangrove meiofauna of India are fewer (Ansari *et al.*, 1993; Sarma and Wilsonand, 1994; Goldin *et al.*, 1996; Chinnadurai

and Fernando, 2003). Rao and his co-workers (1968-1969) have reported a large number of species of nematodes from Indian Coasts, mostly new records. Rao (1986) had recorded 15 genera and 14 species from south Andaman Islands. Rao and Ganapati (1968) have reported 108 species from Indian Coasts, all as new records. Recently Prof. Mohammad Shamim Jairajpuri one of the foremost nematologists in the ZSI involved in the identification of the nematodes from Andaman and Nicobar Islands. Jairajpuri (1976) was the first in India to initiate work on nematode behaviour and biological control of nematodes.

DESCRIPTION OF THE STUDY AREA

The Tamil Nadu coast is located on the southern part of India. Tamilnadu has a coastline of about 910 kilometers (600 mi) which is the country's third longest coastline. Twelve stations (Chennai-1, Pondicherry-2, Cuddalore-3, Karaikal-4, Nagapattinam-5, Thondi-6, Thiruchendur-7, Tuticorin-8, Mandapam-8, Pamban-10, Rameswaram-11, and Kanyakumari-12.) were chosen for the study on meiofauna from the coast of Tamil Nadu. The selected sampling stations in Tamil Nadu are shown in Fig. 1.

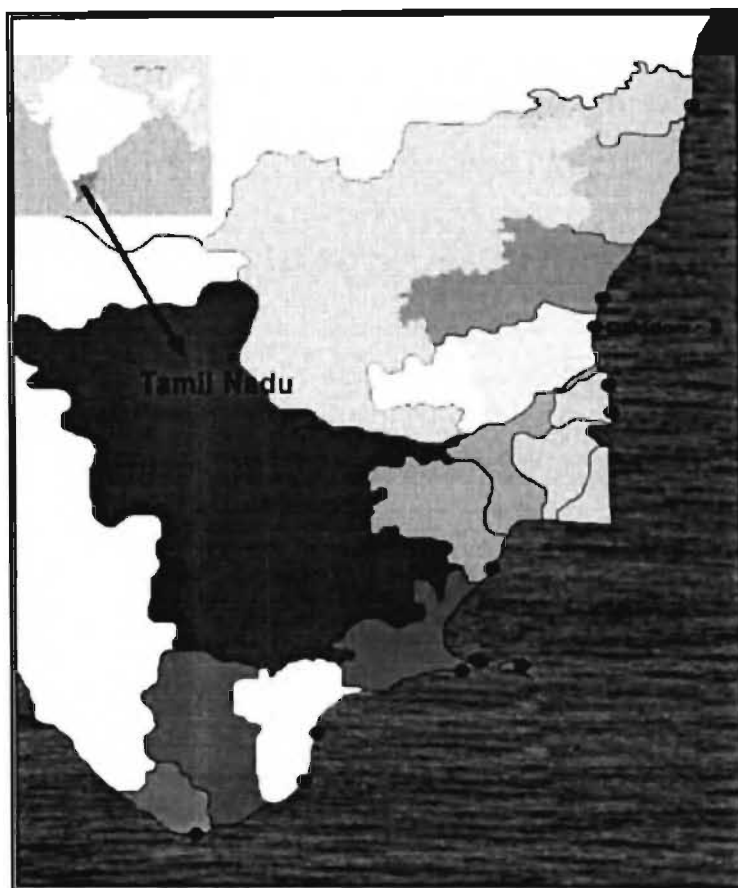


Fig. 1. Map showing the study area

The sediment samples were collected from intertidal areas of Tamil Nadu coast during April 2006 and April 2007. The stations chosen for the study had different substratum, at stations 1, 2, 3 and 9 had a sandy substratum, stations 4, 5, 8, 10 and 11 by muddy environment, stations 6 and 7 was muddy but with seagrass bed and station 12 by sandy with rocky environment.

MATERIALS AND METHOD

Sediment samples were taken with a plastic corer (3cm internal diameter) up to a depth of 15cm. Sampling was made during low tide, mostly near the mid tide level. At each station, five replicate samples were collected for meiofauna and an additional one for sediment analysis. The samples were vertically subdivided into slices of 0-2, 2-4, 4-6, 6-10 and 10-15 cm deep. Meiobenthos was extracted from sediments by decanting with tap water and washing through a 500 μ m sieve suspended above a 63 μ m sieve, were stored in 5% formaldehyde solution and coloured with Rose Bengal (0.1g in 100 ml distilled water).

The meiofauna were identified to group level and counted under a binocular microscope. The density of meiofauna is expressed as number of individuals per 10 cm². Identification of nematodes to species level was done under a high power microscope using the pictorial keys of Platt and Warwick (1983; 1988) and Warwick et al. (1998). Drawings were made using a Camera Lucida. The measurements of various organs, regions of various levels are noted down from the mount, using a calibrated ocular micrometer. The measurements of species presented in this study are based on De Man's formula, as adopted by Jensen (1978, 1979).

FREE-LIVING MARINE NEMATODES

The Phylum Nematoda consists of small multicellular vermiform organisms, which can be found in almost every conceivable environment. Apart from existence as free-living forms in soil, freshwater and marine benthic habitats, they also occur as parasites of plants and other animals including man. The whole phylum currently contains some 20,000 nominal species, of which about 4,000 species are free-living marine forms.

Free-living marine nematodes are usually the most abundant metazoans inhabiting marine benthic ecosystems, often representing more than 90% of the benthic meiofauna. Their significance in terms of habitat energy fluxes in the food chain and in the degradation and mineralization of organic matter are high. Nematodes have short life span, high fecundity (Vranken and Heip, 1983), represent several trophic levels (herbivores, bacterial feeders and carnivores) and at least some species can be easily cultured (Heip *et al.*, 1985). An important feature of nematode populations is the large number of species present in any one habitat, often an order of magnitude higher than for any other taxon (Platt and Warwick, 1980).

By virtue of their wide range of adaptations, marine nematodes have exploited all seashore and seabed habitats. They are the most abundant metazoans of particulate shores, reaching their highest numbers in muddy estuaries and salt marshes and lowest in very exposed sandy shore sediments (Platt and Warwick, 1983). Species richness and diversity varies among habitats, being greatest in sandy beaches with over 100 species being typical. In muddy sites, and in algal communities, the number of species is more typically in the range of 30-70. In general, although seaweeds and low saline sediment have relatively low number of species, they may be dominated by only one or a few species whereas sand and high saline sediment may have more species but none of which totally dominates the assemblages. This high species diversity can be explained by the extensive way in which nematodes are able to partition their environment, particularly as regards food. Although the nematodes comprise a large fraction of marine benthic communities, only little information is available on their assemblage. Studies on marine meiofaunal taxonomy and ecology have increased considerably in the last 20 years and progress has been made in facilitating meiofaunal work by non-specialists.

The taxonomy of nematodes involves certain inherent problems, since they are cryptic in nature because of their minute size and diverse morphology. Platt and Warwick (1983, 1988) and Warwick et al. (1998) described the techniques needed to process meiofauna samples and pictorial keys for the identification of meiofaunal species are also available. These keys have made it much easier to identify marine nematodes and have stimulated interest in studies on meiofauna.

Phylum Nematoda consists of two classes, the Secernentea and the Adenophorea (Platt and Warwick, 1983). Only a few species from Secernentea, members of the order Rhabditida, have been found as free-living organisms in the marine environment. The rest of the free-living marine nematodes are classified as Adenophoreans.

The recent classification of nematodes by Warwick et al. (1998) recognizes the following orders: (1) Enoplida, (2) Trefusiida, (3) Chromadorida and (4) Monhysterida.

The following classification of the Adenophorea follows that of Lorenzen (1981, 1994), with minor modifications, which excludes the order Dorylaimida (terrestrial and freshwater forms), except families Comesomatidae, Meyliidae and Desmoscolecidae which are included in the Chromadorida and not the Monhysterida.

The species in subclass Enoplia generally have smooth cuticle, but may be marked with fine irregular punctations, as in some species of Enoplus and in many genera fine transverse striations can be discerned, although the cuticle is never marked with large punctations or coarse annulations. Amphids are bucket-like but they may also have other manifestations including the secondary spiral form found in Bathylaimus and

Tripyloides. Rachor (1969) placed much importance on the specialized reproductive system of females called as "De Manian". The most important order of the Enoptia is the Enoptida, all species of which have specialized stretch receptors in the lateral fields called metanemes, which are not found in any other nematode groups. However, species in the less important order, Trefusiida, lack metanemes.

In the order Chromadorida, cuticle is annulated with punctations and various other forms of ornamentation; transverse striations present or absent. Amphids are variable in shape (spiral or circular), difficult to discern in some species. The shape of gubernaculum of male genital apparatus is considered to be one of the diagnostic features (Wieser, 1954).

The order Monhysterida is a heterogenous taxon without any single character or group characters, which can be used to define it uniquely. Although there are many exceptions, monhysterids typically have an annulated cuticle without dots or other marking, a simple buccal cavity without teeth or mandibles, circular or loop-shaped amphids (seldom spiral), outstretched ovaries, and in some families there is only a single anterior ovary. Males seldom have prominent precloacal supplements and when these are present they are never cuticularised, cup-shaped or tubular structured (Warwick *et al.*, 1998).

At the microscopic level, marine nematodes are quite varied morphologically and no one species can be considered representative. Most adult marine nematodes are elongated cylindrical worms around 1-2 mm long, although some of the larger forms such as those found in kelp holdfast may be several millimeters in length. The body is essentially a tube within a tube. The external tube is the body wall consisting externally of a cuticle layer and internally of a longitudinal muscle layer.

Nematodes do not possess circular muscle so are unable to elongate the body. Movement is brought about by alternate contractions of the dorsal and ventral muscle blocks working against the hydrostatic skeleton provided by having a high internal turgor pressure. The important taxonomic characters upon which the classification is based are as follows (Fig. 1).

1) THE CEPHALIC AND STOMA REGION WITH THEIR SENSE ORGANS

➤ CUTICLE

The cuticle is a very important character for the identification of nematodes.

- a. Cuticle smooth without dots.
- b. Cuticle coarsely striated, resembling annulations.

- c. Cuticle externally fairly smooth but striations appear to be the result of a deeper structure.
- d. Cuticle marked with transverse rows of dots (punctuation).
- e. Cuticle covered with fine dots, sometimes irregular laterally, although the surface appears smooth (punctuation).
- f. Cuticle marked with longitudinal rows of structure

These and various elaborations of the cuticle may be confined to the lateral parts of the cuticle only, when it is termed lateral differentiation.

➤ SENSE ORGANS

Sensilla

The cuticle bears a number of sensory structures collectively called sensilla, which although having an underlying basic structure, may take a variety of forms.

Setae

Long hair like sensilla are called setae, while if only nipple-like, are called papillae.

Somatic sensilla

Sensilla found on the general body surface may be arranged in definite longitudinal rows or apparently distributed at random.

Caudal setae

Sensilla on the tail may be longer or stouter than those on the rest of the body, especially in the male, when they may be differentiated as caudal setae.

Terminal setae

Specialised sensilla at tail tip are called terminal setae.

Cervical setae

The region between the head and the mid part of the oesophagus is often called the cervical (neck) region, so that setae here may be identified as cervical setae.

