



Fakulta rybnářství
a ochrany vod
Faculty of Fisheries
and Protection
of Waters

Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice
Czech Republic

Confidential

Supervisor's Review of USB RIFCH PhD Thesis

Surname of the PhD student: Linhartová	Name of supervisor: Ing. Martin Pšenička, PhD.
Title of PhD thesis: Micromanipulation and cryopreservation of germ cells in fish	

OVERALL COMMENTARY ON THE PhD THESIS

The presented doctoral thesis summarized manipulation with germ cells of fish from several aspects. The thesis is divided into 7 chapters. The chapter 1 is dedicated to introduction, which describes origin, development and manipulation with early stages of germ cells and their differences between teleostean and chondrosteian fishes. The introduction is written well and shows clear principles about germ cells manipulation.

The other five chapters are composed of manuscripts. Four of them were written by PhD candidate and in one of them she participated as a co-author, which generally shows her high activity. The manuscripts discourse about ultrastructure of beluga, the biggest sturgeon, sperm and compare it with the other sturgeon species. This work confirms a close relation between *Huso* and *Acipenser* genera. Other three studies describe development, isolation and transplantation of early stages of germ cells in tench (representative of teleostean) and Siberian sturgeon (representative of chondrosteian). The last and according to my opinion the most valuable manuscript introduce sterilization of sturgeon using knock down of *dead end* gene, which brings a very important tool for generation of germ line chimera in sturgeon.

The last chapter summarizes all results, compare them with recent state of the art and suggest other interesting approaches in the field.

For overall evaluation of this doctoral thesis, I can declare with a clear conscience that the presented work achieves a high level and can be recommended for the final defence.

FINAL RECOMMENDATION

- can be recommended for defence of PhD Thesis
- can be recommended with reservations for defence of PhD Thesis
- can not be recommended for defence of PhD Thesis

28.4.2015, Rennes, France

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Date and place

Pšenička

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surname and signature