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Enric Real, Ainhoa Bernal, Beatriz Morales-Nin, Balbina Molí, Itziar Alvarez, M. Pilar Olivar, 2021. [Growth patterns of the lanternfish *Ceratoscopelus maderensis* in the western Mediterranean Sea.](#)
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Abstract: The age and growth patterns of the mesopelagic fish *Ceratoscopelus maderensis* (family Myctophidae) of the western Mediterranean Sea were described throughout its entire life cycle (from larvae to adult stages) using the sagittae otoliths of 59 individuals collected in December 2009. Three characteristic zones were identified along the cross-section of the sagittae (larval, metamorphic and juvenile-adult zones). Assuming growth rings as daily increments, the age of the analysed individuals (from 3.5 to 64 mm standard length [SL]) would range from 7 to 332 days. The relationship between the number of increments and the fish SL was fitted to a von Bertalanffy growth model ($SL=70.5899 \times (1 - \exp(-0.0501(t+2.6705)))$). The growth pattern of

C. maderensis in the western Mediterranean Sea was similar to that reported for this species in the northeast Atlantic Ocean. Though from a body size of 40-45 mm SL, growth rates declined more slowly in individuals from the western Mediterranean Sea, growth differences between these individuals and those from the northeast Atlantic Ocean were not statistically significant. This study provides new insights into the age and growth patterns of one of the most abundant mesopelagic fish species in the Mediterranean Sea that have clear implications for the study and management of marine ecosystems.

Keywords: daily growth, larval growth, mesopelagic fish, Myctophidae, otolith microstructure