Responses to reviewer's comments

Thank you for reading our work and appreciating its value. Thank you for the valuable tips and comments. Below we have included the answers and explanations for the given problems.

Seasonal changes should also be incorporated into such analysis, as this changes my increase or decrease the effect size.
We understand that seasonal dynamics periodically change the structure of the food web. However, our goal was not to compare temporal variability across seasons. This concerns a different research topic. The data entered into the model concerned the entire analyzed season, which is consistent with the purpose and methodology of the study. Such an approach synthesizing intra-seasonal variability is needed to answer the question posed in the introduction, which concerned the comparison of entire seasons, not the dynamics within them. This is the approach found in the literature (Kruk et al., 2020, 2021; Goździejewska and Kruk 2022).

Sample size (20 L collected with the Patalas trap) sims to be correct, but collection of samples 1 m below the surface may underestimate especially the Copepoda group, but also Cladocera, both groups may be very abundant near the bottom (as examples please consult Bittel (1976), Papińska & Pijanowska (1980) and Klemetsen et al. (2020).
The studied reservoirs are very shallow (~ 2 m), flow-through and mixed to the bottom (see Methods). Thus, the aerobic and thermal conditions are equal (no stratification). Thus, there is no significant variation in abiotic conditions that could affect the vertical distribution of crustaceans. In addition, it is also confirmed that bottom harpacticoids were often found in the zooplankton samples examined (Table S1). Harpacticoida are poor swimmers and their systematic presence in the water column is usually the result of wind mixing and mechanical resuspension with sediments (e.g. Goździejewska et al. 2006; http://www.ejpau.media.pl/volume9/issue2/art-16.html**). Thus, we believe that due to the above factors (morphometry and abiotic factors), taxa of pelagic crustaceans (much better swimmers than Harpacticoida) are evenly distributed throughout the water column. Thus, in the studied reservoirs we find completely different environmental conditions than in the large and deep lakes referred to in the three proposed references.**

The Shannon's diversity index was calculated with the stats software (MVSP 3.22), which calculate the index with its understanding for years before 1990s, which not allows for value comparison. Later, in the early 1990s, introduced was the rarefaction method for abundance standardization and proper comparison of Shannon's diversity and species richness. For the proper Shannon's index comparison and rarefaction calculation please consult free software like EstimateS or EcoSimR and Vegan R packages.
Thank you for pointing to other tools for calculating biodiversity. The results obtained at present are not and will not be compared in time and place. In this work, they are also not the main research problem. However, after reviewing the proposed packages, they will certainly be used in future research.

In the Results, Discussion and Conclusions – Authors explained all observed zooplankton differences exclusively by temperature, without showing the evidence of the lack of such influence of the other factors.
Three interspecies zooplankton networks were built based on the main differentiating indicator, i.e. water temperature. On this basis, three thermal classes were determined. Hence, the differences in network attributes were related to thermal conditions. The influence and connection with other abiotic parameters is repeatedly emphasized in the Discussion section.

In general, the Discussion should be rewritten (please avoid the speculations, just discuss the observed pattern and provide the "take-home message").
Some changes have been made to the Discussion section. The discussion of each of the researched issues is based on a large set of relevant references, which are intended to prevent any speculation.

<u>Specific comments:</u>

English through of the manuscript should be corrected, as an example, among others - Authors often have been using "in" in spite of "of" in many sentences.
English has been professional verified.

The abstract should be rearranged. Before the hypothesis, please describe the state of the subject field knowledge, then characterize the research you did, hypothesis, the results and an info about conclusions.
The volume of the abstract does not make it possible to describe the state of knowledge on the subject raised in the work. The relevant content is included in the Introduction. We believe that the sentence in which we present the hypothesis contains concise information about the work problem. Certain Abstract content will be re-written.

Line 97-104: "Previous research has demonstrated that an increase in mean seasonal/annual water temperature induces similar responses in freshwater zooplankton to accelerated eutrophication…" – awkward sentence.
Corrected to:
"Previous research has demonstrated that an increase in mean seasonal/annual water temperature induces responses in freshwater zooplankton similar to responses to accelerated eutrophication"

Line 135: "biomass parameters" – delete "parameters" or specify what parameters of biomass were used. – **corrected**

Lines 150-156: since physical and chemical parameters (including temperature) are relatively stable – than all of them, not only temperature should structure zooplankton

community and it is hard to say that the temperature was the main factor, other parameters (cofactors) should also be analyzed and then an influence of all factors should be estimated, and perhaps the temperature may be primarily responsible for estimated % of the effect size (in ecology we are looking for the effect size at least 20% or larger). *Line 267: "significant variations were also observed in DO, chlorophyll a, TOC, TN, and the parameters describing suspended solids (turbidity, color, SDT, Tot susp)" – how this may affect observed zooplankton pattern?*

It is obvious that many biotic and abiotic factors determine the functioning of an aquatic ecosystem. Their interaction also shapes planktonic networks. In this study, the structure of the zooplankton network was related to temperature as the main factor differentiating the three studied reservoirs (thermal classes). We did not omit the probable impact of other measured parameters on zooplankton, providing their values and correlating them in the Results section and repeatedly emphasizing them in the Discussion section. In the Discussion, we tried to discuss every relationship between the zooplankton network results obtained and trophic conditions (here measured as Chla, organic matter, nutrients) and suspended solids conditions, based on the appropriate bibliographic database and previously published own results.

Line 196 – "the coastal zone" should be replaced with "littoral", or "near shore zone" (as coastal refers exclusively to marine environments). Please explain "vicinity of the filter zone".

Changed to „litoral zone" and added reference explaining „filter zone" (Goździejewska et al. 2018). For better explanation, what the filter zone is, please see the description in doi.org/10.1051/kmae/2018020

Line 199 – the "experiment" – wrong use, this is a field study, not experiment.

Changed to "field study"

Lines 272-284: how significant difference of species richness and Shannon's diversity were estimated without abundance standardization and rarefaction?

Please see answer on biodiversity calculations, above.

Line 363 – please explain "energy of water"- **corrected in the text to:**

"Temperature is a physical factor that modifies flow and transformations of the energy in the water….

Line 375 – "less energy was generated" – awkward description, did you really measure the energy generation or just observed the lower/higher temperature of water?

Removed: "…less energy was generated"

Lines 530-532 – The conclusion about the role of Copepods is doubtful as the sampling procedure underestimated both, the abundance and species richness of this group.

Please see the explanation above.