

## عنوان مقاله:

Phenotypic diversity in Hari garra, *Garra rossica* (Nikol'skii, 1900) populations (Cyprinidae) in Iranian river systems

## محل انتشار:

مجله حیات وحش و تنوع زیستی، دوره 3، شماره 3 (سال: 1398)

تعداد صفحات اصل مقاله: 9

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## خلاصه مقاله:

Since identification of species and populations of fish are essential in biodiversity, conservation and research on their biological characteristics, variation of body shape of different populations of *Garra rossica* from the southern and eastern Iran was investigated by traditional (meristic and morphometric characters) and geometric morphometric methods. A total of 113 specimens of *G. rossica* from four rivers in four basins were caught by electrofishing (May, 2018) and transferred to the laboratory for further analysis. Left sides of the specimens were photographed, then appropriate 13 landmark-points were selected and digitalized in tpsDig2 to extract body shape data. The obtained landmark configurations were superimposed by the General Procrustes Analysis to remove non-shape variations. Finally, Principle Component Analysis, Canonical Variate Analysis and Cluster Analysis were conducted in PAST and MorphoJ. Analysis of 12 meristic and 19 morphometric traits showed that populations differ significantly in 10 meristic and 15 morphometric traits ( $p < 0.05$ ). Also, analyzes of the geometric morphometrics shows that the studied groups are distinguished in the shape and size of head, body height, length of the caudal peduncle, and position of the dorsal fin. This study shows that different populations inhabiting different rivers have distinct body shapes

## کلمات کلیدی:

Body shape, Geometry, south and east basins, canonical analysis

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/878416>

