

Fungal Endophytes in Native Prairie Plants vs. *Lespedeza cuneata*

Ilyana A Martinez¹, Ilana Fay Zeitzer², Noah Brown², and Anthony Yannarell³

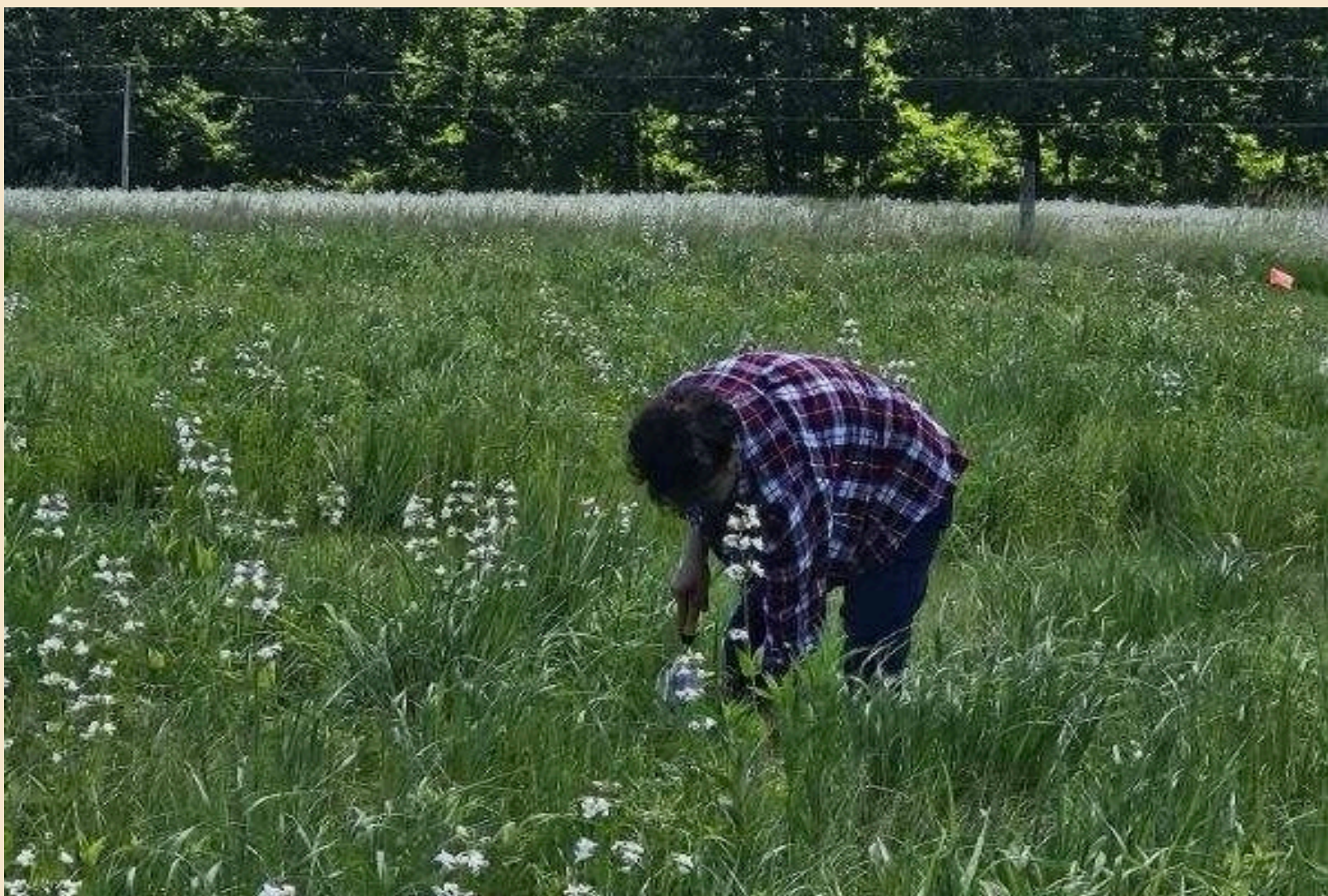
¹Parkland College, Champaign, Illinois, ²Program of Ecology, Evolution, and Conservation Biology, University of Illinois at Champaign-Urbana, ³Department of Natural Resources and Environmental Science, College of Agriculture, Consumer, and Environmental Science, University of Illinois at Champaign-Urbana

BACKGROUND

Fungal leaf endophytes (FLE) are microorganisms that live in the leaf tissues of plants, influencing plant health, growth, and stress resistance. The prairie ecosystem, with its diverse flora, provides an ideal environment for studying the symbiotic relationships between endophytes and plants.

