

عنوان مقاله:

Microsatellite DNA markers for analysis of genetic population structure of stellate sturgeon (*Acipenser stellatus* Pallas, (1771) in the North (Volga and Ural Rivers) and South Caspian Sea (Sefidrud and Gorganrud Rivers

محل انتشار:

مجله علوم شیلات ایران، دوره 15، شماره 2 (سال: 1395)

تعداد صفحات اصل مقاله: 14

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خلاصه مقاله:

This study represents a large-scale population genetic analysis of the stellate sturgeon, *Acipenser stellatus*, in the Caspian Sea. In total, 192 samples of adult stellate sturgeon were collected from four commercial catch stations in the Northern (Volga and Ural Rivers) and Southern Caspian Sea (estuary of Sefidrud and Gorganrod Rivers-Iran). Fifteen sets of microsatellite primers developed from lake sturgeon (*Acipenser fulvescens*) and shovelnose sturgeon (*Scaphirhynchus platyrhynchus*) were tested on genomic DNA. Ten primer sets (LS-19, 34, 54, 68, Spl-105, 104, 163, 170, 173, 113) revealing polymorphic loci were used to analyze the genetic variation found in adults of the stellate sturgeon populations. Analyses revealed that the average number of alleles per locus was 13.05 (range 8 to 18 alleles per locus in regions, $N_e = 7.86$). All sampled regions contained private alleles. The average observed and expected heterozygosities were 0.665 and 0.862, respectively. Deviations from Hardy-Weinberg equilibrium were seen in most cases. Average of F_{is} , F_{it} and N_m were 0.230, 0.261 and 7.498, respectively. Pairwise Population F_{ST} Values ranged from 0.019 to 0.035. F_{ST} , R_{ST} , and gene flow estimates in AMOVA indicated significant genetic differentiation among and regions, indicating that the populations were divergent. The genetic distance between populations indicates that the genetic difference among the studied populations is pronounced. These results together with highly significant R_{ST} of genotypic differences between these pairs of collections support the existence of different genetic populations along the Caspian Sea coast.

کلمات کلیدی:

Genetic variability, Genetic differentiation, *Acipenser stellatus*, Microsatellite markers

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