

Biogeosciences Discuss., author comment AC2  
<https://doi.org/10.5194/bg-2021-313-AC2>, 2022  
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## Reply on RC2

Yingying Chen et al.

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Author comment on "Effect of the presence of plateau pikas on the ecosystem services of alpine meadows" by Yingying Chen et al., Biogeosciences Discuss.,  
<https://doi.org/10.5194/bg-2021-313-AC2>, 2022

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Small mammalian herbivores often create extensive disturbance on grasslands, and might affect the ecosystem services of grassland ecosystem. This study uses plateau pika as an example herbivore to investigate the effect of disturbance by small mammalian herbivores and its disturbance intensity on ecosystem services of alpine meadows on the Qinghai-Tibetan Plateau. This study finds that the presence of plateau pikas and its disturbance intensity have different effect on ecosystem services of alpine meadows when the indicators, which are used to estimate the ecosystem services of alpine meadows, are various. These findings can improve the understanding of small mammalian herbivores in relation to grassland ecosystem services. The experimental design is sound and results are striking. In my opinion, its topic is of interest to its audience of our journal. I suggest that the manuscript can be published after some minor corrections.

**Response: Thank you for your positive comments, and we have revised the manuscript carefully according your advices.**

General comments:

- The plateau pika had been introduced in introduction sector and Field survey design sector. It had better move the description of plateau pikas in Field survey design sector to introduction.

**Response: Good comment. We have moved the description of plateau pikas in Field survey design sector to introduction sector.**

- The confidence intervals are required to represent in the Figure 2.

**Response: Thank you for your comment. We have added the confidence intervals in the Figure 2.**

Some specific comments:

- Line 41: Please add the Latin name of prairie dogs when it first appeared.

**Response: Thanks for your advice. We have added the Latin name of prairie dogs when it first appeared (Line 41).**

Line 44: What is the Latin name of European rabbit.

**Response: Thank you for your suggestion. We have added the Latin name of prairie dogs when it first appeared (Line 44).**

Line 141: The same alpine meadow is not good words. It may be alpine meadow with same dominant plant.

**Response: Thanks for your comment. We have revised "the same alpine meadow" into "the alpine meadow with same dominant plant".**

Line 190-194: The quantity of samples in each plot with or without plateau pika is better to expressed consistently with Arabic numerals?

**Response: Thank you for your advice. We have revised the quantity of samples in each plot with or without plateau pika with Arabic numerals.**

Line 190-194: 5 soil samples in each plot were mixed into composite sample to measure carbon and nutrient concentrations, or each of 5 soil samples was used to measure carbon and nutrient concentrations. Please clarify it.

**Response: Good question! In this study, we collected one soil sample from one subplot. 5 samples in each plot from 5 subplots were individually measured. The average value of five soil samples in one plot was considered as the representative data of that plot. We had clarified it in manuscript.**

Line 255: Please move "Differences were considered significant at  $p < 0.05$ ." into the analysis of "LMM" in paragraph 2 of Data analysis sector.

**Response: Thank you for your suggestion. We have moved "Differences were considered significant at  $p < 0.05$ ." into the analysis of "LMM" in paragraph 2 of Data analysis sector (Line 249).**

Line 302: a quadrat scales?

**Response: Thanks for your suggestion. We have revised "a quadrat scales" into "the quadrat scales".**