



University of South Bohemia in České Budějovice
Faculty of Fisheries and Protection of Waters
Zátiší 728/II
389 25 Vodňany

Opponents' review of diploma thesis

Student:	Mgr. Bc. Viktoriia Shchennikova
Field of study:	Fishery and Protection of Waters (DP)
Form of study:	Prezenční
Title of the final thesis:	Effect of hygienically treated water on crayfish heart rate and their subsequent mortality
Supervisor of the final thesis: Name, surname, titles	Ing. Jiří Patoka, Ph.D., DiS.
Workplace and job position of the reviewer	Department of Zoology and Fisheries; Faculty of Agrobiolgy, Food and Natural Resources; Czech University of Life Sciences Prague

1. Formulation of the thesis's objectives

An introduction to the solution of problems is evaluated, i.e. the justification of the need for the solution of the thesis and the understandability and logicity of the stated objectives with respect to the thesis topic:

Evaluation (mark from 1 – 1 2 3 4
the best to 4 – insufficient):

Comment on the evaluation (justification of the proposed mark). Comment is compulsory.

Presented diploma thesis is focused on the impairment of crayfish behaviour and survival rate related with the of chlorine dioxide in water. Objectives are clear and well defined. The structure of the thesis is well organised. Obtained data set and found significant differences have a scientific merit and publication potential.

2. Method of the thesis's solution

The material and methodology used to solve the objectives of the thesis including the way of statistical analysis of data (suitability, comprehensibility, relevance, complexity) are evaluated. In case of the review-type thesis the content structure, the logicity of thesis segmenting, the concept of the review thesis are evaluated.

Evaluation (mark from 1 – 1 2 3 4
the best to 4 – insufficient):

Comment on the evaluation (justification of the proposed mark). Comment is compulsory.

Used methods are relevant. Statistical analysis is clear and sufficient. On the other hand, I suggest a verification of the insignificant differences between sexes (suggested by Kuklina et al. 2018) and increasing of the total number of evaluated individuals (N=25) before the scientific manuscript preparation. The reason why males and females were evaluated together might be noted in the methodological section.

3. Work with information

The extent and relevance of used information accessible in the literature, its topicality, truthfulness, complexity, the way of interpretation of the information and extent of information used, the method of description of results and their comparison with other available information, the ability to draw conclusions are evaluated.

Evaluation (mark from 1 – 1 2 3 4
the best to 4 – insufficient):

Comment on the evaluation (justification of the proposed mark). Comment is compulsory.

Cited references are valid and interpreted correctly and the ability how to present the conclusions is sufficient.

4. Formal processing of the thesis

Compliance with the uniform style, graphic layout, clarity, level of language processing, adherence to the citation standard, quality of graphs and images, etc. are evaluated.

Evaluation (mark from 1 – 1 2 3 4 the best to 4 – insufficient):

Comment on the evaluation (justification of the proposed mark). Comment is compulsory.

The format of references is non-uniform with numerous mistakes (e.g. name of the journal abbreviated with dots/abbreviated without dots/non-abbreviated; pages with hyphen/dash; names of the authors without diacritic such Lozek/Ložek...). There are few misspellings in the text (e.g. zink/zinc).

5. Fulfilment of the thesis's objectives

The results of the work are compared with the stated objectives and the research plan (the research plan is included in the thesis and it includes key information from the student's supervisor).

Evaluation (mark from 1 – 1 2 3 4 the best to 4 – insufficient):

Comment on the evaluation (justification of the proposed mark). Comment is compulsory.

The objective "the evaluation of crayfish physiological reaction on water disinfected with ClO₂ during long-term exposure under the conditions of an experimental water purification system in the brewery" has been fulfilled.

6. Formulation of the thesis's conclusions

The comprehensibility of the conclusions and their relevance to the findings (scientific or informative) are evaluated.

Evaluation (mark from 1 – 1 2 3 4 the best to 4 – insufficient):

Comment on the evaluation (justification of the proposed mark). Comment is compulsory.

Simply, the conclusion is not a conclusion but rather an abstract. A conclusion is not a summary of the thesis. There must be mentioned main findings point by point (e.g. higher level of ClO₂ disrupts diurnal activity of crayfish; higher level of ClO₂ leads to higher mortality. .). And, finally, there must be also a recommendation what to do with these findings (e.g. use the crayfish as indicator organisms in the water treatments).

7. Professional benefit of the thesis

The usefulness of the thesis for the given field, its scientific or professional expertise is evaluated.

Evaluation (mark from 1 -- 1 2 3 4 the best to 4 – insufficient):

Comment on the evaluation (justification of the proposed mark). Comment is compulsory.

The presented findings have a scientific merit and should be published (after some suggested revisions) in scientific journals with impact factor. I recommend this thesis for defence.

Overall evaluation of the thesis:

Proposal of the evaluation with the mark:

- excellent
- very good
- good
- insufficient

I recommend the thesis for defence:

- yes
- no

Questions for defence:

Question for defence 1
(compulsory)

Since the signal crayfish is banned in certain European countries, can you suggest some other crayfish species, which can be used in breweries and other facilities there? Is signal crayfish related to some European indigenous crayfish species?

Question for defence 2
(compulsory)

The signal crayfish is known as a vector of crayfish plague caused by the oomycete *Aphanomyces astaci*. Had you inspected used crayfish on the presence of this pathogen? The pathogen can spread also with the wastewater. Was the used water sterilized?

Other comments, expressions and suggestions for defence of the thesis, respectively to its further use:
(optional)

Date and signature:

Date:

15.05.2018

Signature of the thesis' reviewer:

