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TRYPANOSOMA MINASENSE, T. CRUZI AND *T. RANGELI* INFECTING GOLDEN LION TAMARINS (*LEONTOPITHECUS ROSALIA*) (MAMMALIA; PRIMATES) FROM THE ENVIRONMENTAL PROTECTED AREA OF BACIA DO RIO SÃO JOÃO, RIO DE JANEIRO STATE.

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Abstract

Endemic to the Atlantic Forest, the golden lion tamarin (GLT, *Leontopithecus rosalia*) is an international symbol of conservation and described as a reservoir of *T. cruzi* since 1990, based on the molecular characterization of parasites isolated in blood cultures. The possibility of performing molecular diagnosis in blood clots without parasite isolation may reveal previously undescribed *Trypanosoma* species in these primates. The study aims to describe trypanosomatid infections in blood clots of GLTs collected in Bacia do Rio São João, a protected area of Rio de Janeiro state. Blood clot samples (n=133) from 98 GLTs were collected between 2019 and 2021, including recaptures (2 to 5 sampling events) at intervals ranging from 3 to 26 months. DNA was extracted (DNeasy Blood and Tissue - Qiagen®), measured (Qubit®, Invitrogen) and the diagnosis performed through Nested-PCR using the 18S rDNA target. Positive samples were subjected to Sanger sequencing and the sequences obtained were analyzed and compared with GenBank sequences, considering 99% as the minimum percentage of identity and coverage for taxonomic identification. Mixed infections were considered when two parasite species were identified in two capture events or when two electrophoresis bands from the same capture event were sequenced separately. We observed 50 GLTs positive for trypanosomatids (51%; 50/98), totaling 65 positive samples (48.9%; 65/133). *Trypanosoma minasense* was the most prevalent parasite infecting GLTs (41.8%; n=41), followed by *T. cruzi* (6.1%; n=6) DTUs TcII (n=5) or TcIV (n=1) and *T. rangeli* lineage D (1%; n=1), including two mixed infections by *T. minasense* and *T. cruzi* TcII. This is the first description of *T. rangeli* in GLT and mixed *Trypanosoma* infections in this species. The finding of *T. minasense* in three capture events of the same individual over a 26-month interval and of *T. cruzi* in another GLT for up to 16 months suggests the long-term maintenance of these infections in nature.

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