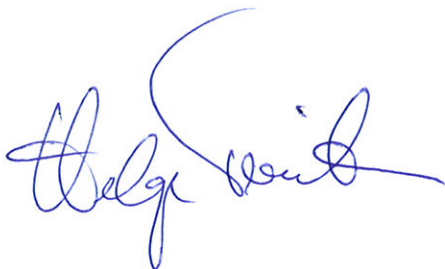


The purpose of this study was to analyse the temperature effect on European eel during hormonal treatment. With this aim, the steroid levels of 11-Ketotestosterone (KT), estradiol (E2) and 17 $\alpha$ ,20 $\beta$ -dihydroxy-4-pregnen-3-one (DHP) were analysed. A total of 81 male eels were gradually acclimatized to seawater and distributed in six 200-L aquaria. Afterwards, the animals were subjected to three thermal regimes: T20 and T10 groups, 20 °C and 10 °C, respectively, during the whole experimental period and T15 group, 10 °C (first 4 weeks) and 15 °C (last 11 weeks). All the males were treated with weekly injections of human chorionic gonadotropin (hCG; 1.5 IU g<sup>-1</sup> fish) during 15 weeks. Groups of 5-8 eels per thermal regime were sacrificed at fresh water and sea water conditions, furthermore 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup> and 15<sup>th</sup> week in T10 and T15 groups. In T20 group, only fish from fresh water and sea water conditions, 2<sup>nd</sup> and 4<sup>th</sup> week were sacrificed. Plasma concentrations of DHP, E2, T and 11-KT were measured by means of radioimmunoassay. At low temperatures, higher E2 levels were found from fresh water to sea water, decreasing with the advance of the spermatogenesis. Not differences were found at 20 °C. Androgen synthesis, both T and 11KT, with independence of temperature was stimulated during the first 4<sup>th</sup> weeks, decreasing at 6<sup>th</sup> and maintaining low from then. DHP plasma levels increased in parallel during the 4 first weeks in T20 and T10 groups, after that at 10 °C the DHP levels were maintained low, in contrast to the fish reared at 15 °C with higher levels at 6<sup>th</sup> and 15<sup>th</sup> week. This work focuses on environmental influence on reproductive physiology. This topic is related with the working group: “*Basic and applied research on gametes and biochemistry and physiology, including OMICS*” of COST action FA1205.

Both institutions, NOFIMA and UPV, were partners in the European project PRO-EEL, and will collaborated in European funded project: *Reproduction of European eel: towards a self-sustained aquaculture (PRO-EEL) (Grant Agreement n°: 245257)*. This stay contributed to reinforce our collaboration.

#### **Confirmation by the host institution of the successful execution of the STSM**

Dr. Helge Tveiten, Senior Researcher of Nofima centre in Tromso certifies that Dr. David Sánchez Peñaranda visited us as a guest researcher from 1st September to 30th September, 2014, thanks to a grant awarded by Short Term Scientific Mission, COST Action FA1205.



Signed: Helge Tveiten



Signed: David S. Peñaranda