

Ticks as bioindicators the presence of *Trypanosoma* spp. in Campo Grande city, MS, Brazil

Marlon Cezar Cominetti^{1*}, Robson Ferreira Cavalcante de Almeida¹, Barbara Guimarães Csordas², Renato Andreotti³

Resumo

Rhipicephalus sanguineus is a tick belonging to the suborder Ixodida, family Ixodidae, subfamily Rhipicephalinae. The genus *Rhipicephalus*, of African origin, comprises 82 species recognized in the world and probably introduced to the Americas with colonization. Currently, occurs throughout the Neotropics predominantly in urban areas and affects approximately 30% of dogs. *R. sanguineus* has preferred host as the domestic dog and wild canids, having a wide distribution throughout the Brazilian territory and can make hematophagy in other mammals as well as birds and reptiles. The present study aimed to provide preliminary data checking for the presence of *Trypanosoma* spp. in *R. sanguineus* collected from dogs in the city of Campo Grande, MS, Brazil. 148 dogs were examined and collected 1992 *R. sanguineus*. From these, 444 specimens (three per animal) were subjected to DNA extraction. To date, 63 specimens were examined for the presence of *Trypanosoma* spp. by Polymerase Chain Reaction (PCR) using the primer TRYP1R/TRYP1S. The remainder of the ticks collected was deposited in the mu-

¹Doutorando, DIP/UFMS; Laboratório de Sanidade Animal, Embrapa Gado de Corte.
*mccominetti@gmail.com

²Mestranda, Curso de Doenças Infecciosas e Parasitárias (DIP), UFMS; Laboratório de Sanidade Animal, Embrapa Gado de Corte, Campo Grande, MS

³Pesquisador da Embrapa Gado de Corte, Campo Grande, MS

seum of the tick Embrapa Beef Cattle, Campo Grande, MS, Brazil. Of the 63 samples examined, 22 (35%) were positive for trypanosomes, being seven to *Trypanosoma evansi* and 15 to *Trypanosoma vivax*. The gathering of *Trypanosoma* spp. in *R. sanguineus* can contribute to the study of the distribution of these parasites in the environment. For being of wide distribution and tough to variations in the medium, ticks may be used in epidemiological studies in regarding the indication of the presence of trypanosomes and therefore serving as bio indicators of these parasites. Data shows that the city of Campo Grande is an area subject to transmission of *T. evansi* and *T. vivax*, causing damage to livestock, a major source of state income. Although *R. sanguineus* is not directly related to the transmission of trypanosomes, only the presence of parasites in ticks may indicate an area of occurrence as well as maintenance of source trypanosomiasis caused by *Trypanosoma* spp. While not demonstrably transmitters found trypanosomiasis, ticks can be used as a source of monitoring of these enabling strategic planning more effective in combating the diseases caused by these parasites.

Keywords: PCR, epidemiology, *Rhipicephalus sanguineus*.

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