

## Adams

### **Soil fungal diversity in grasslands of the Tibetan Plateau: Is it Driven by Plant Diversity and Productivity?**

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It is unclear whether soil fungal diversity correlates with the diversity and productivity of plant communities. Previous studies have revealed inconsistent correlations between fungal diversity and plant diversity from local to global scales, and there is a lack of information about the diversity-diversity and productivity-diversity relationships for fungi in alpine regions. We investigated the relationships between soil fungal diversity, plant diversity and productivity across 60 grassland sites on the Tibetan Plateau, using metagenetics for fungal identification. Fungal alpha and beta diversities were best explained by plant alpha and beta diversities, respectively, when accounting for environmental drivers and geographic distance. Our study points to a predominant effect of plant diversity, along with other factors such as carbon : nitrogen (C : N) ratio, soil phosphorus and dissolved organic carbon, on soil fungal richness.