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Swarm of *Tintinnopsis uruguayensis* in the estuarine waters of Kochi, Southwest coast of India

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ABSTRACT

Microzooplankton play an important connecting role in the aquatic food webs. During our bimonthly time series observation on microzooplankton ecology and dynamics in the estuarine waters of Kochi, Southwest coast of India, dense swarming of *Tintinnopsis uruguayensis* was noticed. The contribution of *T. uruguayensis* during the swarm period was 98.4% of the total microzooplankton density. The swarming of *T. uruguayensis* during the postmonsoon (November, 2015) could be related to the higher concentrations of food supply. The results demonstrate a statistically significant positive relationship between the swarm of *T. uruguayensis* and the small centric diatom *Thalassiosira decipiens*. Our observation suggest that the increase of *Thalassiosira decipiens* contributed to the proliferation of *T. uruguayensis*.

Key words: Kochi estuarine waters, microzooplankton, tintinnid swarm, prey specificity, food web

Kochi backwaters are the largest monsoonal estuary along the west coast of India, which receives freshwater inflow from seven rivers and salinity incursion from the neighboring Arabian Sea (Sooria et al., 2015). Being a complex shallow estuary, tidal fluctuations and seasonal changes can exhibit significant alterations in the distribution of physicochemical as well as biological components. In these systems, the microzooplankton (20 to 200 μm in size) are fundamental in the transfer of energy from the primary producers to the higher trophic levels. Hence, it is of special interest to study the microzooplankton community structure under different ecological conditions. Microzooplankton are phagotrophic organisms of the plankton community inhabiting estuarine, coastal and open ocean waters with a definite community structure, are a major component of microbial food webs (Azam et al., 1983; Capriulo, 1990). They are small in size, ubiquitous and have rapid metabolic growth rates (Verity, 1985; Fenchel, 1987). They are primary consumers, as well as nutrient regenerators and are important food sources for the metazoan zooplankton and fish larvae (Pierce & Turner, 1992). Microzooplankton, through these complex trophic interactions within the microbial food web can modulate biogeochemical fluxes. Due to the small body size, microzooplankton have higher weight specific physiological rates such as feeding, respiration, excretion, and growth than larger metazoans (Verity, 1985). Tintinnids are a part of the microzooplankton, which are large

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