Rodent-Borne Diseases

Helminth communities in synanthropic rodents of Buenos Aires (Argentina)

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The murine rodents *Mus musculus*, *Rattus rattus* and *Rattus norvegicus* are considered among the best urban adapted mammal species around the world and are host of different human pathogens, including zoonotic helminth species. As their presence in cities is related to poor hygienic and environmental conditions, rodents represent good biological models for pathogen transmission studies in urban environments. In this study, rodents were captured in the City of Buenos Aires (Argentina) for parasitological screening in 3 representative environments: residential neighborhoods (where the dominant species *Rattus rattus* is); shantytowns (the dominant species are *Rattus norvegicus* and *Mus musculus*) and parks (*Rattus norvegicus* and *Mus musculus* are the dominant species, accompanied by the native *Oligoryzomys flavescens*). Seventy-five percent of the rodents were parasitized with at least one of the 12 identified helminth species (1 acanthocephala, 3 cestodes and 8 nematodes), including species like *Hymenolepis nana* and *Hymenolepi diminuta*, recognized worldwide from a zoonotic aspect. Our results showed that helminth communities of urban rodents could be grouped according to composition and relative abundances and responded to the structure of host community. Each rodent species presented its own characteristics in terms of richness, diversity and helminth composition, keeping these characteristics still occupying more than one landscape unit. Several mechanisms contribute to complexity of the structure of parasite communities, where parasites itself, definitive and intermediate hosts and environmental and anthropogenic factors all play a role in the dynamics of parasitological communities. Inhabitants of shantytowns would be the most exposed to zoonotic diseases transmitted by rodents. As shantytowns they are not included in urban planning programs, it is essential to focus efforts on individual and community actions in improve environmental quality to reduce exposure to rodent-borne diseases.

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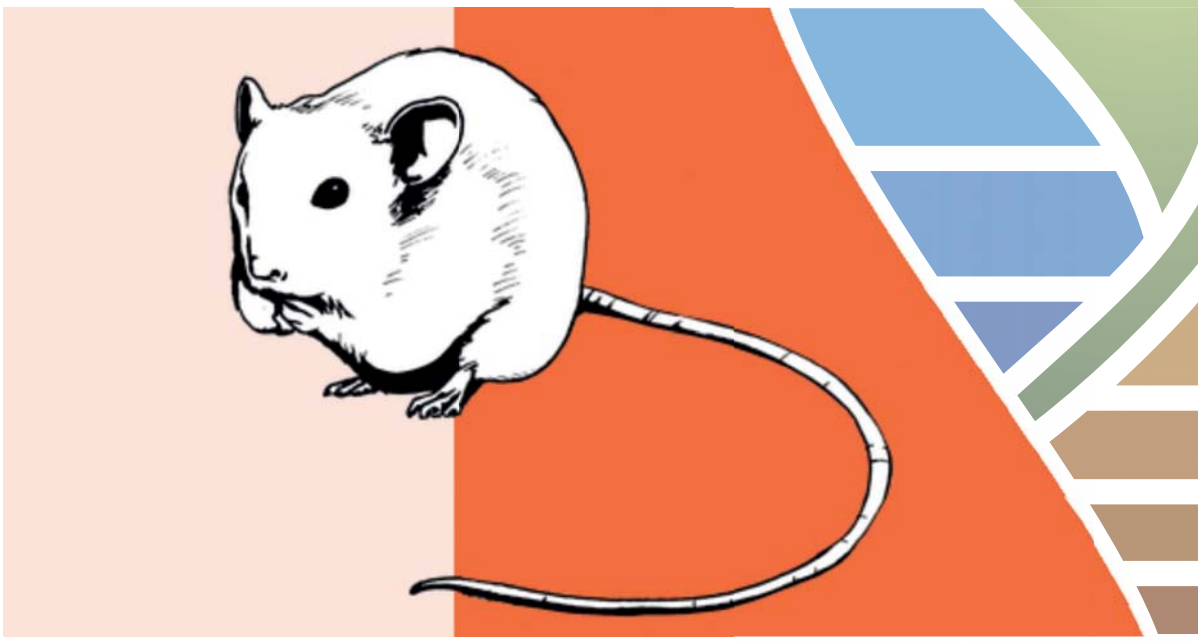

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