Seed Dispersal of Native and Non-Native Fruiting Plants by Birds in Northwest Indiana Landscape

Kaitlin Rogers, Heather Albertson, Mary-Ann Craft

Departmental Affiliation: Biology
College of Arts and Sciences

Birds disperse fruiting plants by feeding on fruits and later defecating whole intact seeds. Fruit-bearing non-native plants use this method to invade new habitats and may compete with native species for dispersal services. We studied the nature of this competitive interaction by examining the proportion of seeds in the fecal material of birds compared to the proportion of fruit available in the landscape. Sixteen fecal traps were placed in open fields surrounded by second growth vegetation at two study sites in Porter County, Indiana. A fecal trap consisted of a horizontal perch atop a 2m post placed out away from natural perch substrate and over a cloth sheet or plastic bin with protective hardware cloth screen to catch fecal material. Seeds from traps were identified and censuses of fruits available in the landscape were made along nearby field edges. While we found evidence of bird dispersal of non-native species, seeds of native species were much more prevalent in fecal material than expected from our census of fruits available, showing a clear preference by birds for several native species. Secondary seed predation did not appear to play a role in successful seed dispersal by birds in our study sites, as we did not find a significant difference between seed numbers collected on open sheets vs. protected collection bins that limited access by rodents or other birds. Our results show that having native vines and shrubs present in the landscape can reduce bird dispersal of non-native woody plants.

Information about the Authors:
Kaitlin Rogers is a senior biology/environmental science major interested in conservation and ecology. Heather Albertson is a senior biology/secondary education major also interested in ecology and large scale biological issues. Mary-Ann Craft is a senior biology/German major interested in the potential adaptations of local birds. All three authors enjoy working outside in the field and have made great progress this semester alongside their advisor Laurie Eberhardt.

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Student Contact: kaitlin.rogers@valpo.edu