The arrangement of sensilla on the head is rather specialised and conforms to a characteristic basic pattern, which is generally considered to be the primitive arrangement. Six internal labial sensilla (two lateral, four submedian) surround the stoma (mouth opening) and are normally papilliform, or only setae, making them difficult to detect. Posterior to the labial sensilla, there is normally a circle of six external labial (two lateral, four submedian) and a circle of four (submedian) cephalic sensilla, usually setiform (anterior and posterior cephalic setae respectively). This basic arrangement can be denoted by the abbreviation 6+6+4. However, the external labial

sensilla may be papilliform, so that there appears to be only four setae or the second and posterior circles may be situated at the same level, the latter arrangement denoted by the formula 6+10. In several groups additional setae may be found associated with the basic ten cephalic setae. The length of these setae is often quoted in the literature as a proportion of the diameter of the body taken at level with the posterior cephalic setae, the head diameter.

Amphids

There are two other specialized sensilla situated laterally on the head called amphids. These bilaterally symmetrical structures are usually of major importance for identification. Basically there are two kinds, spiral or non-spiral:

i. Non-spiral amphid is a pocket like structure where the external opening (aperture) is in the form of a transverse slit leading to a cavity (fovea) filled with gelatinous substance (corpus gelatum).

ii. In spiral amphid the fovea is open and elongated, normally turning ventrally (from the nerve) although in few cases the amphid may be dorsally wound.

- Loop- shape amphids where fovea makes just one turn.
- Multispiralled amphids where several turns are made.
- Transverse amphid
- Circular amphid

In species descriptions, the amphid width is often quoted as proportion or percentage of the corresponding body diameter (c.d) and the distance from the anterior of the head given in terms of head diameters (h.d) to the anterior amphid margin.

➤ ALIMENTARY CANAL

Buccal cavity

Buccal cavity is one of the most important characters in species identification and exhibits a great variety of form, reflecting the great range in feeding methods among marine nematodes.

The various forms are as follows:

- Minute forms
- Unarmed forms
- Form with fixed teeth
- Form with moveable mandibles

The buccal cavity may be absent or minute to spacious but unarmed. Many species have buccal cavities armed with immovable projections of the wall, referred to as teeth or movable structures termed mandibles or jaws. In addition, rows of small denticles lining the buccal cavity or other projections may be present.

Oesophagus

The buccal cavity leads to the oesophagus, which is the muscular anterior part of the gut responsible for pumping food into the intestine. The lumen of the oesophagus is tri-radiate in cross section. The oesophagus may be cylindrical throughout or have a posterior bulb or complete with a valve structure. Several nematodes have paired pigments spots or true ocelli (i.e. having a lens-like structure) situated laterally dorso-laterally on, or partly inside, the anterior part of the oesophagus.

SYSTEMATICS AND SPECIES DESCRIPTION

Family ANOPLSTOMATIDAE

Genus *Anoplostoma* Butschli, 1874

Species *Anoplostoma* sp. Butschli, 1874

Material Examined : 36 exs, sta:Thondi and Thiruchendur Date, 8.7.2006 & 25.12.07.
Reg.No. N-52. Coll.Ms. G. Sivaleela

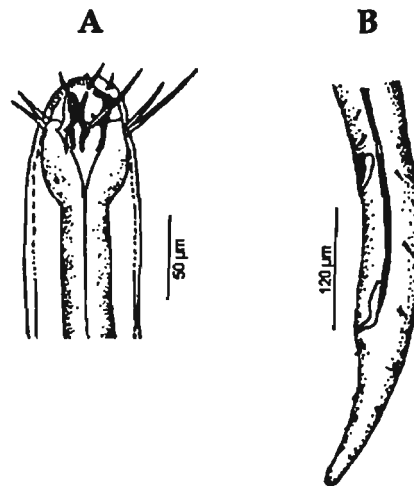


Fig.2. *Anoplostoma* sp. A. Anterior region (♀); B. Posterior region (♀)

Description : Body broadest in middle and attenuated at anterior and posterior ends, 1.5 mm in length. Cuticle smooth. Somatic setae absent; six labial papillae; six 5 µm cephalic setae situated just anterior to four 4 µm shorter setae. Amphids cup-shaped, 6 µm wide. Buccal cavity cylindrical; no teeth. Oesophageal tissue does not

surround the buccal cavity. Oesophagus increase in width posteriorly but no bulb. Nerve ring at 50-60% of oesophagus length. Tail 25 μ m long, and tapering, 8.7 a.b.d. Two opposed, reflexed ovaries.

Distribution : Falmouth, Blyth estuary, Essex coast, Exe estuary, West Scotland, Strangford Lough, Northern Ireland and Southampton Water (Platt and Warwick, 1983) and India (Chinnadurai and Fernando, 2006)

Remarks : Though specimens examined closely resemble *Anoplostoma viviparum* (Bastian, 1865), distinct variation in the tail region was observed. Therefore it was difficult to conform the specific identification of the present specimen.

Family IRONIDAE

Genus *Trissonchulus* Cobb, 1920

Species *Trissonchulus oceanus* Cobb, 1920

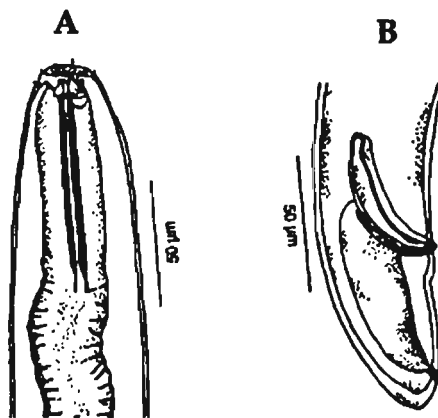


Fig.3. *Trissonchulus oceanus*. A. Anterior region (σ); B. Posterior region (σ)

Material Examined : 7 exs, sta:Chennai, Cuddalore, Nagapattinam and Thiruchendur. Date, 8.7.2006 25.12.07. Reg.No. N-52. Coll.Ms. G. Sivaleela

Description : Body cylindrical, 2.5 mm in length. Maximum diameter of body 52 μ m. Cuticle smooth. Cervical and somatic setae absent. Head dome-shaped, set off by a deep constriction. Amphids cup-shaped, 6 μ m wide. Buccal cavity typically cylindrical, with thick-walled and heavily cuticularized, 65 μ m length, about one-sixth of total length of oesophagus; anterior extremity armed with three strong teeth. Tail 50 μ m and cylindrical, 2.2 a.b.d., ending bluntly, caudal glands present, opening ventrally and not at tip of tail. Spicules.55 μ m long. Gubernaculum 25 μ m. A swelling pierced by a pore on the anterior lip of the cloaca, and a similar swelling on the tail behind the exit of the caudal glands. 9 precloacal pore-like supplements.

Distribution : Florida, Brazil, North Sea, Mediterranean Sea, Red Sea, Madagascar, Australia, British Isles, North East England (Platt and Warwick, 1983) and India.

Remarks : The specimens agree well with the earlier description of the species except for the smaller size of body. The total body length varied between 3.2 and 5.6 mm and tail 1.5 a.b.d. The body length of the present study specimen is lesser being 2.5 mm and tail is more being 2.2 a.b.d. This species has been recorded earlier from India (Sultan Ali, 1983; Chinnadurai and Fernando, 2006).

Family OXYSTOMINIDAE

Genus *Halalaimus* De Man, 1888

Species *Halalaimus filum* (Gerlach, 1962)

Material Examined : 56 exs, sta: Chennai, Karaikal and Thiruchendur. Date, 8.7.2006 & 25.12.07. Reg.No. N-52. Coll.Ms. G. Sivaleela

Description : Body slender, filiform. Cuticle thin, not striated or punctuated. Body lacking somatic caudal and terminal setae. Maximum diameter of body 15 μ m. Head with two crowns of cephalic sense organ; first crown having six cephalic setae, 6 μ m in length, located on margin of head, about 1.5 μ m head diameter; second crown (subcephalic setae) situated at 4 μ m from anterior end, about 5 μ m in length. Amphids long and slender, 35 μ m in length. Buccal cavity absent. Oesophagus cylindrical and elongated, length about 0.3 time of body length with small posterior dilation. Tail 25 μ m long and tapering to a fine tip, 19.8 a.b.d., caudal setae and spinneret absent. Caudal glands present. Testis diorchic and outstretched. Spicules sickle-shaped, 20 μ m in length. Gubernaculum very much reduced. Spicules 1.4 a.b.d.; preanal supplements absent.

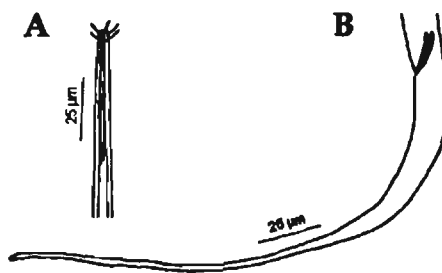


Fig. 4. *Halalaimus filum*. A. Anterior region (♂); B. Posterior region (♂)

Distribution : North Carolina, Long Island, Brazil, North Sea, Maldives and Bay of Bengal.

Remarks : The specimens agree well with the earlier description of the species except for the larger size of body. The total body length reported was 2.5 mm and tail 19 a.b.d. The body length of the present specimen is more being 2.7 mm and tail being 19.8 a.b.d. This species has been recorded earlier from Pichavaram mangrove, India (Chinnadurai and Fernando, 2006).

Family OXYSTOMINIDAE
 Genus *Halalaimus* De Man, 1888
 Species *Halalaimus gracilis* De Man 1888.

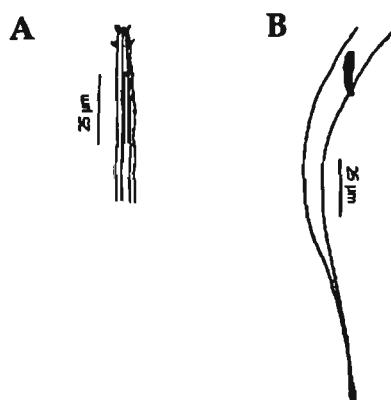


Fig. 5. *Halalaimus gracilis*. A. Anterior region (♂); B. Posterior region (♂)

Material Examined: 114 exs, sta: Chennai, Karaikal Thondi and Rameswaram. Date, 9.7.2006 & 25.12.07. Reg.No. N-52. Coll.Ms. G. Sivaleela

Description : Body length 1.2 mm. Maximum diameter of body 24 μ m. Cuticle smooth, body setae absent. Cervical region long and attenuated. Six anterior cephalic setae 0.9 h.d. long; four posterior cephalic setae slightly longer and situated about 2 h.d. from the anterior. Buccal cavity absent. Amphids long and narrow; length about equal to distance from anterior end of the body. Oesophagus length about 0.3 times body length with small posterior dilation. Tail 25 μ m long and slender, about 14 a.b.d. long, with slightly swollen tip. Spicules 20 μ m long, with faint ventral ala. Gubernaculum surrounds tip of spicules. Minute ventral spine anterior to cloca. Two opposed testes.

Distribution : Plymouth; Exe estuary; Blyth estuary. A common European Species (Platt and Warwick, 1983) and India.

Remarks : The specimens agree well with the earlier description of the species. except the variation in body measurements.

