

## **A checklist of tintinnids (loricate ciliates) from the coastal zone of India**

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### **Abstract**

We report here a checklist of tintinnids (loricate ciliates) for the coastal zone of India. Based on available literature (1978 to 2017), a total of 25 stations were studied from 5 distinct areas of Indian coastal waters. A total of 151 species of 33 genera belonging to 14 families of tintinnids were documented. Diversity patterns of tintinnids were recorded higher along the west coast (30 genera and 106 species) than the east coast of India (20 genera and 93 species). Among tintinnids families, the Codonellidae (2 genera and 52 species, 20%) and the Tintinnidae (8 genera and 21 species, 19%) are the major contributors to the total tintinnids diversity in the Indian coastal zone.

**Keywords:** Microzooplankton, Diversity, East coast, West coast, Andaman, Lakshadweep

## **Introduction**

Microzooplankton (MZP) are a group of heterotrophic microplankton in the size range of 20-200  $\mu\text{m}$  (Porter *et al.* 1985). MZP play a significant role in energy transfer and act as a potential grazer of pico- and nano-plankton which in turn used by other larger zooplankton and fish larvae in the marine pelagic food web (Jiang *et al.* 2013; Rakshit *et al.* 2016). They are comprised of ciliates, dinoflagellates, and foraminifera, copepod nauplii and rotifers (Calbet 2008). Ciliates are a major component of MZP in the marine and fresh water (Banse 1982; Porter *et al.* 1985; Sherr *et al.* 1986) and morphologically classified into two groups such as choreotrichs and oligotrichs (Santoferrara *et al.* 2017). In the marine environment, tintinnids are the most common group of choreotrich ciliates and recognized as indicator species of different water mass due to their hard loricae (Kato & Taniguchi 1993; Lee & Kim 2010). They feed on wide range of prey such as bacteria, diatom, dinoflagellates and other smaller protozoans (Hollibaugh *et al.* 1980; Heinbokel & Beers 1979; Lee & Kim 2010), which in turn act as an important food source for larger zooplankton communities (Krishnamurthy *et al.* 1979; Godhantaraman 1994). According to literature, the MZP (tintinnids) study along the coast of India was first studied by Krishnamurthy and Santhanam (1975, 1978) who reported a new species '*Dictyocsta seshaiyai*' from Parangipettai coastal water (East coast of India). Later, the extensive survey was conducted during 1994 -2004 by Godhantaraman (1994, 2001, 2002, 2004) from parangipettai waters and 2014-2017 by Rakshit *et al.* (2014, 2015, 2016, 2017) from Hooghly estuary and Sundarbans mangrove waters along the east coast of India. The MZP work along the west coast of India was first studied by Gauns (2000) from Zuari estuary. Further, the extensive survey was conducted during 2006-2008 by Jyothibabu *et al.* (2006, 2008) from west coast of India including Cochin back waters. The MZP (tintinnids) studies conducted in Indian waters have reported species composition, abundance and their relation to environmental parameters. Moreover, some studies were conducted on tintinnids carbon production and grazing rates (Gauns 2000, Gauns 2015, Godhantaraman 2002, Elangovan & Padmavati, 2017). The present study was undertaken to cover all the tintinnids species recorded so far from the Indian coastal zone, with an aim to bring together in a single document to understand their diversity pattern and their lack of study in the coastal zone of India.

## **Materials and Methods**

Here we have included work on tintinnids from the coastal waters of India published between 1978 and 2017. Further, we have made every attempt to get all possible published literature on tintinnids from the region to include in the list. However, there is fairly good chance that some literature not easily accessible, we might have missed to include in this piece of work is virtuously unintended. A

total of 25 stations were selected from 5 distinct areas of Indian coastal waters viz. I. East coast of India: include Gulf of Mannar (St.1); Kottaiappattinam (St.2); Muthupet estuary (St.3); Kaduviyar estuary (St.4); Pichavaram Mangrove (St.5); Parangipettai (St.6); Kalpakkam (St.7); Bahuda estuary (St.8); Digha (St.9); Chilika Lake (St.10); Hooghly estuary (St.11) and Sundarban mangrove (St.12); II. West coast of India: include Kanyakumari (St.13); Ashtamudi estuary (St.14); Cochin (St.15); Cochin Back waters (St.16); Calicut (St.17); Netravati (St.18); Manglore (St.19); Goa coast (St.20); Zuari estuary (St.21) and Gulf of Kachchh (St.22). III. Lakshadweep coast (St.23 Kavaratti); IV, West coast of South Andaman (St.24: Bay of Bengal Coast) and V. East coast of South Andaman (St.25: Andaman Sea coast, Fig.1).

These MZP samples were collected using plankton net (mesh size: 20, 41 and 54  $\mu\text{m}$ ) or water samplers (500 ml -8 L) or bucket (10L-200L) and preserved either with acid Lugol's solution (1-3%) and/or neutralized formaldehyde (4-5%) or 1% glutaraldehyde (Devi *et al.* 2010; Das *et al.* 2017; Gauns *et al.* 2015; Godhantaraman 1994; Godhantaraman 2002; Jyothibabu *et al.* 2006; Kothandapani *et.al* 2016; Mishra & Panigrahy 1999; Rakshit *et al.* 2014; Rakshit *et al.* 2015; Saravanan & Sivakami 2016 and Srinivasan *et al.* 1988). For the systematic classification, the species reported in this study were described from the source of Algae Base (<http://www.algaebase.org>), marine species identification portal (<http://species-identification.org/>) and Encyclopaedia of Life (<http://www.eol.org/>).

## Results

The MZP studies conducted in Indian coastal waters until today (1978 - 2017), reveals that a total of 151 species of 33 genera belonging to 14 families of tintinnids were documented. East coast of India comprised of 20 genera and 93 species, which include Gulf of Mannar (St.1, 14 genera & 47 Species); Kottaiappattinam (St.2, 12 genera & 27 species); Muthupet estuary (St.3, 3 genera & 3 species); Kaduviyar estuary (St.4, 1 genera & 9 species); Pichavaram Mangrove (St.5, 6 genera & 22 species); Parangipettai (St.6, 16 genera & 53 species); Kalpakkam (St.7, 10 genera & 22 species); Bahuda estuary (St.8, 12 genera & 23 species); Digha (St.9, 6 genera & 20 species); Chilika Lake (St.10, 9 genera & 35 species); Hooghly estuary (St.11, 11 genera & 29 species) and Sundarban mangrove (St.12, 9 genera & 35 species). This include a new species '*Dictyocsta seshaiyai*' reported by Krishnamurthy & Santhanam (1978) from Parangipettai coastal water (Table.1,2,3,4 & 5).

