GENETIC CHARACTERISATION OF COMMERCIALLY IMPORTANT *BRACHIONUS* STRAINS

Dooms Stefania[1,2], Daphné Deloof[2], Kristof Dierckens[1], Peter Bossier[1] and Patrick Sorgeloos[1]

[1] Laboratorium voor Aquacultuur & Artemia Reference Center, Vakgroep Dierlijke Productie, Universiteit Gent, Rozier 44, B-9000 Gent, Belgium
E-mail: stefania.dooms@ugent.be

[2] Departement Zeevisserij, Centrum voor Landbouwkundig Onderzoek
Ankerstraat 1, B-8400 Oostende, Belgium

The development of the mass production of high quality fingerlings of marine fish species in Europe was made possible by improvements in the techniques for producing and utilizing live food: rotifers of the *Brachionus plicatilis* species complex. In the past all commercially used rotifer strains were named *Brachionus plicatilis* (L-type) or *Brachionus rotundiformis* (S-type). But recent studies of natural *Brachionus* populations, based on the mitochondrial COI and genomic ITS1 molecular markers, revealed the existence of at least 9 biotypes of which recently 3 were (re)described as species: *B. plicatilis*, *B. rotundiformis*, *B. ibericus* (Gómez *et al.*, 1995, 1996, 2002; Ciros-Pérez *et al.*, 2001). This rotifer production is still the biggest problem for the fingerling production: the mass culture of these rotifers is very unpredictable. Periods with total mortality or reduced reproduction ('crashes') regularly occur. To get an idea of the genetic diversity of commercially used *Brachionus* strains, samples of hatcheries were analysed using the mitochondrial 16SrDNA molecular marker: polymorphisms are detected by the SSCP (Single Strand Conformation Polymorphism) and DGGE (Denaturing Gradient Gel Electrophoresis) technique and by DNA sequencing. Our findings confirm the hypothesis of the existence of a *Brachionus plicatilis* species complex: so far 16 haplotypes were detected. Very few commercial hatcheries (not a single European hatchery!) massculture the true *Brachionus plicatilis* s.s.

References

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