Yani Meng

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EDUCATION

- 2024.01-present Saint Paul, US
  Visiting Ph.D. student in Ecology, University of Minnesota
- 2021-present Shanghai, China
  Ph.D. student in Ecology, East China Normal University
- 2017-2020 Shenyang, China
  M.S. in Ecology, Shenyang Institute of Applied Ecology, Chinese Academy of Sciences

RESEARCH EXPERIENCE

- **Jun 2024- present The Relationship Between Native and Exotic Species Richness Across Spatial Scales in Global Grasslands**
  Supervisor: Dr. Eric Seabloom and Elizabeth Borer

We investigated whether the relationship between native and exotic species richness (NERR) exhibits a scale-dependent shift from negative to positive (the invasion paradox) by utilizing data from fully nested sampling at five spatial scales (0.01, 0.04, 1, 6.25, and 25 m^2) across 18 grassland sites (part of Nutrient Network experiment). Additionally, we explored whether these scale-dependent patterns of NERR are influenced by nutrient enrichment (NPK addition).

- **Jun 2023- present Multidimensional vacant niches explain the negative diversity–invasion relationship in grassland**

  Supervisor: Dr. Shaopeng Li (Biodiversity and biological invasions)

We aim to validate and extend the vacant niche hypothesis in invasion ecology by decomposing it into three dimensions: niche occupancy, niche density, and niche overlap. We identified corresponding functional diversity metrics for each dimension and linked these dimensions to invasion performance to elucidate their relative contributions in regulating invasion processes.

- **Oct 2020- Aug 2023 Scale-dependent changes in ecosystem temporal stability over six decades of succession**
  Supervisor: Dr. Shaopeng Li (Biodiversity and biological invasions)

We investigated the changes in community temporal stability over long-term succession across two spatial scales, using serial 60-year natural succession data from 480 plots within 10 fields.

- **Jun 2017- Jun 2022 Legacy effects of long-term nitrogen and water addition on plant community structure and functioning in a typical steppe**
  Supervisor: Dr. Zhuwen Xu (Global change ecology)

Based on a field experiment, we examined the legacy effects of N deposition and increased

precipitation on plant diversity, species composition, and productivity in a semi-arid steppe after the cessation of 13-year N and water addition.

PUBLICATIONS

- **Meng, Y. N.**, Li, S. P.*, Wang, S. P., Meiners, J. S. & Jiang, L. (2023). Scale-dependent changes in ecosystem temporal stability over six decades of succession. ***Science Advances***, 9, eadi1279. 10.1126/sciadv.adi1279
- **Meng, Y. N.**, Li, T., Liu, H., Li, S. P., Xu, Z.* & Jiang, Y*. (2023). Legacy effects of nitrogen deposition and increased precipitation on plant productivity in a semi-arid grassland. ***Plant and Soil***, 491, 69–84. https://doi.org/10.1007/s11104-022-05550-x
- Zhang, Y. S., Meiners, S. J., **Meng, Y.**, Yao, Q., Guo, K., Guo, W. Y., & Li, S. P. (2024). Temporal dynamics of Grime's CSR strategies in plant communities during 60 years of succession. ***Ecology Letters***, 27(6), e14446. https://doi.org/10.1111/ele.14446
- Xu, Z. W., Liu, H., **Meng, Y. N.**, Yin, J., Ren, H., Li, M., ... & Jiang, L*. (2023). Nitrogen addition and mowing alter drought resistance and recovery of grassland communities. ***Science China Life Sciences***. 66, 1682–1692. 10.1007/s11427-022-2217-9
- Li, S. P., Jia, P., Fan, S. Y., Wu, Y., Liu, X., **Meng, Y.**, ... & Jiang, L*. (2022). Functional traits explain the consistent resistance of biodiversity to plant invasion under nitrogen enrichment. ***Ecology Letters***, *25*(4), 778-789. 10.1111/ele.13951
- Li, T., Wang, R., Cai, J., **Meng, Y.**, Wang, Z., Feng, X., ... & Jiang, Y*. (2021). Enhanced carbon acquisition and use efficiency alleviate microbial carbon relative to nitrogen limitation under soil acidification. ***Ecological Processes***, 10(1), 1-13. 10.1186/s13717-021-00309-1
- **Meng, Y. N.**, Li, T., Shi Z., Cai, J., Xu, Z. & Jiang, Y*. (2020). Effects of fertilization and water addition on soil acid neutralizing capacity in an old-field grassland. ***Chinese Journal of Applied Ecology***, 31(5), 1579-1586. (in Chinese) 10.13287/j.1001-9332.202005.010
- Li, S. P.*, Fan S.Y., **Meng Y.**, Zhang W. & Yao Q. (2023). Darwin's naturalization conundrum: an unsolved paradox in invasion ecology. ***Scientia Sinica Vitae*** (in Chinese) 10.1360/SSV-2023-0136

IN PREPARATION

Meng, Y. N., Li, S. P.*, Jiang, L., ... & Seabloom E. Biodiversity consistently resists invasion under nutrient enrichment conditions across grasslands worldwide.

FELLOWSHIPS AWARDS GRANTS

2024.08 Sino-Eco 2024 Best Student Paper Award

2024-2025 Funding from Excellent Doctoral Student Academic Innovation Capability Enhancement Program

2022-2023 Outstanding Undergraduate Student Award of East China Normal University.

2023.10 Excellent Report Award of the 22nd China Conference on Ecology Graduate Student Forum in Beijing, China.

2022-2023 China National Scholarship for doctoral students.

2023.08 2nd Place Award for oral presentation at the 12th Ecologists' Club meeting in

Harbin, China.

2023-2025 Scholarship from the Chinese Scholarship Council

2022.08 Excellent Report Award of the 21st China Conference on Ecology graduate student forum in Guiyang, China.

2019.01 Third prize for oral presentation at the 3rd International Symposium on Grassland Ecology and Adaptive Management in Daqing, China.

2017-2023 National Academic Scholarships.

SKILLS

- Statistical analysis using R language
- Microsoft Word, Excel, PowerPoint, Adobe Illustrator
- Fieldwork (i.e. grassland survey, soil sampling, plot construction and harvest)
- Soil chemical analysis

REFEREES

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