

TOPIC

4) Tick-borne diseases (*Rickettsia*, *Ehrlichia*, *Borrelia*)

APPROACH

4. Vector control and surveillance

Survey of ixodid ticks, vectors of *Rickettsia parkeri*, Buenos Aires province, Argentina

Keywords: tick-borne diseases; vector control; surveillance; survey; ixodid ticks; *Rickettsia parkeri*.

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In America, rickettsiae have aroused greater interest in public health. Categorized as emerging zoonotic diseases called "Spotted Fever" (FM), this group of diseases are transmitted to humans essentially by hematophagous arthropods such as Ixodidae ticks. This problem exists in Argentina, where the main vector of the *Rickettsia parkeri* bacterium (within FM), in areas of the Plata Hydrographic Basin, is the hard tick of the *Amblyomma triste* species. The aim of this study is to survey the species of ticks, mainly of the genus *Amblyomma* spp., both in urban (UA) and natural (NA) areas, in municipalities that are part of the Plata River basin and its sub-basins, in order to make new contributions to its epidemiology and surveillance, during the period from September 2021 to March 2022. A descriptive, quantitative, observational and cross-sectional study was carried out to survey the different species of ticks in NA and UA, in the Plata River Hydrographic Basin. The collection of specimens in NA was carried out using the flag method, while in UA they were obtained from dogs and cats that were taken to the corresponding Zoonosis Centers or to Veterinary Clinics. Ticks were kept in glass jars with 70% alcohol, for later taxonomic identification. A total number of 3524 specimens were obtained: 1844 belonged ticks of the genus *Amblyomma* spp. (90.58% adults, 0.22% nymphs, both *A. triste*; 9.20% larvae, in which only the genus could be identified); and 1680 to *Rhipicephalus sanguineus* only in UA (in canines and/or felines). *A. triste* was the only species found in NA, but it was also detected in 2.27% of the ticks found in UA, in the municipalities of San Nicolás, La Plata, General Lavalle and La Costa, attached to domestic animals or people, mainly related to transition strips with NA. No specimens of *A. tigrinum* (another *Rickettsia parkeri* vector) were recorded. Based on these results, we can conclude that within Buenos Aires province, the population with a high risk of contracting FM is the one found in areas where the vector, *A. triste*, is present. NA are the ones with the highest zoonotic risk, with being park rangers or researchers being the most exposed social group, but also the different anthropic activities,

bringing man closer to these zoonoses. Given the emerging nature of tick-borne infections, it is necessary to continue with ecoepidemiological studies of FM, design new strategies for active surveillance and aware health teams about rickettsioses with a multidisciplinary focus, understanding health as "One".