

## Functional Diversity of the Mediterranean Bivalve Fauna across the Late Miocene Ecological Crisis

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The Late Miocene was a period of major paleogeographic, climatic and biotic changes for the Mediterranean due to the restriction of the marine gateway to the Atlantic, which culminated in the Messinian Salinity Crisis (MSC), and the ongoing global climatic cooling. The Late Miocene ecological crisis undoubtedly affected the biodiversity of bivalves living in the Mediterranean during that time. The aim of this Bachelor's thesis is to investigate the consequences of the Messinian Salinity Crisis and its preconditioning phase for the evolution of functional diversity of the Mediterranean bivalve fauna. The biodiversity of bivalves is quantified for the Tortonian, the pre-evaporitic Messinian and the Zanclean of the Mediterranean using functional diversity indices, by considering the following bivalve species traits: lifestyle, depth range, maximum adult size, trophic role and substrate affinity. The analysis is based on a recently compiled dataset containing the fossil record of the Mediterranean bivalves for this time interval. The traits of the species in this dataset are obtained from online open-access databases („WoRMS – World Register of Marine Species“ 2023; „SeaLifeBase“ 2023) and the literature. Here, I discuss the methodological approach and the potential limitations of the study due to missing trait data and the incomplete fossil record of bivalves.

„SeaLifeBase“. <https://www.sealifebase.ca/search.php>. Last Access: 6. August 2023.

„WoRMS – World Register of Marine Species“. <https://www.marinespecies.org/>. Last Access: 6. August 2023.