{rokbox title=|Map showing known spawning areas (shaded polygons) of the Atlantic bluefin tuna in the Gulf of Mexico (a) and the Balearic (b), Tyrrhenian (c), Ionian (d), and Levantine (e) seas :: Figure: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-mapa-distribucion-zonas-puesta-atun-rojo-rfbf-niels-et-al-2015-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-mapa-distribucion-zonas-puesta-atun-rojo-rfbf-niels-et-al-2015.jpg{/rokbox}

Gregory Neils Puncher, **Francisco Alemany**, Haritz Arrizabalaga, Alessia Cariani, Fausto Tinti, 2015. **Misidentification of bluefin tuna larvae: a call for caution and taxonomic reform** .
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Abstract: The international effort to prevent the collapse of Atlantic bluefin tuna (BFT, *Thunnus thynnus* , Scombridae) stocks exemplifies the challenges associated with modern marine resource conservation. Rampant mismanagement, under-reporting and illegal, unreported and unregulated fishing led to decades of over-exploitation in the BFT fishery. Surveys of larval abundance in the Gulf of Mexico and the Mediterranean Sea have been used as a proxy for both spawning biomass and recruitment by researchers working to improve estimates of stock abundance. Recent genetic barcoding studies have revealed that species identification errors are common among larvae surveys that use morphology-based taxonomy alone. Misidentification of larvae can lead to uncertainty about the spatial distribution of a species, confusion over life history traits and population dynamics, and potentially disguise the collapse or recovery of localized spawning sites. In an effort to identify the source of these errors, we review several weaknesses in modern morphology-based taxonomy including demographic decline of expert taxonomists, flawed identification keys, reluctance of the taxonomic community to embrace advances in digital communications and a general scarcity of modern user-friendly materials. Recent advances in molecular techniques useful for specimen identification and population studies are discussed at length. We advocate a more constructive integration of morphology-based taxonomy and barcoding in order to add confidence to larval surveys and to strengthen associated fisheries management.

Keywords: Bluefin tuna, Fish larvae, Barcoding, Misidentification, Taxonomy, Fisheries