



**Confidential**

**Supervisor's Review of USB RIFCH PhD Thesis**

Surname of the PhD student: <b>Lukáš Veselý</b>	Name of supervisor: <b>Antonín Kouba</b>
Title of PhD thesis: Crayfish in changing biotic and abiotic conditions	

**OVERALL COMMENTARY ON THE PhD THESIS**

Ph.D. thesis by Lukáš Veselý is focused on the effects of an array of biotic and abiotic factors on freshwater crayfish. In this context, crayfish are either used as a central point in the experiments, since playing prominent roles in freshwater ecosystems, or as suitable model organisms. Particularly in today's fluctuating and fast changing environmental conditions, organisms are facing new challenges resulting from abiotic and biotic factors varying in their magnitudes or when appearing in new contexts. This thesis provides unique results in terms of the ability of crayfish usually non-indigenous in Europe to cope with a series of these factors. Target factors are represented by overwintering abilities of four warm-water widely pet-traded crayfish, desiccation capacity and burrowing activity of three indigenous and five non-indigenous crayfish under drought conditions, salinity tolerance of marbled crayfish, comparative crayfish plague tolerance of one indigenous and one non-indigenous crayfish species, as well as climate change in terms of nutrient enrichment and temperature elevation, using two sized classes of marbled crayfish and dragonfly larvae as predators of common carp fry in full-factorial design, i.e. their functional responses. Obtained findings are noteworthy, providing novel findings, raising new questions and providing baselines for future studies.

Lukáš is friendly and a highly collaborative person. He independently introduced application of methodological approaches like stable isotopes analyses and functional responses combined with modelling and advanced statistical evaluation of data in the environment of an R language. It opened an array of new topics that are currently being applied in our as well as collaborative laboratories of the faculty and represent a core part of several grant proposals that are under consideration at present. It resulted in ca. a dozen of datasets (besides those included in the thesis itself), which are in various stages of preparation. Approximately a half of them is supposed to be proceeded by Lukáš as the first author.

Taking this information as a whole, the theses by Lukáš Veselý can be recommended for 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

23. 5. 2017, Vodňany  
Date and place

Antonín Kouba  
surname and signature 