

Native Lady Beetles Prefer the Woods to City Life

Mary Gardiner, The Ohio State University

Community scientists have illustrated rapid declines of several aphidophagous lady beetle (Coccinellidae) species. These declines coincide with the establishment of alien coccinellids. We established the Buckeye Lady Beetle Blitz program to measure the seasonal occupancy of coccinellids within gardens across a wide range of landscape contexts. Following the Habitat Compression Hypothesis, we predicted that gardens within agricultural landscapes would be alien-dominated, whereas captures of natives would be higher within landscapes encompassing a high concentration of natural habitat. Within the state of Ohio, USA, community scientists collected lady beetles for a 7-day period across 4 years in June and August using yellow sticky card traps. We found that alien species dominated the aphidophagous fauna. Native aphidophagous coccinellid abundance was positively correlated with forest habitat while alien species were more common when gardens were embedded within agricultural landscapes. Urbanization was negatively associated with both aphidophagous alien and native coccinellids. These data will serve as an important baseline to track future changes within coccinellid communities within this region. Our findings highlight the value of gardening to provide habitat for lady beetles and illustrate the importance of preserving forested land to conserve remaining native coccinellid populations.