

## **Biochemical polymorphism in yellow catfish, *Mystus nemurus* (C&V), from Thailand**

### **ABSTRACT**

Yellow catfish, *Mystus nemurus* (Cuv. & Val.), is becoming one of the major freshwater species farmed by aquaculturists in Southeast Asia. It was of interest to examine levels of genetic subpopulation differentiation among samples of this species obtained from parts of its range, as well as to compare the genetics of wild and hatchery-bred fish. Horizontal starch gel electrophoresis and histochemical staining techniques were used to examine genetic variation within and among eight wild and one hatchery populations of *M. nemurus* from northern, northeastern, central and southern Thailand. Four tissues (heart, liver, kidney, and muscle) from individual specimens were used to analyze variations at 23 protein-coding loci. Fifteen of the 23 loci examined (65.22%), namely, ACP\*, AAT-1\*, EST-1\*, EST-2\*, GPI\*, IDH-1\*, IDH-2\*, MDH-1\*, MDH-2\*, MDH-3\*, ME\*, PGM\*, 6PGD\*, SOD\*, and HB\*, were polymorphic at the 0.95 level. Observed heterozygosities ranged from 0.041 to 0.111, with an average of  $0.068 \pm 0.028$ . Genetic distances ranged from 0.005 to 0.164. The greatest genetic distance was found between the Chainat and the Suratthani populations (0.164), a level indicative of subspecific differentiation in *M. nemurus* from within Thailand.

**Keyword:** *Mystus nemurus*; Yellow catfish; Genetic variation; Electrophoresis; Allozymes