

# SPATIAL-TEMPORAL VARIABILITY OF EPIBENTHIC ASSEMBLAGES ON ROCKY OUTCROPS IN THE NORTHERN ADRIATIC CONTINENTAL SHELF

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Numerous coralligenous rocky outcrops occur in the Northern Adriatic Sea between 10 and 40 m depth. They range in size from only a few to several thousand square meters, and from 1 to 4 m in height. Spatial distribution and temporal variation of epibenthic assemblages were annually investigated by photographic sampling from 2003 to 2006 on 12 sites offshore of Chioggia and Venice, between 18 and 30 m in depth, and from 6 to 24 km from the coast. The dominant reef-forming organisms are encrusting calcareous algae (*Lithophyllum stictaeforme*, *Lithothamnion minervae* and *Peyssonnelia polymorpha*), while the main bioeroders are boring sponges (*Cliona viridis*, *C. celata*, *C. thoosina*, *C. rhodensis*, *Piona vastifica*) and endolithic bivalve *Gastrochaena dubia*. Epibenthic invertebrates mainly included filter feeders, such as the sponges *Dictyonella incisa*, *Antho inconstans* and *Tedania anhelans*, the zoantharian *Epizoanthus* spp., and the ascidian *Polycitor adriaticus*. Assemblages showed variability both in space and time even though spatial heterogeneity was higher than temporal changes. Spatial distribution patterns of the assemblages are correlated to the geographical location, distance from the shore, depth and size of the outcrops. In particular, outcrops near the coast are characterised by algal turfs and encrusting sponges, while the deepest sites, far from the shore, are dominated by calcareous algae, massive sponges and ascidians. The relative abundance of reef builder and bioeroder species appeared well differentiated between sites and remained quite steady in time. Some taxa, such as encrusting sponges and algae, showed complex site-specific temporal trends.

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