

# Community Structure and Abundance of Microzooplanktonic Tintinnids in the Bay of Bengal and Arabian Sea in Relation to Nanophytoplankton

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## ABSTRACT

A comparative investigation was made on the community structure and species biomass of microzooplanktonic tintinnids (Protozoa: Ciliata) of the nearshore waters of Thoothukudi (southern Bay of Bengal) and Oman (western extension of the Arabian Sea) during 2-6, June 2013. There was not much variation in the species diversity of tintinnid fauna in these coastal waters as Thoothukudi recorded 24 species and Oman, 28 species. However, the agglomerated species dominated in the Thoothukudi coast (15 species) and hyaline species dominated in the Oman coast (25 species). Further, it was found that only 6 species viz. *Tintinnopsis directa*, *Tintinnopsis gracilis*, *Codonellopsis ostenfeldi*, *Metacyclis jorgenseni*, *Amphorellopsis acuta* and *Eutintinnus tenuis* were found to occur in both the coasts. The biomass of tintinnids in terms of density showed a remarkable variation between these coasts as the Thoothukudi coast, recorded from  $0.2 \times 10^2$  individuals/l to  $1.7 \times 10^3$  /individuals/l and Oman coast from  $0.1 \times 10^2$  individuals/l to  $3.8 \times 10^2$  individuals/l. Simultaneous investigations made on the nanophytoplankton species diversity and biomass in these two coasts showed a clear cut variation. While the Thoothukudi coast was dominated with the species of *Skeletonema costatum*, *Schroederella delicatula*, *Rhizosolenia cylindrus*, *Chaetoceros didymus* and *Navicula longa*, Oman coast showed the dominance of *Cyclotella meneghiniana*, *Cyclotella striata*, *Asterompalus wyvillei*, *Leptocylindrus danicus*, *Talassionema nitzschioides*, *Asterionella japonica*, *Diploneis weissflogii* and *Navicula closterium*. The density of nanophytoplankton of these coasts ranged from  $0.6 \times 10^5$  cells/l to  $5.1 \times 10^5$  cells/l and from  $0.2 \times 10^5$  cells/l to  $1.7 \times 10^5$  cells/l respectively. These findings suggest that the higher density of tintinnids in the Bay of Bengal could largely be due to the rich food organisms viz. nanophytoplankton in this region than in the Arabian sea. The biomass of different species of tintinnids and nanophytoplankton has also been determined in relation to environmental variables.

