# Supplementary Materials

Grazing Affects Bacterial and Fungal Diversities and Communities in the Rhizosphere and Endosphere Compartments of *Leymus chinensis* through Regulating Nutrient and Ion Distribution

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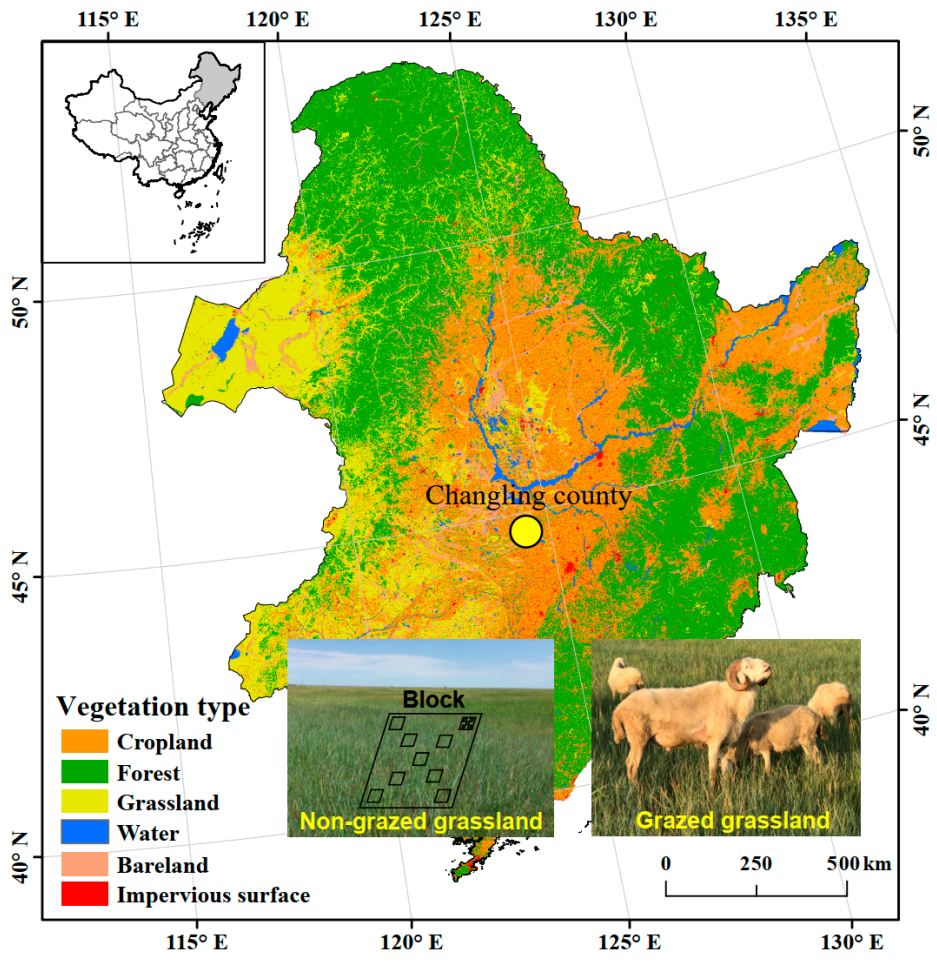
Figure S1. Location map of region showing non-grazed and grazed grasslands in Changling County, Jilin, China.
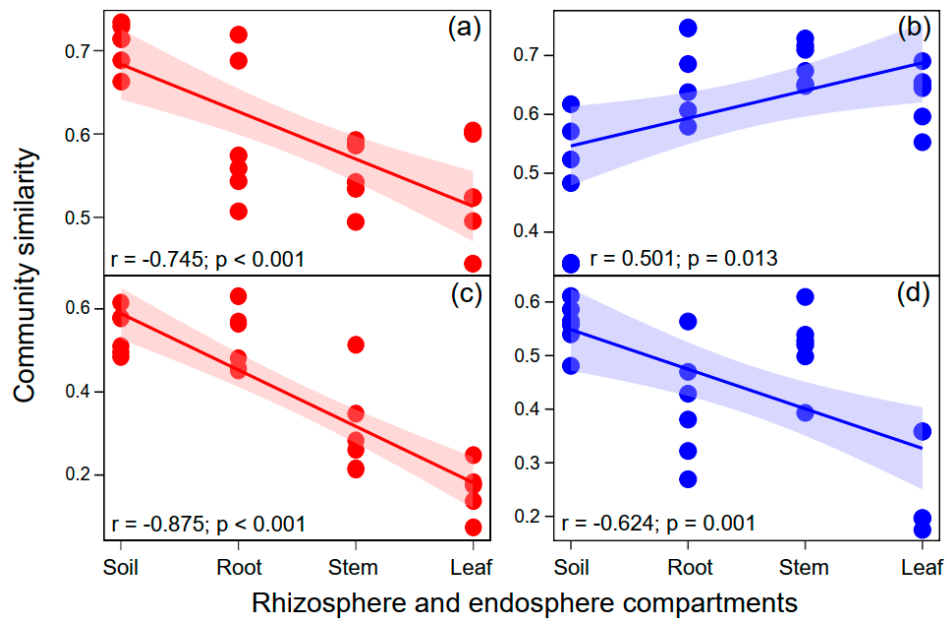
Figure S2. Community similarity among different rhizosphere and endosphere compartments for bacterial communities (a-b) and fungal communities (c-d) in non-grazed grassland (red circle) and grazed grassland (blue circle).
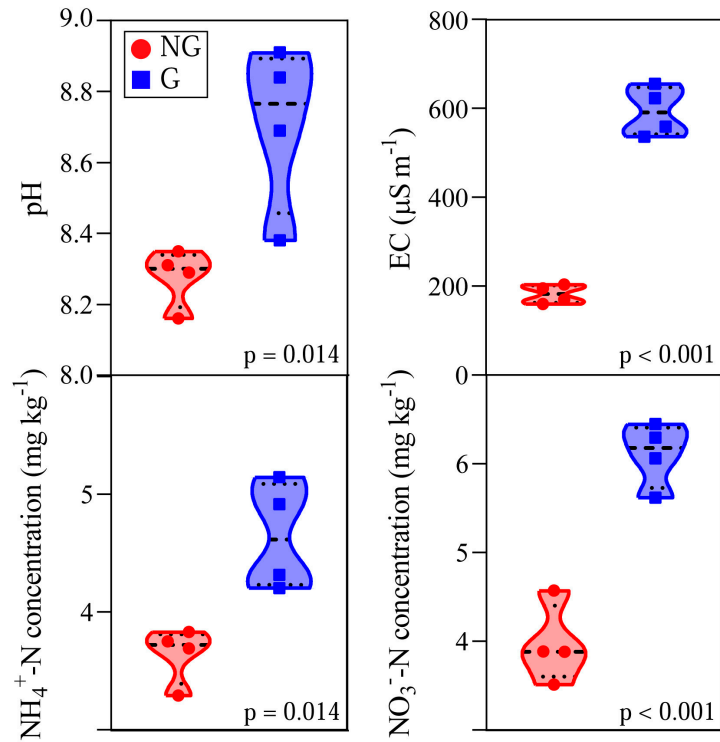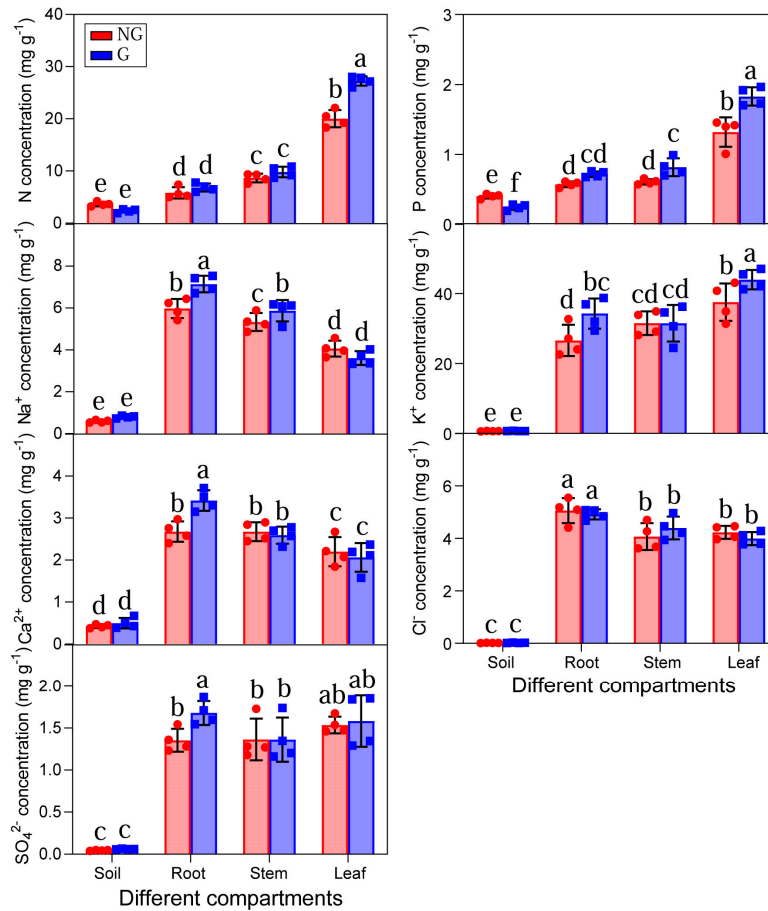
Figure S3. Effects of grazing on soil pH, EC, NH_4^+-N and NO_3^--N concentrations. The difference in soil property between non-grazed and grazed grasslands was calculated using independent t-test. NG: non-grazed grassland; G: grazed grassland.

Figure S4. The nutrient (N and P) and ion (Na^+, K^+, Ca^{2+}, Cl^- and SO_4^{2-}) concentrations of rhizosphere soils, roots, stems and leaves of *Leymus chinensis* grown in non-grazed and grazed grasslands. NG: non-grazed grassland; G: grazed grassland.

40 **Table S1.** Mantel tests for the correlation between microbial communities (based on Bray-
41 Curtis distance calculated from OTU table) and the environmental factors (based on
42 Euclidean distance) using Spearman's correlation.

Environmental factors	Bacterial community		Fungal community	
	Mantel r	p	Mantel r	p
Nutrient (N and P)	0.104	0.335	0.476	**0.001**
Positive ions (Na$^+$, K$^+$ and Ca^{2+})	0.222	**0.009**	-0.041	0.646
Negative ions (Cl$^-$ and SO$_4^{2-}$)	0.178	**0.046**	-0.242	**0.012**

43