

**Loss of microsatellite DNA variation in farmed and wild  
olive flounder, *Paralichthys olivaceus***

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The olive flounder *Paralichthys olivaceus* is distributed along the coast of Korea where it is a commercially important aquaculture fish species that have been cultured for the past 20 years in Korea. Millions of *P. olivaceus* juveniles have been released into Korean coastal waters every year for resource enhancement. As a consequence of the increase of artificial fry production, the potential genetic impact of the release of farmed fish on the wild fish stocks is a growing concern. This is because most farmed stocks typically show a reduced genetic variability, which may possibly result in the loss of disease resistance or in the reduction of the population's capability to adapt to new environments. In this study, genetic divergence within and between farmed and wild olive flounder (*Paralichthys olivaceus*) was assessed by means of microsatellite DNA markers. All of the 8 microsatellite loci screened in this study showed marked polymorphisms. Marked reductions of genetic variability in the farmed olive flounder compared with the wild olive flounder were observed in terms of number of microsatellite alleles. Microsatellite DNA marker yielded high values of  $F_{ST}$  ( $\Phi_{ST}$ ) between the farmed and wild olive flounder. We conclude that, based on the reduced genetic variability observed in the farmed olive flounder, bottleneck effects occurred when the farmed olive flounder was founded.

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