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Plant Species Matters in the Distribution of Lepidoptera Larvae in Migratory Songbird Habitat. S.L. Moon[1], E.C. Bellush[1], A.E. Gover*[2], J.L. Larkin[1], K.J. Desarro[2], D.A. Mortensen[2], [1]Indiana University of Pennsylvania, Indiana, PA, [2]The Pennsylvania State University, University Park, PA.

Lepidoptera larvae are a key food source for the declining population of nesting, migratory songbirds utilizing early successional and shrubland habitats. Exotic shrub species are increasingly common in shrubland settings, and likely provide the same structural characteristics as native species. It is not clear if exotic shrubs provide the same quality of foraging habitat as native shrubs. An understanding of the relative value of native and exotic species would inform management prescriptions needed to increase available, quality habitat. Larval counts were conducted at two Pennsylvania state parks on collected branch samples from native and exotic shrub species, and converted to larva/10 g foliage dry weight. Native species evaluated were hawthorn (Crataegus spp.), silky dogwood (Cornus amomum), and arrow-wood viburnum (Viburnum dentatum) at Yellow Creek State Park, Penn Run, PA; and grey dogwood (Cornus racemosa) and arrow-wood viburnum at Bald Eagle State Park, Howard, PA. The exotic species at both sites were autumn olive (Elaeagnus umbellata) and Morrow's honeysuckle (Lonicera morrowii). Branch specimens were collected as netted (predator exclusion) and un-netted pairs, during the nesting period for migratory songbirds, after the nets had been installed for at least two weeks. At Yellow Creek, there was no interaction between netting and species, and netting effect was not significant. Shrub species larval counts/10 g foliage dry wt. (n=60) were hawthorn (1.97) > arrow-wood (1.18) > silky dogwood (0.54) = honeysuckle (0.36) = autumn olive (0.23). At Bald Eagle, only a portion of the data was collected as netted vs. un-netted pairs (n=7). There was a significant interaction between species and netting (p=0.04). Analysis of netting by species was significant for autumn olive and honeysuckle, which both had low counts for either condition. The data was analyzed without netting effect, and showed the same pattern as at Yellow Creek, with larval counts for arrow-wood (n=30, 1.42 larva/10 g dry wt) > grey dogwood (n=30, 0.44) = autumn olive (n=22, 0.25) = honeysuckle (n=23, 0.08). Native species hosted a greater food resource than exotics species, but comprised a smaller portion of the woody population. At Bald Eagle, a transect of 1107 plants in the study area showed that three exotic species, honeysuckle, autumn olive, and multiflora rose (Rosa multiflora) were 64 percent of the population. Arrow-wood and hawthorn made up 10 percent of the population. At Yellow Creek, these three species comprised 50 percent of 497 surveyed plants.