

Biogeosciences Discuss., author comment AC3
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Reply on RC3

Yingying Chen et al.

Author comment on "Effect of the presence of plateau pikas on the ecosystem services of alpine meadows" by Yingying Chen et al., Biogeosciences Discuss.,
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I suggest that the manuscript can be published after a little correction.

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

- "this study" appeared in the abstract four times. It is necessary to further polish the language.

Response: Thank you for your advice. We have polished the language in the abstract.

- For references in scientific hypothesis, please check whether there is the necessity of citation. So, it is suggested to summarize the existing research in the research progress. Then put forward scientific hypothesis.

Response: Exactly, we had summarized the existing research progress in front paragraphs of introduction. It is unnecessary to cite the references in hypothesis, and it seems redundant. To make the hypothesis more scientific, we have deleted the references in the hypothesis according to your opinion.

- P96-97 "Plateau pikas can live in various habitats with different soil types, topographies, and microclimates." This sentence lacks qualified region.

Response: Thanks for your suggestion. We have added the qualified region "on the Qinghai-Tibetan Plateau" in this sentence (Line 97).

- What is the grazing situation of the experimental site and how to eliminate the impact of grazing intensity on the grassland.

Response: Thanks for your comment. This study used a stratified random and paired design to discover the general effect of plateau pika disturbance on ecosystem services of alpine meadows. In experimental design, each paired plot shared the same grazing intensity during the cold season, however, 50 paired plots consisted of different yak grazing intensity, and this can permit the general

pattern relating to the effect of plateau pika disturbance on alpine meadow ecosystem services. We have supplemented this information into “Field survey design” sector.

- ABED (active burrow entrance densities), when is the investigation period?

Response: Thanks for your comment. The ABED (active burrow entrance densities) was measured in the process of field sampling. As described in field sampling, this study firstly measured the density of active burrow entrance, and then measured the area of bare soil patches, collected vegetation and soil samples.

- In Fig.1, the presence of plateau pika, What pika density are based on?

Response: Thanks for your comment. Fig.1 shows that plateau pika density is a qualitative description, which is to present the difference in ecosystem services of alpine meadows between the presence of plateau pikas and the absence of plateau pikas. Fig.2 shows that the changeable trends of each ecosystem service of alpine meadows as the disturbance intensity of plateau pikas increased. In Fig.1, 50 disturbed plots with different plateau pika densities (it ranged from 83 to 1384 entrances ha⁻¹) was considered as a whole to compare with the 50 undisturbed plots. We supplement some sentences to clarify this research approach in data analysis sector.