



## **Short Term Scientific Mission (STSM) Report – COST Action “Aquagamete”**

### **European Cooperation in Science and Technology**

University of Algarve – Faculty of Science and Technology, Portugal.

Hellenic Centre for Marine Research - Institute of Marine Biology, Biotechnology and  
Aquaculture, Iraklion, Crete, Greece

The purpose of STSM:

The aim of my STSM carried out at the Hellenic Centre for Marine Research was the enhancement of sperm production on meagre (*Argyrosomus regius*), using two different methods of gonadotropin releasing hormone agonist (GnRH<sub>a</sub>) administration, injection and controlled-release delivery systems. Although the fish did not mature within the time of the STSM, I had the opportunity to learn all the practical procedures in an aquaculture broodstock facility concerning samplings and daily work, and also the analyses necessary to evaluate eggs and especially the quality of sperm assessed by Computer Assistance Sperm Analysis (CASA).

Description of the work during the STSM

Sampling:

During my stay at the Hellenic Centre for Marine Research, I experienced sampling with different species of fish, such as the gilthead seabream (*Sparus aurata*), European sea bass (*Dicentrarchus labrax*), wreckfish (*Polyprion americanus*) and meagre, where I could learn step by step how to anaesthetize fish, and how to obtain sperm and blood samples.

Analyses:

Subsequently, I learned how to analyse sperm, using a microscope to check the motility (%), motility duration and find the correct dilution in order to check sperm density, which depends on the specie examined. Regarding CASA, I learned to record the videos and set the parameters necessary to calculate motility (%), curvilinear velocity, average path velocity, straight line velocity, and linearity of the sperm. Fish sperm analyses are commonly assessed through subjective observations on microscope, which often prevent robust statistical analyses, while the use of CASA provides an objective analysis of sperm quality, better able to apply statistics.

Description of the main results obtained:

At this point of the experiment results were not obtained, since the fish were not mature enough to produce sperm, but all the knowledge acquired would be used in the future samplings with meagre, in order to continue in my M.Sc. research project.



Photo 1: Gilthead seabream sampling with fellow students.



Photo 2: Acquisition of sperm from a gilthead seabream male.



Photo 3: Collecting sperm from gilthead seabream.



Photo 4: Collecting of blood from wreck fish.

Approved and signed

A handwritten signature in black ink, appearing to read 'C Mylonas'. The signature is stylized and cursive.

Supervisor : Dr. Constantinos C Mylonas - Hellenic Centre for Marine Research,  
Institute of Marine Biology, Biotechnology and Aquaculture