

Author's response

Dear editor

Thank you for deciding that the manuscript “*The most complete Holocene peat record from Central Europe: multi-proxy reconstruction of postglacial wetness changes and climate events from Linje peatland, Poland*” is suitable for minor revision.

As no detailed editorial report was provided, we summarize here the main changes that differ from our separate point-to-point responses to the reviewers (posted earlier under each reviewer's comments). In general, the revisions closely follow the reviewers' suggestions, and our detailed responses in the previously posted answers reflect this. Below we provide additional clarifications:

NMDS analysis: Several reviewers raised concerns about the NMDS ordination. To address this, we have removed the environmental vectors to avoid circularity. In addition, instead of dividing the sample points by zones, we now group them according to the ecological interpretation of peatland development, thereby aligning the analysis more closely with the narrative of the manuscript. In the text, we emphasize the relationships between testate amoebae and moss species. As suggested, we also tested an NMDS including all macrofossils together with bryophytes and testate amoebae. However, the high stress value (0.206) led us to retain the analysis restricted to bryophytes and testate amoebae.

Figures: We improved the readability of most figures and added clarifications regarding the graphical elements in the figure captions. Figure 4 has been divided into two parts for clarity. Following the reviewer's suggestion, we incorporated an additional record into Figure 7. Figure 3 was redrawn in Tilia to ensure better consistency with the other diagrams. Figure 1 was modified according to the reviewer's suggestion: we replaced the LIDAR image with an aerial photograph.

Zone numbering: Reviewer 1 suggested starting with zone 1 at the surface, as is conventional. After consideration, we decided to retain the current numbering (zone 1 = oldest peat layers; zone 10 = top peat layer) to remain consistent with other regional studies and to follow the stratigraphic development of the peatland from its oldest to youngest layers.

Deleted sections for clarity: Some reviewer comments were not directly addressed in the text because the relevant sentences or paragraphs were removed during revision for clarity:

Reviewer 1: L570: Could climate and hydrology be linked here? Or perhaps trophic shifts or mineral input played a role too- consider other possible drivers.

Answer: Thank you for pointing this out. We will expand this sentence while considering other possible drivers as well.

Update: We deleted the sentence here for clarity.

Reviewer 3: Line 534 and following: Some more details could be given which kind of anthropogenic influence could cause this.

Answer: Thank you for pointing out this inconsistency. The *Sphagnum* species turnover observed 200 years ago could have both climatic (Little Ice Age) as well as anthropogenic (deforestation etc.) reasons. This is specified in the revised manuscript.

Update: We deleted this section

Supplementary dataset: We will add the studied volume of each sample to the dataset before uploading it to the data repository.

New appendix material:

Table A1: Assignment of bryophytes to wet, dry, or intermediate microhabitat groups.

Figure A1: Illustration of the clustering method used for the bryophytes.

We trust these revisions and clarifications have addressed the editor's and reviewers' concerns and improved the manuscript.

Sincerely,

Eliise Poolma on behalf of all co-authors