

New Records of Tick-associated spotted fever group *Rickettsia* in Amazon-Savannah ecotone, Brazil

André de A. R. Aguirre^{1,2,3}; Bárbara G. Csordas^{1,3}; Isabela M. Z. Blecha^{3,8}; Vinicius da S. Rodrigues^{1,3}; Ivaneide N. da Costa^{2,7}; Marcos V. Garcia^{3,8}; Leandra M. Oshiro³; Alexandre S. Souza^{1,4}; Pâmella Duarte^{1,3}; Paulino Bonatte Junior^{3,5}; Rodrigo C. Cunha⁹; Jacqueline C. Barros⁶; Renato Andreotti⁶; Jansen F. Medeiros²

¹Programa de Pós-graduação em Doenças Infecciosas e Parasitárias, FAMED, Universidade Federal de Mato Grosso do Sul, Av. Costa e Silva, s/n, Campus Universitário, CEP 79070-900 Campo Grande, MS, Brasil.; ²Fundação Oswaldo Cruz, Fiocruz Rondônia, Rua da Beira, n.º. 7671, Bairro Lagoa, CEP 76812-245 Porto Velho, RO, Brasil.; ³Laboratório de Biologia do Carrapato, Embrapa Gado de Corte, Av. Rádio Maia, No. 830, Zona Rural, CEP 79106-550 Campo Grande, MS, Brasil.; ⁴Graduação em Medicina Veterinária/ Laboratório de Biologia do Carrapato, Embrapa Gado de Corte; ⁵Programa de Pós-graduação em Ciência Animal, FAMEZ, Universidade Federal de Mato Grosso do Sul, Av. Felinto Müller, No. 2443, Vila Ipiranga, CEP 79074-460 Campo Grande, MS, Brasil.; ⁶Embrapa Gado de Corte, Av. Rádio Maia, No. 830, Zona Rural, CEP 79106-550 Campo Grande, MS, Brasil.; ⁷Programa de Pós-Graduação em Biologia Experimental, Universidade Federal de Rondônia, UNIR-Campus, Br-364, Km 9,5, CEP 76801-059 Porto Velho, RO, Brasil.; ⁸Bolsista DCR Fundect/MS; ⁹Programa de Pós-Graduação em Ciência Animal, UFMS, Campo Grande, MS, Brasil.; ⁹Programa de Pós-Graduação em Biotecnologia, UFPel, Pelotas, RS, Brasil.

Human Rickettsiosis have been reported in Amazon biome. This study aimed to investigate the presence of *Rickettsia* spp. of the spotted fever group (SFG) in free-living ticks, in five areas in Rondonia state, Brazil, which is covered in major part by the Amazon biome, followed by Savannah and their ecotones (areas of ecological tension). The tick species found and analyzed were: *Amblyomma cajennense* (*sensu lato*), *A. cajennense* (*sensu strictu*) *A. coelebs*, *A. naponense*, *A. oblongoguttatum*, *A. romitti*, *A. scalpturatum* and *A. sculptum*. The ticks were examined individually (adults) or in pools of 10 (nymphs) or dozens/hundreds (larvae) specimens, for DNA extraction. DNA was tested directly for SFG Rickettsias by polymerase chain reaction (PCR), targeting ompA gene. Two pools of *A. cajennense* (*sensu lato*), one containing a couple of adults, in rural area of Vilhena municipality, and one with 10 nymphs, and other with larvae of *Amblyomma* spp., both from peri urban environment of Cacoal municipality, and one male of *A. oblongoguttatum*, from rural area of Pimenta Bueno municipality, showed positive to PCR. All positive PCR products were sequenced and the sequences were analyzed by BLAST program. All the ompA sequences exhibited 100% identity with *Rickettsia amblyommatis*. The presence of SFG Rickettsia is described for the first time in all municipalities of this study. Furthermore, for the first time, in South America continent, this agent is found infecting *A. oblongoguttatum* tick. These results reinforce the importance of SFG Rickettsia circulation in Rondonia state, enhanced by the fact that this agent is infecting another human-biting tick.

Keywords: Spotted Fever Group, *Rickettsia amblyommatis*, *Amblyomma oblongoguttatum*, Amazon-Savannah ecotone, Brazil

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