{rokbox title=|Study region off the Balearic Islands in the NW Mediterranean Sea, a primary spawning area for tuna species :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-zona-reproduccion-tunidos-mar-balear-reglero-et-al-meps-2018-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-zona-reproduccion-tunidos-mar-balear-reglero-et-al-meps-2018.jpg{/rokbox}

P. Reglero, **E. Blanco**, **F. Alemany**, C. Ferrá, D. Alvarez-Berastegui, A. Ortega, F. de la Gándara, **A. Aparicio-González**, A. Folkvord, 2018. **Vertical distribution of Atlantic bluefin tuna *Thunnus thynnus* and bonito *Sarda sarda* larvae is related to temperature preference.**
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Abstract: Temperature ranges are important in explaining the worldwide distribution of tuna and bonito larval habitats. Less is known about how the thermal tolerance of these species' larvae restricts their vertical distribution. Here we combined field and laboratory data to explore the role of temperature on the vertical distribution of Atlantic bluefin tuna *Thunnus thynnus* and Atlantic bonito *Sarda sarda* larvae. First, we related the vertical structure of several environmental variables to larval vertical distribution in a recognized tuna spawning area in the Mediterranean. The field data indicated temperature-dependent behavior both in bluefin tuna and albacore larvae, with a clear preference for the higher temperatures found in upper water layers in strong thermal-gradient environments. No Atlantic bonito larvae were caught in the field samples. Second, we confirmed such behavior under controlled conditions, observing fed larvae of bluefin tuna and bonito in experimental columns with temperature gradients similar to those experienced in the NW Mediterranean (22-25.6°C for bluefin, 18-23°C for bonito) and with no temperature gradients (24.4°C for bluefin, 23°C for bonito). The larvae were distributed significantly shallower in the stratified than in the isothermal experimental water columns in both light and dark conditions. These results suggest that the vertical distribution of tuna and bonito larvae is spatially constrained by larval temperature tolerance. In comparing our results to other geographical areas, we found that the vertical habitat of tuna larvae that spawn in regions with strong thermal gradients is smaller than in regions with weaker thermal gradients.

Keywords: Thermocline, vertical distribution, temperature-dependent behaviour, larval fish,

tuna, bonito