



Confidential

Supervisor's Review of USB RIFCH PhD Thesis

Surname of the PhD student: Xin Miaomiao	Name of supervisor: Otomar Linhart
Title of PhD thesis: The role of some proteins in freezing fish sperm	

OVERALL COMMENTARY ON THE PhD THESIS

During four years of her PhD study (2015-2019) in our laboratory, she was always very active student with excellent activity. I became to be familiar with her in last time her study in Vodňany. It is true that in 2015-2017 I did not have much time to work with "Miao" as we called her in the lab, and at that time she was scientifically led by Sergey Boryshpolets, Borys Dzyuba and other colleges from lab. After my Dean's career, I tried to lead her more scientifically. I knew that she is ambitious, she knows what she wants and goes for it. Experimentally and in the lab, she has developed over four years. It can be said that today she handles fish work, routinely working with fish gametes in the reproductive physiology lab, including fertilization tests, sperm motility and velocity evaluation, sperm freezing, laboratory proteomic experimental procedures, including data evaluation and scientific publication. What's more..., in recent times, experimental work, along with publishing, is not a stress for her, but a routine everyday pleasure. Without creativity of "Miao" and her simplicity for science, maybe I would end up with science, but this is how I once again enjoyed it.

I have to say that she succeeded in fulfilling the goals of her work. I.e:

- 1) Summarized the advantages and disadvantages of vitrification on fish sperm and discussed the current progresses in vitrification application of fish spermatozoa.
 - 2) Evaluated the effect of cryopreservation on motility variables of sterlet spermatozoon and compared the proteome differences between fresh and frozen/thawed spermatozoa and seminal plasma.
 - 3) Explored the protective role of antifreeze protein type I and antifreeze protein type III on sterlet sperm motility, velocity, membrane integrity with fertilization rate followed cryopreservation.
- She published more than 7 peer-reviewed papers. One paper was accepted for publication (Rev. Aquacult. IF 2018 = 7.2), one paper with transferrin in sterlet was submitted and I hope that before defense will be submitted two additional papers. Her papers have citation level 9 and h-index 3.

Last but not least, **Miao is excellent creative scientist**, who is fully enjoying life including science as pleasure. I understood that she is able to discover outstanding results in near future.

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

..3rd May, 2019, Vodňany....
Date and place

... Otomar Linhart.....
surname and signature