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Biodiversity of polychaetous annelids from the peninsula of Cap Bon, northeast coast of Tunisia

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Abstract

In Tunisia, polychaete studies are very rare (Fauvel 1924 a, b; Westheide 1972; Zibrowius 1970, 1971; Cantone 1978; Ben Amor 1984; Zaâbi & Afli 2005). The aim of this study was to update and fill in gaps in data of polychaetes of Tunisia. Samples were taken aboard the research vessel R/V *Hannibal* with a Van Veen grab (0.1 m²) and a core (0.009 m²). Nine sites located on the peninsula of Cap Bon on the NE coast of Tunisia, from Sidi Daoud to Ras Lahmer, were sampled in 2005 and 2006. A total of 5,920 individuals in 29 families and 88 species of polychaetes were identified. Twenty-nine species were newly recorded for Tunisia, including the ampharetid *Isolda pulchella* O.F. Müller, 1858 and the paraonid *Aricidea cerrutii* (Laubier, 1966). Diversity parameters were established. Abundance and species richness were higher in shallow waters dominated by *Protodorvillea kefersteini* (McIntosh, 1869) and *Malacoceros fuliginosus* (Claparède, 1868) than in deep waters where *Aponuphis fauveli* (Rioja, 1918) and *Euclymene palermitana* (Grube, 1840) dominated. Multivariate methods, including the Shannon diversity index, cluster analysis, and rank frequency analysis, were used to characterize the spatial structure and temporal variability of the different communities.

Key words: polychaetes, biodiversity, Tunisia, Mediterranean

Introduction

There have been very few polychaete studies in Tunisia, with the most important being Fauvel (1924 a–b), Zibrowius (1970, 1971), Westheide (1972), Cantone (1978) and Bouderesque (1997). Zghal & Ben Amor (1980) collected data on Tunisian polychaetes and listed 222 species. Later, Zghal & Azzouna (1982) added seven additional species. Subsequently, Zaâbi & Afli (2005) studied the distribution of polychaetes along the northeastern coast of the Tunis Gulf. Several taxonomic and ecological works have been undertaken on other Tunisian macrobenthic fauna. Azzouz (1971) described the benthic fauna of north and southeast Tunisia; Ben Alaya (1972) studied the fauna associated with *Posidonia oceanica* in the Gulf of Tunis; Zaouali & Baeten (1985) studied the macrobenthic community in Bibans lagoon; Ben Mustapha et al. (2003) documented sponges from Tunisian coasts; Ayari & Afli (2003) surveyed the macrobenthic fauna in Tunis Bay, and Mestiri et al. (2005) worked on ascidians collected from Zembra-Zembretta Island. However, there is an obvious lack of ecological studies of polychaetes. The objective of this paper is to characterize the

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