Energetic requirements and environmental constraints of reproductive migration and maturation of European silver eel (Anguilla anguilla L.)

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STELLINGEN

Behorende bij het proefschrift
Energetic Requirements and Environmental Constraints
*of Reproductive Migration and Maturation of European Silver Eel (*Anguilla anguilla *L.)*
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1. In order to take measures for conservation of eel it is of major importance that not only quantitative causes of decline are considered, but also qualitative causes (*this thesis chapters 3, 6 and 8*; recommendation ICES/EIFAC Work Group on Eel - report 2006). A total ban on eel fishing does not appear to be the solution.

2. Silver eels are cruisers and specialists in long distance migration (*this thesis chapters 2 and 7*).

3. Swim activity and silvering are inextricably linked. However, although swimming stimulates silvering, silvering does not lead to a higher swim performance (*this thesis chapter 2 and 4*).

4. Swimming releases eels from reproductive inhibition and stimulates mobilisation of lipids to the oocytes (*this thesis chapter 4*). Exercise associated with migration is presented as a potential obstacle to successful reproduction but there has been no attempt to reverse this paradigm and examine exercise as an integral part of normal reproductive development for long distance migrators (Patterson et al. 2004).

5. Age is a determinant for successful eel reproduction (*this thesis chapter 4* in comparison with van Ginneken et al., 2005, *this thesis chapters 6 and 7* and Palstra et al. 2006; also Durif et al., 2006).

6. In order to establish successful breeding of eel in captivity, the sequential effects of natural stimulators of maturation need to be established while innovative molecular techniques may provide an alternative solution.

7. The key to success of controllable reproduction of migrant fish — especially the commercially interesting but hard-to-breed fatty marine species — may well be found by fundamental research on the correlated processes of migration, maturation and fat mobilisation, and on identification and effects of sex-specific pheromones.

8. Given the levels of PCBs in fatty wild and farmed fish, and the harmful effects on growth and reproduction on one hand, and the proven 50% decrease of heart and artery diseases by eating fatty fish on the other hand, it appears to be advisable to start eating large amounts of fish only after growth and reproduction (Biotechnologies for quality. Aquaculture Europe 2004. Symposium October 20-23, Barcelona, Spain).

9. More money and effort should be invested in increasing the currently poor scientific knowledge of life in the deep oceans of the earth, at least comparable to the billions that are pumped into investigations of life on Mars. Tracking of eels in the deep sea would be a prestigious start.

10. Biologische vragen zouden nooit beantwoord moeten worden vanuit een puur chemische belevingswereld.

11. Spellingscontrole is een gevaarlijk hulpmiddel op minder scherpe momenten aangezien de geboden alternatieven voor biologische termen bij de lezer kunnen leiden tot het vermoeden van plegen van bestialiteiten. Zo moest ik oppassen dat het woord ‘maturatie’ niet proefschriftbreed werd vervangen door ‘masturbatie’.

12. ‘Hij ziet ze zwemmen’ is niet minder ernstig dan ‘hij ziet ze vliegen’.