

Planktonic ciliates: Potential bio-indicators for assessing water quality

Scientists of the National Centre for Coastal Research (NCCR), Ministry of Earth Sciences, Government of India, recently conducted a study suggesting that Planktonic ciliates may have the potential to be used as bio-indicators for assessing water quality.

Studies were conducted on ecology and distribution of Planktonic ciliates in Pulicat, Tamil Nadu during three seasons, namely, pre-monsoon, monsoon and post-monsoon. It was found that the combined effects of salinity, cryolophil-a and nutrient levels are the factors responsible for the distribution of ciliate species.

Planktonic ciliates play an important role in aquatic environments by mediating the transfer of energy between trophic levels of the microbial food web. The study also showed that the majority of community structure and variations take place due to changing environmental conditions in both temperate and tropical regions. Environmental factors, such as salinity, temperature and availability of food govern the ciliated community structure.

Pulicat Lake, a hypersaline lagoon, records varying salinity from 2 to 55 during the monsoon and post-monsoons seasons. Ecological and environmental variability usually affect community characteristics, such as species richness, that decreases with increasing salinity. Community organization of planktonic ciliates accurately reflects the brackish to hypersaline condition of the Lake