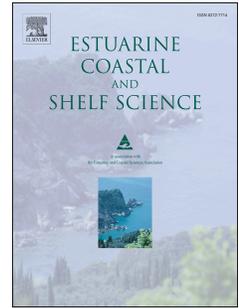


# Accepted Manuscript

Trophic structure and microbial activity in a spawning area of *Engraulis encrasicolus*

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1 TROPHIC STRUCTURE AND MICROBIAL ACTIVITY IN A SPAWNING AREA  
2 OF *ENGRAULIS ENCRASICOLUS*

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17 **Abstract**

18 The abundance, biomass and size-structure of planktonic populations, and the microbial  
19 metabolic processes were studied in the Sicily Channel, one of the most important  
20 spawning areas in the Mediterranean for anchovy (*Engraulis encrasicolus*), a pelagic  
21 species of commercial interest. Results showed that prokaryotes contribute for the 83%  
22 of total carbon biomass. Microphytoplankton abundances and biomasses were  
23 dominated by autotrophic nanoflagellates and dinoflagellates (36 identified species) and  
24 contribute 11% of total biomass. The microzooplanktonic biomass showed its maximum  
25 at the surface or subsurface and its contribution was low (4%). In agreement with the  
26 general oligotrophy of the investigated area, the study highlights the prevalence of pico-  
27 sized fractions within the whole phytoplankton biomass expressed as chlorophyll  
28 content, suggesting the importance of picophytoplankton in sustaining the microbial  
29 food web. At the same time, the levels of microbial hydrolytic activities are related to  
30 productive processes recycling the organic matter and releasing nutrients (P and N),  
31 indicating also an active functioning of ecosystem at low trophic levels. Autotrophic

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