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Seasonal variations of plankton in Kodiakkarai and Arukattuthurai on the Vedharanyam coast, South India (Article)

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Abstract

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Composition and community structure of phyto-, microzoo- and mesozoo-plankton off Kodiakkarai and Arukattuthurai on the Vedharanyam coast, South India were investigated over one year (September 2006 to August 2007). One hundred and sixteen phytoplankton species were observed under different classes: Bacillariophyceae (90 species); Dinophyceae (20); Cyanophyceae (5) and Chrysophyceae (1) were recorded. Phytoplankton abundance varied from 9.9 to 78.1 cells mL⁻¹, with peak Shannon–Weaver diversity, H' of 6.18 during summer (April–June) when there was a stable hydrographical condition. A total of 37 microzooplankton species were recorded (Tintinnids 17, Rotifera 2, Appendicularia 2 and Larval forms 16). Microzooplankton abundance ranged between 3.3 and 27.7 ind. mL⁻¹, with peak diversity of 4.56 during summer. Fifty-five species of mesozooplankton including 42 copepods formed the dominant group. The mesozooplankton abundance ranged between 5.4 and 14.5 and between 11.4 and 52 ind. mL⁻¹ at stations 1 and 2, respectively. Arukattuthurai coastal waters were very rich and mesozooplankton diversity was high (5.22) at station 2 (Arukattuthurai), although slightly lower (4.58) at station 1 (Kodiakkarai). The occurrence of most of the phyto-, microzoo- and mesozoo-plankton species in Kodiakkarai and Arukattuthurai coastal waters were distinctly seasonal. Therefore, variations of the micro- and mesozoo-plankton species were subjected to seasonal fluctuations in environmental parameters which were strongly influenced seasonally, including by freshwater influence. The highest values of mesozooplankton abundance and species diversity were found during summer and were positively correlated with salinity. © 2020 Elsevier B.V.

SciVal Topic Prominence ⓘ

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