Family ONCHOLAIMIDAE
 Genus *Viscosia* De Man, 1890
 Species *Viscosia viscosa* (Bastian, 1865)

Material Examined : 424 exs, sta : Chennai to Kanyakumari . Date, 8.7.2006 & 25.12.07. Reg.No. N-52. Coll.Ms.G.Sivaleela

Description : Body length 1.6 mm. Maximum diameter of body 50 μ m. Cuticle smooth. Cephalic setae reduced to papillae one sixth of head diameter in length, labial papillae indistinct. Buccal cavity with large right subventral tooth, left subventral tooth double tipped, dorsal tooth small, single tipped. Amphids pocket-like, 10 μ m wide. Oesophagus cylindrical, 0.15 times of body length. Tail 25 μ m long and 3.5 a.b.d., proximal two-thirds conical, distal third cylindrical; no caudal setae. Ovaries paired, equal, opposed and reflexed.

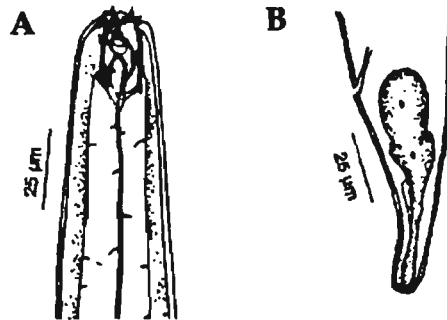


Fig.6. *Viscosia viscosa* A. Anterior region (♀); B. Posterior region (♀)

Distribution : British coast, Falkland Islands, Norway, North Sea, Oresund, Kiel Bay, English Channel, Isles of Scilly (Platt and Warwick, 1983) and India.

Remarks : The specimen examined conforms well to the earlier description except for the smaller body size. The total body length varied between 1.7 and 2.0 mm and tail 6 a.b.d. The body length of the present specimen is lesser being 1.6 mm and tail is being 3.5 a.b.d. This species has been previously recorded from Pichavaram and Cochin mangrove mangrove region (Sultan Ali, 1983; Chinnadurai and Fernando, 2006, 2007).

Family ONCHOLAIMIDAE

Genus *Adoncholaimus* Filipjev, 1918

Species *Adoncholaimus fusus* (Bastian, 1865) Filipjev, 1918

Material Examined: 96 exs, sta.:Chennai, Pondicherry, Cuddalore, Thondi, Thiruchendur, Mandapam, Pamban and Kanyakumari Date, 9.7.2006 & 25.12.07. Reg.No.N-52. Coll.Ms. G. Sivaleela

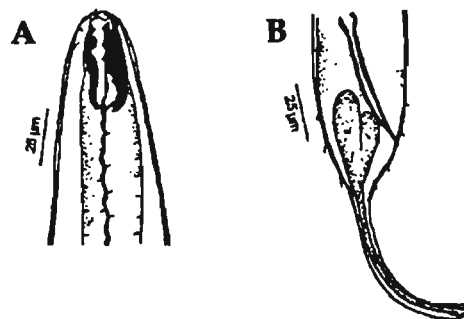


Fig. 7. *Adoncholaimus fusus*; A. Anterior region (♂); B. Posterior region (♂)

Description : Body stout, 1.5 mm in length, cylindrical and highly muscularized. Cuticle smooth. Maximum width of the body 72 μm . Head gradually tapering at anterior extremity and its width 32 μm . Six low rounded lips with small rounded labial papillae; ten small rounded cephalic papillae. Buccal cavity divided by a deep groove at the level of the tips of the smaller buccal teeth, subventral tooth largest, other two teeth smaller. Amphids pocket-like, 6 μm wide. Oesophagus cylindrical in outline with posterior side enlarged. Tail 25 μm long and cylindrical, 6.5 a.b.d., caudal setae absent. Spicules elongated, 64 μm in length, 1.8 a.b.d., proximally cephalated; gubernaculum absent; about 3-5 pairs of minute preanal and 3-6 pairs of postanal setae present besides presence of scattered caudal setae.

Distribution : England, Scotland, Nova Scotia, Massachusetts, Scandinavia, India and English Channel (Platt and Warwick, 1983) and India.

Remarks : The material examined conforms well to the earlier description of the species, except for the smaller body size. The total body length reported was 2.2 mm and tail 3.1 a.b.d. The body length of the present specimen is lesser being 1.5 mm, but tail is more being 6.5 a.b.d. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Sultan Ali, 1983; Chinnadurai and Fernando, 2007). In addition two species of the genus *Adoncholaimus* sp 1 and *Adoncholaimus* sp 2 have been recorded from the same environment (Krishnamurthy et al., 1984). However as no detail description was given it could not be compared with the specimen described.

Family ONCHOLAIMIDAE
 Genus *Oncholaimus* Dujardin, 1845
 Species *Oncholaimus* sp. Dujardin, 1845

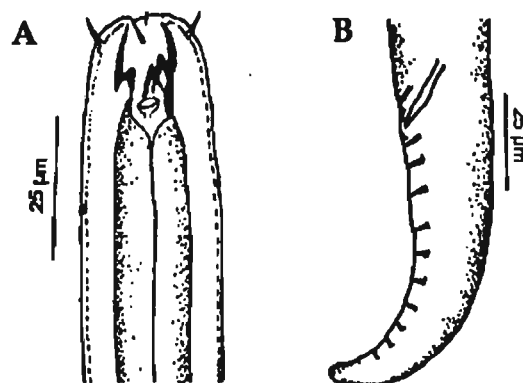


Fig. 8. *Oncholaimus* sp.; A. Anterior region (♂); B. Posterior region (♂)

Material Examined : 152 exs, sta: Chennai, Pondicherry, Cuddalore, Nagapattinam Mandapam, Pamban, Rameswaram and Kanyakumari. Date, 8.7.2006 & 25.12.07. Reg.No. N-52. Coll.Ms. G. Sivaleela

Description : Body length 1.8 mm. Maximum diameter of body 50 μm . Six cephalic papillae small and rounded. Six longer cephalic setae 5 μm , remaining four only slightly shorter. Left subventral tooth in buccal cavity slightly longer than the other other two. Amphids pocket-like, 7 μm wide. Oesophagus cylindrical, 0.12 times body length. Excretory pore 1.9 buccal cavity lengths from anterior. Nerve ring 0.5 times oesophagus length from anterior. Short setae scattered over general body surface, most numerous in anterior region and on tail. Tail 25 μm long , 1.2 a.b.d., anterior two thirds conical, posterior third cylindrical, always ventrally curved. Spicules 26 μm , fairly straight, distal half dilated. No gubernaculum. Eight pairs of long stout circumcloacal setae. Two small ventral pumps near the tail tip, each with a pair of short setae.

Distribution : Recorded from several localities around the British Isles. Usually from intertidal sand, but also among hydroids and seaweeds (Platt and Warwick, 1983) and India.

Remarks : The material examined conforms well with the earlier description of the species, except for the smaller body size. The total body length reported was 3.0-4.3 mm and tail 1.2-1.9 a.b.d. The body length of the present specimen is lesser being 1.8mm.

Family ENCHELIDIIDAE

Genus *Polygastrophora* De Man, 1922

Species *Polygastrophora septembulba* Gerlach, 1954

Material Examined : 24 exs, sta: Nagapattinam, Thondi and Thiruchendur. Date, 9.7.2006 & 25.12.07. Reg.No. N-52. Coll.Ms. G. Sivaleela

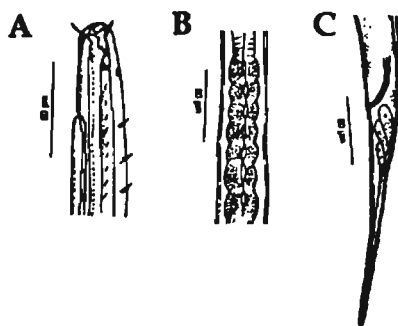


Fig. 9. *Polygastrophora septembulba*; A. Anterior region (σ);
B. Oesophageal bulb Posterior region (σ).

Description : Body very slender, attenuating at both extremities of body; maximum width at oesophageal end (40 μm); smooth without striations or punctations; six rows of cervical and somatic setae present; head without any lips or labial papillae; cephalic setae six in number, 4-6 μm in length; sub median cephalic setae sub equal in length (3-5 μm); ocelli present just behind buccal cavity. Buccal cavity narrow, weakly cuticularized and its transverse rings clear; amphids oval in shape, 4 μm in width;

oesophagus conical contour, gradually enlarging from proximal to distal end; distal end possessing seven oesophageal or pharyngeal bulbs and their cavities lenticular and heavily cuticularized; bulbous portion constituting about 40% of total oesophageal length; excretory pore located at 37 μm from anterior extremity; nerve ring situated at 60% of total oesophageal length. Tail 50 μm long and tapering gradually, ending with a small spinneret, 5.9 a.b.d.; caudal glands present and caudal setae absent. Spicules 56 μm in length, 2.1 a.b.d; distal portion with acute tip; gubernaculum present but inconspicuously joined with spicules; preanal supplements absent.

Distribution : California, Atlantic coast, Brazil, Central Africa and India (Sultan Ali, 1983)

Remarks : The material examined conforms well to the earlier description of the species. This genus has also been previously recorded from Hugli estuary (Sinha and Choudhury, 1987) and Pichavaram mangrove (Sultan Ali, 1983).

Family TRIPYLOIDIDAE

Genus *Tripyloides* De Man, 1886

Species *Tripyloides gracilis* (Ditlevsen, 1918) Filipjev, 1927.

Material Examined : 58 exs, sta: Pondicherry, Cuddalore, Karaikal, Thondi and Thiruchendur. Date, 9.7.2006 & 25.12.07. Reg.No. N-52. Coll.Ms. G. Sivaleela

Description : Body length 2.3 mm. Maximum diameter of body 60 μm . Cuticle smooth. Head rounded anteriorly, 25 μm wide; three low rounded lips, not deeply incised; labial setae small, conical; six long cephalic setae 6 μm in length. Buccal cavity in two sections; anterior section conical, heavily cuticularized, divided in middle by fine cuticular ridge; posterior section small with two teeth. Amphids circular, notched at base, 6 μm in diameter, situated 27 μm from anterior end. Oesophagus cylindrical in outline, without any prominent bulb. Tail 25 μm long, with distal third to a quarter cylindrical, 6.6 a.b.d. Spicules 30 μm . Gubernaculum 28 μm . in length.

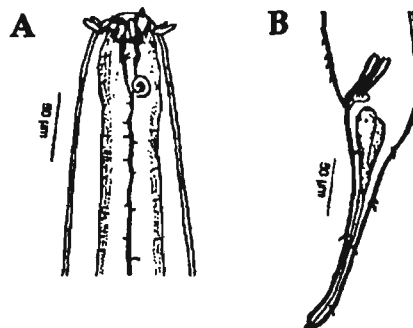


Fig. 10. *Tripyloides gracilis*; A. Anterior region (♂); B. Posterior region (♂).

Distribution : Skippers Island, Essex, Exe estuary, Georgia, Long Island Sound, Florida, Maryland, Massachusetts, New England, U.K., North Sea, Oresund, Baltic Sea, Kiel Bay and India (Platt and Warwick, 1983).

Remarks : The material examined conforms well with the earlier description of the species except for minor variation in the relative measurements of the body. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Sultan Ali, 1983; Chinnadurai and Fernando, 2007).

