{rokbox title=|Map of primary Atlantic bluefin tuna spawning grounds :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-influence-seasonal-thermocline-vertical-distribution-larval-fish-assemblages-atlantic-bluefin-tuna-spawning-alvarez-et-al-2021-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-influence-seasonal-thermocline-vertical-distribution-larval-fish-assemblages-atlantic-bluefin-tuna-spawning-alvarez-et-al-2021.jpg{/rokbox}

Itziar Alvarez, Leif K. Rasmuson, Trika Gerard, Raul Laiz-Carrion, **Manuel Hidalgo**, John T. Lamkin, Estrella Malca, Carmen Ferra, Asvin P. Torres, Diego Alvarez-Berastegui, **Francisco Alemany**, Jose M. Quintanilla, **Melissa Martin**, Jose M. Rodriguez and **Patricia Reglero**, 2021.

Influence of the Seasonal Thermocline on the Vertical Distribution of Larval Fish Assemblages Associated with Atlantic Bluefin Tuna Spawning Grounds.
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Abstract: Temperature is often an important variable influencing the vertical position of fish larvae in the water column. The same species may show different vertical distributions in areas with a strong near-surface seasonal thermocline compared to isothermal near-surface regions. In areas with a strong surface thermocline, tuna larvae show a significant preference for the near-surface warmer layers. Little is known regarding larval tuna vertical distribution in isothermal waters and on the vertical distribution of the associated larval fish assemblages. We conducted vertical stratified sampling using the same methodology and fishing device (MOCNESS) in the two major spawning areas of Atlantic bluefin tuna (BFT): western Mediterranean Sea (MED), characterized by a surface thermocline, and the Gulf of Mexico (GOM) which lacks thermal stratification. Tuna larvae occupied the upper 30 m in both areas, but the average larval depth distribution was consistently deeper in the GOM. In the MED, vertical distribution of larval fish assemblages was explained by temperature, and species such as BFT, *Thunnus alalunga*, and *Ceratoscopelus maderensis*, among others, coexist above the thermocline and are separated from species such as *Cyclothone braueri* and *Hygophum spp.* (found below the thermocline). In the GOM, the environmental correlates of the vertical distribution of the larvae were salinity and fluorescence. Mesopelagic taxa such as *Ceratoscopelus spp.*

and
Cyclothone spp.
, among others, had a shallower average distribution than
Lampanyctus spp.
,
Hygophum spp.
, and
Myctophum spp.

Keywords: vertical distribution, larval fish assemblages, bluefin tuna, spawning, larval fish ecology