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# *BODO* SP. (KINETOPLASTEA; EUBODONIDA) IDENTIFICATION IN BLOOD SAMPLES FROM ANTEATERS AND ARMADILLOS FROM THE PANTANAL AND CERRADO OF BRAZIL

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**Abstract**

Among the organisms of the Kinetoplastea class (which includes the trypanosomatids), the genus *Bodo* is one of the most studied free-living protozoa, typically found in aquatic environments. Although described as non-parasitic, several studies detected bodonids in vertebrate samples. Armadillos and anteaters are animals rarely seen in nature but can be found in flooded fields, a typical habitat for bodonids. Molecular diagnosis in blood clots allows the detection of non-cultivable parasites and/or at low parasitic loads and may reveal undescribed kinetoplastid species. This study aimed to describe kinetoplastid infections in armadillos and anteaters from Pantanal and Cerrado of Brazil. Blood samples from four armadillo species and the giant anteater were collected in Mato Grosso do Sul between 2011 and 2021 in collaboration with the Wild Animal Conservation Institute. DNA from 144 blood clot samples was extracted using an ammonium acetate precipitation protocol. The diagnosis was performed by Nested PCR targeting the 18S SSU rDNA. Positive samples were subjected to Sanger sequencing and the characterizations were confirmed by phylogenetic analysis. Of the 144 samples tested, *Bodo* sp. DNA was detected in 22 (15.3%) samples of giant anteater and giant armadillo. Infection by trypanosomatids was reported in other 18 (12.5%) animals. In general, the bodonid sequences showed approximately 95% identity and were clustered close to *Bodo saltans* sequences. These infections were herein defined as *Bodo* sp. due to low identity value to define a species and the possibility of being a new species is not discarded due to poor knowledge of the *Bodo* species real diversity. The presence of *Bodo* sp. in four recapture events may represent the long-term maintenance of these infections (7-26 months). The high detection rate of bodonid DNA in armadillos and anteaters reinforces the putative capacity of free-living protozoa to infect vertebrates.

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