



GEOGRAPHICAL DISTRIBUTION AND SPREADING OF PUFFERFISH SPECIES ALONG THE MEDITERRANEAN WATERS

Deniz Ergüden¹, Mevlüt Gürlek^{1*}, Deniz Yağlıoğlu², Cemal Turan¹

¹ Department of Marine Sciences, Faculty of Marine Sciences and Technology, Iskenderun Technical University, 31220 Iskenderun, Hatay, TURKEY; ² Department of Biology, Faculty of Arts and Science, Düzce University, 81620 Düzce, TURKEY

*Corresponding author: mevlut.gurlek@iste.edu.tr

Abstract

The Tetraodontidae constitute a striking example of the tropicalization of the Mediterranean fish fauna. In the last 40 years, the number of pufferfish species recorded for the Mediterranean waters rose from three to 11 species with eight novel tetraodontids of Lessepsian or tropical-Atlantic origin. The family Tetraodontidae is represented in the Mediterranean Sea by four genera and eleven species: *Ephippion guttiferum* (Bennett, 1831), *Lagocephalus lagocephalus lagocephalus* (Linnaeus, 1758), *Lagocephalus guentheri* Miranda Ribeiro, 1915, *Lagocephalus spadiceus* (Richardson, 1844), *Lagocephalus suezensis* Clark and Gohar, 1953, *Lagocephalus sceleratus* (Gmelin, 1789), *Sphoeroides marmoratus* (Lowe, 1838), *Sphoeroides pachygaster* (Müller and Tronchel, 1848), *Sphoeroides spengleri* (Bloch, 1785), *Torquigener filavimaculosus* Hardy & Randall, 1983, and *Tylerius spinosissimus* (Regan, 1908). Two of these species, *S. marmoratus*, and *S. pachygaster* are Atlantic immigrants, i.e. alien species that have penetrated the Mediterranean Sea via the Gibraltar Strait and then reached the Levant Sea. In the present study, alien fish species, *S. pachygaster* is well established in the whole Mediterranean the Aegean Sea included. In contrast to *S. pachygaster*, there is no a rapid expansion of *S. marmoratus* throughout the Mediterranean Sea and this species is rare in the Mediterranean waters. However, Lessepsian migrant fish species *L. sceleratus* was distributed and spreading to all parts of the Mediterranean basin while, other most abundant Lessepsian migrant in our review study was *Lagocephalus suezensis*. Besides, this two pufferfish species are listed among the most successful invasive species in the Mediterranean, negatively affecting biodiversity, fishery and public health. On the other hand, *T. spinosissimus* mainly in eastern part of Mediterranean Sea reflects a slow rate of expansion compared to that of other lessepsian pufferfish species. In the Mediterranean Sea, *L. lagocephalus lagocephalus* has been recently recorded off Iskenderun Bay (south-eastern Turkey). The generally distribution of this species in the north and west Mediterranean Sea are consistent with an Atlantic origin species. However, it is not widespread or abundant in the whole Mediterranean. The aim of the study was to review of the distribution and spreading of pufferfish species from the in different areas of the Mediterranean waters on both the information compiled from published literature until September 2017 and unpublished own observations of the authors. Some remarks about the geographical distribution of the pufferfish species in the Mediterranean Sea is presented.

Keywords: Pufferfishes, distribution, expansion, Mediterranean Sea