

ABSTRACT

DETERMINATION OF POPULATION GENETIC STRUCTURE OF EUROPEAN ANCHOVY (*Engraulis encrasicolus* L.) IN THE TURKISH SEAS USING MITOCHONDRIAL AND MICROSATELLITE DNA ANALYSES

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The European anchovy *Engraulis encrasicolus* (Linnaeus, 1758) is a small pelagic fish included Actinopterygii has considerable economical importance in fisheries. Distribution area of European anchovy is shallow waters of Black and Azov seas, Mediterranean and Atlantic coastline of Europe. In this study population genetic structure and genetic diversity of European Anchovy (*Engraulis encrasicolus* L.) in the Turkish Seas was determined using microsatellite loci genotype data and sequence data of mitochondrial DNA control region. Localities where anchovy samples collected were as follows: the eastern Mediterranean Sea (İskenderun and Mersin Bay), the western Mediterranean Sea (Antalya), the Aegean Sea (Kuşadası), the Marmara Sea (İstanbul and Bandırma), the Western Black Sea (Zonguldak), Mid-Black Sea (Terme, Perşembe and Fatsa) and the Eastern Black Sea (Trabzon, Ardeşen and Georgia). As a result the genetic variability was high among the population based on average alleles numbers and haplotype diversities of both molecular markers. Result of both mtDNA and microsatellite analysis results showed genetic structuring among anchovy population among seas. The existence of four possible genetic groups in the Turkish territorial waters was identified. Genetic distance analyses showed up Eastern and mid Black Sea specimens were distinct from Aegean Sea and Mediterranean Sea populations.

Key words: European Anchovy, *Engraulis encrasicolus*, Turkish Seas, microsatellites, mtDNA, Control region