

## ***Interactive comment on “Effects of temperature on the composition and diversity of bacterial communities in bamboo soils at different elevations” by Yu-Te Lin et al.***

**Anonymous Referee #1**

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### General comments

Page 2, Line 23: The objectives include determining the response of individual phylogenetic groups to temperature shifts, but there is not data that quantifies phylogenetic groups specifically. The issue with relative abundance is that when abundance of one group increases it could be due to an increase or a decrease in another group. This objective should be revised.

Likewise, the text that discusses Figure 3 and 4 should be qualified to reflect this limitation of abundance data alone. It would greatly strengthen the study if some measure of biomass was taken so that we would at least know how the total population changed during the incubation.

C1

Although the introduction and title elude to the fact that the soils being studied were under bamboo, there is no mention of bamboo in the discussion. The title is therefore misleading, as there is no emphasis at all on the plants or on the management of the system. The discussion should be rewritten to include more discussion associated with bamboo and management or the title should be changed.

### Specific comments

Page 1, Line 14: I do not know what “a.s.l.” is?

Page 1, Line 17-21: The organization of this section needs to be improved. There seems to a sharp juxtaposition from discussing management of bamboo, to discussing abandoned bamboo plots. A strong justification should also be expressed for characterizing microbial communities.

Page 1, Line 24: It isn't clear what a “humpback trend” means in terms of diversity

Page 1, Line 26: It isn't clear what the authors are referring to when they say increase “humification”

Page 2, Line 8-12: There is a lot of challenges in the literature to the copitroph/oligotrophy paradigm. I think there needs to be more literature added to this section. There are also some warming studies that should be referenced here.

Figure 3: There are no error bars on Figure 3, therefore it is difficult to understand what are significant differences.

Page 12, Line 16: It seems like an oversimplification to suggest that the phylum acidobacteria, which has been shown to have a great deal of variation could be used as a climate warming marker. More justification and references should be included to support this statement or it should be removed.

### Technical corrections

Page 11, Line 16: There appears to be a reference missing for the Oklahoma study.

C2

