

8th Call for STSM - Scientific Report

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.

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COST STSM reference: COST-STSM-FA1205-30931

Title: Development and optimization procedures during artificial fertilization performed with cryopreserved sperm

Dates: from 3rd to 13th of July 2016

Location: IEO Spanish Institute of Oceanography, Santander (ES)

Host: Dr Vanesa Robles, (robles.vanesa@gmail.com)

Purpose of the STSM

One of the problems identified in Solea reproduction (Senegalese sole) is the complete dependence of animals from the wild due to the fact that F1 breeders do not reproduce naturally in captivity. Several approaches have been conducted, from hormonal treatments to induce male and female maturation, gamete production and improvement in gamete quality. To support these activities cryopreservation has been playing an important role and the development of standardized protocols between research facilities and companies are still a bottleneck. Therefore, the main aim of this STSM was to try to standardize procedures for artificial fertilization using cryopreserved sperm.

Description of the work

During this short stay we tried to standardize our protocol procedures for the cryopreservation of Senegalese sole sperm. Previous aspects were discussed such as gamete extraction techniques, how to identify contaminated samples, type of males (Wild vs F1), parameters used to discard samples with bad quality, parameters used to identify good quality eggs. Experiments were conducted using sperm obtained from Wild males cryopreserved using different cryoprotectants (internal and external). Only samples with good post-thaw motility were used in fertilization tests. Eggs were stripped from females and the fertilization procedure was adjusted testing different egg/ratios depending or not on the quality of sperm.

All these experiments were very important to establish future directives on this procedure for Senegalese sole to be able to standardize artificial fertilization using cryopreserved sperm.

Our main goal will be the transference of these technologies to companies in this sector. These protocols would benefit the industry interested in this research and in the production of this species and will contribute to fulfil the objectives of the Aquagamete COST action

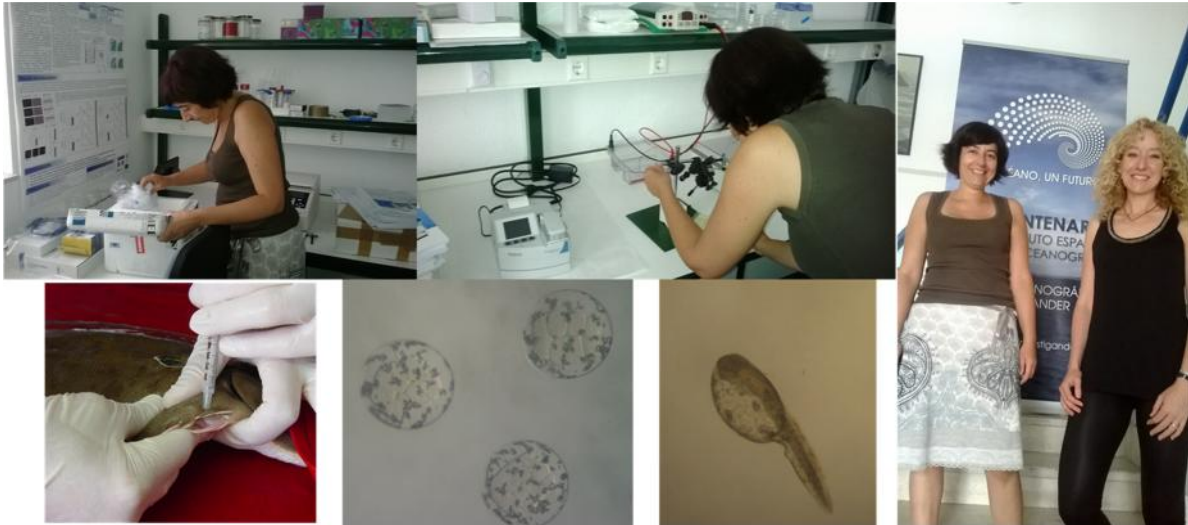


Fig 1- Preparation of procedures for sperm cryopreservation. Sperm collection and analysis. Egg development after being fertilized with cryopreserved sperm. Senegalese sole larvae with 1DAH obtained with cryopreserved sperm.

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

Dr Vanesa Robles certifies that Dr Elsa Cabrita has completed a Short-Term Scientific Mission (STSM) awarded by the COST Action FA1205 AQUAGAMETE during the period from 3rd to 13th of July 2016.



Vanesa R.

Elsa Cabrita

Vanesa Robles
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