{rokbox title=|Imagen al microscopio de las microestructuras de deposición del otolito :: Foto: Alberto García (COM-IEO)| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-mayor-crecimiento-larvas-atun-2003-garcia-et-al-2013-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-mayor-crecimiento-larvas-atun-2003-garcia-et-al-2013.jpg{/rokbox}

A. García, D. Cortés, J. Quintanilla, T. Rámirez, L. Quintanilla, J. M. Rodríguez, **F. Alemany**, (2013).
Climate-induced environmental conditions influencing interannual variability of Mediterranean bluefin (Thunnus thynnus) larval growth
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Abstract: Daily growth variability of bluefin (*Thunnus thynnus*) larvae sampled in their Balearic Sea spawning grounds during the 2003–2005 spawning seasons was examined. Multi-factorial ANOVA was applied to study the effects of environmental variables, such as temperature at 10 m depth (T10), microzooplankton dry weight (MDW) and protein/dry weight ratio (PROT/MDW) on larval growth. The 2003 bluefin tuna (BFT) larval cohort showed the fastest growth, recognizable from enhanced otolith and somatic mass increment compared to the 2004–2005 larval cohorts. The 2003 BFT larvae showed greater recent growth than the 2004–2005 BFT cohorts, which decreased in the last stages of development. Growth differences between the 2004 and 2005 larval cohorts were not significant. The environmental conditions between 2003 and 2004–2005 were highly contrasting as a result of the 2003 warming anomaly. Somatic and otolith growth rates (OGR) were significantly related to T10 and MDW, as well as to the PROT/MDW ratios. Nonetheless, the effect of T10 on OGR depended on the relative high (H) or low (L) levels of MDW and PROT/DW. Higher OGR was observed when T10 was high, MDW was low and PROT/DW was high. This environmental scenario conditions were met during 2003, which recorded the highest surface temperature and low planktonic biomass. Somatic growth, expressed as larval DW growth increase (DWGR), showed three-factor significant interactions with T10*MDW*PROT/MDW, in which the two-way interactions of MDW*PROT/MDW showed differences in the function of T10 levels.

Keywords: Balearic Sea; bluefin larvae; climate variation; daily growth; microzooplankton; surface temperature