Poster Presentation

Does Sex or Age Affect Infection Levels in the White-Footed Mouse?

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Parasites harm their hosts, and because of this, can potentially reduce host population size. Parasite epidemiology is the study of the factors that determine host infection. Two factors that could affect infection levels are sex and age because testosterone may increase infection susceptibility in males, and older hosts may accumulate parasites over time. I evaluated the effects of host sex and age on infection by the nematode, *Pterygodermatites peromysci*, in the common and widespread white-footed mouse, *Peromyscus leucopus*. This worm has been shown to reduce reproductive output (and potentially population size) of this host. I trapped 113 mice over 3 days at Kibbe Life Sciences Station during July 2015. Sex was determined by gonad examination. Age was determined by mass: mice ≤ 20 grams were classified as “subadult”, and those > 20 grams, “adult”. The gastrointestinal track was examined for *P. peromysci*. I calculated “prevalence,” the fraction of hosts infected in the sample, and “intensity,” the number of worms per infected host. For all mice, prevalence was 0.32 (95% C.I. 0.24–0.42) and intensity was 1.97 (1.61–2.53) worms per host. There was no effect of sex on prevalence (Fisher’s exact test: \( p=0.84 \)) or intensity (bootstrap 2-sample \( t \)-test: \( p=0.56 \)). There was also no effect of age on prevalence (\( p=0.64 \)) or intensity (\( p=0.78 \)). These results contrast with a previous study of these animals in the Appalachians. There, sex also had no effect on infection, but age did: older mice had more worms. Thus, details of infection with *P. peromysci* vary geographically.