Understanding Drastic Changes in Zooplankton and Medusae Communities Over the 2003-2011 Period in the Mediterranean Sea (Corsica)

The temporal variation of subsurface zooplankton with emphasis on Calycophorum Siphonophores and *Pelagia noctiluca* was investigated from 2003 to 2011 in the Northwestern Mediterranean (Calvi, Corsica). Mesozooplankton was collected weekly using W32B sampling and the abundance of *Pelagia* was estimated by visual observations and scuba diving. Drastic changes in maximum mesozooplankton biomass, (e.g. April 2005, maximal monthly average 1,422 ml m⁻²; 2011: 0.113 ml m⁻²), duration of specific abundance and species assemblages between years were observed. *Pelagia* and neotyphons of *Chelophyes appendiculate* presented concomitant variation throughout the time-series. The maximum abundances of *Chelophyes* in 2000 (6.47 ind m⁻²) and 2008 (3.99 ind m⁻²) were related to years where *Pelagia* was highly invasive. In addition, these outbreaks were correlated to the intense mesozooplankton bloom that occurred during the previous year. The results are related to environmental factors that affect zooplankton dynamics and *Pelagia* abundance in order to provide a better understanding of the mechanisms controlling the observed variations. Among the studied factors (winter wind-stress intensity, phytoplankton, nutrients...) low winter temperature seems to have a positive impact on the zooplankton biomass.

Oral presentation

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