

## EPIPHYTAL OSTRACODE AND BENTHIC FORAMINIFERAL ASSEMBLAGES: INVESTIGATING THEIR ROLE AS ENVIRONMENTAL HEALTH PROXIES IN THE MARINE ECOSYSTEMS OF SE ANDROS ISLAND (MIDDLE AEGEAN SEA, GREECE)

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### EXTENDED ABSTRACT

A comparative study of Recent epiphytal ostracode and benthic foraminiferal populations was conducted in August 2001, at two gulfs (Korthi and Kastro) located at the southeastern part of Andros island (middle Aegean Sea, Greece). Several parameters such as ostracode and foraminiferal biodiversity, morphological abnormalities and SEM studies on foraminiferal tests and ostracode carapaces, have been analyzed in order to check the hypothesis that benthic foraminifers and ostracodes can reflect human-induced environment perturbation and can be used as bioindicators of coastal health.

Twenty samples (representing living macro-benthic algae and seagrasses) from both gulfs, were studied and approximately a total of 32 ostracode species and 58 benthic foraminiferal species were identified.

In the gulf of Korthi both epiphytal ostracode and benthic foraminiferal assemblages, characterized by relatively high abundance of *A. lessoni* and higher frequencies of *Xestoleberis* spp. (>85%), show generally raised diversities and a more homogenous distribution. The performed Q-mode analysis points mainly to natural environment biofacies (NE) in Korthi gulf. The dominance of *Xestoleberis* spp. combined with the intense presence of *X.communis* (20-40%) in most of the studied stations, may suggest that there has been a greater abundance and/or density of subaquatic vegetation and more stable salinity conditions in the marine ecosystem.

In the gulf of Kastro (which is more affected by anthropogenic activities), the ostracode fauna is represented in all samples mainly by *Xestoleberis* spp. (raising up to 30-75%), *Loxoconcha* spp. (10-30%) and *Paradoxostoma* spp., which shows a negative trend towards the *Xestoleberis* spp. abundance. Benthic foraminifers are characterized by slightly fluctuating species diversity, associated with relatively high abundance of *Amphistegina lessoni* which is negatively correlated with *Quinqueloculina berthelotiana* and *Rosalina globularis*. The performed Q-mode analysis allowed the verification of different biotopes, interpreting natural to stressed environment (NE-SE) and stressed (SE) environment biofacies.

Several morphologically abnormal foraminiferal specimens have been documented in the assemblages from both gulfs. The occurrence of these forms may be attributed to environmental stress resulting either from anthropogenic activities or from natural effects.

**Key words:** ostracodes, benthic foraminifers, natural environment biofacies, stressed biofacies morphological abnormalities