In recent years, the invasive species *Lespedeza cuneata* has become increasingly prevalent, continuously invading native prairie communities. The Phillips Tract Research Area (PHRE), a prairie established in 2018 for research purposes, has also been invaded by *L. cuneata*. PHRE was designed to investigate the impact of pesticide drift on prairie restoration. Despite various management efforts, *L. cuneata* has persistently invaded the area.

This invasion presents an opportunity to study the interactions between invasive and native species. Our research focuses on comparing the fungal leaf endophytes of *L. cuneata* and native prairie plants to understand the differences in fungal endophyte communities. This understanding may shed light on the ecological impact of the invasive species and its reasons for success.



Source: Taken by Ilana Zeitzer at Phillips Tract

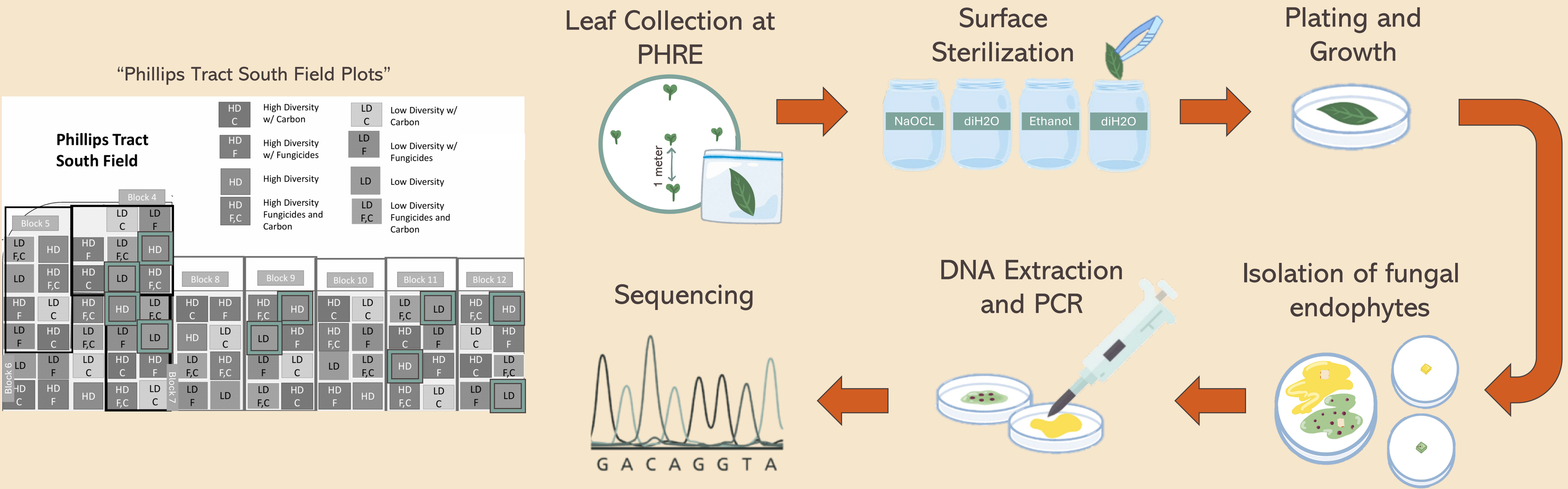
RESEARCH QUESTION

Will there be significant differences in fungal leaf endophyte communities between native prairie plants and the invasive *Lespedeza cuneata*?