West coast of India comprised 30 genera and 106 species, Which include Kanyakumari (St.13, 19 genera & 32 species); Ashtamudi estuary (St.14, 14 genera & 18 species); Cochin (St.15, 20 genera & 32 species); Cochin Back waters (St.16, 24 genera & 53 species); Calicut (St.17, 18 genera & 32

species); Netravati (St.18, 17 genera & 22 species); Manglore (St.19, 20 genera & 32 species); Goa (St.20,24 genera & 64 species); Zuari estuary (St.21, 10 genera & 42 species) and Gulf of Kachchh (St.22, 3 genera & 8 species., Table.6,7,8 & 9), Lakshadweep comprised 3 genera 5 species (Table.10 & 11), west coast (Bay of Bengal) of south Andaman comprised 20 genera and 24 species (Table.10 & 11) and east coast (Andaman Sea) of south Andaman comprised 21 genera and 36 species (Table.10 & 11). Among tintinnids families, the Codonellidae (2 genera and 52 species, 20%) and the Tintinnidae (8 genera and 21 species, 19%) are the major contributors to total tintinnids diversity in Indian coastal waters (Fig.2). The list and systematic classification of these species are described below

Kingdom: Chromista

Subkingdom: Harosa

Phylum: Ciliophora

Class: Spirotrichea

Subclass: Choreotrichia

Order: Tintinnida

Family: Acampbelliellidae

Genus: *Acanthostomella* Jorgensen, 1927

*Acanthostomella norvegica* Daday, 1887

Genus: *Ascampbelliella* Kofoid and Campbell, 1929

*Ascampbelliella retusa* Hada, 1935

Family: Codonellidae

Genus: *Codonella* Haeckel, 1873

*Codonella acerca* Jorgensen, 1924

*Codonella amphorella* Biedermann, 1893

*Codonella nationalis* Brandt, 1906

Genus: *Tintinnopsis* Stein, 1867

*Tintinnopsis accuminata* Daday, 1887

*Tintinnopsis amoyensis* Nie, 1934

*Tintinnopsis amphora* Kofoid & Campbell, 1929

*Tintinnopsis aperta* Brandt, 1906

*Tintinnopsis baltica* Brandt, 1896

*Tintinnopsis bermudensis bermudensis* Brandt, 1906

*Tintinnopsis beroidea* Stein, 1867

*Tintinnopsis brandti* Nordqvist, 1890

*Tintinnopsis brasiliensis brasiliensis* Kofoid & Campbell, 1929

*Tintinnopsis buetschlii buetschlii* Daday, 1887

*Tintinnopsis campanula* Ehrenberg, 1840

*Tintinnopsis compressa* Daday, 1887

*Tintinnopsis corniger* Hada, 1964

*Tintinnopsis cylindrica* Daday, 1887

*Tintinnopsis dadayi* Kofoid, 1905

*Tintinnopsis davidoffi* Daday, 1887

*Tintinnopsis directa* Hada, 1932

*Tintinnopsis entzii* Daday, 1892

*Tintinnopsis failakkaensis* Skryabin & Al-Yamani, 2006

*Tintinnopsis fimbriata* Meunier, 1919

*Tintinnopsis glans* Kofoid & Campbell, 1929

*Tintinnopsis gracilis* Kofoid & Campbell, 1929

*Tintinnopsis karajacensis* Brandt, 1896

*Tintinnopsis kofoidi kofoidi* Hada, 1932

*Tintinnopsis lobiancoi* Daday, 1887

*Tintinnopsis lohmanni* Laackmann, 1906

*Tintinnopsis loricata* Brandt, 1906

*Tintinnopsis minuta* Wailes, 1925

*Tintinnopsis mortenseni* Schmidt, 1902  
*Tintinnopsis nana* Lohmann, 1908  
*Tintinnopsis nucula* Fol, 1884  
*Tintinnopsis orientalis* Kofoid & Campbell, 1929  
*Tintinnopsis ovalis* Daday, 1892  
*Tintinnopsis parva* Merkle, 1909  
*Tintinnopsis parvula* Jorgensen, 1912  
*Tintinnopsis patula* Meunier, 1910  
*Tintinnopsis radix* Imhof, 1886  
*Tintinnopsis rotundata* Kofoid & Campbell, 1929  
*Tintinnopsis sacculus* Brandt, 1896  
*Tintinnopsis strigosa* Meunier, 1919  
*Tintinnopsis tentaculata* Nie & Chang, 1947  
*Tintinnopsis tenuis* Hada, 1932  
*Tintinnopsis tocaninensis* Kofoid & Campbell, 1929  
*Tintinnopsis tubulosa* Levander, 1900  
*Tintinnopsis turbo* Meunier, 1919  
*Tintinnopsis turgida* Kofoid & Campbell, 1929  
*Tintinnopsis undella* Meunier, 1910  
*Tintinnopsis urnula* Meunier, 1910  
*Tintinnopsis uryguayensis* Balech, 1948

Family: Codonellopsidae

Genus: *Codonellopsis* Jorgensen 1924

*Codonellopsis ecuadata* Brandt, 1906  
*Codonellopsis frigida* Hada, 1932  
*Codonellopsis lusitanica* Jorgensen, 1924

*Codonellopsis minor* Kofoid and Campbell 1939

*Codonellopsis morchella* (Cleve) Jørgensen, 1924

*Codonellopsis nipponica* Hada, 1964

*Codonellopsis orthoceras* (Haeckel, 1873) Jørgensen, 1924

*Codonellopsis ostenfeldi* Schmidt, 1901

*Codonellopsis pusilla* (Cleve) Jørgensen, 1924

*Codonellopsis schabi* (Brandt, 1906) Kofoid & Campbell, 1929

*Codonellopsis tessellata* Kofoid and Campbell, 1929

Genus: *Luminella* Kofoid & Campbell, 1939

*Luminella kuwaitensis* Skryabin & Al-Yamani, 2007

Genus: *Stenosemella* Jørgensen 1924

*Stenosemella nucula* Jørgensen, 1927

*Stenosemella nivalis* (Meunier, 1910)