Family CHROMADORIDAE
 Genus *Ptycholaimellus* Cobb, 1920
 Species *Ptycholaimellus ponticus* (Filipjev, 1922)

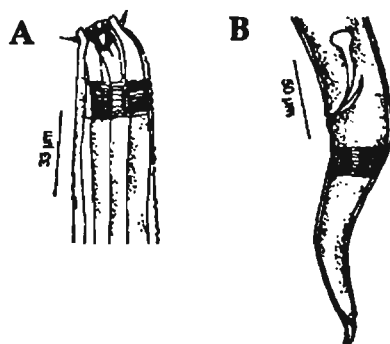


Fig. 11. *Ptycholaimellus ponticus*; A. Anterior region (♂); B. Posterior region (♂).

Material Examined : 26 exs, sta : Cuddalore, Nagapattinam, Karaikal, Thondi and Thiruchendur . Date, 10.7.2006 & 25.12.07. Reg.No. N-52. Coll.Ms. G. Sivaleela.

Description : Body slender and attenuating towards ends, 1.0 mm in length. Maximum diameter of body 32 µm. Cuticle annulated; lateral files raised with longitudinal rows of coarse dots; four longer cephalic setae 10 µm in length; four files of short setae down body length, each situated slightly median to the longitudinal files of cuticle dots. Amphids transverse slits immediately posterior to cephalic setae. Buccal cavity with large strongly cuticularised S-shaped dorsal tooth and a dorsal apophysis. Oesophagus swollen dorsally at anterior end around dorsal tooth with an elongate double posterior bulb. Tail 50 µm and tapering, 3.8 a.b.d., with distinct spinneret.

Spicules 40 µm in length; measured as a curve, arcuate, cephalate proximally. Gubernaculum 25 µm.; precloacal supplements absent.

Distribution : Blyth estuary, North East England; Exe estuary, South West England; Tamar estuary, South West England; Skippers Island, Essex; North East coast of England; British Isles and North Wales (Platt and Warwick, 1988).

Remarks : The specimens agree well with the earlier description, except for minor variation in the relative measurements of the body. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Sultan Ali, 1983; Chinnadurai and Fernando, 2007).

Family COMESOMATIDAE
 Genus *Hopperia* Vitiello, 1969
 Species *Hopperia* sp. Vitiello, 1969

Material Examined : 104 exs, sta: Karaikal, Thondi and Thiruchendur. Date, 10.7.2006 & 25.12.07. Reg.No. N-52. Coll.Ms. G. Sivaleela.

Description : Body length 0.9 mm. Maximum width of body 24 μ m. Cuticle punctated with lateral differentiation of irregular dots, but no longitudinal rows. Six short and four long cephalic setae. Amphids spiral, of 3 turns, 6 μ m wide. Buccal cavity cylindrical with three teeth at the anterior end. Oesophagus without bulb. Tail 25 μ m long and conico-cylindrical, 6.6 a.b.d. Spicules short, 25 μ m in length.

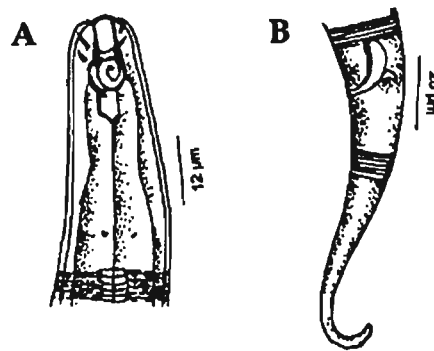


Fig. 12. *Hopperia* sp.; A. Anterior region (♂); B. Posterior region (♂).

Distribution : British Isles and India

Remarks : The specimens examined agree well with the earlier description of the genera, except for the smaller size of body. The total body length was 2.25 mm. The body length of the present specimen is lesser being 0.9 mm. This genus has been previously recorded from Hugli estuary (Sinha and Choudhury, 1987) and Pichavaram mangrove from India (Chinnadurai and Fernando, 2007).

Family COMESOMATIDAE
 Genus *Dorylaimopsis* Ditlevsen, 1918
 Species *Dorylaimopsis timmi* (Timm, 1961) Jensen, 1979

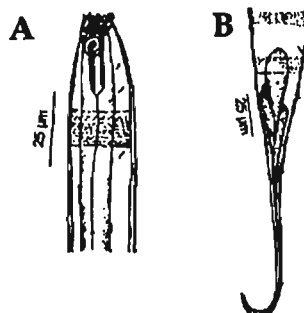


Fig. 13. *Dorylaimopsis timmi*; A. Anterior region (♀); B. Posterior region (♀).

Material Examined : 196 exs, sta: Karaikal, Thondi and Thiruchendur. Date, 10.7.2006 & 25.12.07. Reg.No.N-52. Coll.Ms.G.sivaleela

Description : Body slender, gradually tapering at both extremities, 0.92 mm in length. Maximum width of body 27 μm . Cuticle with transverse rows of punctations; punctations laterally differentiated into two longitudinal rows; however lateral arrangement of dots irregular in caudal region. Cephalic sense organs arranged in three rows; six labial papillae, six external labial setae, four cephalic setae. Amphids spiral, of 3 turns. Buccal cavity with anterior vestibulum and a posterior cylindrical portion, anterior part of cylindrical portion with three projecting teeth. Oesophagus cylindrical with a posterior bulb. Tail 25 μm long and conico-cylindrical, 5.8 a.b.d., tip ending with spinneret. Copulatory apparatus with paired equal spicules, bending ventrally, 1.3 a.b.d.; proximally cephalated and distally with subterminal hook; gubernaculum surrounding spicules with triangular plate, a pair of lateral guiding piece and dorso-caudally directed apophysis; preanal supplements absent. Reproductive systems didelphic-amphidelphic with outstretched ovaries.

Distribution : India (Bay of Bengal)

Remarks : The material examined conforms well to the earlier description of the species except for the smaller body size. The total body length was 2.0 mm and 5.3 a.b.d. The body length of the present specimen is lesser being 0.92 mm, but tail was more being 5.8. a.b.d. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Sultan Ali, 1983; Chinnadurai and Fernando, 2007).

Family COMESOMATIDAE

Genus *Paracomesoma* Hope and Murphy, 1972

Species *Paracomesoma dubium* (Filipjev, 1918)

Material Examined : 28 exs, sta: Chennai, Pondicherry, Cuddalore, Thondi, Thiruchendur, Mandapam, Pamban and Kanyakumari. Date, 8.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

Description : Body length 1.6 mm. Maximum diameter of body 42 μm . Cuticle smooth, without punctation. Six small labial papillae. Six anterior cephalic setae; four 6 ?m posterior cephalic setae; four files of setae upto 4 μm long in oesophageal region and numerous short setae on tail but setae sparse in mid-body region. Amphids spiral, of 3 turns, 7 μm wide. Buccal cavity conical with three small pointed triangular teeth. Tail 45 μm long and cylindrical, 2.8 a.b.d. Spicules long, 210 μm in length (2.4 a.b.d.), slender, curved with delicate ventral ala. Gubernaculum small, in three pieces and without apophysis.

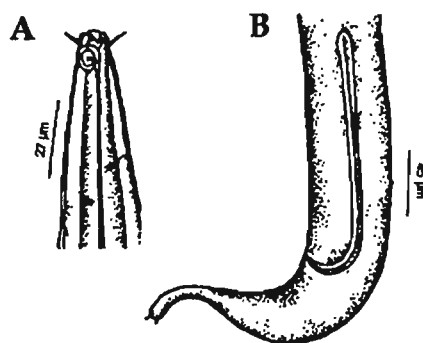


Fig. 14. *Paracomesoma dubium*; A. Anterior region (♂); B. Posterior region (♂).

Distribution : Tamar estuary, South West England; Island of Scilly and British Isles (Platt and Warwick, 1988).

Remarks : The material examined conforms well to the earlier description, except for the smaller body size. The total body length was 2.8 mm and tail length varied between 4.8-5.0 a.b.d. The body length of the present specimen is lesser being 1.6 mm and tail is being 2.8 a.b.d. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Chinnadurai and Fernando, 2007).

Family COMESOMATIDAE

Genus *Sabatieria* Rouville, 1903

Species *Sabatieria falcifera* Wieser, 1954

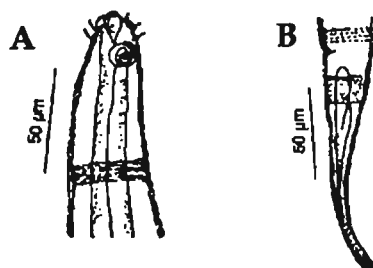


Fig. 15. *Sabatieria falcifera*; A. Anterior region (♀); B. Posterior region (♀).

Material Examined : 68 exs, sta: Chennai, Cuddalore, Karaikal, Nagapattinam, Thondi and Thiruchendur. Date, 9.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

Description : Body cylindrical, 1.6 mm in length. Maximum diameter of body 30 µm. Cuticle ornamented with transverse rows of small dots throughout body length. Lateral differentiation as prominent dots arranged in longitudinal rows; dots conspicuous but irregular in lateral field of caudal region and also widely spaced. Body setae short and sparse. Cephalic sense organs in three separate rows; six external labial papillae as first crown, second crown consisting of six acute labial setae, third crown consisting of four cephalic setae. Amphids spiral, of 2.5 turns. Buccal cavity weakly developed and inconspicuously sclerotized; anterior portion cup-shaped and posterior portion very

narrow. Tail 50 μm long and cylindro-conical, for most of its length with rounded swollen tip, 3.7 a.b.d. Ovaries didelphic-amphidelphic opposite and outstretched; anterior ovary larger than posterior ovary.

Distribution : Chile, New England and India (Sultan Ali, 1983)

Remarks : The specimens agree well with the earlier description of the species, except for minor variation in the relative measurements of body. The total body length was 1.6 mm and 3.5 a.b.d. The body length of the present specimen is lesser being 1.6 mm, but tail has more being 3.7 a.b.d. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Chinnadurai and Fernando, 2007).

Family CYATHOTHOLAIMIDAE

Genus *Paracanthonchus* Micoletzky, 1924

Species *Paracanthonchus elongatus* (De Man, 1907)
Micoletzky, 1934

Material Examined : 52 exs, sta : Chennai, Karaikal, Thondi, Thiruchendur and Tuticorin Date, 8.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

Description : Body length 1.0 mm. Maximum diameter of body 50 μm . Cuticles marked by transverse rows of punctuations with slight lateral differentiation without forming longitudinal rows; punctuations larger and more widely spaced at both extremities, especially at caudal region; lateral field of body bearing four rows of hypodermal pores; similarly dorsal and ventral sectors of body bearing two rows of such pores (each bearing one row); short somatic setae upto 9 μm long, sub-laterally distributed. Head 20 μm in diameter, equipped with six labial setae, 4 μm long and ten stout cephalic setae; six cephalic setae longer and four cephalic setae more stouter and shorter; longer setae 8-11 μm long and shorter setae 5-7 μm long. Amphids spiral, about 3.5 turns, situated just posterior to stoma. Oral opening triangular, surrounded by six lips; buccal cavity with a long slender dorsal tooth, opposed by small subventral cups; additional teeth absent. Tail 25 μm long, conical, distal portion abruptly narrowing and tip enlarged; spinneret tube 7 μm in length; tail 25 μm 3.3.a.b.d. caudal setae 5 μm in length, arranged in four longitudinal rows. Spicules 40 μm in length, slender and arcuate, posterior end narrowing rapidly to a sharp tip, proximal part with open tip. Gubernaculum 28 μm in length with massive distal portion heavily cuticularized narrow duct.

