

SOIL Discuss., author comment AC1
<https://doi.org/10.5194/soil-2021-148-AC1>, 2022
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Reply on RC1

Huaihai Chen et al.

Author comment on "Lower functional redundancy in "narrow" than "broad" functions in global soil metagenomics" by Huaihai Chen et al., SOIL Discuss.,
<https://doi.org/10.5194/soil-2021-148-AC1>, 2022

Reply to Referee #1

Major comments:

1. Better defining the concept of functional redundancy in the introduction:
Done. Thanks so much for the comment. We have added the two different definition of functional redundancy (strict and partial) with the reference as suggested by the reviewer (Pg3 L66-Pg4 L71).
2. Mentioning functional redundancy of non-metabolic processes in the introduction:
Done. Thanks very much for the suggestion. We have also added more information regarding functional redundancy of non-metabolic processes in the introduction section as suggested by the reviewer (Pg4 L71-76).
3. L367 Mention the inevitability of function redundancy sooner in the introduction:
Done. Thanks so much for the suggestion. We have mentioned the inevitability of microbial function redundancy earlier in the introduction section as suggested by the reviewer (Pg4 L83-84).
4. L72-73 Mention the limitations in measuring the factors controlling niche space:
Done. Thanks so much for the suggestion. We have also added more information regarding the possible reasons for our current contradictory understanding of functional redundancy as suggested by the reviewer (Pg4 L84-88).
5. L254-255 Add reference for the threshold values in the network analysis:
Done. Thanks so much for the comment. We have added the references for choosing the threshold values of network connectivity profiles (Pg13 L276-277).

Technical Corrections:

1. L54 Change to "does not rapidly recover":
Done. Thanks for the comment. The word has been changed as suggested by the reviewer (Pg3 L54).
2. L60 Change to "shifts":
Done. Thanks for the comment. The word has been changed as suggested by the reviewer

(Pg3 L60).

3. L106 Change to "pairwise":

Done. Thanks for the comment. The word has been changed as suggested by the reviewer (Pg6 L120).

4. L333 Should state "based on certain taxonomic and functional databases":

Done. Thanks for the comment. The word "the" has been deleted as suggested by the reviewer (Pg17 L355).

5. L335 Should be "may contain potential bias":

Done. Thanks so much for the comment. The word "not" has been deleted as suggested by the reviewer (Pg17 L357).

6. Captions for Figure 3 and 4 need to be switched.:

Done. Thanks so much for the comment. The captions for Figure 3 and 4 have been switched.