*Stenosemella parvicollis* Marshall, 1934

*Stenosemella steinii* Jørgensen, 1912

*Stenosemella ventricosa* (Claparède & Lachmann, 1858) Jørgensen, 1924

Family: Cyttarocyclididae Kofoid & Campbell, 1929

Genus: *Cyttarocyclis* Fol, 1881

*Cyttarocyclis brandti* Kofoid and Campbell, 1929

*Cyttarocyclis magna* (Brandt) Kofoid and Campbell, 1929

*Cyttarocyclis vanhoeffini* (Brandt) Kofoid and Campbell, 1929

Family: Dictyocystidae Haeckel, 1873

Genus: *Dictyocysta* Ehrenberg, 1854

*Dictyocysta bulbosa* Ehrenberg, 1854

*Dictyocysta elegans* Ehrenberg, 1854

*Dictyocysta grandis* Ehrenberg, 1854

*Dictyocsta lepida* Ehrenberg, 1854

*Dictyocsta mitra* Haeckel, 1873

*Dictyocsta seshaiyai* Krishnamurthy & Santhanam, 1978

Genus: *Wangiella* Nie, 1934

*Wangiella dicollaria* Nie, 1934

Family: Epiplocyliidae

Genus: *Epiplocyloides* Hada, 1938

*Epiplocyloides ralumensis* Brandt, 1906

*Epiplocyloides reticulate* Ostenfeld and Schmidt, 1901

Family: Metacyliidae Kofoid and Campbell, 1929

Genus: *Coxliella* Brandt 1907

*Coxliella ampla* (Jorgensen) Brandt, 1907

*Coxliella annulata* Daday, 1886

*Coxliella fasciata* (Kofoid) Brandt, 1907

Genus: *Helicostomella* Jorgensen, 1924

*Helicostomella fusiformis* (Meunier) Jörgensen, 1924

*Helicostomella longa* Brandt, 1906

*Helicostomella subulata* (Ehrenberg, 1833) Jörgensen, 1924

Genus: *Metacylis* Jorgensen, 1924

*Metacylis corbula* Kofoid & Campbell, 1929

*Metacylis jorgenseni* (Cleve) Kofoid & Campbell, 1929

*Metacylis mediterranea* (Mereschkowsky, 1880) Jorgensen, 1924

*Metacylis mereschkowskii* Kofoid & Campbell, 1929

Family: Petalotrichidae

Genus: *Petalotricha* Kent, 1881

*Petalotricha ampulla* (Fol, 1881) Kent, 1882



Family: Ptychocyclididae

Genus: *Epilocyclis* Jorgensen, 1924

*Epilocyclis blanda* (Jorgensen, 1924) Kofoid & Campbell, 1939

*Epilocyclis reticulata* Jorgensen, 1924

*Epilocyclis undella* (Ostenfeld & Schmidt) Jorgensen, 1927

Genus: *Favella* Jorgensen, 1924

*Favella adriatica* (Imhof, 1886) Jorgensen, 1924

*Favella azorica* (Cleve, 1900) Jorgensen, 1924

*Favella brevis* Kofoid & Campbell, 1929

*Favella companula* (Schmidt, 1902) Jorgensen, 1924

*Favella ehrenbergii* (Claparède & Lachmann, 1858) Jorgensen, 1924

*Favella panamensis* Kofoid & Campbell, 1929

*Favella philippinensis* Roxas, 1941

*Favella taraikaensis* Hada, 1932

Family: Rhabdonellidae

Genus: *Protorhabdonella* Jorgensen, 1924

*Protorhabdonella simplex* Jorgensen, 1924

Genus: *Rhabdonella* Brandt, 1906

*Rhabdonella amor* (Cleve, 1900) Brandt, 1907

*Rhabdonella burula* Brandt, 1906

*Rhabdonella elegans* Jorgensen, 1924

*Rhabdonella henseni* (Brandt, 1906) Brandt, 1907

*Rhabdonella poculum* (Ostenfeld & Schmidt, 1901)