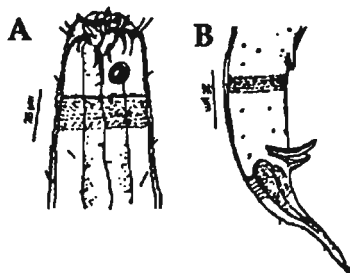


Fig. 16. *Paracanthonchus elongatus*; A. Anterior region (σ); B. Posterior region (σ).

Distribution : Fuegian Archipelago, Norway, North Sea, Oresund, Kiel Bay, Mediterranean Sea and India (Sultan Ali, 1983)

Remarks : The specimens agree well with the earlier description of the species, except for minor variation in the relative measurements of body. This species has been previously recorded from Pichavaram mangroves, southeast coast of India (Sultan Ali, 1983).

Family SELACHNEMATIDAE
 Genus *Halichoanolaimus* De Man, 1886
 Species *Halichoanolaimus dolichurus* Ssaweljev, 1912

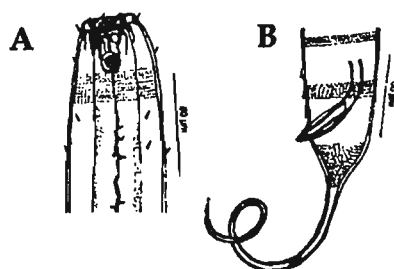


Fig. 17. *Halichoanolaimus dolichurus*; A. Anterior region (♂); B. Posterior region (♂).

Material Examined : 96 exs, sta: Chennai, Pondicherry, Cuddalore, Thondi, Thiruchendur, Mandapam, Pamban, and Kanyakumari. Date, 8.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela.

Description : Body long, stout, cylindrical, 1.6 mm in length. Maximum diameter of body 52 μm . Ten cephalic sensilla papilliform, conical, small. Cuticle punctated; punctations more widely separated laterally and irregularly arranged at conical portion of tail. Ten cephalic sensilla papilliform; six lips, thick-walled. Buccal cavity with complicated armature, having two parts; larger anterior part of buccal cavity separated by two groups of comb-like denticles from narrow posterior part; anterior larger part with wide triangular lumen, and walls of which highly muscular. Amphids spiral, of 3.5 turns, 10 μm wide. Oesophagus cylindrical with posterior enlargement but not having a true bulb; cardia small. Tail 50 μm long, 4.4 a.b.d. with a long filiform portion which is finely striated, not punctuated. Cuticular dots particularly coarse and widely spaced at junction of conical and cylindrical sections of tail. Spicules 52 μm in length (1.5 a.b.d.), proximal tip enlarged but open. Gubernaculum with a pair of accessory piece running parallel upto half length of spicules; seven conical mid-ventral precloacal papillae.

Distribution : Georgia, Massachusetts, Norway, North Sea, Oresund, Celtic Sea, Kiel Bay, U.K., Mediterranean Sea, Maldives, North east coast of England; West Scotland (Platt and Warwick, 1988) and India (Bay of Bengal)

Remarks : The specimen conforms well to the earlier description of the species, except for the smaller body size. The total body length varied between 3.2-3.5 mm and 5.4

and 7 a.b.d. The body length of the present specimen is lesser being 1.6 mm and 4.4 a.b.d. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Chinnadurai and Fernando, 2007).

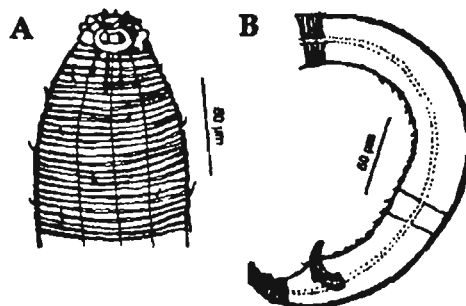


Fig. 18. *Metachromadora (M) remanei*; A. Anterior region (♂); B. Posterior region (♂).

Family DESMODORIDAE

Genus *Metachromadora* Filipjev, 1918

Subgenus *Metachromadoroides* Timm, 1961

Species : *Metachromadora (M) remanei* (Gerlach, 1951); Timm, 1961.

Material Examined: 260 exs, sta: Chennai to Kanyakumari. Date, 10.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

Description : Body short, stubby, 1.0 mm in length. Maximum diameter of body 82 μ m. Cuticle with coarse transverse striation with lateral differentiation in the form of a narrow unstriated zone extending from about the middle of the oesophageal bulb to a short distance behind the anus. Lips cushion-like, demarcated from head by distinct groove. Head with six short, conical labial papillae; six cephalic setae modified into prominent fleshy ear-like appendages; cervical and somatic setae short, stout, arranged in eight longitudinal rows. Amphids transversely oval, 8 μ m wide. Buccal cavity with large solid heavily cuticularised dorsal tooth and a pair of much smaller subventral projections. Oesophagus bulb elongated 0.13 mm long and 42 μ m wide, with thick cuticular lining divided into three sections. Tail 50 μ m long, conical with a short unstriated tip, 2.2 a.b.d. Spicules

32 μ m in length, cephalated proximally; gubernaculum with 20 μ m lateral pieces; about 15-22 preanal, pore-like indistinct postanal setae present at distance of 40 μ m from anogenital aperture.

Distribution : Skippers Island, Essex; Exe estuary, South West England (Platt and Warwick, 1988) and Bay of Bengal, India.

Remarks : The material examined conforms well to the earlier description of the species, except for the smaller body size. The total body length varied between 1.1 and 1.3 mm and 1.9-2.2 a.b.d. The body length of the present specimen is lesser being 1.0 mm, but

tail has more being 2.2 a.b.d. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Chinnadurai and Fernando, 2006).

Family DESMODORIDAE
 Genus *Desmodora* Filipjev, 1922
 Subgenus *Desmodora* De Man, 1889
 Species *Desmodora (D.) sanguinea* Southern, 1914

Material Examined : 44 exs, sta: Chennai, Cuddalore, Karaikal and Date, 9.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

Description : Body length 0.7 mm, narrow behind head, but posterior third broader, containing gonads. Maximum diameter of body 35 μ m. Cuticle thick with coarse striation and files of short fine setae down the length of the body, raised on rounded papillae from a short distance after the base of the oesophagus. Cephalic capsule rounded and set-off. Six 2 μ m labial setae on rounded lips; anterior circle of six 3 μ m and four 6 μ m cephalic setae level with anterior of amphid and a dorso-sublateral subcephalic setae beside each amphid, other setae on cephalic capsule scattered. Amphids a rounded loop, 8 μ m wide. Buccal cavity with hollow anteriorly directed dorsal tooth, arrangement of subventral teeth unclear due to thickness of cuticle of cephalic capsule. Oesophagus expands markedly towards posterior end but without a distinct bulb. Tail 33 μ m and conical, 3.4 a.b.d. and tip untreated.

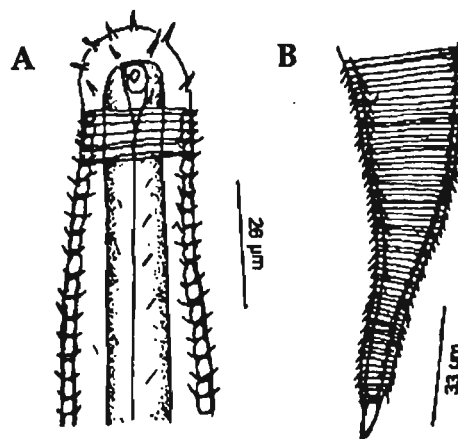


Fig. 19. *Desmodora (D.) sanguinea*; A. Anterior region (♀); B. Posterior region (♀).

Distribution : Clew Bay, West Ireland; Isles of scilly and British Isles (Platt and Warwick, 1988)

Remarks : The material examined conforms well to the earlier description of the species, except for the smaller body size. The total body length varied between 1.7 and 2.0 mm and tail 2.2-2.6 a.b.d. The body length of the present specimen is lesser being 0.7 mm, but tail has more being 3.4 a.b.d.

Family DESMODORIDAE
 Genus *Desmodora* Filipjev, 1922
 Subgenus *Desmodorella* Cobb, 1933
 Species *Desmodora (D.) tenuispiculum* Allgen, 1928

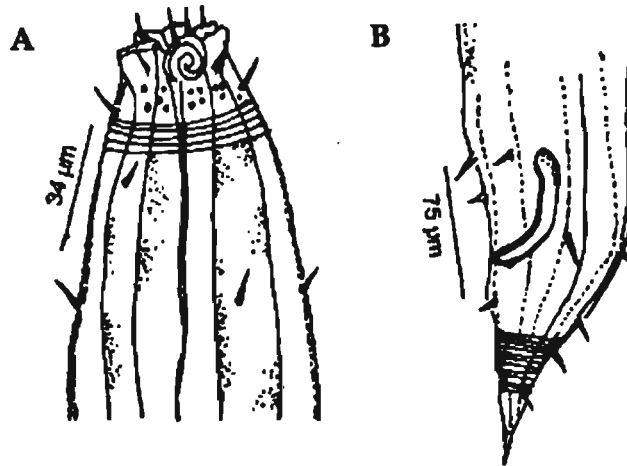


Fig. 20. *Desmodora (D.) tenuispiculum*; A. Anterior region (♂); B. Posterior region (♂).

Material Examined : 112 exs, sta: Krusadai island. Date, 8.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

Description : Body length 1.1 mm. Maximum diameter of body 80 µm. Cuticle with coarse transverse striation and longitudinal files of ridges. Posterior part of cephalic capsule with rounded punctations. Six slender about 1 µm labial setae; six slender 4 µm and four stouter 6 µm cephalic setae, the lateral level with the anterior of the amphids; four stout subcephalic setae on cephalic capsule posterior to amphids. Amphids spiral, of 2.5 turns, 14 µm wide. Buccal cavity with weakly cuticularised dorsal tooth. Oesophagus with distinct posterior bulb. Tail 75 µm, conical with unstriated tip, 2.0 a.b.d. Spicules 72 µm in length, slender, indistinct and precloacal supplements absent.

Distribution : Northumberland coast, North East England and British Isles (Platt and Warwick, 1988)

Remarks : The material examined conforms well to the earlier description of the species, except for the larger body size. The total body length varied between 0.7 and 0.8mm and tail 2.4 and 2.5 a.b.d. The body length of the present specimen is more being 1.1 mm, but tail has lesser being 2.0 a.b.d. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Sultan Ali, 1983; Chinnadurai Fernando, 2006).

Family DESMODORIDAE
 Genus *Spirinia* Gerlach, 1963
 Subgenus *Spirinia* Gerlach, 1963
 Species *Spirinia (S.) parasitifera* (Bastian, 1865)

Material Examined : 44 exs, sta: Chennai, Pondicherry, Karaikal, Nagapattinam, Thondi and Thiruchendur. Date, 9.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

Description : Body length 1.2 mm. Maximum diameter of body 55 μ m. Cuticle annulated. Amphids a single loop, 10 μ m wide, thick-walled, very close to anterior extremity, fully surrounded by striations. Head with six small labial papillae and a circle of four cephalic setae. Short scattered somatic setae. Buccal cavity narrow, with a small dorsal tooth and slightly posteriorly two minute subventral teeth. Oesophagus short, rounded posterior bulb. Tail 25 μ m and conical and larger, 1.9 a.b.d. Spicules 40 μ m in length, cephalated proximally; gubernaculum with 20 μ m lateral pieces; about 15-22 preanal, pore like indistinct supplements present; two postanal setae near anogenital aperture and three to four distinct postanal setae present at distance of 42 μ m from anogenital aperture.

