{rokbox title=| Map of the study area (Balearic Islands, Western Mediterranean Sea) showing the sampling stations of Octopus vulgaris caught by traps (red dots) and bottom trawling (blue dots). The 50, 100, 200, 500, and 800 m isobaths are shown. :: Image: Authors|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-life-history-traits-common--octopus-zaragoza-2026-thumb-et-al.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-life-history-traits-common--octopus-zaragoza-2026-et-al.jpg{/rokbox}

Núria Zaragoza, **Maria Valls**, **Beatriz Guijarro**, Alba Serrat, **Francesc Ordines** and **Antoni Quetglas**
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Life-History Traits of the Common Octopus (Octopus vulgaris) from the Balearic Islands (Western Mediterranean Sea).
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Abstract:The common octopus is the most commercially important cephalopod species in the Mediterranean and Northeast Atlantic. In recent years, changes in population dynamics associated with climate warming have been observed, including migration to northern waters and alterations in the timing and duration of the reproductive period. These variations underscore the necessity of regularly updating the biological parameters for effective management. In this study, life-history traits, including population structure, reproduction, fecundity, condition, and diet, were analysed in individuals collected by bottom trawl and small-scale fisheries in the Balearic Islands. These fisheries target different population fractions, with small-scale gears capturing larger individuals than bottom trawls. Although the overall sex ratio was balanced, females predominated in spring and males in autumn, likely reflecting their reproductive behaviour. The reproductive period was consistent with observations reported 30 years ago, indicating long-term stability in reproductive peak. Female fecundity increased with body size and agreed with estimates from Mediterranean and Atlantic populations. Female size at maturity differed between gears, and males matured at a notably smaller size. Diet analysis confirmed the species as a mid-to-high-trophic-level predator, feeding primarily on crustaceans, fish and molluscs. An ontogenetic dietary shift toward higher fish consumption occurred at a mantle length of 11 cm, coinciding with female size at maturity and suggesting a potential contribution of reproductive energy demands. Our results update the life history traits of the common octopus in the Balearic Islands and provide information relevant to stock assessment and fisheries management.

Keywords:population structure,maturity,reproduction,fecundity,diet.