

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.

Anonymous Referee #2

Received and published: 4 February 2018

This manuscript talked about the distribution pattern of the leaf wax n -alkanes in modern plants and topsoils from eastern Georgia (Caucasus), potentially could be used the related parameters for regional paleoenvironmental reconstructions. The established parameters focused on the C27+C29+C31+C33. The analytical method including the pretreatment and GC-FID measurement is simple and practical. The logic is from plant to topsoil which is trying to finally locate to the regional sediment archives. The result in Fig.5 seems good since higher n -alkane ratios (C31+33/C27+29+31+33) appeared in the grassland and lower ratios occurred in the deciduous sites, which is consistent

C1

with the fact from modern plant.

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.
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.
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.
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.

Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2017-277>, 2017.

C2