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TITLE: Macrofaunal assemblages in canyon and adjacent slope of the NW and Central Mediterranean systems

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ABSTRACT:

Macrofaunal assemblages were studied along bathymetric transects in six canyons and four adjacent open slopes of the Mediterranean Sea. The different areas investigated were located approximately along a longitudinal gradient at similar latitudes. Three regions were investigated: the Catalan (from 334 to 1887 m depth), the Ligurian (from 222 to 2005 m depth) and the South Adriatic margins (from 196 to 908 m depth). The analysis of the meso-scale distribution of assemblage structure and biomass showed significant differences among regions, which resulted in high values of  $\alpha$ -diversity. Clear differences in trophic composition were also observed, and a decreasing pattern in the individual body size of macrofaunal organisms moving Eastward. These patterns were apparently linked to changes in food supply, whereas macrofaunal abundance and number of taxa showed a decrease pattern with increasing water depth. When the assemblage structure was compared between canyons and adjacent open slope, a very high  $\alpha$ -diversity was observed, indicating that the bottom topography exerted a strong effect on the assemblage characteristics.

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