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Interannual and seasonal effects of environmental factors on the zooplankton distribution in the solar saltern of Sfax (south-western Mediterranean sea)

Rahma Thabet^{ab,*}, Vincent Leignel^b, Habib Ayadi^a, Emmanuelle Tastard^b

^aUniversity of Sfax, Laboratory of Biodiversity and Aquatic Ecosystems UR/11ES72, Ecology and Planktonology, Department of Life Sciences, , Soukra Road Km 3.5, BP1171, 3000 Sfax, Tunisia

^bUniversité du Maine, laboratoire Mer Molécules Sante FR-CNRS 3473 IUML, 72085 Le Mans, France

*Corresponding author: rahmathabet@gmail.com

ABSTRACT

Understanding interannual variation of zooplankton communities is a mean for assessment and monitoring of aquatic ecosystems. For this reason, we monitored the zooplankton community of the Sfax saltern (Tunisia) during four years (2000-2003). A multivariate method, the “STATICO analysis” was used to investigate the effect of environmental parameters on the abundance, distribution and composition of the zooplankton community according to time, in three ponds with different salinity values. The results revealed some seasonal and interannual variations of the zooplankton community. Copepods, which were the most abundant zooplankton species, were clearly influenced by the nutrient content variation (higher in spring and autumn) and the anthropogenic pollution level in each pond but their distribution was mainly related to salinity changes. In autumn, *Oithona nana* (Cyclopoida) proliferated in the least salty pond, *Microsetella* sp. (Harpacticoida) was abundant at intermediate salinity; and *Harpacticus littoralis* and *Bryocamptus* sp. (Harpacticoida) proliferated in the saltiest pond.

Keywords Copepods; Environmental factors; Interannual variation; Sfax saltern; STATICO; Zooplankton

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