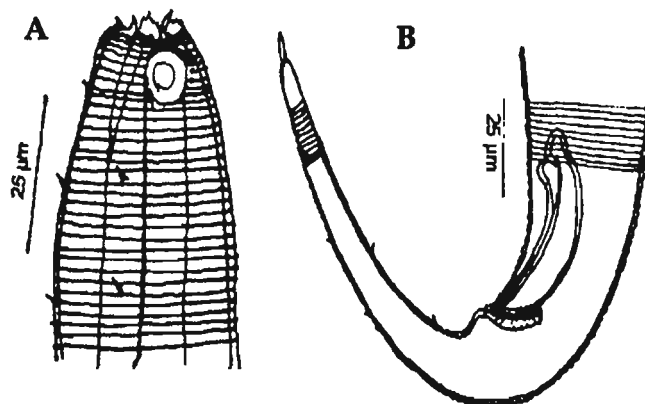


Fig. 21. *Spirinia (S.) parasitifera*; A. Anterior region (♂); B. Posterior region (♂).

Distribution : New England, Long Island Sound, Massachusetts, Florida, Falkland Island, North Sea, Isles scilly, English Channel and British Isles (Platt and Warwick, 1988) India (Sultan Ali, 1983).

Remarks : The material examined conforms well to the earlier description of the species, except for smaller body size. The total body length reported was 1.6mm and tail 2.7 a.b.d. The body length of the present specimen is lesser being 1.2 mm and tail 1.9 a.b.d. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Sultan Ali, 1983; Chinnadurai and Fernando, 2007).

Family MICROLAIMIDAE
 Genus *Microlaimus* De Man, 1880.
 Species *Microlaimus* sp. De Man, 1880.

Material Examined : 16 exs, sta: Chennai, Pondicherry and Thiruchendur. Date, 8.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

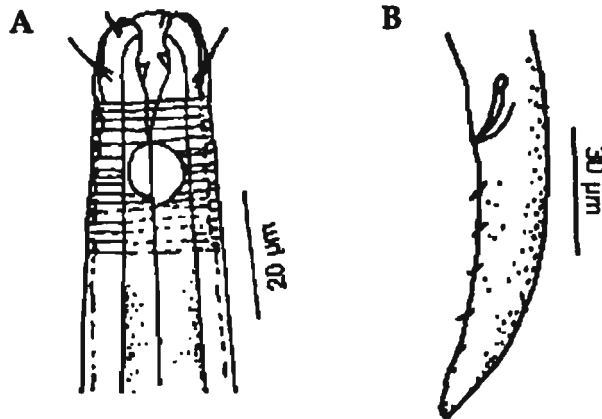


Fig. 22. *Microlaimus* sp.; A. Anterior region (♂); B. Posterior region (♂).

Description : Body length 1.2 mm. Maximum diameter in males 32 µm. Cuticle in cervical region with faint longitudinal markings. Six cephalic setae difficult to distinguish; four short 1.3 µm. Somatic setae scattered throughout the body. Amphids 6 µm in length. Buccal cavity lightly cuticularised. Teeth only slight projections. Tail 30 µm and 2.1 a.b.d. Spicules 20 µm in length, broad and proximally rounded with a central list along the part of their length; precloacal supplements absent.

Distribution : Strangford Lough, North East reland (Platt and Warwick, 1988)

Remarks : Though specimens examined closely resemble *Microlaimus zosterae* Allgen, 1930, distinct variation of the tail region was observed. Therefore it was difficult to conform the specific identification of the present specimen.

Family CERAMONEMATIDAE
 Genus *Pselionema* Cobb, 1933
 Species *Pselionema* sp. Cobb, 1933

Material Examined : 285 exs, sta: Chennai, Pondicherry, Cuddalore, Nagapattinam, Thondi, Thiruchendur, Tuticorin, Mandapam Pamban and Rameswaram. Date, 9.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

Description : Body length 1.4 mm. Maximum diameter 24 µm. Cuticle with about 350 annules of which 60 are in the tail region; 8 longitudinal ridges. Four 10 µm cephalic setae. Amphids 15×5 µm, elongate loops. Oesophagus cylindrical throughout. Tail 42 µm long 5.2 a.b.d. in length. Spicules 20 µm in length, arcuate, cephalate proximally. Gubernaculum with plate like apophysis.

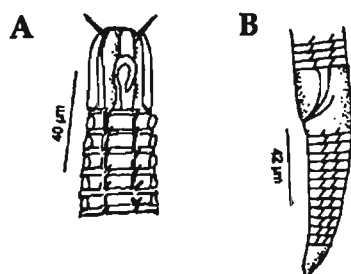


Fig. 23. *Pselionema* sp.; A. Anterior region (♂); B. Posterior region (♂).

Distribution : Liverpool Bay, North West England (sublittoral sand with shell gravel) Platt and Warwick, 1988)

Remarks : Though specimens examined closely resemble *Pselionema longiseta* Ward, 1974, distinct variation of the head region was observed. Therefore it was difficult to conform the specific identification of the present specimen. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Chinnadurai and Fernando, 2007).

Family LEPTOLAIMIDAE

Genus *Camacolaimus* De Man, 1889

Species *Camacolaimus barbatus* Warwick, 1970

Material Examined : 64 exs, sta: Karaikal, Thondi and Thiruchendur. Date, 7.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

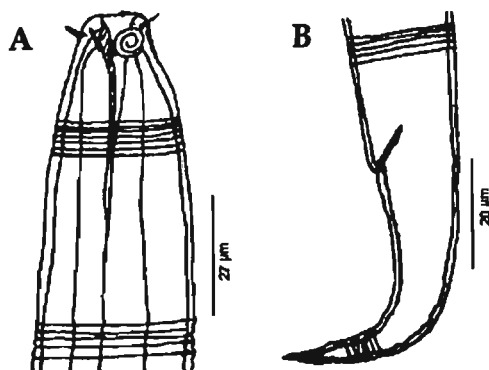


Fig. 24. *Camacolaimus barbatus*; A. Anterior region (♀); B. Posterior region (♀).

Description : Body length 1.2 mm. Maximum diameter 32 µm. Cuticle with widely spaced transverse striations. Six anterior cephalic sensilla minute, conical, papilliform; four short 2.5 µm cephalic setae. Amphids spiral, of 2.5 turns, 6 µm wide. Buccal cavity with a long style-like dorsal tooth, 30 µm long, with a prominent shoulder near its distal tip. Oesophagus narrow cylindrical. Tail 20 µm long and conical with a pointed, 3.4 a.b.d., unstriated spinneret. Ovaries paired and reflexed.

Distribution : Exe estuary, South West England and British Isles (Platt and Warwick, 1988).

Remarks : The specimens examined agree well with the earlier description of the species, except for the smaller body size. The total body length varied between 1.8 and 2.0 mm and tail 3 a.b.d. The body length of the present specimen is lesser being 0.65mm, but tail is more being 3.5 a.b.d. This species is being recorded from the first time in Pichavaram mangrove, India.(Chinnadurai and Fernando, 2007).

Family DESMOSCOLECIDAE

Genus *Desmoscolex* Claparede, 1863

Species *Desmoscolex falcatus* Lorenzen, 1972

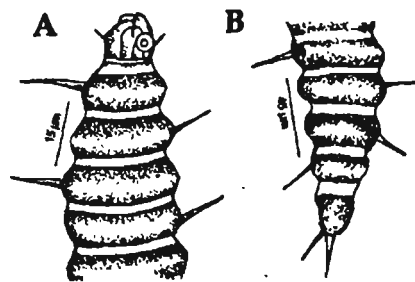


Fig. 25. *Desmoscolex falcatus*. A. Anterior region (♀); B. Posterior region (♀).

Material Examined : 94 exs, sta: Chennai, Pondicherry, Cuddalore, Karaikal, Thondi and Thiruchendur. Date, 8.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

Description : Body 17 symmetrical oval desmen separated by wide clear striated zone of cuticle, 0.4 μ m in length. Amphids circular, 5 μ m in length.

Somatic setae formula,

Sub-dorsal	1	3	5	7	9	11	13	16	17
Sub-ventral		2	4	6	8	10	12	14	15

The subventral setae on desmen 10 and 12 are longer than others.

Distribution : Tamar estuary, South West England (Platt and Warwick, 1988) and India

Remarks : The material examined conforms well to the earlier description by pervious workers. Chinnadurai and Fernando (2007) has previously recorded *Desmoscolex falcatus* from Pichavaram mangroves, southeast coast of India, for the first time and also Krishnamurthy et al. (1984) has recorded *Desmoscolex* genera from the same region.

Family XYALIDAE

Genus *Daptonema* Cobb, 1920

Species *Daptonema conicum* (Filipjev, 1922), Lorenzen, 1977

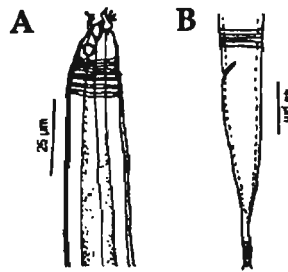


Fig. 26. *Daptonema conicum*. A. Anterior region (♀); B. Posterior region (♀).

Material Examined : 827 exs, sta: Chennai to Kanyakumari Date, 9.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

Description : Body 1.2 mm length. Maximum diameter of body 28 μm . Cuticle with transverse striations. Head conical with six small labial papillae. Ten cephalic setae (6+4). Buccal cavity conical in shape with cuticularized walls and buccal ring and cheilorhabdions arranged obliquely. Body devoid of cervical and somatic setae. Amphids circular, 5 μm -wide. Oesophagus cylindrical with distal portion only slightly dilated; cardia conical in shape. Tail 44 μm and conical slightly swollen at tip, 4.5 a.b.d., with a pair terminal setae. Caudal setae absent. Ovary monodelphic and outstretched.

Distribution : Greenland, Norway, Oresund and India (Sultan Ali, 1983)

Remarks : The material examined conforms well to the earlier description of the species except for minor variation in the relative measurements of the body. The total body length reported was 1.0 mm and tail 2.4 a.b.d. The body length of the present specimen is being 1.2 mm, but tail is more being 4.5 a.b.d. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Sultan Ali, 1983; Chinnadurai and Fernando, 2007).

Family XYALIDAE

Genus *Daptonema* Cobb, 1920

Species *Daptonema oxycerca* (De Man, 1888) Lorenzen, 1977

Material Examined : 408 exs, sta: Chennai, Pondicherry, Karaikal, Nagapattinam, Thondi, Thiruchendur, Tuticorin, Mandapam, Pamban, Rameswaram and Kanyakumari. Date, 9.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

Description : Body length 1.6 mm. Maximum diameter of body 65 μm . Cuticle striated. Head with six labial setae, 4 μm in length. Cephalic setae: six 24 μm , six 12 μm . Somatic setae scarce, short. Buccal cavity spacious, bulbous; transversely arranged cheilorhabdions and buccal ring present. Amphids roundish, situated at base of buccal cavity, 5 μm wide. Tail 50 μm , posterior third cylindrical, 3.7 a.b.d., terminal setae short. Spicules stout, 58 μm in length (1.2 a.b.d.), as curve, proximally cephalate. Gubernaculum surrounds distal ends of spicules, no apophysis.

