

Abstract: Invasive plants impact native plant biodiversity and can change the plant community structure of an area. These nonnative species can have leaves differing in chemical composition from native leaves, and by changing properties of the soil and forest floor litter layer, invasive plants directly affect the microbial, fungal, and invertebrate communities living within those environments. As a result, this project sought to determine the effects the invasive plants of Tree of Heaven (*Ailanthus altissima*), Dahurian Buckthorn (*Rhamnus davurica*), and Bush Honeysuckle (*Lonicera maackii*) had on leaf litter arthropod total abundance and richness and trophic abundance and richness. Random samples from each habitat, including native, were taken 4 times over 4 months to collect the arthropods, and then these data were analyzed for differences between native and invaded habitats. Only significant differences between habitats for total and trophic abundance were obtained. In all cases, there was a general trend for Honeysuckle and Buckthorn litter to rank lower than the native for all metrics, but the trend for Tree of Heaven litter to have similar richness and higher abundance compared to the native was unexpected. It is important to understand how invasive plants impact the organisms utilizing leaf litter as a resource base and how this affects ecosystem function. Since leaf litter arthropods play a key role in the decomposition of material, a change in litter communities and the detrital food web could affect an entire ecosystem.

Keywords: invasive plants, exotic plants, arthropods, invertebrates, *Ailanthus altissima*, *Rhamnus davurica*, *Lonicera maackii*, abundance, richness, detrital communities