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Factors associated with Hantavirus infection in a wild host rodent from Cholila, Chubut Province, Argentina

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Abstract: Andes virus (ANDV) is a hantavirus hosted by the sigmodontine rodent *Oligoryzomys longicaudatus* in southern Argentina, where it is responsible for most cases of hantavirus pulmonary syndrome (HPS). The purpose of this study is to elucidate the biological and ecological characteristics of the host that increase the probability of ANDV infection in a *O. longicaudatus* population. The study was performed from spring 2003 to winter 2008 at Cholila, Chubut Province, Argentina. Rodent populations were sampled in four habitat types. Species, sex, body measurements (mass, body and tail length) and presence of wounds were recorded and blood samples for seroprevalence determination were obtained from the retroorbital sinus. Logistic regression models were applied to identify variables associated with the probability of infection of an individual. The most parsimonious model included sex, mass, body size and wounds as explanatory variables. Our results suggest that population structure and composition (age and sex) of *O. longicaudatus* should be considered as fundamental indicators to model the probability that infection with ANDV appears and/or persists in a population. A high Odds ratio value also showed the presence of wounds as an important feature in the infection model.

Keywords

Andes virus, antibody prevalence, virus transmission, age, sex, wounds