

## ***Interactive comment on “Effects of grazing on leaf traits and ecosystem functioning in Inner Mongolia grasslands: scaling from species to community” by S. X. Zheng et al.***

**Anonymous Referee #1**

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### **General comments**

This manuscript reports data from a comprehensive study in northern Mongolia that assessed leaf morphological traits at eight varying grassland communities distributed along a precipitation gradient. The effects of grazing on leaf area, leaf mass, and biomass were noted for hundreds of species at 6 of the 8 community types. The results suggest that SLA was a useful trait to classify functional group differences, but the greatest predictor of differences in SLA was species identity. Additionally, growth responses following grazing varied among communities, with slight positive responses in wetter regions, and negative responses in drier regions. I believe this research has

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considerable value for grassland ecologists worldwide.

For this, I recommend it to be published after some revision.

With the monstrous number of species, locations, classifications, and comparisons used in this manuscript, it is imperative that the organization and presentation of the results and discussion are as concise as possible. For the sake of better presentation and interpretation of the results, I suggest the following specific comments and technical corrections.

### **Specific comments**

1 In paragraph 2.2, It is important for authors to address clearly why the aboveground biomass approximate the net primary productivity in temperate grassland during July to August.

2 Paragraph 2.5 should be shortened, explanation to so called “biological realm” is unnecessary.

3 Paragraph 3.2 can be simplified to make it understood easily, or it can be deleted because it has less relation with your main topic

4 In the last sentence of text of paragraph 3.5 (P9957L10), some Figures or Tables should be cited to show your judgement.

5 Similarly, the authors should cite several Figures or Tables to show the judgements or conclusions.

6 P9960L2-11, The paragraph “It has... 2002)” can be deleted or removed to discussion

### **Technical corrections**

P9946, L2-5, “However, there has been... controversy on..., thus more ... at the species level”, the authors should say more about controversy in species level, so that

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the research on species level is necessary. That is, to set up the connection between the “controversy” and “researches on species level”.

P9946, L19, “ecosystem functioning” should be specified here, which functioning ?

P9946, L24, “it is feasible to” should be substituted by “imply that we can”

P9947, L10, “focused” →focusing

P9947, L26, “and put forward it is” →which makes it

P9948, L7, “community eventually” →community level and eventually

P9948, L18, “we address” →we try to address

L19, across→with

L22, were→can be

P9950, L5, Specify the area of quadrats after 5-30 quadrats

L12, add “parts’ after “The aboveground”

L17, plant materials→samples

L25, as→consist of

L26 measurement→be measured

P9951, L2-4, The sentence “According to . . . measurements” should be changed into “Five methods were used to measure leaf area in accordance with the leaf morphologies”.

L6, “the sum weight of the” →the sum of

P9952 L5, determined→involved

P9957L23, across→with

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P9958L17-20, deleted the sentence “Most. . . 2002)”

P9959L24, deleted the word “indirectly”.

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