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COMMUNITY STRUCTURE OF THE NECTO-BENTHIC FISH ASSEMBLAGE
LIVING IN THE SHALLOW *POSIDONIA OCEANICA* L. (DELILE)
REEF OF SANTA LIBERATA (MEDITERRANEAN SEA, CENTRAL TYRRHENIAN)

The community structure of the necto-benthic fish assemblage living in the shallow *Posidonia oceanica* L. (Delile) reef of Santa Liberata (central Tyrrhenian Sea, Italy) was studied. Sampling times were randomly selected at the beginning and at the end of summer 2003 and data were collected through the underwater visual census (UVC) technique. Data on shoot density and leaf percentage (%) coverage of *P. oceanica* were also recorded. The sampling rationale included a four zone stratification of the *P. oceanica* reef according to its geographical orientation (North-West; South-West; North-East; South-East). Three replicates were collected for each zone in each sampling period. Results showed that *P. oceanica* shoot density did not significantly differ between sampling period or zones while % coverage significantly was reduced at the end of summer. Total fish density was also reduced at the end of summer, mainly due to a population decline of *Oblada melanura* (Linnaeus, 1758) and *Diplodus vulgaris* (Geoffroy Saint-Hilaire, 1817) juveniles, which were rather abundant in the first sampling period. Twenty-one necto-benthic fish species were recorded throughout the entire study area, with significant changes in the community structure between sampling zones. In the northwestern zone, which faces the open sea, a high density of vagile species including *O. melanura* and *D. vulgaris* was observed. In conclusion, the necto-benthic fish assemblage showed high variability on a small spatio-temporal scale. Temporal changes seem to be linked to changes in *P. oceanica* leaf % coverage which is likely to affect the predation rate on juveniles. Spatial changes are easily explained on an eco-etological basis, since vagile species that account for these differences are linked to the zone facing the open sea. The high density of Sparidae juveniles recorded at the beginning of summer suggests that the Santa Liberata shallow reef constitutes an important nursery area for species living in the nearby Orbetello Lagoon.

- Theme 1: *Biodiversity in enclosed and semi-enclosed seas*
- Theme 2: *Artificial habitats and restoration of degraded systems*