



Associated mollusc communities of a *Posidonia oceanica* meadow in Cap Zebib (off North East Tunisia)

Walid Belgacem^{a,*}, Habib Langar^{b,1}, Gerard Pergent^{c,2}, Oum Kalthoum Ben Hassine^{a,3}

^a U.R. de Biologie, Ecologie et Parasitologie des Organismes Aquatiques, Faculté des Sciences de Tunis, Université Tunis El Manar II, 2092, Tunisia

^b Laboratoire de Biodiversité et Biotechnologies Marines, Institut National des Sciences et Technologies de la Mer, 28, Rue du 2 mars 1934, 2025 Salammbô, Tunisia

^c Université de Corse, UMR CNRS 6134, Faculté des Sciences et Techniques, BP 52, 20250 Corte, France

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ABSTRACT

Mollusc communities associated with the seagrass *Posidonia oceanica* were investigated in Cap Zebib (North-Eastern Tunisia). Samples were collected monthly from May 2007 to May 2008, in two stations located at 3 and 12 m depths using a corer of 25 cm diameter. A total of 753 individuals belonging to 47 species were identified. The species richness (S) and Shannon–Wiener diversity index (H') showed significant variation in relation with depth and sampling period, with higher values at 3 m depth. The community structure at 3 m depth varied considerably from one month to another, while 12 m depth did not show any significant temporal variability. The results of similarity percentage (SIMPER) and Factorial Correspondence Analysis (FCA) showed that the species *Clanculus cruciatus*, *Cantharus dorbignyi*, *Columbella rustica* and *Cardita calyculata* contributed most to the distribution pattern of the mollusc community at 3 m depth. In contrast, at 12 m depth, the highest contributions were given by the species *Jujubinus exasperatus*, *Smaragdia viridis* and *Tricolia pullus*. Taking into consideration a possible relationship between the faunal composition and plant (*P. oceanica*) features, a negative correlation was found between the number of mollusc species, Shannon–Wiener diversity and water depth. In contrast, a positive correlation was noted between the number of species and meadow shoot density, with high values in shallow area and more dense stands. For the abiotic parameters, a positive correlation was observed between Shannon–Wiener diversity and the dissolved oxygen. The Leaf Area Index was also positively correlated with temperature and dissolved oxygen.

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* Corresponding author. Tel.: +216 20 337 084; fax: +216 71 871 666.

E-mail address: walidbelgacem@yahoo.fr (W. Belgacem).

¹ Fax: +216 71 732 622.

² Fax: +33 04 95 46 24 41.

³ Fax: +216 71 871 666.