

Population Structure Analysis of Large Head Hairtail (*Trichiurus lepturus*) Using Morphological Methods and Microsatellite in the Persian Gulf and Oman Sea

Esfandiari, Ehsan¹; Salari Aliabadi, Mohammad Ali^{2*}; Sakhaei, Nasrin³;
Valinasab, Touraj⁴; Hoseini, Javad⁵

1- PhD Student of Marine Biology Department, Faculty of Marine and Oceanic Science, Khorramshahr University of Marine Science and Technology, Khorramshahr, Iran. Email: ehessfandiari@yahoo.com

2- Associate Professor of Marine Biology Department, Faculty of Marine and Oceanic Sciences, Khorramshahr University of Marine Science and Technology, Khorramshahr, Iran. Email: salari@kmsu.ac.ir

3- Assistant Professor of Marine Biology, Faculty of Marine and Oceanic Sciences, Khorramshahr University of Marine Science and Technology, Khorramshahr, Iran. Email: n.sakhaie@kmsu.ac.ir

4- Professor, Institute of Fisheries Research, Tehran, Iran. Email: t_valinassab@yahoo.com

5- Assistant Professor, Institute for Persian Gulf, Bushehr, Iran. Email: j.hoseini@yahoo.com

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*Corresponding Author

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Abstract

Large head hair tail lives in warm waters around the world and around the Persian Gulf and Oman Sea. In this study, 310 samples from four populations of this species in the waters of Chabahar, East and West of Strait of Hormuz and waters of Bushehr were collected using trawl fishing method. The morphological and microsatellite analysis were performed on the samples. Morphological analysis based on the similarity of populations and individuals were studied using SPSS v.20 and Primer v.5 software. The average number of alleles per population was 7.00, the number of alleles per locus was 3-15 with an average of 7.17 and the observed and expected heterozygosity average were 0.32 and 0.75 respectively. Among the 7 studies microsatellite loci, 6 microsatellite loci had deviation from Hardy-Weinberg equilibrium. The highest value of Fst based on AMOVA between the population of large head hair tail in the west of Strait of Hormuz and in the Cabahar waters was 0.145 and the lowest value of Fst between the population of large head hair tail in the Bushehr waters and in the Chabahar waters was 0.095.

Keywords: *Large head hair tail, Morphology, Microsatellite, Population structure, Persian Gulf and Oman Sea.*
