Public Abstract

First Name:Lauren

Middle Name:M.

Last Name:Diepenbrock

Adviser's First Name:Deborah

Adviser's Last Name:Finke

Co-Adviser's First Name:

Co-Adviser's Last Name:

Graduation Term:SP 2014

Department:Entomology

Degree:PhD

Title:HISTORICAL, LANDSCAPE AND RESOURCE INFLUENCES ON THE COCCINELLID COMMUNITY IN MISSOURI

The diversity and abundance of native lady beetle (Coccinellidae) species in North America is declining. This decline has been attributed to the introduction and establishment of exotic lady beetles, including *Coccinella septumpunctata* and *Harmonia axyridis*. This is worrisome because coccinellids, both native and exotic, provide important biological control services in many agricultural systems. To date, most of the studies documenting negative effects of exotic species on the community of native lady beetles have been done in agricultural habitats, whereas grasslands have been suggested as potential refuge habitats for native species from the pressures of exotics. The research presented here (1) documents the impact of the introduction of exotic species on the community of native lady beetle species occurring in Missouri using a historical dataset (1930-present), showing long-term changes to the community occurring prior to exotic species establishment, (2) explores natural and agricultural grassland habitats as potential refuges for native species, finding all grasslands to be beneficial habitats for the persistence of native species, (3) explores resource availability as a mechanism that may make one grassland habitat a better refuge habitat for native coccinellid species than others, and also (4) examines the hypothesis that native coccinellid species could be actively displaced from foraging habitats by interactions with exotic lady beetle species.