Natural and Experimental Prevalence of *Fasciola hepatica* in Lymnaeid Intermediate Hosts [MAS]

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Fasciola hepatica, the common bile duct fluke of cattle and sheep, is an economically important parasite in Montana, resulting in the condemnation of livers in 17% of cattle at slaughter. Transmission of the disease is dependent upon the presence of snails of the genus *Lymnaea*, which serve as intermediate hosts for the parasite. There are several species of lymnaeids that are found in Montana, but none have been found naturally infected with *F. hepatica*. This is probably due to the low incidence of infection in snails and the difficulty in identifying early developmental stages of the parasite in the snail using conventional methods. Recently we have developed an assay that uses RT-PCR to detect a fasciolid specific, small ribosomal subunit sequence from total snail RNA preparations, and have used this assay to test field collected snails for infection. Our results support the hypothesis that the natural prevalence of infection is low in the snail host, and we suspect that this is due to some form of resistance in snail populations. To test this, several species of lymnaeids were exposed to *F. hepatica* miracidia and tested at 6 hours and 5 days post exposure. Almost 100 percent of snails tested positive at 6 hours post exposure; however, in all but the most permissive snail, few infections were detectable at 5 days post exposure.