

## TRIPANOSOMATIDES LIKE *Trypanosoma theileri* IN THE CATTLE TICK *Boophilus microplus*

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**ABSTRACT:-** MARTINS, J.R.; LEITE, R.C.; DOYLE, R.L. **Tripanosomatídeos like *Trypanosoma theileri* in the cattle tick *Boophilus microplus*.** [Tripanosomatídeos similares a *Trypanosoma theileri* no carrapato dos bovinos *Boophilus microplus*]. *Revista Brasileira de Parasitologia Veterinária* v. 17, n. 2, p.113-114, 2008. Instituto de Pesquisas Veterinárias Desidério Finamor/Fundação Estadual de Pesquisa Agropecuária, Estrada do Conde, 6000, Caixa Postal 47, Eldorado do Sul, RS 92990-000, Brasil. E-mail:joaorsm@terra.com.br

Findings of epimastigotes forms of a tripanosomatídeo is reported in the hemolymph of the cattle tick *Boophilus microplus* in the state of Rio Grande do Sul, southern Brazil. Morphological evidences suggest they are similar to *Trypanosoma theileri*, a species described as non pathogenic to cattle, and usually transmitted by tabanids.

**KEY WORDS:** *Trypanosoma*, hemolymph, *Boophilus microplus*.

### RESUMO

Descreve-se a ocorrência de formas epimastigotas de um tripanosomatídeo na hemolinfa do carrapato do bovino *Boophilus microplus* no Estado do Rio Grande do Sul. Evidências morfológicas sugerem tratar-se de *Trypanosoma theileri*, espécie descrita como não patogênica aos bovinos e que usualmente é transmitida por tabanídeos.

**PALAVRAS-CHAVE:** *Trypanosoma*, hemolinfa, *Boophilus microplus*

Flagellate forms of a *Trypanosoma sp.* showing kinetoplast close or in front of the nucleus, a short undulant membrane and free flagellum were found in a strain of the cattle tick *Boophilus microplus*, collected in Guaíba (30 01' 53" S, 51 13' 19" W), state of Rio Grande do Sul, southern Brazil (Figure 1). Examinations were carried out on hemolymph smears of *Boophilus* females 10 days after dropping, collected by

separation of the metatarsal-tarsal joint, fixed with methanol, stained by Giemsa and visualized under oil immersion (1000x). Trypanosomes were not seen in squashed eggs from this infected strain of *Boophilus*. Forms of *T. theileri* in Brazil were detected in blood smears of naturally infected cattle in the states of São Paulo, Mato Grosso do Sul, Rio de Janeiro, Pará and Rio Grande do Sul. This hemoflagellate usually shows a very low parasitaemia which make its visualization difficult. Identification of this tick strain infected with this hemoflagellate (which usually lives in the bovine blood stream without showing pathogenicity), caused some concern, since very few reports of ticks as vectors of trypanosomes have been reported in South America (RIBEIRO et al., 1988). Suggestion of the hemolymph of ticks acting as a culture medium for *T. theileri* was presented by Hoare (1972). Usually hematophagous insects (like tabanids) are incriminated as vector of trypanosomiasis. Morzaria et al. (1986) showed some evidence of the transmission of *T. theileri* to cattle by *Hyalomma anatolicum anatolicum*. It was assumed that the source of contamination of this *Boophilus* strain was the cattle, although there were no reports of contaminated herds suffering from acute trypanosomiasis or other hemoparasitic diseases. Babesiosis and anaplasmosis are considered enzootic in this region. These trypanosomes are currently classified within the group Lewisi, together with *T. lewisi* and *T. melophagium*, and are not considered pathogenic for mammals. In Argentina, Gaido et al. (1989) reported a tripanosomatídeo like *T. theileri* in *B.*

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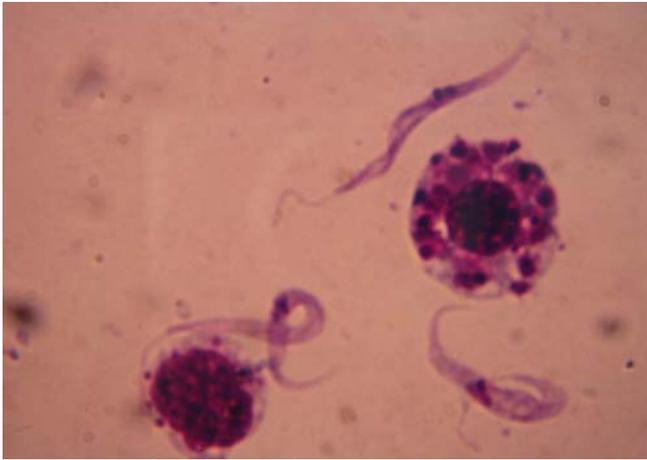


Figure 1. Epimastigotes forms of *Trypanosoma* sp. in hemolymph smears of *Boophilus microplus* stained by Giemsa (1000x).

*microplus* ticks, not detecting any harmful effect on bovine herd production caused by this protozoan. On the other hand, it may be speculated that the presence of *T. theileri* in the same vector for bovine babesiosis (i.e. *Babesia bovis* and *B. bigemina*) could rise misinterpretations in some diagnostic tests. The finding of *B. microplus* bearing epimastigote forms of this trypanosome indicates the diversity of invertebrate hosts

which can be used by them in order to survive. Nevertheless, the precise role for the tick *B. microplus* as vector of this protozoan needs further investigation, since no evidence of transovarian transmission was detected despite the observation of trypanosomes in the tick hemolymph.

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