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STUDIES ON THE DEFINITIVE HOST-SPECIFICITY OF
ECHINOCOCCUS MULTILOCCULARIS, ESPECIALLY ON THE KINETICS OF
SCOLECES IN NON-PERMISSIVE HOSTS

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Echinococcus spp. take carnivores, in which they show relatively high host specificity, as definitive hosts. The purpose of the present study was to investigate the relationship between *E. multilocularis* and non-permissive hosts. Various small laboratory rodents were orally infected with 10,000 or 20,000 protoscoleces of *E. multilocularis*. The worms survived longest in golden hamsters where there was recovery for up to 21 days. In mice, Mongolian gerbils, djungarian hamsters and Chinese hamsters, the worms were rejected by 24 hrs, 5, 5 and 14 days after infection, respectively. The worms were recovered from the anterior half of the small intestine in golden hamsters and ICR mice and from the posterior half of the small intestines in Chinese hamsters. Histological studies revealed that, in mice, the majority of worms evaginated and penetrated deeply among the villi, and suckers were seen grasping substantial plugs of mucosal membrane. Increased numbers of goblet cells in golden hamsters and mice, and slight infiltration of polymorphonuclear leucocytes were observed. The mucosal permeability of the small intestine did not increase in mice.