

**Editor comments:**

Thank you for the thorough revision of the manuscripts which helped to solve most of the problems identified by the reviewers in the first revision round. As identified by reviewer 1, there are still some pending issues with the language.

I look forward to your revised manuscript.

Authors: Dear Prof. Oehlmann, thank you very much for consideration of our study and the provided suggestions. We now incorporated the comments of Reviewer 1 and re-checked the whole text for grammar mistakes and clarity as suggested.

Thank you very much again for consideration of our manuscript.

## Reviewer 1

### Basic reporting

Minor comments on language:

L29-31: I suggest rephrasing e.g.: „...no effect on immune parameters such as haemocyte concentration, or phenoloxidase activity and also did not affect glycogen content.”

L75: „detectable“

L95: “does not mention”

L104: delete “roughly”

L314: Suggest rephrasing, e.g.: “We collected leech-infected *E. verrucosus* amphipods at the same site in Lake Baikal, but at different times of the year.”

Authors: Dear Reviewer 1, thank you very much for critically reading our manuscript and the warm comments. Those pieces of text were corrected as suggested.

L318-322: I suggest condensing this a bit, e.g.: “We performed a morphological analysis for 35 leeches that were further used for estimation of hemocyte concentration (5 leeches in October 2022, 15 leeches in February and 15 leeches in April 2023). All 35 analyzed leeches belonged to the same genus *Baicalobdella*, with most of them being representatives of the morphospecies *B. torquata*.”

Authors: Corrected in the following way: «We performed a morphological analysis for 35 leeches obtained from amphipods that were further used for estimation of hemocyte concentration (5 leeches in October 2022, 15 leeches in February and 15 leeches in April 2023). All 35 analyzed leeches belonged to the same genus *Baicalobdella*, with most of them being representatives of the morphospecies *B. torquata*».

L345: delete “amphipods”

L357: “hyalinocytes”

L427-429: maybe rephrase: “Interestingly, the interaction between bacterial injection and leech infection, in contrast, led to a statistically significant decrease in the proportion of granulocytes...”

L430-431: suggest rephrasing: “Interestingly, the interaction of bacterial injection and leech infection resulted in a statistically...”

L517: “Although the main experiment...”

Authors: Corrected as suggested.

Those are just some examples. I suggest that the authors do a final round of checking the text for clarity.

Authors: We re-checked the whole manuscript for typos, grammar mistakes and clarity.

### Experimental design

All fine in the revised version.

### Validity of the findings

L437-441: Maybe clarify the problem. E.g. that it is time consuming to check for leeches before the experiment, or that not enough uninfected individuals can be found. Otherwise it is not clear why it is not better to just continue using uninfected amphipods to be on the safe side for physiology experiments.

Authors: This is certainly a relevant criticism. We added this motivation at the very end of Discussion (in order to keep the logical line at the beginning as it was): «Therefore, the amphipods infected with *B. torquata* should still be treated carefully but can be included into at least some types of ecophysiological experiments. In certain seasons high infection rates can significantly complicate collecting strictly non-infected amphipods, while permanent checking for the infection is a laborious and time-consuming process. Thus, using leech-infected *E. verrucosus* in the experiments intended for glycogen measurements or tests with primary hemocyte cultures can speed up those studies».

#### **Additional comments**

The authors did a great job revising the manuscript and addressing the points raised. Besides a few comments on language I can recommend the manuscript for publication in PeerJ!

Authors: Thank you very much again for your work and the provided suggestions!