

Dear editor:

We would like to express our feelings of appreciations to you for your kindly help and professional comments to our manuscript entitled “Summer precipitation reconstructed quantitatively using a Mid Holocene  $\delta^{13}\text{C}$  common millet record from Guanzhong Basin, northern China”. We have tried our best to modify the weakness and flaws pointing out by you. The revised places were marked by blue font color, on the basis of pre-revised version which was marked by red font color. Now, we believe that we made a better work which would probably satisfy the editor and suitable to be published. The answer to the comments is listing in the following paragraph.

Thanks again for your help.

Best wishes!

Sincerely,

Yang Qing and Xiaoqiang Li

### **Editor’s comments:**

Thank you for submitting your work to CPD. As you have seen, both referees considered that  $\delta^{13}\text{C}$  of millet seed is a suitable proxy for quantitative construction of summer precipitation in northern China, and your study is worthy a publication in *Climate of the Past* after revisions. Towards this end, they both suggested a number of issues that you need to consider for improving the manuscript.

I have read carefully your responses and your pre-revised version, and found that you had considered most of their suggestions. However, I estimate that a further revision is needed on the following issues.

1. Both referees indicated that the text contains many superlative words or descriptions. Although your pre-revised version has toned down, there are still some lefts. As an example, lines 28 & 395: ‘innovative proxy’. To my view, ‘new proxy’ is largely enough. I request you to carry out a thorough check on this kind of problems.

Thanks for the editor’s suggestion. We have further toned down according to the suggestion. Details are as follows:

Line 15: changed ‘explicit’ into ‘suitable’.

Line 15: changed ‘accurate’ into ‘faithful’.

Line 28: changed ‘innovative proxy’ into ‘new proxy’.

Line 87: changed ‘unambiguous’ into ‘clear’.

Line 104: changed ‘perfect’ into ‘preferable’.

Line 385: changed ‘innovative proxy’ into ‘new proxy’.

2. As also indicated by the referees, the writing of the ms is in overall understandable, but is not yet in good English. Although you already made some improvements in the pre-revised version, a thorough language revision by a native English speaker is still indispensable for

publishing in CP. For examples, it would be finer to revise the title as “Summer precipitation reconstructed quantitatively using...”to “Quantitative reconstruction of summer precipitation using...”. Line 14: the expression “to produce quantitative Holocene precipitation reconstructions...” is also not satisfactory. There are still many problems of this kind that I am not intending to list here. These could be fixed along with the issue of “superlative words”.

Thanks for the editor’s suggestions. The manuscript has been revised by a native English speaker according to the suggestion. And to be more satisfied, we have rewritten the title as ‘Quantitative reconstruction of summer precipitation using a Mid Holocene  $\delta^{13}\text{C}$  common millet record from Guanzhong Basin, northern China’. We also revised Line 14 as ‘To quantitatively reconstruct Holocene precipitation for particular geographical areas...’, hoping it’s more understandable and straightforward.

3. Given that the ms is not long, I think it would be better to remove the subtitles 3.1..., 5.1... in view of the serious length imbalance of them, and in view of some inaccurate expressions (e.g. 5.2, ‘validating the reliability of quantitative precipitation reconstruction’). You didn’t really ‘validated’ it, but just argued/discussed it.

Thanks for the editor’s kindly suggestions. We have removed the subtitles 3.1, 3.2..., 5.1...according to your suggestion.

4. I am not satisfied with the ‘conclusion’ section. It currently only focuses on repeating the estimated results but the significance of this new proxy is not really concluded. I would think the estimated results in this study are rather tentative, but the study provides a useful method for estimating the paleoclimate conditions of specific archeological layers that usually interests the archaeology community. It might be better to mention this.

Thanks for the editor’s kindly suggestions. We have refocused the ‘conclusion’ section according to the editor’s suggestion, removing some repeated sentences and adding the significance of the new proxy in to the section, as following:

‘ $\delta^{13}\text{C}$  of common millet from archaeological layer can effectively record precipitation during millet growing season.... The work provides a new proxy for establishing the paleoprecipitation record.

Charred common millet remains continuously exist in the archaeological layers since around 10 ka in northern China. Not only the common millet can provide a reliable dating framework, but also the continuous  $\delta^{13}\text{C}$ -based paleoprecipitation sequences could be quantitatively reconstructed....’

5. The ‘summer’ here refers to the interval from mid-June to September, please also specified in the abstract.

Thanks for the editor’s kindly suggestions. We have added the specific interval of summer in the abstract according to the suggestion, as in lines 19-20.