

Second revision of new titled paper: **“Exploratory characterization of bacterial communities and predicted functional profiles in six water samples from four Colombian Andean lakes using 16S rRNA gene amplicon sequencing”**

The second version of the manuscript is much improved, as it is framed as a descriptive and exploratory analysis given the technical and sampling limitations the authors faced. It presents an analysis of microbial communities (bacteria and archaea) in the waters of four different Colombian lakes.

I believe the article is suitable for publication, but some changes are still needed.

Introduction:

- Line 82- do not start discussing the four lakes as if the reader already knows they are the subject of the analysis. Insert. For example, the lines 97–100 (up to the first word "Colorado") here as an introduction, then continue with the text as it stands.
- Lines 93–96 (starting with "*However, the present study... community composition*"): Delete these lines, as they are more appropriate for the Discussion section. In fact, they are already included in the Discussion. And do the same for lines 117–119 (starting with "*However, genus-level... or health risk*").
- Line 111: It is odd to mention an ASV analysis before stating that it was performed; therefore, I would insert lines 122–123 (starting with "*We applied... community composition*") here.

Material and Methods:

- Line 151: Change "systems" to "lakes."
- Line 180: What does "selected based on water transparency" mean? What type of transparency? Was there a specific range used to assess this transparency?
- Line 248: Since the forward and reverse reads did not overlap sufficiently and were therefore concatenated rather than merged, how did you ensure that the taxonomic assignments were reliable when using the concatenated sequences?"
- Line 305: Capitalize "Ample-level."

Results:

- Lines 364–365: Since the text shifts from archaea to bacteria, insert a phrase before "*Leptostira*,". For example: "Other bacteria such as..."
- Figure 2: Caption. Revise the labeling of a), b), and c), as the letters in the caption description do not correspond to the figures. Since the description of a) should correspond to b), the description for b) should correspond for c) and the one for c) should be a).

Discussion:

- When describing results, always refer to the article's figures. Currently, there are none! For example, add "(Fig. 1)" at the end of line 482.
- Line 525: A reference is missing after "microbial assemblages."

Supplements:

Fig. S1: Modify the y-axis of figures b) and c), as b) represents ASVs and c) represents rarefied ASVs. Regarding the main title for b) and c), either remove it or change "Rarefy" to "rarefied".