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SEASONAL ACTIVITY AND ABUNDANCE OF THE BLACKLEGGED TICK (*IXODES*
SCAPULARIS) IN MID-WESTERN PENNSYLVANIA

A Thesis

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Master of Science

Michelle Myers-Claypole

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Title: Seasonal Activity and Abundance of the Blacklegged Tick (*Ixodes Scapularis*) in Mid-Western Pennsylvania

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Lyme disease is the most prevalent vector-borne disease in the United States. Studies have shown a positive relationship between human cases of Lyme disease and the density of *Borrelia burgdorferi* infected blacklegged ticks (*Ixodes scapularis*), but there is little information on their population biology in Pennsylvania. I replicated in Blue Spruce Park (BSP), Indiana County, Pennsylvania classic tick population biology research conducted in the 1990s at the Louis Calder Center (LCC), Westchester County, New York. There was more leaf litter, a greater absolute density of ticks, and a higher collection efficiency of larvae and nymphs, but a lower collection efficiency of adults in BSP. There was greater overlap in peak relative densities of larvae and nymphs in BSP, and no change in overwintering adults, pre- and post-winter. The density of ticks in mid-western Pennsylvania is comparable to southern New York which is highly endemic for Lyme disease.