

A help to identify larval and juvenile cephalopods

Researchers from the Balearic Oceanography Centre of the Spanish Institute of Oceanography (IEO) in collaboration with the Department of Maritime Affairs of the Portuguese Institute for the Ocean and Atmosphere (IPMA), have published an identification guide for larval and juvenile cephalopods (octopus, squid and cuttlefish) in the Mediterranean Sea.

This guide, published in the journal *ICES Cooperative Research Reports*, is the result of the collection of available taxonomic information about the early life stages of 53 species of octopus, squid and cuttlefish present in the Mediterranean.

The only guide available so far had been published over 20 years ago and since then valuable taxonomic information has appeared, though fragmented, from different sources (scientific journals, grey literature, web pages).

Therefore, it was necessary to collect such information in order to update the knowledge available. The guide also includes unpublished visual material of the samples analyzed by the authors for the study.

Cephalopods play a key role in marine food webs, both as important voracious predators as well as preys of a variety of organisms. They constitute one of the major fish stocks worldwide.

However, despite the economic and ecological importance, studies aimed at larval stages of cephalopods are very few compared to other groups of organisms such as fish or crustaceans. Therefore, they constitute a challenge for future studies on this group of invertebrates.

One reason for this lack of knowledge is the difficulty to identify cephalopod larval and juvenile stages, since the larval forms of many species and some entire families are unknown. Taxonomy is, undoubtedly, one of the challenges to be faced.

Newborn cephalopods have little specializations and do not undergo metamorphosis, so they are not true larvae. However, they have material changes in certain body characteristics during early development, which complicate the identification of these phases by comparison with more advanced stages of their own species. (Therefore, the earliest stages of postembryonic development of some groups have been termed paralarvae).

The study and identification of cephalopod paralarvae is important not only to complete what is known about the species life cycle but also to estimate the recruitment and abundance of the main commercial species (octopuses, cuttlefish, squid).

The taxonomic collection that has led to the guide that is now being presented, was started in order to identify paralarvae present in planktonic samples from the Balearic Sea within the BALEARES project (larval ecology and recruitment processes of decapods, cephalopods crustaceans and teleost fish in the Balearic Sea), funded by the National R + D + i, CTM2009-07944/MAR.

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