*Rhabdonella spiralis* Fol, 1881

Family: Tintinnidae

Genus: *Amphorella* Daday, 1887

*Amphorella brandti* Jorgensen, 1924

*Amphorella gracilis* R. T. Lowe, 1831

*Amphorella quadrilineata* Claparède & Lachmann, 1858

*Amphorella tricollaria* (Laackmann, 1910) Balech, 1975

Genus: *Amphorellopsis* Kofoid & Campbell, 1929

*Amphorellopsis acuta* Schmidt, 1902

*Amphorellopsis tetragona* (Jorgensen, 1924) Kofoid & Campbell, 1929

Genus: *Amphorides* Strand, 1928

*Amphorides amphora* Claparède & Lachmann, 1858

*Amphorides pochytoecus* Strand, 1926

Genus: *Dadayiella* Kofoid & Campbell, 1929

*Dadayiella bublosa* Brandt, 1906

*Dadayiella ganymedes* (Entz, 1884) Kofoid & Campbell, 1929

Genus: *Eutintinnus* Kofoid & Campbell, 1929

*Eutintinnus apertus* Kofoid & Campbell, 1929

*Eutintinnus elongatus* Jorgensen, 1924

*Eutintinnus fraknoi* Daday, 1887

*Eutintinnus lusus undae* Entz, 1885

*Eutintinnus rectus* Wailes, 1925

*Eutintinnus tenuis* (Kofoid & Campbell, 1929) Kofoid & Campbell, 1939

Genus: *Salpingacantha* Kofoid & Campbell, 1929

*Salpingacantha ampla* Kofoid & Campbell, 1929

Genus: *Salpingella* Jorgensen, 1924

*Salpingella acuminate* (Claparède & Lachmann, 1858) Jorgensen, 1924

*Salpingella decurtata* Jorgensen, 1924

*Salpingella gracilis* Kofoid & Campbell, 1929

Genus: *Steenstrupiella* Kofoid & Campbell, 1929

*Steenstrupiella steenstrupii* Kofoid and Campbell, 1929

Family: Tintinnidiidae

Genus: *Leprotintinnus* Jorgensen, 1899

*Leprotintinnus bottnicus* Joergensen, 1900

*Leprotintinnus nordquisti* (Brandt, 1906) Kofoid & Campbell, 1929

*Leprotintinnus pellucidus* Cleve, 1899

*Leprotintinnus simplex* Schmidt, 1902

Genus: *Tintinnidium* Kent, 1881

*Tintinnidium incertum* Brandt, 1906

*Tintinnidium mucicola* (Claparède & Lachmann, 1858) Daday, 1887

*Tintinnidium primitivum* Busch, 1923

Family: Xystonellidae

Genus: *Parundella* Jorgensen, 1924

*Parundella caudata* (Ostenfeld, 1899) Jorgensen, 1924

*Parundella lohmanni* von Daday, 1887

Genus: *Xystonella* Brandt, 1907

*Xystonella treforti* Daday, 1887

Family: Undellidae

Genus: *Proplectella* Kofoid & Campbell, 1929

*Proplectella fastigata* Jorgensen, 1924

*Proplectella globosa* Kofoid & Campbell, 1929

*Proplectella perpusilla* Kofoid & Campbell, 1929

*Proplectella perulla* Kofoid & Campbell, 1929

Genus: *Undella* Daday, 1887

*Undella globosa* Brandt, 1906

*Undella hyalina* Daday, 1887

*Undella pentagona* (Jorgensen) Balech, 1975

*Undella turgida* Kofoid & Campbell, 1929

## **Discussion**

The present study reveals that, the diversity patterns of tintinnids was recorded higher in the west coast (30 genera and 106 species) than the east coast of India (20 genera and 93 species). The Arabian Sea to the west coast of India is one of the world's most productive regions, whereas the Bay of Bengal to the east coast of India is controlled by various physical process and it consider to be a lesser biological productivity region than the Arabian Sea (Prasanna Kumar *et al.* 2002; Madhupratap *et al.* 2003). Most of the work (27 Studies) carried out along the east coast India were mainly focussed on the estuarine and mangrove waters than the coastal waters. Whereas along the west cost of India, the studies (8 studies) were carried out in the coastal waters (restricted to depth shallower than 200 meters) than mangrove and estuarine waters (reference cited in table 1 to 9). The species occurrence seems to have varied spatially with respect to their specific ecological conditions. thus, a total 32 species such as *Acanthostomella norvegica*, *Ascampbelliella retusa*, *Codonellopsis frigida*, *Codonellopsis lusitanica*, *Coxliella ampla*, *Coxliella annulata*, *Dadayiella bublosa*, *Dictyocsta bulbosa*, *Eutintinnus rectus*, *Favella adriatica*, *Favella azorica*, *Favella taraiikaensis*, *Helicostomella fusiformis*, *Helicostomella longa*, *Leprotintinnus bottnicus*, *Luminella kuwaitensis*, *Stenosemella nivalis*, *Tintinnidium mucicola*, *Tintinnopsis amoyensis*, *Tintinnopsis aperta*, *Tintinnopsis baltica*, *Tintinnopsis brandti*, *Tintinnopsis brasiliensis*, *Tintinnopsis failakkaensis*, *Tintinnopsis parva*, *Tintinnopsis parvula*, *Tintinnopsis tentaculata*, *Tintinnopsis tenuis*, *Tintinnopsis turbo*, *Tintinnopsis turgida*, *Tintinnopsis urnula* and *Wangiella dicollaria* were recorded only in the east coast of India. Wherein the west coast India, a total of 50 species such as *Amphorella brandti*, *Amphorella gracilis*, *Amphorella quadrilineata*, *Amphorella tricollaria*, *Amphorides amphora*, *Ascampbelliella retusa*, *Codonella acerca*, *Codonella amphorella*, *Codonellopsis ecuadata*, *Codonellopsis pusilla*, *Coxliella fasciata*, *Cyttarocyclus brandti*, *Cyttarocyclus magna*, *Cyttarocyclus vanhoeffini*, *Dictyocsta elegans*, *Dictyocsta grandis*, *Dictyocsta lepida*, *Dictyocsta mitra*, *Epiplocyclus blanda*, *Epiplocyclus reticulate*, *Epiplocyloides ralumensis*, *Epiplocyloides reticulate*, *Favella panamensis*, *Leprotintinnus pellucidus*, *Parundella lohmanni*, *Petalotricha ampulla*, *Proplectella fastigata*, *Proplectella globosa*, *Proplectella perpusilla*, *Protorhabdonella simplex*, *Rhabdonella amor*, *Rhabdonella elegans*, *Rhabdonella henseni*, *Rhabdonella poculum*, *Salpingacantha ampla*, *Salpingella acuminate*, *Salpingella decurtata*, *Salpingella gracilis*,

*Stenosemella nucula*, *Streenstrupiella steenstrupii*, *Tintinnopsis corniger*, *Tintinnopsis davidoffi*, *Tintinnopsis ovalis*, *Tintinnopsis strigosa*, *Tintinnopsis undella*, *Undella globosa*, *Undella hyalina*, *Undella pentagona*, *Undella turgida* and *Xystonella treforti* were recorded endemically compare to the east coast of India (reference cited in table 1 to 9). The Andaman and Lakshadweep coastal waters were recorded only with cosmopolitan species which were present in the east and west coast of India (reference cited in table 10 to 11). The variations in the species distribution from one region to another could be the result of collection methods, the number of studies carried out and environmental variables during the period of investigation (Balkis & Koray 2014; Elangovan & Padmavati 2017).

## **Conclusion**

From this work, it can be summarized that little attention has been paid to small microzooplankton (tintinnid) unlike the considerable attention that received phytoplankton and mesozooplankton (copepods) work in India. Limited work carried was spatially restricted to the coastal (along the west coast) and eastern (east coast) regions of the southern part of the India (south of 12°N). Considering the asymmetric effect of monsoon over the eastern and western parts of the country (India) and between its northern and southern part, it is likely that the asymmetry may arise in tintinnid composition and ecology (and hydrographic parameters) as well. This highlights the need for reliable taxonomic work in this area of research in the region to increase the present inventory to address the impact of climate change on regional biodiversity.

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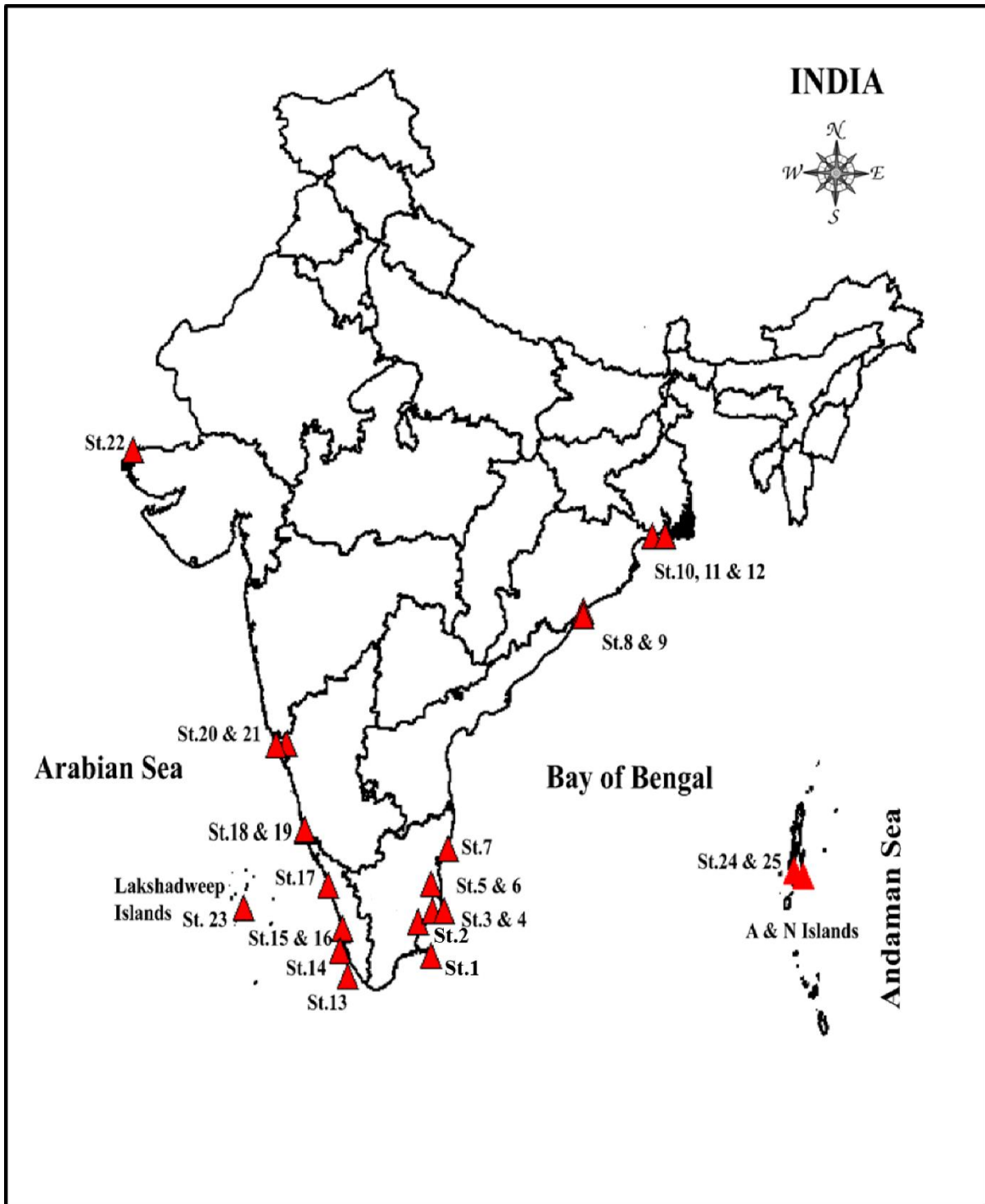
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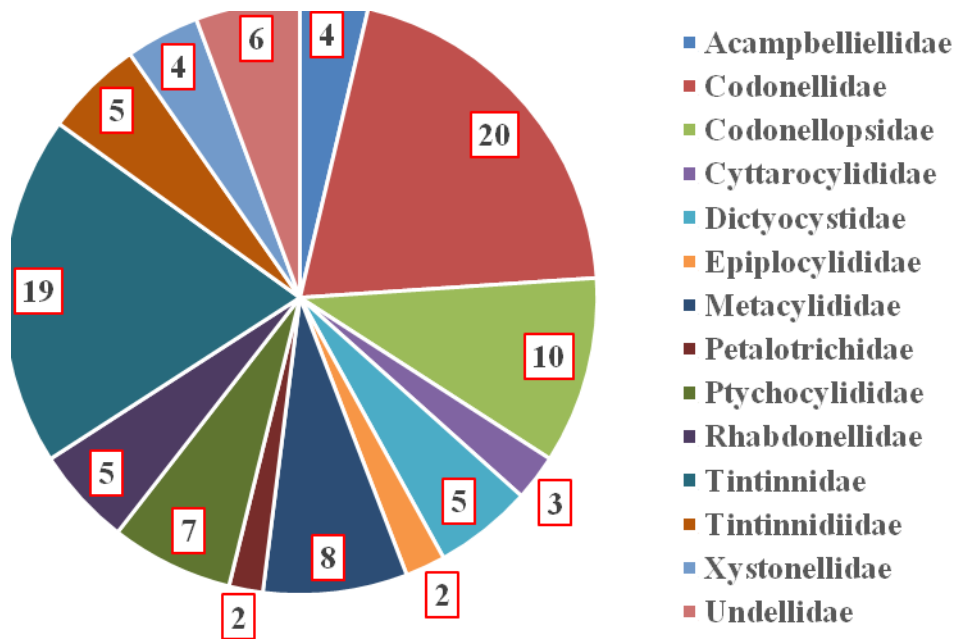
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**Fig.1 Geographical map showing sampling sites in the coastal zone of India.**



