Nzau Matondo, B., Ovidio, M., Philippart, J.C. & Poncin, P. (2009). Eco-ethological aspects of two natural hybrids involving Abramis brama (L.), of the River Meuse basin (Belgium) and implications in ecosystem management. Second International Environmental Best Practices Conference Krakow, Poland, September 2009

**Abstract**

Eco-ethology as expressed in migration patterns, hybridisation level, growth rates in river conditions, and reproductive behaviour in a controlled environment were investigated in natural common bream *Abramis brama* × roach *Rutilus rutilus* and common bream × silver bream *Blicca bjoerkna* hybrids. From 2001 to 2003, hybrids and parental species were captured in a fish pass trap at the Lixhe dam on the Belgian Meuse River during their reproductive migration. The fish pass was checked 3 days a week and the water temperature was recorded hourly. The results showed that these hybrids were less frequent but they had migrated during the same period and in the same environmental conditions as the parental species. Scale readings showed that the growth of hybrids was intermediate between the two parent species' growth. In controlled environments, the female hybrid mated with one to two males, including male hybrids, in reproductive experiments between hybrids; they also mated with male hybrid and male roach or male silver bream, but without the male common bream in reproductive experiments with hybrids mixed with parental species males, in a succession of spawning episodes recognised in parental species. Aggressive and territorial acts were observed among the males of these hybrids in a territory including a spawning substrate. This study has proven that these natural hybrids are eco-ethologically viable. For the management of fish populations and aquatic environments, the hybridisation process can be considered an indicator of habitat degradation. This degradation can then be interrupted by preserving spawning sites, controlling the restocking and species introduction, restoring habitats, and preserving the obstruction of fish migration.