

Gap analysis on the biology of Mediterranean marine fishes: comparing the literature with FishBase

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Basic research in Ichthyology, as is the study of fish and invertebrate biological characteristics (i.e. age and growth, mortality rate, reproduction, diet composition), generates fundamental knowledge that plays a key role in the progress and development of Fish Biology and Fisheries Science providing the best available scientific basis for addressing fishery or more general environmental issues through stock assessments, ecosystem modelling and fisheries management. However, it seems that regional studies that focus on species of little importance as resources have been neglected thus creating a gap in knowledge. For the identification of the missing biological information regarding Mediterranean marine fishes, a gap analysis was performed (Dimarchopoulou et al. 2017) on growth parameters, length-weight relationships, maximum age, mortality rate, spawning, size at maturity, fecundity, and diet composition of 714 fish species recorded in this large marine ecosystem according to FishBase. The available biological information was extracted from FishBase as well as the literature, and at the same time the completeness of the database was evaluated by comparing the two sources. Based

on both sources, it was shown that there is no information for any biological characteristic for 310 species (43%), while for 109 (15%) of them there is information for only one characteristic. Concerning the individual biological characteristics, the gap is smaller for length-weight relationships which are the most common characteristic as they have been studied for 310 (43%) species, and larger in natural mortality (58 species; 8%) for which information is scarce. The same pattern holds for the information extracted from FishBase alone, both for the number of studied species per characteristic as well as the number of records. Overall, FishBase includes 61% of the biological information recorded in the literature covering 88% of the Mediterranean fish species. The most complete characteristic in FishBase is the growth parameters (includes 104% of the information covering 91% of the species), whereas the least complete one is fecundity (includes 28% of the information covering 35% of the species). In conclusion, FishBase is a reliable source that covers considerable part of the bibliography with a great potential for the gap in the recorded information to be minimized.

Dimarchopoulou D, Stergiou KI, Tsikliras AC (2017) Gap analysis on the biology of Mediterranean marine fishes. *PLoS ONE* **12(4)**: e0175949.