Centennial Honors College

Western Illinois University

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Poster Presentation

The effect of "white grub" (*Posthodiplostomum minimum*)
On snail fitness: castrator, or killer?

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Parasites are defined as organisms that live on, acquire energy from, and harm their hosts by reducing host reproduction and/or survival. "White grub" (*Posthodiplostomum minimum*), is a common trematode (flatworm) parasite of fishes. This worm also infects snails during its sporocyst stage. Snails eat detritus, and are vital contributors to ecosystems because they clean fish habitats. Although considerable research has been directed at the occurrence of white grub in fish, little work has been done to document its occurrence in, and harmfulness to, snails. In Spring Lake, McDonough County, IL, white grub infects snails (*Physa acuta*). I will determine whether white grub is detrimental to snails by measuring the effects of infection on host survival and reproduction. I will collect snails and house them in groups of 100 in 5-gallon containers. I will check daily for dead snails. Dead snails will be frozen until dissection. During dissection I will record the snail's infection and reproductive status. I will use Kaplan-Meier's survivorship analysis to determine whether infected snails have reduced lifespans. I will assess effects on reproduction by determining what part of the host the white grub penetrates, to discover if white grub castrates the snail by destroying the gonads I will also measure egg counts in infected and uninfected snails, and use a t-test to see if infected snails produce fewer eggs.