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## Three-dimensional distribution of larval fish assemblages in an anticyclonic eddy in a semi-enclosed sea (Gulf of California)

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Transects of CTD (to 1000 m) and zooplankton stations (to 200 m in 50 m strata) were made across an anticyclonic eddy in the southern Gulf of California turing October 2007 to determine its influence upon the three-dimensional distribution of larval fish assemblages. The eddy was 90 km in diameter and 70 m deep. A larval fish assemblage, representing a mix of oceanic and coastal species, was defined mainly in the eddy from 200 m depth to the surface. Mesopelagic species, such as Vinciguerria lucetia, were dominant. Coastal reef (Diplectrum sp.) and pelagic (Auxis spp.) species were found mainly in the surface layer. This suggests that, because of the Gulf 's relative narrowness, the eddy trapped coastal fish assemblage was defined off the eastern coast; its high larval abundance and specific richness was probably associated with coastal upwelling. Mesopelagic species (e.g. Triphoturus mexicanus) dominated this assemblage, and coastal demersal species that were absent from the eddy (e.g. Symphurus williamsi) were recorded in the surface layer, suggesting that the thermocline was a vertical boundary in this assemblage. The 3D differentiation of planktonic habitats was the result of the mesoscale hydrodynamics in the area sampled, in particular that associated to the eddy life history and characteristics (radius, depth and velocity), and to coastal upwelling, promoting larval retention of a mix of species of different adult habits.

Palabras clave: Fish larvae, vertical distribution, Gulf of California, anticyclonic eddy

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