



Third Call for STSM-Applications

COST Action FA1205: AQUAGAMETE - Assessing and improving the quality of aquatic animal gametes to enhance aquatic resources. The need to harmonize and standardize evolving methodologies, and improve transfer from academia to industry

Name: Elsa Cabrita

STSM Reference: COST-STSM-ECOST-STSM-FA1205-140914-047945

Title: Cryopreservation of bivalve sperm: establishment of basis for cryobanking

Dates: from 14-09-2014 to 20-09-2014

Location: IFREMER (Experimental Station of Argenton, Brest, France)

Host: Dr Marc Suquet, IFREMER, Brest, France (marc.suquet@ifremer.fr)

Description of the work

During this short stay I participated in the experiments performed by Dr Suquet team in collaborations with Dr Catherine. I learn how to identify both types of gametes in Pacific oyster (*Crassostrea gigas*) in order to perform artificial fertilization and learn how to develop cryopreservation protocols for this genus. We used both natural population of *Crassostrea gigas* and cultivated ones. For gamete identification the oysters were opened and a small drop of gonad content was extracted and observed in the microscope. Sperm was easily identified because motility was activated and the oocytes were also identified easily according to their size and shape. This criterion was used also to identify gametes of good quality and correct maturation stage. Identified males were used to extract the sperm performing small incisions in the gonad with the aim of releasing all the spermatozoa into a petri dish using seawater. Several males were ripped in order to have enough material. Sperm was maintained under this condition until used no more than 3h. To collect the oocytes the same technique was used and after both gametes were filtered using a 100 µm mesh to eliminate impurities. For cryopreservation studies, eggs were fertilized and several variables were tested. This work was done in collaboration with my colleague Sonia Martínez Páramo.

The knowledge acquired in Brest will allow me to establish new collaborations with this group in oyster cryopreservation including sperm and larvae. Our main goal will be the transference of these technologies to a close related species, *Crassostrea angulata*, contributing for the developed of this population in the south of Portugal. The skills I gained with this STSM will help me to fulfil the main objectives of the CRIOBIV project and are in accordance with the objectives of the WG2.

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Fig. 1: Natural populations of oyster collected for the experiments; Fig. 2: Sperm collection; Fig. 3: Mixing oyster larvae after fertilization to avoid them to sink; Fig. 4: The team working at IFREMER Argenton Station during the STSM: Catherine Labbé; Sonia Martínez Páramo, Marc Suquet, Elsa Cabrita, Florent Malo.

Confirmation by the host institution of the successful completion of the STSM

Dr. Marc Suquet (IFREMER) certifies that Dr. Elsa Cabrita (CCMAR\Ualg) has completed a Short-Term Scientific Mission awarded by the COST Action FA1205 between September 14-20, 2014.

Marc Suquet
(IFREMER-Host institution)

Elsa Cabrita
(STSM applicant)