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[Effects of contrasting oceanographic conditions on the spatiotemporal distribution of Mediterranean cephalopod paralarvae](#)

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Abstract: Cephalopods are sensitive to environmental conditions due to their fast growth rates and short life cycles, being thus considered good ecological indicators. Here, we analyzed western Mediterranean cephalopod paralarvae communities during two consecutive summers (2004 and 2005) characterized by contrasting oceanographic conditions. Our main aim was to determine to what extent such contrasting scenarios affected the spatial distribution of the cephalopod early life stages and decipher the main environmental factors affecting each particular taxon. The contrasting oceanographic conditions during 2004 and 2005 included differences in the shape and location of a regional frontal system, which brought about differences in the sea circulation and the temperature regime. Such contrasting scenarios were reflected in the spatial distribution and the frequencies of appearance of both the whole community and the individual taxa. There was not any major factor affecting most taxa equally, which points to differences in species sensitivity to external conditions. Moreover, our results evidenced that paralarvae populations were more influenced by regional sea salinity and temperature than by mesoscale hydrographic features. Our study reveals that moderate changes in sea temperature have a major effect on the presence of paralarvae populations, which has profound implications in the context of the current global warming.

Keywords: Environmental effects, Temperature, Salinity, Cephalopod, Paralarvae, Mediterranean