

Western Illinois University
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Abstract

Recorded Scholarly Presentation

Major: Biological Sciences

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What are the Determinants of Gastrointestinal Infections in *Peromyscus leucopus*?

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Parasites live in a host organism, at the expense of their hosts. Parasites reduce host reproduction, survival, and have the potential to reduce host population sizes. Gut-inhabiting parasitic worms (helminths) infect and reduce the health of 100s of millions of people and all non-human mammalian species. Because gut parasitism is so widespread, it is critical to identify the factors that determine levels of gut parasite infection. Two important categories of determinants of parasite infection include host features and interactions among parasites. Nevertheless, results of studies in different host-parasite systems are inconsistent, which reveals the need for studies of a wide variety of host species to discover general patterns in determinants of infection. My objective is to determine the relative importance of host sex and parasite interactions in determining gut infections in white-footed mice (*Peromyscus leucopus*). This rodent is one of the most widespread and abundant mammals in deciduous woodlands of North America, thus my results will provide insight into common (and perhaps general) determinants of parasite infection in wild mammals. Mice will be collected from natural woodlots at the Kibbe Life Sciences Station and examined to determine their sex. Parasite loads will be determined through dissections. Generalized linear regression models will be used to statistically evaluate the importance of the potential determinants of infection. Counts of each worm species will be the dependent variable, and host sex and the presence of other worms will be the independent variables.