



8th Call for STSM-Scientific Report

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STSM Topic: *Solea senegalensis* sperm motility evaluation using CASA system

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The main objective of this Short Mission was to be trained in the use of Computer-Assisted Sperm Analysis (CASA) in order to acquire the abilities to perform such analysis in my home Institution, the Spanish Institute of Oceanography. This technology will help us to perform more objective sperm quality evaluations and will be very useful for our scientific projects.

Standardization of protocols between Centers is very important, including thawing procedures, and setting of the CASA system parameters. Moreover, such standardization must be done for each fish species and is one of the main objectives of AQUAGAMETE.

To do this, CASA (Computer Assisted Semen Analysis) of PROISER system called ISAS was used. It has several independent units: a phase contrast microscope connected to a video camera that sends the image from the microscope to a computer with a digital serial analyzer that captures several photographs of each field.

We have analyzed the following motility parameters: curvilinear velocity (VCL), straight line velocity (VSL), linearity ($LIN=VSL/VCL$), concentration (M/ml), progressive motility (%) and total motility (%).

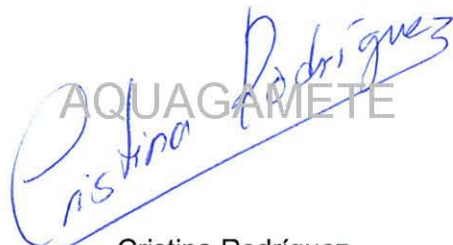
We studied the best settings of the program in terms of: connectivity, number of images, number of images per second and area of the particles.

A total of 14 cryopreserved sperm straws were analyzed: 10 straws of *Solea senegalensis*, 2 of *Psetta maxima* and 2 of *Dicentrarchus labrax*. Optimal parameters were manually selected for each species depending on the speed, trajectory and density of each sample.

This Short Scientific Mission has been very valuable for the implementation of this technology in my home institution, providing me with the required knowledge and skills to use this CASA system for teleost sperm motility evaluation.


AQUAGAMETE

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