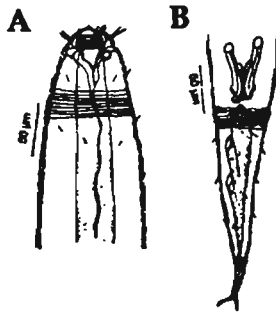


Fig. 27. *Daptonema oxycerca*. A. Anterior region (♂); B. Posterior region (♂).

Distribution : Whitstable, South East England; Tamar and Exe estuaries, South West England; Skippers Island, Essex, South East England; Northumberland coast, North East England; Bay of Fundy, North Sea, Kiel Bay, Baltic Sea, English Sea, Mediterranean Sea, Black Sea (Warwick et al., 1998) and India

Remarks : The specimens agree well with the earlier description of the species. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Sultan Ali, 1983; Chinndurai and Fernando, 2007).

Family	XYALIDAE
Genus	<i>Theristus</i> Bastian, 1865
Species	<i>Theristus (T) pertenuis</i> Bresslau and Stekhoven, 1935

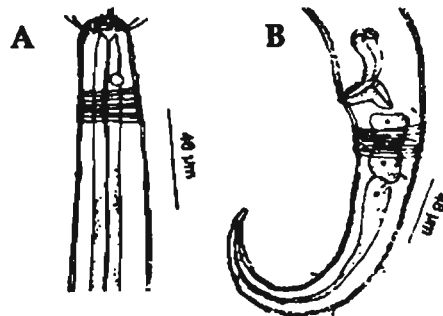


Fig. 28. *Theristus pertenuis* A. Anterior region (♂); B. Posterior region (♂).

Material Examined : 261 exs, sta: Chennai, Pondicherry, Cuddalore, Nagapattinam, Thondi, Thiruchendur, Tuticorin, Mandapam, Pamban, Rameswaram and Kanyakumari Date, 10.7.2006 & 25.12.07. Reg. No. N-52. Coll. Ms. G. Sivaleela

Description : Body length 1.0 mm. Maximum diameter of body 48 μm. Cuticle striated. Cephalic setae 10 (6+4), arranged in two groups of two setae (in each group), subequal in length, longer one 9 μm in length and shorter one 6 μm in length; six setae located separately in sublateral position, 9 μm in length; longer cephalic setae 80% of the head diameter; somatic setae 6 μm in length, scattered. Buccal cavity typical with cheilorhabdions and buccal ring arranged obliquely. Amphids round, 9 μm wide. Tail

48 μm and conical, 7.3 a.b.d., curved, not swollen at tip, without any terminal setae. Spicules 40 μm in length, dorsally curved with L-shaped appearance. Gubernaculum with well developed conspicuous apophysis, 50% of the a.b.d., triangular in shape. Dorso-caudally directed; preanal supplements absent.

Distribution : Strangford Lough, North East Ireland; Firth of Clyde, West Scotland, North Sea; Oresund; Kiel Bay; Mediterranean Sea and India (Warwick et al., 1998; Sultan Ali, 1983).

Remarks : The material examined conforms well to the earlier description of the species, except for the smaller body size. The total body length varied between 1.0-1.1mm and tail 5.5 and 8.0 a.b.d. The body length of the present specimen is 1.0mm, but tail is more being 7.3 a.b.d. This species has been previously recorded in India from Pichavaram mangroves (Sultan Ali, 1983; Chinnadurai and Fernando, 2007).

Family XYALIDAE

Genus *Theristus* Bastian, 1865

Species *Theristus clax* Wieser and Hopper, 1967

Material Examined: 400 exs, sta: Chennai, Pondicherry, Cuddalore, Karaikal, Nagapattinal, Thondi, Thiruchendur, Mandapam, Pamban Rameswaram and Kanyakumari .Date, 10.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

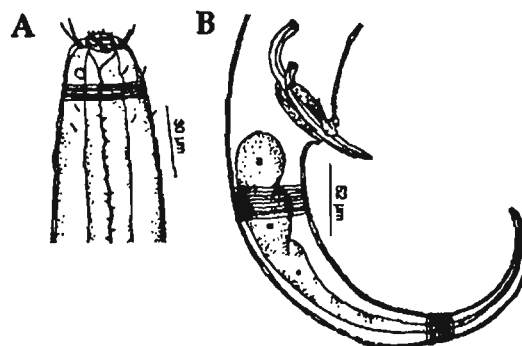


Fig. 29. *Theristus clax* A. Anterior region (σ); B. Posterior region (σ).

Description : Body length 2.8 mm. Maximum diameter of body 55 μm . Cuticle distinctly striated; striations about 1.5 μm in wide; head with six labial papillae and ten cephalic setae of which four very slightly shorter than remaining six, shorter setae 12 μm in length and longer setae 17 μm in length; somatic setae scattered. Buccal cavity cup-shaped, with distinct, transversely oriented cheilorhabdions and buccal ring. Amphids circular, thin walled, 3.5 μm wide. Oesophagus muscular cylindrical, oesophagus bulb slightly oval in shape. Tail 52 μm and conical, 8.7 a.b.d., caudal and terminal setae absent. Spicules 110 μm in length, proximal end cephalated and bending; gubernaculum tubular without apophysis, with lateral plate extending

half of length of spicules, distal end with triangular plate; anogenital region bulging having maximum width of body.

Distribution : Florida and India (Sultan Ali, 1983).

Remarks : The material examined conforms well to the earlier description of the species except for smaller body size. The total body length reported was 3.2 mm and tail 7 a.b.d. The body length of the present specimen is lesser being 2.8 mm, but tail is more being 8.7 a.b.d. This species has been previously recorded in India from Pichavaram mangroves (Sultan Ali, 1983; Chinnadurai and Fernando, 2007).

Family LINHOMOEIDAE

Genus *Paralinhomoeus* De Man, 1907

Species *Paralinhomoeus brevibuca* Stekhoven, 1950

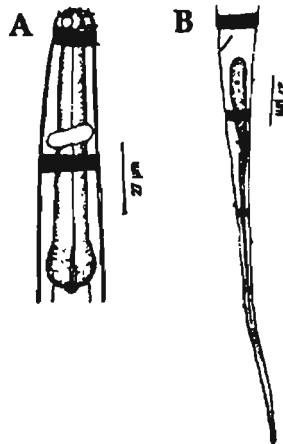


Fig. 30. *Paralinhomoeus brevibuca*. A. Anterior region (♀); B. Posterior region (♀).

Material Examined: 44 exs, sta: Karaikal, Thondi and Thiruchendur, Date: 10.7.2006 & 25.12.07. Reg.no. N-52. Coll. Ms. G. Sivaleela

Description : Body filiform, 1.8 mm in length. Cuticle weakly striated, striations begin at level of amphids, extending upto tip of tail. Striations very faint in cervical region. Head 11 μm in diameter. Circular mouth opening surrounded by six minute labial papillae and ten cephalic setae having 3 μm in length; sub cephalic setae absent. Buccal cavity cup-shaped. Amphids circular, situated at level of buccal cavity. Oesophagus cylindrical terminating in a weakly manifested bulb. Tail 27 μm and filiform, 14.0 a.b.d. two-third portion filiform distally, tip not swollen; caudal setae scattered; caudal glands present; spinneret absent. Ovaries paired and outstretched.

Distribution : Mediterranean Sea and Bay of Bengal, India (Sultan Ali, 1983).

Remarks : The material examined conforms well to the earlier description of the species except for smaller body size. The total body length reported was 2.2 mm and tail 12.3 a.b.d. The body length of the present specimen is lesser being 1.8 mm, but tail is more being 14.0 a.b.d. This species has been previously recorded in India from

Pichavaram mangroves, southeast coast (Sultan Ali, 1983; Chinnadurai and Fernando, 2007).

Family LINHOMOEIDAE

Genus *Metalinhomoeus* De Man, 1907

Species *Metalinhomoeus typicus* De Man, 1907

Material Examined : 30 exs, sta: Chennai, Cuddalore, Karaikal and Thiruchendur. Date, 10.7.2006 & 25.12.07. Reg.No. N-52. Coll.Ms. G.Sivaleela

Description : Body length 2.3 mm. Maximum width of body 43 μ m. Six small cephalic papillae. Four 8 μ m cephalic setae and four 4 μ m cervical setae situated level with the amphids. Cuticle faintly striated. Buccal cavity cup-shaped with a well cuticularised base. Amphids circular, 6 μ m diameter. Oesophagus relatively short, with a small posterior bulb. Tail 42 μ m and tapering throughout its length, 6.4 a.b.d. Spicules 39 μ m in length and curve. Gubernaculum small, but 17 μ m dorsal apophysis with round cephalate ends.

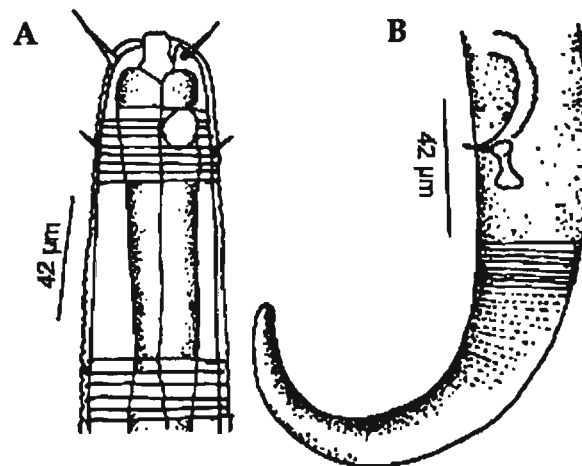


Fig. 31. *Metalinhomoeus typicus* A. Anterior region (♂); B. Posterior region (♂).

Distribution : Plymouth, South West England; Exe estuary, South West England; Skippers Island, Essex, South East England and Loch Etive, West Scotland (Warwick *et al.*, 1998) and India.

Remarks : The specimens examined agree well with the earlier description of the species, except for the smaller body size. The total body length was 2.1 mm and tail 6.3 a.b.d. The body length of the present specimen is more being 2.3 mm and tail 6.4 a.b.d. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Sultan Ali, 1983; Chinnadurai and Fernando, 2007).

Family LINHOMOEIDAE

Genus *Terschellingia* De Man, 1888

Species *Terschellingia longicaudata* De Man, 1907

Material Examined : 60 exs, sta: Karaikal, Thondi and Thiruchendur. Date, 10.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela

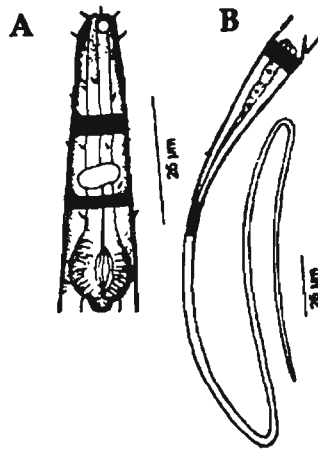


Fig. 32. *Terschellingia longicaudata* A. Anterior region (Q); B. Posterior region (Q).

Description : Body length 1.7 mm. Maximum diameter of body 28 µm. Cuticle very finely striated. Four 4 µm cephalic setae, no other cephalic sensilla discernible. Four 5 µm subcephalic setae situated either side of the amphid. A pair of cervical setae behind each amphid, and more posteriorly a circle of six cervical setae. Somatic setae otherwise absent. Amphids circular, thin-walled, 5.2 µm diameter. Buccal cavity absent. Oesophagus with prominent round posterior bulb and small heart-shaped cardia present. Tail 25 µm long, 22.5 a.b.d. with filiform tip constituting 80% of the total length. Ovaries paired and outstretched.

