

## ***Interactive comment on “Plant n-alkane production from litterfall altered the diversity and community structure of alkane degrading bacteria in litter layer in lowland subtropical rainforest in Taiwan” by Tung-Yi Huang et al.***

### **Anonymous Referee #1**

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Huang et al. studied the relationship between the plant derived long chain n-alkane contribution and the composition of the microbial community, specifically alkB degrading bacteria in three habitats of a subtropical rainforest. Their results show that the composition of the microbial community and the relative abundance of the alkB degrading bacteria are controlled by the n-alkane input of higher plants with higher amounts of alkB degrading bacteria in habitats with higher amount of litterfall, i.e. higher n-alkane contribution of plants.

I think the results are very interesting and a valuable contribution to the BG commu-

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nity. However, some improvements need to be done before the final publication of the manuscript.

General comments:

-the language needs further improvement. I am not a native speaker, but I would encourage the authors to consider that an expert may revise this manuscript, I think it would benefit a lot

-The “n” in n-alkanes should be italic

-The plural of n-alkane is n-alkanes

Specific comments

-page 1, line 10: its n-Alkanes, the ‘n’ should be italic, adapt it in the whole manuscript

-p1, L12: I don’t think levels is the right word, change it to ‘concentrations’ or ‘amounts’ or something more suitable

-p1, L15: I would advise you to stay in present tense when writing about your results, they still show or demonstrate or . . .

-p1, L30: please add long chain n-alkanes with odd/even predominance

-p2, L3: change ‘inactive’ to ‘stable’ or ‘inert’

-p2, L7: Maybe you can add what the end-product of the degradation is. Especially for researchers using n-alkanes as geochemical fossils it would be interesting to know which compounds were built from the n-alkanes.

-p2, L13 studies have shown. This occurs quite often in this manuscript, adapt it

-p2, L18: Giebler et al. (2013)

-p2, L20 skip the citation here

-p2, L20: alkane degrading bacteria

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- p2, L20: might be
- p2, L23: the relationship is more
- p2, L24: it was shown
- p2, L27: change 'researches' to 'studies'
- p2, L32-p3L1: Please rephrase
- p3, L2: change 'applicable' to 'possible' or something else
- p3, L10 change 'employed' to 'used'
- p4, L11-14: So basically, your quantification and identification based on external standards? If so, then state it here
- p4, L14: What was the recovery of the cholestane? Also, if you did not plan to correct your results for the recovery of the standards, why did you use them at all?
- p7, L3: annual should be written in small letters
- p7, L19/20: odd/even occurs two times, delete one of them
- p7, L22: at the beginning of a sentence the 'n' in n-alkanes is written in small letters and the 'A' is written in upper case letters (n-Alkane)
- p8, L1: which environmental parameters? Give some examples
- p8, L2: reference?
- p8, L6: why?
- p8, L16/17: skip the last sentence. There is no further statement that hadn't been said before.
- p11, L2-5: Delete the first two sentences
- Figure 2: change 'traces' to 'chromatograms'. Also, why do you show the solvent

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peak?

- Figure 3: delete 'dynamic', change 'changes' to 'concentrations'

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