

Report for the STSM visit at the Institute of Biology and Immunology of Reproduction, Bulgarian Academy of Science, Sofia, Bulgaria.

Under the supervision of Associate Professor Dr. Rossen Stefanov, Ph.D.

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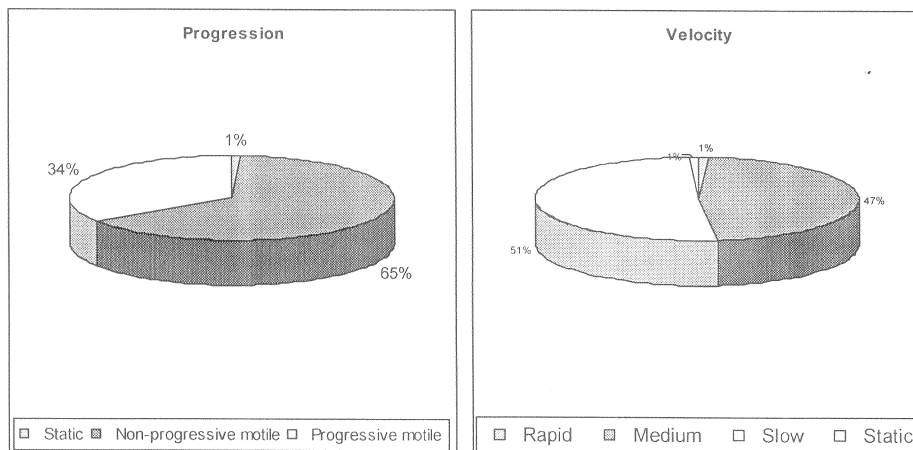
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The applicant has attended the facilities of the Institute of Biology and Immunology of Reproduction, Sofia, Bulgaria during the second half of March 2015. From the beginning of year 2015, the Bulgarian researchers had started to apply various photoperiod and temperature controlled maturation protocols in freshwater fish pike (*Esox lucius*), which have been followed by hormone spawning induction protocols.

Induced spermatozoa have been evaluated for motility and morphology by microscopy imaging (automated sperm analyzer) at the Laboratory for confocal and light microscopy. In addition histological preparations of induced spermatozoa have been prepared by the PAS (periodic-acid-shift reagent) staining method at the Bulgarian lab.

The following spermatozoa motility parameters have been recorded by a Sperm Class Analyzer (Microptic S.L., Spain): concentration, progression, velocity, head morphology. Despite the observed variations in all the parameters among the four samples, we can conclude that fish have been in a good reproductive status, with semen characterized by high concentration (400-1009 millions/ml), progressive velocity parameters and normal morphological structures. Furthermore, the histological preparations have shown that spermatozoa have been at various developmental stages, something that is normal for adult, mature animals at the spawning season.

In conclusion, pike spermatozoa have been evaluated of an overall of good quality in the middle part of testis, compared with those of the head or tail part of testis.



Associate Professor Dr. Rossen Stefanov, PhD

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