**Fig.2 Percentage composition of tintinnid families.**

**Table 1. List of tintinnids from the east coast of India. (The numbers in the table represent the reference cited in the tables 2 & 4)**

<b>Tintinnids</b>	<b>St.1</b>	<b>St.2</b>	<b>St.3</b>	<b>St.4</b>	<b>St.5</b>	<b>St.6</b>	<b>St.7</b>	<b>St.8</b>	<b>St.9</b>	<b>St.10</b>	<b>St.11</b>	<b>St.12</b>	<b>Stations</b>
<i>Acanthostomella norvegica</i>	1												<b>St.1 Gulf of Mannar</b>
<i>Amphorella</i> sp						8							<b>St.2 Kottaiappattinam</b>
<i>Amphorellopsis acuta</i>		26				6,7,14,15	24	12		25		19, 22	<b>St.3 Muthupet estuary</b>
<i>Amphorellopsis tetragona</i>	2											22	<b>St.4 Kaduviyar estuary</b>
<i>Ascambelliella</i> sp	1												<b>St.5 Pichavaram Mangrove</b>
<i>Ascambelliella retusa</i>	1												<b>St.6 Parangipettai</b>
<i>Codonellopsis frigida</i>	1												<b>St.7 Kalpakkam</b>
<i>Codonellopsis lusitanica</i>												22	<b>St.8 Bahuda Estuary</b>
<i>Codonellopsis morchella</i>	1,2												<b>St.9 Digha</b>
<i>Codonellopsis orthoceras</i>		26				6,7,14							<b>St.10 Chilika Lake</b>
<i>Codonellopsis ostenfeldi</i>	1,2				5	6,7,14,17		12		13,25			<b>St.11 Hooghly estuary</b>
<i>Codonellopsis schabi</i>	1	26				6,7,14	24				18,21,23	3,22	<b>St.12 Sundarban mangrove</b>
<i>Codonellopsis tessellata</i>						6,7,14,17							
<i>Codonellopsis</i> sp	1					6,7,14,17							
<i>Coxliella ampla</i>	2					7,11,14,15,17		12					
<i>Coxliella annulata</i>		26				6,7,11,14,15,17							
<i>Coxliella</i> sp Brandt						8							
<i>Dadayiella bublosa</i>		26				14							
<i>Dadayiella ganymedes</i>						6,7,14	24				18,19,21,23		
<i>Dadayiella</i> sp						8							
<i>Dictyocsta bulbosa</i>						6				13			
<i>Dictyocsta seshaiya</i>	27	26	9			6,7,10,11,14,17		12					
<i>Dictyocsta</i> sp						14,8,17				25			
<i>Epiplocyclus undella</i>						14							

**Table 2. List of tintinnids from the east coast of India. (The numbers in the table represent the reference cited in the tables 2 & 4)**

Tintinnids	St.1	St.2	St.3	St.4	St.5	St.6	St.7	St.8	St.9	St.10	St.11	St.12	Reference
<i>Eutintinnus apertus</i>									4	13		22	Anandakumar & Thajuddin 2013 (1)
<i>Eutintinnus elongatus</i>										13			Anjusha <i>et al.</i> 2013 (2)
<i>Eutintinnus fraknoi</i>						11,7	24			13			Biswas <i>et al.</i> 2013 (3)
<i>Eutintinnus lusus undae</i>					5	6,7,14,17							Das <i>et al.</i> 2017 (4)
<i>Eutintinnus rectus</i>						7							Godhantaraman 1994 (5)
<i>Eutintinnus tenuis</i>	2,27	26			5	6,7,14,15,17		12					Godhantaraman 2001 (6)
<i>Eutintinnus sp</i>						8	24				18,19,21,23	22	Godhantaraman 2002 (7)
<i>Favella adriatica</i>										13			Godhantaraman 2004 (8)
<i>Favella azorica</i>	1												Kothandapani <i>et al.</i> 2016 (9)
<i>Favella brevis</i>	1,2,27	26			5	6,7,11,14,17		12					Krishnamurthy & Santhanam 1978 (10)
<i>Favella companula</i>									4	13			Krishnamurthy <i>et al.</i> 1979 (11)
<i>Favella ehrenbergii</i>	1					6,7,14	24		4	13	18,19,21,23	20,22	Mishra & Panigrahy 1999 (12)
<i>Favella phillipinensis</i>	27	26	9		5	6,7,14,15,17		12		25			Mukherjee <i>et al.</i> 2015 (13)
<i>Favella taraikaensis</i>	1												Naidu & kirshnamurthy 1985 (14)
<i>Favella sp</i>	1					6,8,14,17						3	Naidu 1983 (15)
<i>Helicostomella fusiformis</i>						7							Perumal <i>et al.</i> 2009 (16)
<i>Helicostomella longa</i>		26				6,7,11,14,17		12					Prabu <i>et al.</i> 2005 (17)
<i>Helicostomella subulata</i>	1												Rakshit & Sarkar 2016 (18)
<i>Helicostomella sp</i>							24				18,19,21,23		Rakshit <i>et al.</i> 2014 (19)
<i>Leprotintinnus bottnicus</i>							24						Rakshit <i>et al.</i> 2015 (20)
<i>Leprotintinnus nordquisti</i>	1,2,27					6,7,14,15,17	24	12	4	13	18,19,21,23	3,20	Rakshit <i>et al.</i> 2016 a (21)
<i>Leprotintinnus simplex</i>	2				5	6,7,14,15,17	24	12	4	13	18,19,21,23	3,20,22	Rakshit <i>et al.</i> 2016 b (22)
<i>Leprotintinnus sp</i>							24						Rakshit <i>et al.</i> 2017 a (23)
<i>Luminella kuwaitensis</i>									4				Rakshit <i>et al.</i> 2017 b (24)
<i>Metacylis corbula</i>						7,14							Sahu <i>et al.</i> 2016 (25)
<i>Metacylis jorgenseni</i>	2,27					11,14		12	4	25			Saravanan & Sivakami 2016 (26)
<i>Metacylis mediterranea</i>							24						Srinivasan <i>et al.</i> 1988 (27)



