

## Molecular characterization of trypanosomatids infecting triatomines captured in the Regional Superintendence of Health (SRS) of Divinópolis, Minas Gerais, Brazil

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In Minas Gerais several species of triatomines have been reported, with *Panstrongylus megistus* standing out as the vector with the greatest epidemiological importance in the state. We intended to evaluate the infection profile and characterize the strains of trypanosomatids circulating in the region. For this purpose, SRSD's field and laboratory teams carried out the capture, identification, and infection status analysis of the vectors. The triatomines found by inhabitants of the region were also included in the survey. After this step, the triatomines were sent together with the research/spray diary to the Triatomines laboratory at Fiocruz Minas for further analysis. After confirmation of the taxonomic field assessment, the triatomines were dissected and DNA from the intestinal contents was extracted. In the 17 months of the study, 52.8% (28/53) of the municipalities captured triatomines, totaling 501 insects. Most of these correspond to the species *P. megistus* (492 bugs, 98.2% of all captured insects). Also collected were four adult specimens of *Panstrongylus diasi*, three adult specimens of *Rhodnius neglectus*, one adult of *Panstrongylus geniculatus* and another of *Triatoma pseudomaculata*. For molecular diagnosis, we evaluated all specimens captured within the intradomicile (regardless of the natural infection observed in the parasitological examination), as well as those positive in the parasitological examination and 10% of the specimens captured in the peridomicile, totaling 73 insects. By kDNA PCR, the samples were identified as infected by *Trypanosoma cruzi* and *Trypanosoma rangeli*. While the parasitological infection rate detected by the SRSD's laboratory team was 2% (5/248), the molecular diagnosis showed it to be of 30.1% (22/73). The TcI genotype is the only one identified so far (16/22). *T. rangeli* infection was observed in *P. megistus* 4/5 (80%) and *R. neglectus* 1/5 (20%) with the genotype A, detected here in the last mentioned species. These results show the vectorial diversity in the study area, with insects infected with TcI strain of *T. cruzi*, revealing the risk of infection for the exposed population. Furthermore, we emphasize that this is the first report of *T. rangeli* genotype A in the state. Thus, it is recommended to strengthen surveillance and vector control in the region.

Keywords: Triatominae, *Trypanosoma cruzi*, *Trypanosoma rangeli*, Entomological surveillance.

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