

# Comparing Plant Diversity on Animal Associations

Sean Eagan, Evan Lampert, Tom Diggs

It is known that climate change has an impact on community interactions and structure. Understanding the associations between plants and animals is pivotal to begin comprehending how future communities will be impacted. Competing hypothesis, with mixed results, have been previously tested on plant diversity and their associated herbivores. Oconee State Park located in South Carolina provides a range of ecosystems for comparison and understanding the community interactions between plants and their possible herbivores. Data collected using line transects and 16 quadrants respectively from four different ecosystems occurred in July, 2019. All plant taxon was recorded along with the type of herbivory found on each plant, identification of seen arthropods and collection of ants. Statistical and comparative analysis is being done post field collection on the dynamics of the each ecosystem. The results of the analyses will either suggest that the differences in ecosystems correlate with differing community structures and associated interactions or that no difference can be detected. The outcome will look to eliminate bad hypotheses on plant diversity and associated herbivores as well as provide a comprehensive understanding of community interactions. Future data collected will be added to continue this study and turn it into long-term ecological research. These findings will contribute to further the understanding of community interactions and the structure of shifting ecosystems being altered by climate change or other anthropomorphic reasons.