Comments to Authors (2)

Broad Comments:

The manuscript is much improved from its initial iteration. Most of the concerns identified in the initial review have been satisfactorily resolved. In particular, the addition of supplementary materials to inform the reader about the physical data of the studied rivers and the macroinvertebrates captured and identified from the studied rivers is helpful. The amendments made to improve the readability are also helpful. Some improvement is still merited and recommendations are described in the specific comments below.

Specific Comments

Line 49 – If you wish to refer the reader to the Liu et al. 2007 paper rather than insert a parenthetical description of small-scale water ecosystems, please insert the citation here and include it in your list of references.

Line 86-87 – The clarification you provided here is helpful. Grammatical accuracy will improve readability here, so I recommend a slight adjustment so the sentence reads: "…they are distributed in different ecological hydrological divisions in China."

Line 106 – I recommend editing the phrase here to match your updated title in Table 1 (i.e., "physical and hydrological data" in place of "basic information.")

Line 109 – The text on the left side of Table 1 overlaps the left margin bar. I recommend editing to eliminate the overlap.

Lines 121-122 – Thank you for clarifying that physical habitat parameters (i.e., substrate type, stream depth, stream velocity) were, in fact, assessed. It will be helpful to include these data by describing the results in an additional sentence here or by adding columns to Table 1. At the very least it will be important to include the data on the dominant substrate type in each river because of the connection you draw in the Conclusions section about the relationship between macroinvertebrates and substrate type.

Lines 129-132 – The statement regarding which tests were conducted with Excel and which were conducted with SPSS has been edited, but some ambiguity remains. To avoid any uncertainty, I recommend doing one of the following: 1) explicitly state that "…all other statistical analyses were performed with SPSS…" or 2) specifically list the tests conducted with SPSS as you did for the tests and functions conducted with Excel. This is an important issue because of the known problems associated with using Excel for statistical analyses. If you used SPSS for the higher level statistical analyses, state it clearly to avoid raising concerns about the rigor of your analysis.

Lines 160-161 – The statement was amended to remove the previous incorrect comment about higher density and biomass owing to pollution. However, you have not incorporated your corrected explanation as to why the density and biomass were likely higher in CCR. You mentioned

the likely influence of substrate in the lower biomass and density in BLR, but haven't expressly stated whether a different type of substrate in CCR is the likely cause for the higher counts found here. Providing data on the substrate types in each river as explained above will help justify your explanations.

Line 233 – Insert a space between "that" and "the."

Line 247 – A slight grammatical edit is needed here. The sentence should read "the macroinvertebrates were comprised by…"

Line 249 – Insert a space between "Arthropoda" and "proportions."

Line 265 – Your reference to Chironomidae as midges has been appropriately incorporated here. Be sure to capitalize Chironomidae, however, since it is the name of a family.

Line 274 – The following point from my initial review was not addressed: "Here you begin a long focus on QYR. See similar comment in line 168. Also, 'large-scale spatial factor' is somewhat vague. It would be helpful to more specifically define what you mean."

Line 289 – The term "species" is currently misspelled in Table 7.

Lines 316-319 – As currently worded, this section indicates that you inferred no differences in substrate on the basis of the type of macroinvertebrates found in these reaches. Typically, one would assess the habitat parameters at the onset of a study to determine similarity and difference among sites and then use that as a basis for comparing the resident biota. I bring up this point only to inquire whether the statement is inaccurately worded at present or whether you intend to make this inference.

Line 325 – In your response you indicated that you had modified this sentence. However, it still reads "In this situation, all organisms in the river will die out." This claim is too broad and too definite and extends beyond the scope of your study. Given that some taxa are known to retreat into the hyporheic zone during dry spells and some taxa are able to survive in stasis for long periods, one cannot definitively claim that all organisms will die. You pointed out that Chironomidae were the most dominant taxa in your study and many Chironomid species are known to be drought tolerant. (See Lancaster & Downes 2013 *Aquatic Entomology*, for example.) It would be more appropriate to state that the macroinvertebrates in such conditions are susceptible to dying and many will likely die, but the claim that all will die is unsubstantiated.

Supplementary Figures 1 & 2 – The inclusion of these maps is helpful and provides important context so the reader understands where the power stations are along the river continuum within the sampling area. You included the river length in Table 1, but it might be helpful to the reader to also include the river length again in the captions for Figures 1 & 2.