

Development of disomic single-locus DNA microsatellite markers for Persian sturgeon (*Acipenser persicus*) from the Caspian Sea

ABSTRACT

Understanding the scale at which wild stocks of Persian sturgeon (*Acipenser persicus*) are genetically discrete is necessary for effective management of this commercially important species. Disomic DNA microsatellite markers are among the best tools for determining stock structure in fishes. As all sturgeon species have a polyploid ancestry of all sturgeons, most gene loci exhibit more than two alleles per individual, limiting the use of powerful analytical methods that commonly assume disomic inheritance. We scored products from 38 sets of microsatellite primers developed in lake (*Acipenser fulvescens*) and Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) to determine whether they would amplify disomic loci in Persian sturgeon. Samples of 45 individuals were detected. Thirty six loci (95%) were amplified successfully in Persian sturgeon. We identified a single monomorphic locus, 12 disomic, 19 tetrasomic, three octosomic, and one locus that was ambiguous. This is the first report on development of disomic single-locus DNA microsatellite markers in Persian sturgeon. These loci could be used to characterize variation in geographically discrete populations of the Persian sturgeon in their native ecosystem including in the Caspian Sea.

Keyword: *Acipenser persicus*; Caspian Sea; Single-locus DNA microsatellite markers