

Variability of *Ruppia cirrhosa* in two coastal lagoons with differing anthropogenic stresses

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Abstract

The dynamics of *Ruppia cirrhosa* were studied over two years in two coastal lagoons on the Corsican coast (France, Mediterranean Sea). The lagoons differed in type of eutrophication: (1) Biguglia lagoon (urban and industrial effluent, agriculture, runoff from catchment area) and (2) Santa Giulia lagoon (tourist pressure in summer). Spatio-temporal variability of *R. cirrhosa* occurrence was monitored on permanent transects. We also monitored temporal changes in density, aboveground/belowground biomass and organic matter. Most of the parameters studied along the transects show variations with season and site. Density and aboveground biomass of *R. cirrhosa* in Biguglia lagoon were lower when *Ulva* species were present. This may be related to differences in nutrient availability. During the first year of the study, rainfall was greater with concomitantly higher nutrient inputs, which may account for the higher values of measured parameters in the first year. The results suggest that environmental parameter variations affect the functioning of *R. cirrhosa* meadows.

Keywords: aquatic Magnoliophyta; Mediterranean Sea; monitoring; population dynamics; seagrasses; wetland.