



Diversity and taphonomy of micromollusk assemblages from the Isola del Giglio, Tuscany, Italy

Alexandra Buck, James Nebelsick, Diedrich Sievers, and Tobias Grun
Department of Geosciences, University of Tübingen, Germany

Mollusks represent important study objects for the palaeobiological and taphonomic research with respect to species reaction to anthropogenic and environmental change. This study investigates quantitative patterns of shallow water benthic mollusk assemblages from the Island of Giglio (Tyrrhenian Sea, Italy). The samples derive from 12 sites collected along two transects and two additional points from different coastal environments (carbonates and granites) and depths (from 5m to 30 m). Sample sites range from coarse to fine sands as well as from sediments within *Posidonia* meadows. Extracted mollusks originate from samples taken with a suction pipe as well as from bulk samples, sieved at a size larger than 1 mm. Molluscs were identified to species level and analyzed for taphonomic features (abrasion, fragmentation, encrustation and bioerosion) as well as for the presence of predatory bore holes. The mollusks are mostly small than < 3 mm. Gastropods are more abundant than bivalves in all samples. The gastropod genera *Bittium*, *Jujubinus*, *Rissoa* and *Alvania* are the most common and widely distributed, followed by the bivalve genera *Striarca*, *Chamelea*, *Cardita* and *Parvicardium*. The highest diversity was found in soft sediment of the carbonate coast and *Posidonia* meadows. Substrate type and exposure has a high influence on taxonomic make up. Similar habitats off the carbonate and granite coasts display different mollusc composition showing the high influence of substrate type on diversity and abundance. Species also differ along depth gradients. Taphonomic patterns are dominated by abrasion and fragmentation. Encrustation and bioerosion are subordinate, except for samples from the *Posidonia* meadows.