



ECONOMIC LOSSES OF SMALL-SCALE FISHERS DUE TO THE SILVER-CHEEKED TOADFISH (*LAGOCEPHALUS SCELERATUS*): CAN IT BE QUANTIFIED FOR MANAGEMENT PURPOSES?

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Abstract

Silver-cheeked toadfish, *Lagocephalus sceleratus* (Gmelin, 1789) is the worst and the most dangerous invasive species for the Eastern Mediterranean Sea. It was caught for the first time in Mediterranean, by a Turkish fisherman with trammel nets from Gökova Bay on 17 February 2003. Turkish scientists informed the scientific world with its presence in the Eastern Mediterranean through the Suez Canal. Since then, this highly-toxic species has been continuing to create several biologic, ecologic, social and economic problems for the marine ecosystem services and users, particularly mainly for small-scale fishers. However, these impacts are challenging to quantify. The aim of this study is to highlight the lack of socio-economic monitoring studies on *L. sceleratus* as well as the importance of existing ones. We also aimed at increasing awareness, particularly among decision makers on the economic loss of fishers caused by *L. sceleratus* by reviewing existing scientific literature, which only provide quantified data on the subject. In this respect, the results and suggestions of the study are based on very few literature reviews rather than the original research. Although there are many studies on *L. sceleratus* mentioning its socio-economic importance, only two articles clarified this importance and directly quantified the economic loss of fishers caused by *L. sceleratus*. According to the available literature, the total economic losses caused by *L. sceleratus* have not been quantified for the all the Mediterranean countries or any Mediterranean countries except Turkey. Available studies report that, in Turkey almost all of the fishers from small-scale fisheries sector stated that *L. sceleratus* damages their fishing gears, the fish entangled to these fishing gears, and cause also additional work for them due to repairing damaged fishing gears. Available studies from Turkey show that the loss of fishers caused by silver-cheeked toadfish in 2013-2014 reached approximately five million euro and increased by more than double compared to the 2011-2012 period, which cannot be ignored by the management authority. In this regard, we hope that such clear, numerical, monetary results increase awareness amongst decision-makers and also help them to put some management instruments into practice to mitigate the aforementioned losses.

Keywords: *Lagocephalus sceleratus*, economic loss, small-scale fishery, picturing data