**Table 4. List of tintinnids from the east coast of India. (The numbers in the table represent the reference cited in the tables 2 & 4)**

<b>Tintinnids</b>	<b>St.1</b>	<b>St.2</b>	<b>St.3</b>	<b>St.4</b>	<b>St.5</b>	<b>St.6</b>	<b>St.7</b>	<b>St.8</b>	<b>St.9</b>	<b>St.10</b>	<b>St.11</b>	<b>St.12</b>	<b>Refrence</b>
<i>Tintinnopsis compressa</i>										13			Anandakumar & Thajuddin 2013 (1)
<i>Tintinnopsis cylindrica</i>	2,27			16	5	6,7,11,14,17	24	12	4	13,25	18,21,23	3,22	Anjusha <i>et al.</i> 2013 (2)
<i>Tintinnopsis dadayi</i>	1												Biswas <i>et al.</i> 2013 (3)
<i>Tintinnopsis directa</i>	2,27	26			5	6,7,11,14,15,17	24	12	4	13,25	18,19,21,23	3	Das <i>et al.</i> 2017 (4)
<i>Tintinnopsis entzii</i>	1												Godhantaraman 1994 (5)
<i>Tintinnopsis failakkaensis</i>							24			13			Godhantaraman 2001 (6)
<i>Tintinnopsis fimbriata</i>									4	13		22	Godhantaraman 2002 (7)
<i>Tintinnopsis glans</i>	2	26			5	6,7,14,17							Godhantaraman 2004 (8)
<i>Tintinnopsis gracilis</i>	2	26			5	6,7,14,17	24		4	13,25	18,19,21,23	3,20	Kothandapani <i>et al.</i> 2016 (9)
<i>Tintinnopsis karajacensis</i>	1,2					6,7,14,17	24		4	13	18,19,21,23	3,22	Krishnamurthy & Santhanam 1978 (10)
<i>Tintinnopsis kofoidi</i>		26		16	5	6,7,14,17			4			3	Krishnamurthy <i>et al.</i> 1979 (11)
<i>Tintinnopsis lobiancoi</i>											18,19,21,23	3,20	Mishra & Panigrahy 1999 (12)
<i>Tintinnopsis lohmanni</i>	2,27	26			5	6,7,11,14,17		12		25	18,19,21,23	3,20,22	Mukherjee <i>et al.</i> 2015 (13)
<i>Tintinnopsis minuta</i>	1,2	26		16	5	6,7,14,17	24				18,19,21,23	3,20,22	Naidu & kirshnamurthy 1985 (14)
<i>Tintinnopsis mortenseni</i>	2,27			16	5	6,7,14,17		12	4			3	Naidu 1983 (15)
<i>Tintinnopsis nana</i>		26				6,7	24		4	25	18,19,21,23		Perumal <i>et al.</i> 2009 (16)
<i>Tintinnopsis nucula</i>	2	26			5	6,7,14,15				13	18,19,21,23	3	Prabu <i>et al.</i> 2005 (17)
<i>Tintinnopsis orientalis</i>									4			3	Rakshit & Sarkar 2016 (18)
<i>Tintinnopsis parva</i>							24				18,19,21,23	3	Rakshit <i>et al.</i> 2014 (19)
<i>Tintinnopsis parvula</i>						14,17	24		4	13	18,19,21,23		Rakshit <i>et al.</i> 2015 (20)
<i>Tintinnopsis patula</i>	1												Rakshit <i>et al.</i> 2016 a (21)
<i>Tintinnopsis radix</i>	2	26			5	6,7,14,15,17	24			13,25	18,21,23	3,22	Rakshit <i>et al.</i> 2016 b (22)
<i>Tintinnopsis rotundata</i>										13	18,21,23	22	Rakshit <i>et al.</i> 2017 a (23)
<i>Tintinnopsis sacculus</i>	27							12		25			Rakshit <i>et al.</i> 2017 b (24)
<i>Tintinnopsis tentaculata</i>											18,21,23		Sahu <i>et al.</i> 2016 (25)
<i>Tintinnopsis tenuis</i>						6,7							Saravanan & Sivakami 2016 (26)
<i>Tintinnopsis tocaninensis</i>	1,2,27		9	16	5	6,7,14,15,17	24	12		13,25		3,22	Srinivasan <i>et al.</i> 1988 (27)

**Table 5. List of tintinnids from the east coast of India. (The numbers in the table represent the reference cited in the tables 2 & 4)**

<b>Tintinnids</b>	<b>St.1</b>	<b>St.2</b>	<b>St.3</b>	<b>St.4</b>	<b>St.5</b>	<b>St.6</b>	<b>St.7</b>	<b>St.8</b>	<b>St.9</b>	<b>St.10</b>	<b>St.11</b>	<b>St.12</b>
<i>Tintinnopsis tubulosa</i>	27	26		16	5	6,7,14,15,17		12	4	13,25	18,21,23	3,20,22
<i>Tintinnopsis turbo</i>											18,19,21,23	
<i>Tintinnopsis turgida</i>	1											
<i>Tintinnopsis urnula</i>							24				18,19,21,23	
<i>Tintinnopsis uryguayensis</i>	2,27					6,7,11,14,15,17		12		25		3
<i>Tintinnopsis</i> sp										25		3
<i>Wangiella dicollaria</i>											18,21,23	



