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New records of ticks (Acari: Ixodida) and *Rickettsia* species in El Salvador

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Abstract

The tick fauna of El Salvador is currently represented by 10 species of hard ticks (family Ixodidae) and 2 species of soft ticks (family Argasidae). This study aimed to report new and additional records of ticks and rickettsiae in El Salvador. During 2019-2021, a total of 216 specimens of ticks were collected from eight host species (domestic and wild animals) and in the environment among 15 geographic localities of El Salvador. Combining morphological and molecular analyses, tick specimens were identified into the following 11 tick species: *Amblyomma dissimile*, *Amblyomma longirostre*, *Amblyomma mixtum*, *Amblyomma ovale*, *Amblyomma cf. parvum*, *Amblyomma sabanerae*, *Amblyomma scutatum*, *Dermacentor panamensis*, *Ixodes boliviensis*, *Ornithodoros puertoricensis*, and *Otobius megnini*. In addition, one free-living nymph was morphologically and molecularly identified as *Ixodes* sp., although closely related to *Ixodes brunneus* and *Ixodes silvanus*. Three rickettsial agents of the spotted fever group were identified: *Rickettsia rhipicephali* in *D. panamensis*; a *Rickettsia* endosymbiont in *Ixodes boliviensis*; and *Rickettsia amblyommatis* in *A. cf. parvum*. This study reports the first records of *A. longirostre*, *D. panamensis*, *I. boliviensis*, *O. puertoricensis* and *O. megnini* in El Salvador. In addition, the agents *R. rhipicephali* and *Rickettsia* sp. endosymbiont of *I. boliviensis* are also reported for the first time in the country. With the present study, the current tick fauna of El Salvador increases to 17 species, being 13 Ixodidae and 4 Argasidae, including the addition of one genus to each of these two families (*Ixodes* and *Otobius*, respectively).

Keywords: *Amblyomma*; *Dermacentor*; *Ixodes*; *Ornithodoros*; *Otobius*; *Rickettsia rhipicephali*.

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