

Invasive Freshwater Fish of Kocaeli Province/TURKEY

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Aim of the study: Identifying invasive non-native fish species in several rivers and artificial and natural freshwater reservoirs of Kocaeli Province and determining co-existing native species in the same ecosystems constitutes the aim of this study.

Material and Methods: Kocaeli is located in north-west Anatolia around İzmit Bay. The province is the most densely industrialised and one of the most populated region of Turkey. Kocaeli has several artificial reservoirs for irrigation and drinking water supply for 1.8 million residents. Fish samples were taken between April 2016 and February 2017 from 8 reservoirs and 2 streams. Samples were collected by electrofishing (SAMUS 725M) from suitable waterfronts, river mouths and dam walls of lakes and shallow regions of streams. Collected samples immediately overdosed with 2-phenoxyethanol and transported to the laboratory for species identification. Also, morphometric measurements of each sample were taken upon identification.

Results: In total 19 different species from 6 different families were identified throughout the study. *Carassius gibelio* were present in 6 different localities and determined as the most wide spread invasive species for Kocaeli province. Other invasive species were *Lepomis gibbosus*, *Pseudorasbora parva* and *Gambusia holbrooki*. Other species which were co-existing with invasive species were, *Alburnus alburnus*, *Blicca bjoerkna*, *Carassius auratus*, *Cyprinus carpio*, *Esox Lucius*, *Gobio gobio*, *Leucaspis delineates*, *Rhodeus amarus*, *Squalius pursakensis*, *Rutilus rutilus*, *Phoxinus phoxinus*, *Petroleuciscus borysthenicus*, *Squalius cephalus*, *Oncorhynchus mykiss*, *Silurus glanis*. *G. holbrooki* were sampled in streams with low flow speed. *C. gibelio*, *L. gibbosus*, *P. parva* were sampled in artificial reservoirs in Kocaeli province.

Keywords: Invasive species, Freshwater fish, Kocaeli.