Ultrastructure analysis and molecular characterization of *Trichomitus batrachorum* (Phylum: Parabasalia; Ordem: Hypotrichomonadida) isolated from liver of *Ameiva ameiva* (Reptilia: Squamata).

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Abstract

Trichomitus batrachorum, a species of trichomonad, has gained attention for its ecological significance and potential interactions with various hosts, particularly poikilothermic organisms like amphibians and reptiles. Molecular studies have placed this flagellated protist within the Metamonada clade, offering valuable insights into its evolutionary relationships with other trichomonads. Unlike parabasalids that inhabit endothermic mammals in relatively stable temperature conditions, protists associated with ectothermic reptiles, are subject to significant temperature fluctuations. The ability of *T. batrachorum* to thrive in the variable temperatures encountered by reptiles suggests that its parasitism may remain largely unaffected by climate change. This could have profound implications for the composition and interactions of these microbes with vulnerable animal species. In our study, we successfully detected and characterized *T. batrachorum* from the liver tissue of the lizard species *Ameiva ameiva* ((Reptilia: Squamata), collected in Presidente Figueiredo, Manaus state, Brazil. The identification of *T. batrachorum* was confirmed through culture, light microscopy, scanning electron microscopy (SEM), transmission electron microscopy (TEM) for ultrastructural analyses, and sequencing of the 18S rRNA and ITS genes. This successful detection and characterization of *T. batrachorum* provides a solid foundation for further research. One potential interpretation for this finding is that the flagellates may have migrated from the intestine to the bile duct, ultimately reaching the liver. Further research is needed to elucidate the potential pathogenicity of this flagellate and the role of *Ameiva ameiva* in the epidemiology of parabasalids in other animal species.

Keywords: Biodiversity, Amazon rainforest, Trichomonadids.

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