**Table 6. List of tintinnids from the west coast of India. (The numbers in the table represent the reference cited)**

Tintinnids	St.13	St.14	St.15	St.16	St.17	St.18	St.19	St.20	St.21	St.22	Stations
<i>Acanthostomella</i> sp								6			St.13 Kanyakumari
<i>Amphorella brandti</i>								6			St.14 Ashtamudi estuary
<i>Amphorella gracilis</i>				5							St.15 Cochin
<i>Amphorella quadrilineata</i>	1	5	1	5	1	5	1	1			St.16 Cochin Back waters
<i>Amphorella tricollaria</i>								6			St.17 Calicut
<i>Amphorellopsis tetragona</i>		5		5		5					St.18 Netravati
<i>Amphorides amphora</i>				5		5					St.19 Manglore
<i>Codonella acerca</i>	1		1		1	5	1	1			St.20 Goa
<i>Codonella amphorella</i>	1		1		1		1	1			St.21 Zuari estuary
<i>Codonella nationalis</i>	1		1	5	1	5	1	1			St.22 Gulf of Kachchh
<i>Codonellopsis ecuadata</i>	1		1		1		1	1	2,3		
<i>Codonellopsis nipponica</i>	1		1		1		1	1			<b>Reference</b>
<i>Codonellopsis orthoceras</i>				5,8				6	2		Devi <i>et al.</i> 2010 (1)
<i>Codonellopsis ostenfeldi</i>	1		1		1		1	1	2,3		Gauns 2000 (2)
<i>Codonellopsis pusilla</i>								6			Gauns <i>et al.</i> 2015 (3)
<i>Codonellopsis schabi</i>				8					2,3		Jyothibabu <i>et al.</i> 2006 (4)
<i>Codonellopsis tessellata</i>	1		1		1		1	1			Jyothibabu <i>et al.</i> 2008 (5)
<i>Coxliella fasciata</i>								6			Rajathy <i>et al.</i> 2016 (6)
<i>Coxliella</i> sp	1		1		1		1	1			Saravanakumar <i>et al.</i> 2007 (7)
<i>Cyrtarocyclis brandti</i>								6			Sooria <i>et al.</i> 2015 (8)
<i>Cyrtarocyclis magna</i>								6			
<i>Cyrtarocyclis vanhoeffini</i>	1		1		1	5	1	1			
<i>Dadayiella ganymedes</i>		5		5		5					
<i>Dictyocsta elegans</i>	1	5	1	5	1	5	1	1,6			
<i>Dictyocsta grandis</i>	1		1		1		1	1			
<i>Dictyocsta lepida</i>				5					2		
<i>Dictyocsta mitra</i>		5		5							
<i>Dictyocsta seshaiyai</i>				5,8							
<i>Dictyocsta</i> sp	1		1	5	1		1	1,6	2,3		

**Table 7. List of tintinnids from the west coast of India (The numbers in the table represent the reference cited)**

<b>Tintinnids</b>	<b>St.13</b>	<b>St.14</b>	<b>St.15</b>	<b>St.16</b>	<b>St.17</b>	<b>St.18</b>	<b>St.19</b>	<b>St.20</b>	<b>St.21</b>	<b>St.22</b>	<b>Stations</b>
<i>Epiplocyclus blanda</i>								6			St.13 Kanyakumari
<i>Epiplocyclus reticulata</i>	1	5	1	5	1	5	1	1			St.14 Ashtamudi estuary
<i>Epiplocyclus undella</i>	1	5	1	4,5	1	5	1	1,6			St.15 Cochin
<i>Epiplocyloides ralumensis</i>								6			St.16 Cochin Back waters
<i>Epiplocyloides reticulate</i>								6			St.17 Calicut
<i>Eutintinnus apertus</i>									2		St.18 Netravati
<i>Eutintinnus elongatus</i>	1	5	1	5	1		1	1			St.19 Manglore
<i>Eutintinnus fraknoi</i>								6			St.20 Goa
<i>Eutintinnus lusus undae</i>	1		1	4,5	1	5	1	1,6			St.21 Zuari estuary
<i>Eutintinnus tenuis</i>									2,3	7	St.22 Gulf of Kachchh
<i>Eutintinnus sp</i>								6			
<i>Favella brevis</i>				5		5				7	<b>Reference</b>
<i>Favella ehrenbergii</i>								6			Devi <i>et al.</i> 2010 (1)
<i>Favella panamensis</i>								6			Gauns 2000 (2)
<i>Favella phillipinensis</i>									2	7	Gauns <i>et al.</i> 2015 (3)
<i>Favella sp</i>								6			Jyothibabu <i>et al.</i> 2006 (4)
<i>Helicostomella subulata</i>	1		1	5	1	5	1	1,6			Jyothibabu <i>et al.</i> 2008 (5)
<i>Leprotintinnus nordquisti</i>				4				6	2,3		Rajathy <i>et al.</i> 2016 (6)
<i>Leprotintinnus pellucidus</i>								6			Saravanakumar <i>et al.</i> 2007 (7)
<i>Leprotintinnus simplex</i>				4				6			Sooria <i>et al.</i> 2015 (8)
<i>Metacylis corbula</i>									2		
<i>Parundella lohmanni</i>	1		1	5	1	5	1	1			
<i>Petalotricha ampulla</i>	1	5	1	5	1		1	1,6			
<i>Proplectella fastigata</i>								6			
<i>Proplectella globosa</i>	1		1		1		1	1			
<i>Proplectella perpusilla</i>								6			
<i>Protorhabdonella simplex</i>	1		1	5	1	5	1	1	2		
<i>Rhabdonella amor</i>	1	5	1	5	1	5	1	1			
<i>Rhabdonella elegans</i>	1		1		1		1	1			

**Table 8. List of tintinnids from the west coast of India. (The numbers in the table represent the reference cited)**

<b>Tintinnids</b>	<b>St.13</b>	<b>St.14</b>	<b>St.15</b>	<b>St.16</b>	<b>St.17</b>	<b>St.18</b>	<b>St.19</b>	<b>St.20</b>	<b>St.21</b>	<b>St.22</b>	<b>Stations</b>
<i>Rhabdonella henseni</i>	1		1		1		1	1			St.13 Kanyakumari
<i>Rhabdonella poculum</i>	1		1	5	1		1	1			St.14 Ashtamudi estuary
<i>Rhabdonella spiralis</i>	1	5	1	5	1	5	1	1			St.15 Cochin
<i>Salpingacantha ampla</i>	1	5	1	5	1	5	1	1			St.16 Cochin Back waters
<i>Salpingella accuminata</i>	1	5	1	5	1	5	1	1			St.17 Calicut
<i>Salpingella decurtata</i>	1	5	1	5	1	5	1	1			St.18 Netravati
<i>Salpingella gracilis</i>				5							St.19 Manglore
<i>Stenosemella nucula</i>									2,3		St.20 Goa
<i>Stenosemella parvicolli</i>				8							St.21 Zuari estuary
<i>Stenosemella steinii</i>									2		St.22 Gulf of Kachchh
<i>Stenosemella ventricosa</i>		5							2,3		
<i>Stenosemella sp</i>									2		<b>Reference</b>
<i>Streenstrupiella steenstrupii</i>	1	5	1	5	1		1	1			Devi <i>et al.</i> 2010 (1)
<i>Tintinnidium incertum</i>				4,8					2,3		Gauns 2000 (2)
<i>Tintinnidium primitivum</i>				8					2,3		Gauns <i>et al.</i> 2015 (3)
<i>Tintinnopsis accuminata</i>									2		Jyothibabu <i>et al.</i> 2006 (4)
<i>Tintinnopsis amphora</i>									2,3		Jyothibabu <i>et al.</i> 2008 (5)
<i>Tintinnopsis bermudensis</i>				4					2		Rajathy <i>et al.</i> 2016 (6)
<i>Tintinnopsis beroidea</i>				4,8					2,3	7	Saravanakumar <i>et al.</i> 2007 (7)
<i>Tintinnopsis buetschlii</i>				4					2,3	7	Sooria <i>et al.</i> 2015 (8)
<i>Tintinnopsis campanula</i>								6			
<i>Tintinnopsis compressa</i>								6			
<i>Tintinnopsis corniger</i>								6			
<i>Tintinnopsis cylindrica</i>				4,8				6	2		
<i>Tintinnopsis dadayi</i>									2,3		
<i>Tintinnopsis davidoffi</i>								6			
<i>Tintinnopsis directa</i>				4					2,3	7	
<i>Tintinnopsis entzii</i>									2		
<i>Tintinnopsis fimbriata</i>									2,3		

