# STSM REPORT

## 1. Purpose of the STSM

Artificial fertilization with cryopreserved sperm has been little studied, and there is no in vivo information on the applicability of the cryopreservation protocols developed for each species. Therefore, faced with the need to seek new methodologies for the improvement of artificial reproduction techniques, this project is focused on optimizing the reproductive efficiency in fish farms with the aim of promoting a rational use of gametes, using both fresh and cryopreserved sperm.

## 2. Description of the work carried out during STSM

Males and females of tambaqui were induced to maturation using carp pituitary extract (CPE) and 2 trials were carried out:

- Trial 1. Sperm from at least 8 males were analyzed at different post-activation times for characterizing the sperm kinetic parameters of tambaqui, including a subpopulation study.
- Trial 2. Eggs from females were separately fertilized with fresh and cryopreserved sperm from of testing the fertilization and hatching rates before and after thawing protocol establishing correlations between sperm quality parameters and the fertilization and hatching rates.

## 3. Description of the main results obtained

In this study we have demonstrated test that it is possible to obtain suitable fertilization rates using successful combination of fresh or thawed sperm in high/low concentration. At the same time, coefficients of correlation among all the sperm motility parameters provided by a CASA system and FR/HR were estimated for the first time in tambaqui both in fresh and cryopreserved sperm.

## 4. Confirmation by the host institution of the successful execution of the STSM

Production manager, Paulo Cesar Falange Carneiro, from Embrapa Tabuleiros Costeiros (Aracaju, Brazil) certifies that Victor Gallego Albiach visited us a Postdoc student from 17th of September to 18h of December of 2014, thanks to a grant awarded by Short Term Scientific Mission, COST Action FA 1205.

Signed: Paulo C.F. Carneiro

Signed: Victor Gallego