

## **Rickettsia in soft ticks (Acari: Argasidae) from *Cavia* sp. in savannah, Goiás, Brazil**

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Emergence and re-emergence of tick-borne diseases are becoming more frequent worldwide, and both environmental and human behavioral changes might have a role in it. Human cases of infection by rickettsia are typically associated with transmission by a variety of hard ticks (Ixodidae), with few studies describing these agents with argasid or soft ticks. Recently, *Rickettsia lusitaniae* was found in *Ornithodoros erraticus* from pigpens in the south region of Portugal. The aim of this study was to investigate the presence of species in nymphs of *Ornithodoros* sp. ticks from two rodent species in Araguapaz, Goiás, Brazil. Eleven nymphs were collected from six hosts, belonging to two genus, *Cavia* sp. and *Thrichomys* sp., and stored at -70°C. DNA was extracted from three samples (two from *Cavia* sp. and one from *Thrichomys* sp.) tested by polymerase chain reaction (PCR) for presence of *Rickettsia* sp. citrate synthase (*gltA*) gene, and one of them (from *Cavia* sp.) showed a positive reaction.

Nucleotide sequence of the PCR product exhibited 99% (314/318) identity with sequences of *Rickettsia raoultii* isolate MDJ1 associated with *Dermacentor* tick in China; *Rickettsia raoultii* strain Khabarovsk related to *Dermacentor* ticks in Europe; Uncultured *Rickettsia* sp. Clone G1 associated with *Amblyomma parkeri* tick from Brazil. Among the four nucleotide substitutions that were observed, only one represented an amino acid substitution in the parcial sequence of *gltA*. Further evaluations of the *Rickettsia* we found necessary to better characterize this microorganism because *R. raoultii* is known to cause disease in humans in Europe.

**Keywords:** *Ornithodoros*, rickettsias, rodents, ticks.

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