Morphological differentiation between two populations of Samii's spirlin (*Alburnoides samiii*) in upstream and downstream of Sefidroud dam

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Abstract

Knowledge on the fish species is important in habitat protection management. Samii's spirlin *Alburnoides samiii* is an abundant riverine fish in the southern Caspian Sea basin. This study was conducted to compare the morphological characteristics of up- and downstream *Alburnoides samiii* populations in dam at two part of Sefidroud River based on landmark morphometric truss network system. A total of 60 individuals including 30 specimens from upstream and 30 specimens from downstream Sefidroud dam, respectively were caught by electrofishing. 14 landmarks set was selected and 91 distances were measured between the landmarks on the left side of each specimen and standardized by Beacham formula, then principal components analysis and discriminate function analysis were applied to identify influential truss variables to differentiate between the two populations. Based on principal components analysis results, there were 4 principal factors in morphometric characters. The linear discriminant analysis gave an average percentage of specimens classified of 97.1% for morphometric characters indicating a high rate of correct classification of individuals into their original populations. We conclude that different habitat conditions caused by dam maybe led to different morphological charactristics. Results of the present study could be used in fisheries management.

Keywords: Cyprinidae, Sefidroud River, Morphological characteristics, Guilan, the Caspian Sea basin