Investigation of free living tick fauna and presence of *Rickettsia* spp. in a riparian forest fragment on the city of Jaboticabal, state of São Paulo, Southeast Brazil

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In Brazil, up to this moment, 70 species of ticks are catalogued, with Ixodidae represented by more than 65% of these, with the *Amblyomma* genus being the most abundant. This genus is one of the most relevant for public health, with some species responsible for transmission of pathogenic agents from the enzootic cycle to humans and domestic animals. Based on this fact, the present study aimed to investigate the fauna of free living ticks, as well as the circulation of *Rickettsia* genus bacteria in a riparian forest fragment located inside the São Paulo State University (UNESP), School of Agricultural and Veterinarian Sciences campus, on the city of Jaboticabal, state of São Paulo, Southeast region of Brazil. For such, two collections per season of ticks using dry ice (CO_2) traps, as well as cloth dragging and visual inspection, were conducted on the period of February 2015 to November 2016. Identification was conducted according to dichotomous keys for adults and nymphs. Larvae were identified only to genus level. Adult ticks were submitted to hemolymph tests as a screening procedure for detection of *Rickettsia* spp. Samples with visual detection of structures compatible with *Rickettsia* were submitted to DNA extraction, followed by Polymerase Chain Reaction (PCR) for confirmation and identification of species. A total of 2592 ticks, between adults, nymphs and larvae masses were collected, out of which only two ixodid species were identified: *Amblyomma sculptum* and *Amblyomma dubitatum*. Amongst collected specimens, 121 *A. sculptum* and 30 *A. dubitatum* were processed, obtaining three positive specimens on the hemolymph test: one *A. sculptum*

and two *A. dubitatum*. From these, only one already underwent PCR analysis and sequencing, which confirmed presence of *Rickettsia bellii*, an agent with unknown pathogenicity. The remaining two samples are still being sequenced. Partial data from the present research, though not detecting agents of public health importance, demonstrate that ticks from the study region are potential carriers of such agents. It is important to reinforce that the studied area is a public domain, with daily circulation of a huge number of people, such as students, professors and workers, generating a risk of exposition to such agents.

Keywords: *Amblyomma sculptum*, *Amblyomma dubitatum*, *Rickettsia bellii*, cilliary forest.

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