BIODIVERSITY AND DISTRIBUTION PATTERN OF SERPULIDS FROM MEDITERRANEAN HOLOCENE CORALLIGENOUS BUILD-UPS

Rossana SANFILIPPO[1]*, Gemma DONATO[1], Daniela BASSO[2], Valentina Alice BRACCHI[2] & Antonietta ROSSO[1]

[1] Department of Biological, Geological and Environmental Sciences, University of Catania, Italy

[2] Department of Earth and Environmental Sciences, University of Milano-Bicocca, Italy

*Presenting author: sanfiros@unict.it

Coralligenous is a priority habitat of the Mediterranean Sea, also known in the fossil record being composed of skeletonised organisms (calcareous algae and invertebrates) but its nature and associated biodiversity are still not adequately known. In the framework of the FISR project CRESCIBLUREEF – "Grown in the blue: new technologies for knowledge and conservation of Mediterranean reefs", serpulid associations (communities and thanatocoenoses) from four Holocene coralligenous build-ups (25 to 40cm high) collected in August 2021 from 33.5 to 37.2 m depth off Marzamemi (SE Sicily) were examined. Besides calcareous algae that constitute the primary framework, serpulids and other skeletonized invertebrates secondarily contribute to the build-up growth. Living serpulid associations consist of 22 species (including 984 specimens), while a total of 31 serpulid species (including 1153 specimens) were identified in the thanatocoenoses. The most widely distributed and abundant species are overall *Placostegus* cfr. *crystallinus*, *Josephella marenzelleri*, *Metavermilia multicristata* and *Semivermilia crenata*. All species detected on the examined build-ups are already known from the Mediterranean, but 11 species are reported for the first time from the Coralligenous, among which *Vermiliopsis infundibulum*, *Filogranula annulata* and *Spirorbis cuneatus*. These new data remarkably increase the serpulid biodiversity known for the Coralligenous, highlighting the need of further research on this habitat.

The still ongoing research is aimed at clarifying: 1) which serpulid species form/inhabit the coralligenous build-ups in the studied region, 2) any structural/compositional differences of species associations between live and dead serpulid associations and their possible paleo-ecological meaning, as well as between the studied four build-ups and 3) any difference in the degree and pattern of colonisation between top and bottom halves of each build-up and between sheltered and exposed parts.