Distribution : Long Island Sound, Florida, Kiel Bay, North Sea, English Channel, Mediterranean Sea, Maldives, Bay of Bengal, Australia, British Isles, Essex, Exe, Tamar and Fal estuaries, Skippers Island, Northumberland coast and British Isles (Warwick et al., 1998) and India.

Remarks : The material examined conforms well to the earlier description of the species, except for the smaller body size. The total body length varied between 1.5 and 1.7mm and tail 10-17 a.b.d. The body length of the present specimen is similar being 1.7 mm, but tail is more being 22.5 a.b.d.

This species has been previously recorded in India from Pichavaram mangroves and Hugli estuary (Sultan Ali, 1983; Chinnadurai and Fernando, 2007 and Sinha and Choudhury, 1987).

Family AXONOLAIMIDAE

Genus *Parodontophora* Timm, 1963

Species *Parodontophora breviseta* (Stekhoven, 1950) Timm, 1963

Material Examined : 44 exs, sta: Karaikal, Thondi and Thiruchendur. Date, 11.7.2006 & 25.12.07. Reg.No. N-52. Coll.Ms. G.Sivaleela

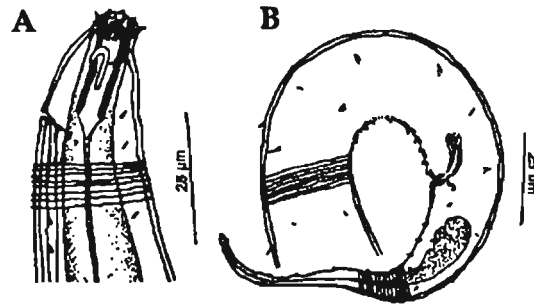


Fig. 33. *Parodontophora breviseta*. A. Anterior region (♂); B. Posterior region (♂).

Description : Body stout, 1.7 mm in length. Maximum diameter of body 47 μm . Cuticle with fine striations. Head with six small labial papillae and four cephalic setae; subcephalic setae absent; cervical and somatic setae scattered. Buccal cavity cylindrical, parallelly arranged walls, 32 μm in length. Amphids thick-walled, Shepherd's crook-like structure, dorsal arm comparatively shorter than ventral arm. Oesophagus cylindrical, distal end slightly enlarged. Tail 25 μm and conico-cylindrical, 4.5 a.b.d. with terminal dilation; spinneret and caudal glands present. Spicules 42 μm in length, proximally cephalated. Gubernaculum with dorsally oriented apophysis, 9 μm in length.

Distribution : Mediterranean Sea, India (Sultan Ali, 1983)

Remarks : The material examined conforms well to the earlier description of the species, except for the larger body size. The total body length reported was 1.2 mm and tail 4.5 a.b.d. The body length of the present specimen is more being 1.7 mm, but tail is similar being 4.5 a.b.d. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Sultan Ali, 1983; Chinnadurai and Fernando, 2007)

Family DIPLOPELTIDAE

Genus *Aræolaimus* De Man, 1888

Species *Aræolaimus longicauda* Allgen, 1929

Material Examined : 96 exs, sta: Karaikal and Thondi. Date, 12.7.2006 & 25.12.07. Reg.No. N-52. Coll. Ms. G. Sivaleela.

Description : Body slender, 1.7 mm in length. Cuticle with fine striations. Four cephalic setae 4 μm in length. Sub cephalic, cervical and somatic setae absent. Buccal cavity very narrow indistinct, cylindrical and unarmed. Amphids 2 μm wide, behind anterior end, circular loop, thick-walled and posterior edges open. Oesophagus cylindrical. One-third of tail 25 μm and cylindrical, 12.1 a.b.d. and rest filiform ending with a small spinneret tube; caudal glands present; caudal setae absent. Spicules sickle-shaped, (2.8 a.b.d.) slightly bent and proximally cephalated. Gubernaculum with well developed caudally directed apophysis; three preanal supplements present.

Distribution : Norway, Oresund, Skagerrak, Kiel Bay, Australia and India (Sultan Ali, 1983)

Remarks : The material examined conforms well to the earlier description of the species, except for the smaller body size. The total body length reported was 1.1 mm and tail 11.7 a.b.d. The body length of the present specimen is more being 1.7 mm, but tail is lesser being 12.1 a.b.d. This species has been previously recorded in India from Pichavaram mangroves, southeast coast (Sultan Ali, 1983).

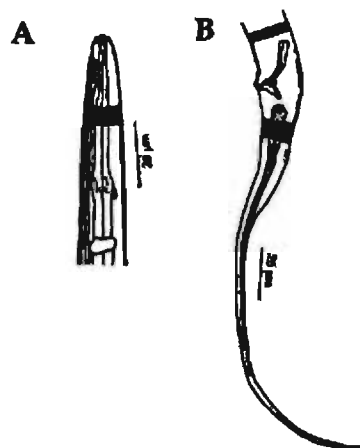


Fig. 34. *Araeolaimus longicauda*. A. Anterior region (♂); B. Posterior region (♂).

RESULTS

Occurrence and distribution of Nematode community in the intertidal region of Tamil Nadu coast during 2006 and 2007. (Table-1)

S. No	Name of the Family & Species	Stations											
		1	2	3	4	5	6	7	8	9	10	11	12
NEMATODES													
Family: Anoplostomatidae													
1	<i>Anoplostoma sp.</i>	-	-	-	-	-	+	+	-	-	-	-	-
Family: Ironidae													
2	<i>Trissonchulus oceanus</i>	+	+	+	-	+	-	+	-	+	+	+	+
Family: Oxystominidae													
3	<i>Halalaimus filum</i>	+	-	-	+	-	-	+	-	-	-	-	-
4	<i>Halalaimus gracilis</i>	+	+	+	+	-	+	+	+	+	+	+	-

Family: Oncholaimidae

5	<i>Viscosia viscosa</i>	+	+	+	+	+	+	+	+	+	+	+	+
6	<i>Adoncholaimus fuscus</i>	+	+	+	-	-	+	+	-	+	+	-	+
7	<i>Oncholaimus sp.</i>	+	+	+	-	+	+	+	+	+	-	+	+

Family: Enchelidiidae

8	<i>Polygastrophora septembulba</i>	-	-	-	+	-	+	+	-	-	-	-	-
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Family: Tripyloididae

9	<i>Tripyloides gracilis</i>	-	+	+	+	-	+	+	-	-	-	-	-
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Family: Chromadoridae

10	<i>Ptycholaimellus ponticus</i>	-	-	+	-	-	-	+	-	-	-	-	-
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Family: Comesomatidae

11	<i>Hopperia sp.</i>	-	-	-	+	-	+	+	-	+	-	-	-
12	<i>Dorilaimopsis timmi</i>	-	-	-	+	-	+	+	-	-	-	-	-
13	<i>Parcomesoma dubium</i>	-	-	-	+	-	-	+	-	-	-	-	-
14	<i>Sabatieria falcifera</i>	+	-	+	+	+	+	+	-	-	-	-	-

✦

Family: Cyatholaimidae

15	<i>Paracanthonchus elongatus</i>	+	-	-	+	-	+	+	+	-	-	-	-
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Family: Selachnematidae

16	<i>Halichoanolaimus dolichurus</i>	+	+	+	+	-	+	+	-	+	+	+	+
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Family: Desmodoridae

17	<i>Metachromadora remanei</i>	+	+	+	+	+	+	+	+	+	+	+	+
18	<i>Desmodora (D.) sanguinea</i>	+	-	+	+	-	-	-	-	-	+	-	-
19	<i>Desmodora (D.) tenuispiculum</i>	+	+	+	-	-	+	+	+	-	+	-	+
20	<i>Spirinia (S.) parasitifera</i>	+	+	-	+	+	+	+	-	-	-	-	-

Family: Microlaimidae

21	<i>Microlaimus sp.</i>	+	+	-	-	-	-	+	-	-	-	-	-
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Family: Ceramonematidae

22	<i>Pselionema sp.</i>	+	+	+	-	+	+	+	+	+	+	+	+
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Family: Leptolaimidae

23	<i>Camacolaimus barbatus</i>	-	-	-	+	-	+	+	-	-	-	-	-
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Family: Desmoscolecidae

24	<i>Desmoscolex falcatus</i>	+	+	+	+	-	+	+	-	-	-	-	-
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Family: Xyalidae

25	<i>Daptonema conicum</i>	+	+	+	+	+	+	+	+	+	+	+	+
26	<i>Daptonema oxycerca</i>	+	+	-	+	+	+	+	+	+	+	+	+
27	<i>Theristus pertenuis</i>	+	+	+	-	+	+	+	+	+	+	+	+
28	<i>Theristus clax</i>	+	+	+	+	+	+	+	-	+	+	+	+

Family: Linhomoeidae

29	<i>Paralinhomoeus brevibucca</i>	-	-	-	+	-	+	+	-	-	-	-	-
30	<i>Metalinhomoeus typicus</i>	+	-	+	+	-	-	+	-	-	-	-	-
31	<i>Terschellingia longicauda</i>	-	-	-	+	-	+	+	-	-	-	-	-

Family: Axonolaimidae

32	<i>Paradontophora breviseta</i>	-	-	-	+	-	+	+	-	-	-	-	-
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Family: Diplopeltidae

33	<i>Araeolaimus longicauda</i>	-	-	-	+	-	+	-	-	-	-	-	-
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The nematodes were dominated by *Daptonema conicum*, *Daptonema oxycerca*, *Theristus clax*, *Theristus pertenuis*, *Viscosia viscosa*, *Metachromadora remanei* and *Pselionema sp.* particularly the genera *Daptonema*, *Theristus*, *Desmodora* and *Halalaimus* were represented by two species. Only three species which occurred in all the 12 stations i.e. *Daptonema conicum*, *Viscosia viscosa* and *Metachromadora remanei*.

The species like *Anaplastoma sp.*, *Araeolaimus longicauda*, *Camacolaimus barbatus*, *Dorilaimopsis timmi*, *Halalaimus filum*, *Hopperia sp.*, *Metalinhomoeus typicus*, *Microlaimus sp.*, *Paracomesoma longispiculum*, *Paradontophora breviseta*, *Paralinhomoeus brevibucca*, *Polygastrophora septembulba* and *Ptycholaimus ponticus* occurred sporadically.

The density and species composition of nematodes increase with increasing silt and clay content.

The greater diversity of nematodes were observed at station 6 and 7, which had a cover of seagrass bed.

SUMMARY

The present paper deals with the identification and diversity of marine nematodes all over Tamilnadu Coast. A total of 33 species of nematodes belonging to 30 genera and 19 families have identified and registered. Twelve stations were chosen for the present study from entire coast of Tamil Nadu Coast (Chennai to Kanyakumari). Nematodes were the most abundant group of meiofauna at all the sampling sites. The number of species per station ranged from 11 to 32. Rao and his co-workers (1968-1969) have reported a large number of species of nematodes from Indian Coasts, mostly new records. Six species and one genus of free-living marine nematodes belonging to 2 orders and 7 families were recorded for the first time from Indian waters from intertidal sediments of Pichavaran mangrove of Southeast Coast of India (Chinnadurai and Fernando, 2007)

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