

Rapid expansion in distribution area of a marine fish, the sand smelt, in inland waters of Turkey

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The sand smelt (*Atherina boyeri* Risso, 1810) is known as a marine-estuarine species having a wide distribution area covering coasts of northern Atlantic Ocean, Mediterranean Sea, Black Sea and Caspian Sea. This euryhaline species is also known to live in lower parts of rivers, estuaries and costal lakes. This species was recorded from all coasts of the seas surrounding Anatolia, also from lagoons and lakes having connection with the seas. After the first record of the sand smelt in inland waters from lake Sapanca in mid 1940s, the sand smelt was reported from İznik lake, which has not a direct connection to the sea. During the last decade there were new records from different natural lakes and reservoirs of Anatolia such as the reservoirs on Kızılırmak, Sakarya, Aksu and Orontes rivers. The sand smelt established successful populations in many inland waters of Turkey which are isolated and have no connection with sea. In Turkey, the distribution of this species in the inland waters has been expanding conspicuously during the last decade by illegal introductions and becoming popular for fishers due to the economic value. The common feature of these sand smelt populations in confined to freshwater, are successful breeding and filling vacant pelagic niches and becoming dominant fish. The ecological impacts of sand smelt such as predation on zooplankton, competition with endemic fish species and fishes having economical value should be considered. Due to life history traits such as short life cycle, early maturation, and prolonged reproduction period, this species has a great potential of being an invasive species in the inland waters of Turkey.

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