



**Confidential**

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

Surname of the PhD student: <b>Jan Kubec</b>	Name of supervisor: <b>Miloš Buřič</b>
Title of PhD thesis: Decision making in crayfish: behavioural and reproductive issues	

#### **OVERALL COMMENTARY ON THE PhD THESIS**

Ph.D. thesis by Jan Kubec is focused on the crayfish behavioural and reproductive patterns which were influenced by a decision process or on the behavioural patterns observed in conditions where the decision is affected by an external stimuli. Crayfish were used as a perfect model organisms for ethological studies targeted on reproduction or species interactions as well as for etho-toxicological studies.

First of all, Jan summarized the chemical communication, behaviour and decision making in crayfish in a concise review that provide great background for his work and introductory words for this thesis. Crayfish were used as a central point in the experiments, since playing prominent roles in freshwater ecosystems as keystone species as well as dangerous invaders being also confirmed as suitable model organisms. Selected five papers illustrating targeting on the several main research goals and are only representatives of Jan's works, not all of his outputs. Publications including targeting on basic behavioural knowledge, question of sexual selection, question of interaction of invasive species in multiple invaded localities, and question of the effect of diluted concentration of prominent pollutants (psychoactive compounds and pesticides) on freshwater organisms. All presented works can be characterized by high effort and honest approach resulting in good quality outputs. Obtained findings are raising new questions and providing baselines for future studies.

Personally, Jan is friendly and a highly collaborative person who can work independently in both, laboratory and field work. He is skilled enough to teach his ethological approaches including professional work with ethological software. His collaborative approach lead to publishing of six and acceptance of another three co-authored papers (Naturally, besides publications presented in this thesis). Other at least six papers are now submitted or prior submission. His work also bring us very good reputation at the University of Hull, where he spent an internship, which lead to new collaboration with our faculty (joint papers prior submission). From the position of the head of the Laboratory I feel, that Jan has become an indispensable laboratory member willing and able to help with almost everything.

Taking this information as a whole, the thesis by Jan Kubec 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

14.6. 2019, Vodňany  
Date and place

Miloš Buřič  
surname and signature