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poster

Nr (leave open):

Captive breeding and restocking of running water cyprinids in Belgium.

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Since the beginning of the 19th century, the Belgian water courses in the R. Meuse and Scheldt basins have been drastically altered by human activities (building of navigation weirs, canalization of navigable rivers, pollution of water, hydro-electricity). These modifications of fish habitat caused many species to become extinct or rare (all anadromous migratory species + *L. lota*, *C. taenia*, *M. fossilis*, *R. sericeus amarus*) or to suffer a strong demographic decline in all or parts of the basins. *B. barbuis* and other rheophilic cyprinids of the 'barbel zone' assemblage have particularly been affected by these man-induced habitat modifications because of their high ecological requirements as regards water quality (high oxygen demand) and the existence of spawning grounds consisting of gravelly bottoms in swift currents.

In 1982 we undertook a large scale research and action programme aiming at i) studying the population ecology and habitat requirements of these running water cyprinids and ii) achieving their conservation and rehabilitation by means of all techniques available including captive breeding and restocking.

The first and most detailed investigation was conducted with *B. barbuis* as a biological model. Then we started to study *L. cephalus*, *C. nasus*, *A. bipunctatus*, *L. leuciscus*. and several other species *G. gobio*, *P. phoxinus*, *L. idus*, *P. fluviatilis* and even the Mediterranean *B. meridionalis*. Currently, 9 species are kept and reared in captivity in two breeding stations run by the University of Liège with financial support from the Walloon regional government (Nature Conservation, Environment) and angling associations.

Most fish culture operations are performed at the Tihange Fish Breeding Center, a facility situated on a bank of the River Meuse. It is supplied with three types of water : water at a natural temperature (4-24°C) pumped from the river, cooling water (19°C-40°C) from the Tihange nuclear power plants and water at a cold (14-16°C) constant temperature pumped from the aquifer. Since early 1994, fish broodstock are held in a second facility consisting of a solar heated recirculating circuit.

The communication reports on these captive breeding operations focusing on the techniques of gamete production and intensive fry rearing for stocking. The potential and limits of these techniques for the rehabilitation of endangered European cyprinids are discussed.