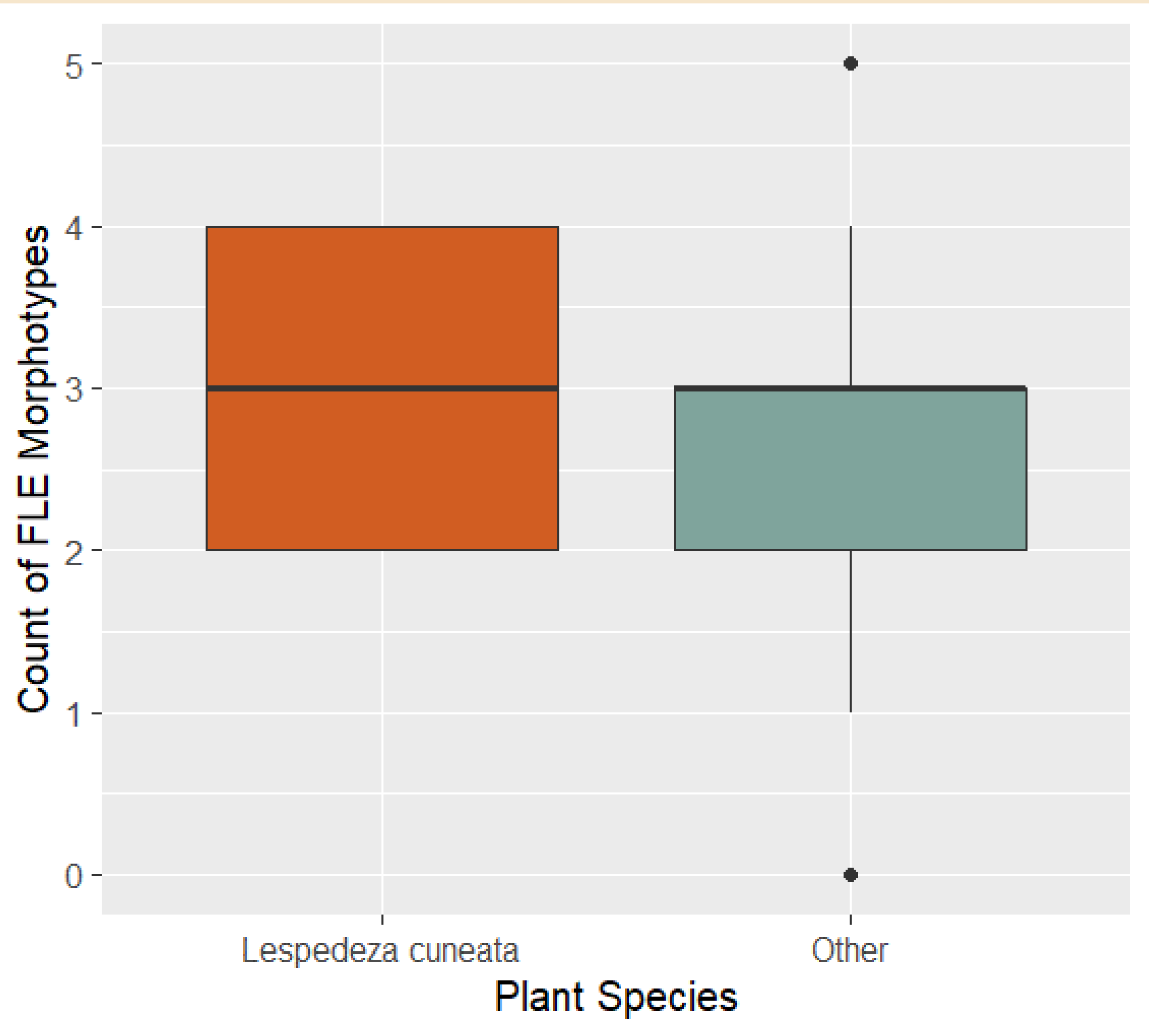
HYPOTHESIS

The fungal leaf endophyte communities in native prairie plants will be similar to those in *Lespedeza cuneata*, suggesting that the invasive species has integrated into the existing fungal endophyte community of native prairie plants.

METHODS



RESULTS



Richness Data:
The richness data reveals variability in the number of fungal morphotypes found in various plots and plants. There was more variability of FLE in other plants than compared to *Lespedeza cuneata*.

Expected Results:
We expect the FLE communities in native prairie plants to be similar to those in *Lespedeza cuneata*. Information and data about FLE species identification is currently underway.

ACKNOWLEDGEMENTS

I would like to express my thanks to GEMS, funded by the National Science Foundation (NSF), for their support and resources throughout this research project. A special thanks all the members of Dr. Yannarell's lab and Dr. Kent's lab for their contributions and support. Your collective efforts have been instrumental in the success of this study. Thank you.

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