Interactive comment on “Leaf wax n-alkane distributions record ecological changes during the Younger Dryas at Trzechowskie paleolake (Northern Poland) without temporal delay” by Bernhard Aichner et al.

Anonymous Referee #1

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Review of Manuscript CP-2018-6 entitled “Leaf wax n-alkane distributions record ecological changes during the Younger Dryas at Trzechowskie paleolake (Northern Poland) without temporal delay”

General Comments:

Overall, I think the manuscript is an important contribution to the fields of organic geochemistry and paleoenvironmental reconstruction. The conclusions regarding the risks associated with using oversimplified alkane-based metrics to reconstruct vegetation and the lack of a delay between the alkane and pollen proxies are important to the broader discipline. The issue of ‘pre-aging’ of waxes is particularly troublesome in lacustrine settings and I think it deserves more attention in the discussion as it is currently limited to just a couple of paragraphs. I recommend adding references to this section including:


The document would generally benefit from improved conciseness and clarity, this includes the abstract that is much too long for such a short paper.

It is my opinion that the study is worthy of publication in Climate of the Past, but considerable effort will be required to improve the conciseness of the presentation and to focus the paper more effectively on the most significant conclusions (lack of diagnostic capability based on widely-applied chain-length metrics and rapid response of alkane proxies to vegetation change). Too much of the

General editing that should be applied to the entirety of the text:

1. The use of conjunctive adverbs (however, thus, nevertheless, etc.) are excessive throughout the text. The paper would be much more concise if sentences were restructured to omit the conjunctive adverbs altogether. 2. The authors are flipping between
active and passive voice throughout the document. (Lots of examples, but see lines 28-30 on page 7 for one example: switch from ‘have been reconstructed’ to ‘our observations’. 3. Throughout, commas should be placed before ‘which’ and ‘but’. 4. Compound-specific needs to be hyphenated when used as an adjective. 5. The word ‘this’ is used too frequently in sentence strings where it is often difficult to decipher what precisely ‘this’ is referring to (e.g. page 2, line 28; 6. Shouldn’t results and methods be in the past tense? 7. Throughout, need to be careful when designating species vs. genera. For example, page 9 Betula spp. would be a genus, not a species.

Specific comments:


Figure 2: I am not sure that overlaying all of the homologues in the bottom panel is effective...there are too many lines making it difficult to decipher the trends of any one individual homologue in the plot.

Figures 4 and 5: latin names need to be italicized.