

Genetic Analyses of Streaked Gurnard *Trigloporus lastoviza* Populations in Turkish Marine Waters

Mevlüt GÜRLEK, Mehmet Nur GÜNDÜZ

Molecular Ecology and Fisheries Genetic Laboratory, Department of Marine Sciences,
Marine Science and Technology Faculty, Iskenderun Technical University, TR 31220,
Iskenderun, Hatay, Turkey
mevlut.gurlek@iste.edu.tr

Aim of the study: In this study mitochondrial DNA 16S rRNA gene sequencing was used to investigate genetic structure of three Streaked gurnard *Trigloporus lastoviza* populations from the Marmara, Aegean and Mediterranean Seas.

Material and Methods: *T. lastoviza* were collected from three different seas, Marmara Sea (Bandırma (MS)), Aegean Sea (İzmir Gulf) (AS) and Mediterranean Sea (Iskenderun Bay). Total genomic DNA was isolated using the standard phenol-chloroform extraction method. The 16S rRNA region of mtDNA were amplified via PCR using universal primers. BioEdit, MEGA were used for statistical analysis.

Results: After alignment, the partial 16S rRNA gene sequences consisted of 757 bps. The average nucleotide composition of thymine (T), cytosine (C), adenine (A), and guanine (G) were examined as 19.8 %, 27.7 %, 31.2 % and 21.3 %, respectively. The 16S rRNA dataset contained 46 variable sites, of which 27 were parsimony informative. Sequence analysis of 16S rRNA revealed 21 different haplotypes. Average haplotype diversity between populations was found to be 0.94. The lowest genetic diversity was observed in the Aegean Sea (0,054) population, whereas the highest was in the Mediterranean (0.0180) population. For inter-population comparison, the lowest genetic divergence (0.007) was observed between the Marmara and Mediterranean populations, and the highest value (0.016) was detected between the Marmara Sea and Mediterranean populations. In NJ tree analysis, the Iskenderun Bay population was highly separated from the other geographic populations, whereas the populations of Marmara and Aegean Sea showed the least differentiation.

Acknowledgements: Thanks to the Mustafa Kemal University BAP-15040 for financial support.

Keywords: Streaked gurnard, *Trigloporus lastoviza*, 16S rRNA, Population genetics, Turkish marine waters.