

## **MEDITERRANEAN MARINE CAVES: RESERVOIRS OF PORIFERAN DIVERSITY**

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Porifera thrive in shadowy hard-substrate environments and constitute the dominant animal group in marine caves. The present work aims to evaluate the significance of the marine cave habitat for the Mediterranean ecosystem by using Porifera as a reference group. A meta-analysis of data on sponge cave assemblages from the existing literature combined with primary data from Aegean Sea caves was accomplished. Several species found in the surveyed caves were new elements for the fauna of the Aegean Sea or Eastern Mediterranean. Cave dwelling sponges numbered 311 species, making up 44% of the Mediterranean Porifera. All classes of the phylum were recorded, while all demosponge orders, 88% of the families, and 70% of the genera were represented. Rare and cave-exclusive species were recorded, while caves appeared to be a very favorable habitat for certain demosponge groups. Cave assemblages of the different Mediterranean areas were compared revealing spatial variation in species richness and taxonomic diversity. Similarities in cave assemblages' composition among areas followed a pattern similar to that of the overall Mediterranean demosponge fauna. Species with an Atlanto- Mediterranean distribution and Mediterranean endemics prevailed among cave sponges, most of them having warm-water affinities. At least, concerning their sponge fauna, Mediterranean marine caves appear to be important biodiversity reservoirs of high representativeness, with unique faunal elements, presenting great scientific interest and deserving thorough study and protection.

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