**Table 9. List of tintinnids from the west coast of India. (The numbers in the table represent the reference cited)**

<b>Tintinnids</b>	<b>St.13</b>	<b>St.14</b>	<b>St.15</b>	<b>St.16</b>	<b>St.17</b>	<b>St.18</b>	<b>St.19</b>	<b>St.20</b>	<b>St.21</b>	<b>St.22</b>	<b>Stations</b>
<i>Tintinnopsis glans</i>				4					2		St.13 Kanyakumari
<i>Tintinnopsis gracilis</i>				4				6	2,3		St.14 Ashtamudi estuary
<i>Tintinnopsis karajacensis</i>									2		St.15 Cochin
<i>Tintinnopsis kofoidi</i>				4							St.16 Cochin Back waters
<i>Tintinnopsis lobiancoi</i>								6	2		St.17 Calicut
<i>Tintinnopsis lohmanni</i>				4,8					2		St.18 Netravati
<i>Tintinnopsis minuta</i>									2,3	7	St.19 Manglore
<i>Tintinnopsis mortenseni</i>				4					2		St.20 Goa
<i>Tintinnopsis nana</i>								6			St.21 Zuari estuary
<i>Tintinnopsis nucula</i>				4					2		St.22 Gulf of Kachchh
<i>Tintinnopsis orientalis</i>								6			
<i>Tintinnopsis ovalis</i>									2		<b>Reference</b>
<i>Tintinnopsis radix</i>		5		4,5				6			Devi <i>et al.</i> 2010 (1)
<i>Tintinnopsis rotundata</i>				4				6	2		Gauns 2000 (2)
<i>Tintinnopsis sacculus</i>									2		Gauns <i>et al.</i> 2015 (3)
<i>Tintinnopsis strigosa</i>									2		Jyothibabu <i>et al.</i> 2006 (4)
<i>Tintinnopsis tocantinensis</i>				4				6	2,3		Jyothibabu <i>et al.</i> 2008 (5)
<i>Tintinnopsis tubulosa</i>				4					2,3	7	Rajathy <i>et al.</i> 2016 (6)
<i>Tintinnopsis undella</i>									2		Saravanakumar <i>et al.</i> 2007 (7)
<i>Tintinnopsis uryguayensis</i>				4,8					2,3		Sooria <i>et al.</i> 2015 (8)
<i>Undella globosa</i>	1	5	1	5	1	5	1	1,6			
<i>Undella hyalina</i>	1		1	5	1	5	1	1,6			
<i>Undella pentagona</i>								6			
<i>Undella turgida</i>								6			
<i>Xystonella treforti</i>	1		1	5	1		1	1			

**Table 10. List of tintinnids from coastal waters of Indian Islands. (The numbers in the table represent the reference cited)**

<b>Tintinnids</b>	<b>St.23</b>	<b>St.24</b>	<b>St.25</b>	<b>Stations</b>
<i>Amphorella</i> sp			1,2,3	St.23 Kavaratti (Lakshadweep)
<i>Amphorellopsis acuta</i>		3	3	St.24 West coast of South Andaman (Bay of Bengal)
<i>Amphorides pochytoecus</i>			1,2,3	St.25 East coast of South Andaman (Andaman Sea)
<i>Ascambelliella</i> sp		3	1,2,3	
<i>Codonella nationalis</i>			1,2,3	<b>Reference</b>
<i>Codonellopsis minor</i>		3	2,3	Elangovan <i>et al.</i> 2012 (1)
<i>Codonellopsis morchella</i>		3		Elangovan <i>et al.</i> 2017 (2)
<i>Codonellopsis nipponica</i>			2,3	Elangovan & Padmavati 2017 (3)
<i>Codonellopsis ostenfeldi</i>	4	3	1,2,3	Robin <i>et al.</i> 2012 (4)
<i>Codonellopsis tessellata</i>		3	2,3	
<i>Dadayiella</i> sp			3	
<i>Dictyocsta</i> sp		3	3	
<i>Epiplocyclis</i> sp		3	2,3	
<i>Eutintinnus apertus</i>		3	2,3	
<i>Eutintinnus fraknoi</i>			1,2,3	
<i>Eutintinnus lusus undae</i>		3	1,2,3	
<i>Eutintinnus tenuis</i>			1,2,3	
<i>Favella brevis</i>	4			
<i>Favella companula</i>		3	2,3	
<i>Favella ehrenbergii</i>		3	3	
<i>Leprotintinnus nordquisti</i>		3	1,2,3	
<i>Leprotintinnus simplex</i>			2,3	
<i>Metacylis jorgenseni</i>		3	1,2,3	
<i>Metacylis mereschkowskii</i>			2,3	

**Table 11. List of tintinnids from coastal water of Indian Islands. (The numbers in the table represent the reference cited)**

<b>Tintinnids</b>	<b>St.23</b>	<b>St.24</b>	<b>St.25</b>	<b>Stations</b>
<i>Parundella caudata</i>			1,2,3	St.23 Kavaratti (Lakshadweep)
<i>Proplectella perulla</i>		3	3	St.24 West coast of south Andaman (Bay of Bengal)
<i>Protorhabdonella</i> sp		3	2,3	St.25 East coast of south Andaman (Andaman Sea)
<i>Rhabdonella burula</i>			3	
<i>Rhabdonella</i> sp		3	1,2,3	<b>Reference</b>
<i>Stenosemella</i> sp		3	3	Elangovan <i>et al.</i> 2012 (1)
<i>Streenstrupiella</i> sp		3	1,2,3	Elangovan <i>et al.</i> 2017 (2)
<i>Tintinnidium primitivum</i>			2,3	Elangovan & Padmavati 2017 (3)
<i>Tintinnopsis beroidea</i>		3	1,2,3	Robin <i>et al.</i> 2012 (4)
<i>Tintinnopsis buetschlii</i>		3	3	
<i>Tintinnopsis cylindrica</i>	4	3	1,2,3	
<i>Tintinnopsis dadayi</i>		3	3	
<i>Tintinnopsis directa</i>	4	3	2,3	
<i>Tintinnopsis glans</i>		3	1,2,3	
<i>Tintinnopsis gracilis</i>			2,3	
<i>Tintinnopsis karajacensis</i>		3	2,3	
<i>Tintinnopsis kofoidi</i>			1,2,3	
<i>Tintinnopsis loricata</i>		3	2,3	
<i>Tintinnopsis minuta</i>		3	1,2,3	
<i>Tintinnopsis mortenseni</i>			2,3	
<i>Tintinnopsis patula</i>			3	
<i>Tintinnopsis radix</i>		3	2,3	
<i>Tintinnopsis tocantinensis</i>		3		
<i>Tintinnopsis tubulosa</i>	4			
<i>Tintinnopsis uryguayensis</i>		3	2,3	