



Genetic structure and diversity in natural and stocked populations of the mandarin fish (*Siniperca chuatsi*) in China

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ABSTRACT. The Chinese perch, or mandarin fish (*Siniperca chuatsi*), is a freshwater fish that is endemic to East Asia. In this study, we investigated the genetic diversity and structure of nine natural mandarin fish populations (from the Yangtze River and Amur River basins) and six hatchery stocks (from central and south China) using microsatellite markers. The results show that the genetic diversity of the Yangtze River populations was high and stable, and genetic differences between them were not significant. In contrast, a low level of genetic diversity and strong genetic structure were detected in the Amur River population. These results suggest that the Yangtze River region and the Amur River region should be treated as two separate units in conservation programs. The hatchery stocks exhibited low genetic diversity and significant genetic differentiation compared to natural populations; this may result in a significant impact on the species if escape events occur. Therefore,

a scientific aquaculture management strategy is necessary for the long-term development of hatcheries.

Key words: Genetic diversity; Genetic structure; Mandarin fish; Microsatellite markers