Review

for the doctoral thesis “Trait-based approaches in freshwater benthic microalgae communities” written by Tiba Jassam Kaison Al-Imari

The topics of the dissertation are scientifically relevant, as they relate to under-researched mountain forest ponds (increasing the visibility of these unique habitats), the effects of climate change (the greatest challenge of the new millennia) and salinisation (a major concern in terms of global change).

The thesis is based on three research papers published in peer-reviewed high quality journals, which provide assurance for high quality work behind the dissertation.

The discussions are detailed, and show the candidate’s knowledge of the literature. The statistical analyses are appropriate and the ecological conclusions are correct.

The dissertation has been improved from the first version in terms of English phrasing and textual coherence. In particular, the general introduction is easier to read and follow and is now better suited to outlining the themes of the three chapters. I still find it strange that the research questions are only mentioned under the main aims and that the chapters do not include the hypotheses. The thesis still contains spelling mistakes and some inconsistencies in phrasing, and some suggestions for improving the text have not been implemented.

On the other hand, the thesis contains three research papers that demonstrate the high quantity and quality of the work done during the PhD.

I have no scientific or ethical objections to the thesis. In the event of a successful defence, I recommend that the doctoral degree be awarded.

My questions related to the thesis are

- Has the candidate found any unique taxa in the small mountain ponds? Which ones are they and what conditions allow them to be there?

- What is the candidate's opinion on the most important environmental factors affecting the community composition (both at species and trait level)? Outline the importance of water temperature and lake morphology.
- Outline a possible trophic cascade effect in the worst-case climate scenario. How it could affect other organisms?

Nyíregyháza, 11. 08. 2024

Áron Lukács
research fellow
HUN-REN CER IAE
Functional Algology Research Group