

30 January 2024

Dear Prof. Paul Stoy (Co-editor-in-chief of *Biogeosciences*),
Dear Prof. Petr Kuneš (Associate editor of *Biogeosciences*),

Many thanks for reconsidering the manuscript titled “*Rates of palaeoecological change can inform ecosystem restoration*” after the major revisions. Here, we submit our further revised version of the manuscript to your judgement.

Please, find here the point by point answer to the suggestions:

L. 129: It would be fair, according to policies, to also acknowledge the constituent databases of Neotoma, either the EPD or ALPADABA (or both if applicable). This also applies to l. 391.

> Yes, correct. Sorry for this oversight. We have corrected the sentence in the “Methods”, the “Code and data availability”, as well as in the “Acknowledgements” sections.

For the Methods section: *The pollen data from Lago Grande di Avigliana with associated metadata and chronology (Finsinger et al., 2019) were obtained from the Neotoma database (Williams et al., 2018) and its constituent database (European Pollen Database (EPD); Giesecke et al., 2014) using the NeotomaExplorer App.*

For the “Code and data availability” section: *The pollen data (Finsinger et al., 2019) were obtained from the Neotoma database (Giesecke et al., 2014; Williams et al., 2018) and its constituent database (European Pollen Database, EPD).*

For the “Acknowledgements”: *Data were obtained from the Neotoma Paleoecology Database (<http://www.neotomadb.org>) and its constituent database (European Pollen Database, EPD). The work of data contributors, data stewards, as well as the Neotoma community is gratefully acknowledged.*

L. 130: “...datasets were treated with custom-coded functions in the R environment...” - is this really necessary here?

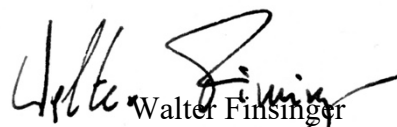
> Agreed. This is a detail that does not need to be mentioned in the main text, as it essentially refers to reshaping the data (reshape from a spreadsheet to a list; harmonising the pollen data; and filtering taxa). We have moved the sentence in the Appendix, where these data pre-treatments are better explained.

L. 131–132: This sentence could be merged with the previous to avoid text duplication and to shorten the text. Perhaps something like this: “The format of pollen and diatom datasets was adapted for the R-Ratepoll package (Mottl et al., 2021b), where the rate of palaeoecological change (hereafter RoC) scores were calculated in regular time bins.”

> Many thanks for the suggestion to merge this sentence with the previous one. However, given the choice to move the previous sentence into the Appendix (see reply to previous comment), we would rather keep the text as it was formulated in the submitted manuscript (version R1).

Looking forward to the further evaluation of our manuscript.

Yours sincerely,


Walter Finsinger
(on behalf of all co-authors)