Final report for Short-Term Scientific Mission (COST Action: FA1205 – AQUAGAMETE)
COST Reference Code: COST-STSM-FA1205

Project data
Title: Comparison of protocols for European eel *(Anguilla Anguilla)* sperm cryopreservation

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Period: 10 days (24 October, 2016 – 2 November, 2016), Place: Valencia (Spain)

Work during the STSM period

We have collected sperm from European eel (*Anguilla anguilla*) individuals from three groups of aquaria. The fish were sampled 24 h after the weekly hormonal injection (hCG, 1.5 IU/g fish). After collection we have checked the average cell number and the motility with the CASA system following sperm activation with artificial sea water.

Sperm was diluted in different ratios and different cooling medias according to the two tested protocols:

-Hungarian protocol: 500 µl straws, Tanaka extender, 10% methanol,

-Spanish protocol: 250 µl straws, P1 extender, 10% DMSO.

Results

1. Investigate the physiological effects of different protocols on spermatozoa using morphological studies: ASMA studies were carried out following both protocols. Sperm head area and perimeter was significantly lower after thawing (compared to the fresh samples), and there was no significant difference between the two tested portocols.
2. Examine viability parameters of spermatozoa before and after cryopreservation: both methods were suitable for eel sperm cryopreservation.
3. Compare the effects of the two cryopreservation methods on post-thawing motility of eel spermatozoa: both methods caused a reduction on the percentage of motile cells.

Future plan

We would like to keep in touch in the future to improve the cryopreservation methods of the European eel.

Juan F. Asturiano
Valencia (Spain) 3/11/2016