

Interactive comment on “Leaf wax n -alkanes in modern plants and topsoils from eastern Georgia (Caucasus) – implications for reconstructing regional paleovegetation” by Marcel Bliedtner et al.

Marcel Bliedtner et al.

marcel.bliedtner@giub.unibe.ch

Received and published: 24 February 2018

Dear Referee,

we would like to thank you for reviewing our manuscript and your comments/suggestions. We will revise the manuscript according to your suggestions. Please find below our detailed response:

1. »In Fig.3, larger differences seem appeared in the ACL (why not used) whilst equal values occurred in OEP. Obviously, the ACL values were not used. Its relationship

between ACL and n-alkane ratios should be provided in Fig.5, as least provide in the supplementary materials.«

Like the n-alkane ratio, the ACL show distinct differences in the n-alkane distribution from grass and deciduous sites and is thus suitable to describe differences in the vegetation composition. We will provide a comparison of both ratios used for the end-member model (i.e. Fig. 5) in the supplementary materials. However, compared to the ACL, the n-alkane ratio shows greater discrimination power in the end-member model between grasses and deciduous trees and seems more suited for describing vegetation differences along our investigated transect.

2. »In Fig. 4, it seems that similar distribution occurred on the modern plant and topsoil. For a better effect, grassland and deciduous site are suggested to be classified rather than between plant and topsoils.«

Will be done so.

3. »In Fig.5, the degradation line for grassland seems perfect but is not ok for the deciduous-site if the logic from plant to soil is implemented, which is usually decreases with low OEPs and with a converging degradation line. But it is not the case, such as 35p!35s, 20p!20s, 16p!16s, as well as 9p!9s, 23p!23s, 34p!34s. It seems complicated in the deciduous site for the degradation of OM.«

We agree that OEP values should decrease from plants to subsoils, i.e. with ongoing degradation. Up to now, we do not fully understand the degradation of leaf wax n-alkanes in soils, but we will include a more comprehensive discussion about degradation effects.

4. »According to the results, the potential regional paleoenvironmental reconstructions should be limited to the paleovegetation as illustrated in title, this should be careful in the abstract and conclusion part.«

Will be done so.

[Printer-friendly version](#)

[Discussion paper](#)



[Printer-friendly version](#)

[Discussion paper](#)

