



Confidential

Supervisor's Review of USB RIFCH PhD Thesis

Surname of the PhD student: Ing. Miloš Havelka	Name of supervisor: doc. Ing. Martin Flajšhans, Dr. rer. agr.
Title of PhD thesis: Molecular aspects of interspecific hybridization of sturgeons related to polyploidy and in situ conservation	

OVERALL COMMENTARY ON THE PhD THESIS

Since the very beginning of his PhD studies in 2009, Miloš Havelka proved to be a very active student with respectable level of knowledge, excellent creativity, great dedication and a wide range of research activities. During his studies, he forcibly and repeatedly demonstrated his skills both in the laboratory (in chromosomal manipulations of salmonids, cyprinids and acipenserids, flow cytometry, methods of molecular biology and population analysis) and in the field work (fish nursing, breeding and reproduction, tagging, field experiments, blood and tissue sampling, etc.). In the latter, he participated actively and practically took a leading role in two pilot projects with fish farms, which yielded in publishing two verified technologies on production of triploids with M. Havelka as the first author and in his substantial share on authorship of one utility model.

Miloš Havelka spent the mandatory 3 months of stay abroad in two prestigious European genetic laboratories, first in the Leibnitz Institute for ZOO and Wildlife Research, Berlin and then at the School of Biological Sciences, Queen's University, Belfast. He made a good use of these stays: apart from learning new methodologies and introducing them in our laboratory, he took there his research material to work and discuss the data what resulted in publishing as least one paper after each stay. He also took several optional PhD courses mainly on fish genetics, breeding and molecular biology, including two CEEPUS courses abroad.

Miloš Havelka proved his pedagogical abilities as well, he was a supervisor of 2 BSc. students, a mentor of 3 summer school students' projects and a convener of subject Basics of diving. Miloš coped very well with public presentation of results gained during his PhD studies, he presented them at two prestigious international conferences: the XI International Symposium on Genetics in Aquaculture in USA, 2012 where he received the „Best PhD student presentation“ award, and at the World Aquaculture Society Conference AQUA 2012 in Prague, as well as on two national conferences.

From all these points of view, Miloš Havelka proved to be skilled, straightforward and cooperative scientist in the field of fish molecular genetics in special, and genetics in aquaculture in general. Nowadays, I could hardly imagine the work on projects of our laboratory without his contribution which appeared to be essential.

The PhD thesis is conducted as a compilation of papers published in peer-reviewed journals with IF (the introductory review on the problems and importance of sturgeon genetic studies in Chapter 1, the new microsatellite data evidence on functional diploidy, tetraploidy and hexaploidy of sturgeon species with 120, 240 and 360 chromosomes in Chapter 2 and on autotriploidization events in sterlet in Chapter 3), completed with a manuscript prepared for review in another peer-reviewed journal with IF (fertility of an autotriploid Siberian sturgeon in Chapter 4). I feel, as well as the author does and I agree with him, that the thesis would not be complete without the last part (Chapter 5) on segregation



pattern of microsatellite alleles during experimental hybridization of polyploid sturgeons, even if these data are yet only prepared for publication. However, they cannot be regarded as totally unreviewed: these data were presented in final report of the Czech Science Foundation grant No. 523/08/0824 which received an outstanding evaluation, in M. Havelka's project of the granting agency of Univ. South Bohemia No. GAJU 040/2011/Z, and they were presented to the scientific auditorium in parts during the Int. Meeting on Genetics of Polyploids (Lisbon, 2010) and at the XIIth and XIIIth Czech Ichthyological Conference (2010 and 2012).

As a supervisor of Dipl.-Ing. Miloš Havelka I can only state that the aims of this PhD thesis were more than fulfilled and that Miloš Havelka came out with several novel findings which enriched the fascinating, complicated and partly still unexplored field of sturgeon genetics. For me it was a pure pleasure to work together with him and I would be only looking forward to continue our cooperation as with a postdoc in my laboratory in the 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

Vodňany, May 13, 20

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Date and place

Assoc. Prof. Dipl.-Ing. Martin Flajšhans, Dr.rer.agr.

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surname and signature