Taxonomic status of the *Turcinoemacheilus* populations (Nemachilidae) of the Gaveh River using the COI gene

Nasrin Nikmehr[1]
Soheil Eagderi[2*]
Hadi Poorbagher[3]
Hamid Farahmand[4]

1, 2, 3 ,4. Department of Fisheries, Faculty of Natural Resources, University of Tehran, Karaj, Iran

***Corresponding author:**
soheil.eagderi@ut.ac.ir

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Abstract

This conducted to study the taxonomic status of the *Turcinoemacheilus* populations from the Gaveh River drainage, a part of the Tigris River basin, sampled in 2016, using the COI gene and morphometric characters, since provided morphological and colouration feature could not resolve its identification. For this purpose, after sampling DNA of specimens were extracted using phenol-chloroform method, their COI gene were amplified by thermal cycler and sequenced after purifications. Based on the results, the members of the *Turcinoemacheilus* populations from the Gaveh River clustered with *T. kosswigi* with 0.61% genetic divergance. In addition, this population revealed remarkable morphological differences with other populations of this species and can be distinguished by having almost truncate (versus little emarginate), absence of black spot on the base of the dorsal fin and accumulation of melanophore spots at the base of caudal fin.

Keywords: Phylogeny, Tigris, Morphological diversity, Loach, Mitochondrial sequencing.