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ISOLATION AND CHARACTERISATION OF MICROSATELLITES IN THE ASIAN AROWANAS, *SCLEROPAGES FORMOSUS*

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Abstract

The Asian Arowana (*Scleropages formosusu*) is a primitive freshwater fish form the Jurassic era. It is very hardy and can live a good half century. Its low fecundity rate (about 30 eggs per batch), coupled with habitat degradation, threaten the future survivability of this fish (Khan *et al.*, 1996). It was once close to extinction. In this study, microsatellites were used to study the allele frequencies, heterozygosity as well as the genetic differences among varieties.

To identify microsatellite loci without the expense of library screening, a new strategy has been proposed by Fisher *et al.* (1996). This approach, called the 5' anchored PCR, employs a primer containing microsatellite repeats followed by a degenerated anchor at its 5' end. The amplification produces two close and inverted microsatellites and the region between them. This microsatellite rich PCR profile is cloned to yield a genomic library enriched for microsatellites. Using this method, twenty pairs of primers were designed, out of which only eight turned out to be polymorphic.

These eight polymorphic loci were screened in *Scleropages formosus* from a sample composed of 88 individuals from 5 different populations. Genomic DNA used for PCR was isolated from the scales of the fish using a high concentration urea buffer (Asahida, 1996). The allele numbers ranged from 1 to 5 per locus.

Statistical analysis shows that most of differentiation observed probably resulted from the poor breeding regime employed and bears no relationship to real divergence. It also shows that this species is compromised and extensive efforts have to be initiated to avoid short term potential for extinction.

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