

## ***Interactive comment on “Leaf waxes in litter and topsoils along a European transect” by I. Schäfer et al.***

### **Anonymous Referee #1**

Received and published: 22 June 2016

Title: Leaf waxes in litter and topsoils along a European transect

Manuscript: SOIL Discuss., doi:10.5194/soil-2016-37, 2016 Authors: Imke Schäfer, Verena Lanny, Jörg Franke, Timothy I. Eglinton, Michael Zech, Barbora Vysloužilová and Roland Zech.

I enjoyed very much reading this paper, is an outstanding MS, very well written and structured, with a careful and detailed experimental approach appropriated and directed to understand the relevance of lipids as vegetation markers in actual and recent sediments.

In this paper the authors make a comprehensive soil biogeochemistry study in a Central Europe transect (N - SE). This embraced different environmental situations and vegetation types that finally were grouped in three groups: grass, deciduous and conifer

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forests. The aim was to ultimately assess the value of simple chemical structures that are components of plant waxes (n-alkane and n-alkanoic acids) as vegetation and organic matter degradation markers in soils.

As far as I know, this is an original contribution not previously published. The data presented is in agreement with the discussion and conclusions and in my opinion this MS is of high interest to SOIL readers and will contribute to the advance of knowledge in relation to the use of molecular markers as surrogate to vegetation and organic matter degradation.

In summary, I recommend publication in SOIL

Minor comments:

INTRODUCTION: Page 1; Line 28: I will suggest to include at last an earlier relevant reference i.e. Eglinton et al., Nature 193: 739-742, 1962. This may be also added in other parts of the text together with Eglinton and Hamilton, 1967. Page 2; Line 26: depths in brackets may be deleted; this info is in the M&M section.

MATERIAL AND METHODS: Page 3; Line 7 to 9: This is a long sentence, please rewrite. Page 3; Line 11: "seven meters apart from each other" Page 5; Line 32: I think that this is the first appearance of L for "litter", define i.e. in Page 4; Line 20

REFERENCES: Killops and Killops. You may add that the text is available as a link at <http://www.eaog.org> Kirkels et al. delete "b" in "2013b"

There is a very particular "possessive" treatment throughout the MS i.e. "our samples", "our n-alkanes", etc. This is Ok but rather unusual in a MS. The authors may consider changing the pronoun.

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