BACTÉRIAS DO GÊNERO Rickettsia EM CARRAPATOS COLETADOS DE AVES DA COSTA RICA

BACTERIA OF THE GENUS Rickettsia IN TICKS COLLECTED FROM WILD BIRDS IN COSTA RICA

M. Ogrzewalska¹, I. Literák², M. Čapek³, O. Sychra², C.V. Álvarez⁴, B. C. Rodríguez⁴, C. Prudencio⁵, T. Martins¹, A. Pinter⁶, M. B. Labruna¹

¹FMVZ-USP-Brazil
²Faculty of Veterinary Hygiene and Ecology, University of Veterinary and Pharmaceutical Sciences Brno, Brno, Czech Republic
³Academy of Sciences of the Czech Republic, Brno, Czech Republic
⁴Servicio Nacional de Salud Animal, Heredia, Costa Rica
⁵Instituto Adolfo Lutz-SP
⁶SUCEN–SP

The aim of this study was to document the presence Rickettsia spp. in ticks parasitizing wild birds in Costa Rica. Birds were trapped at various locations in Costa Rica in 2004, 2009, and 2010 and visually examined for the presence of ticks. Seven study sites on both the Caribbean and Pacific slopes of Costa Rica included Hitoy Cerere Biological Reserve, Barbilla National Park, Tapantí National Park, Rincón de la Vieja National Park, Braulio Carrillo National Park, and Zona Protectora Las Tablas. Ticks were identified and tested individually for the presence of Rickettsia spp. by polymerase chain reaction (PCR) using primers targeting fragments of the rickettsial genes gltA and ompA. PCR products were DNA-sequenced and analyzed in BLAST to determine similarities to known Rickettsia species. A total of 1878 birds of 217 species were examined. A total of 161 birds (8.6%) were infested with 388 ticks of two genera: Ixodes (170) and Amblyomma (218). Ixodes were represented for at last three species: Ixodes minor (10L), Ixodes species I (20L, 18N, 6A), Ixodes species II (4L, 3N), and Ixodes spp. (83L, 26N). Amblyomma were represented by A. longirostre (18L, 8N), A. calcaratum (6L, 4N), A. coelebs (4N), A. sabanerae (3L, 1N), A. maculatum (1N), A. ovale (1N), A. varium (2L) and 170 larvae identified only as Amblyomma spp. Twelve of 24 (50%) A. longirostre were found to be infected with Rickettsia amblyommii, and 2 of 4 A. sabanerae were found to be infected with Rickettsia bellii. Eight of 10 (80%) larval Ixodes minor were infected with endosimbiont previously found in Ixodes scapularis ticks. In the present work we provide new information about ticks parasitizing wild birds and in Costa Rica.
Key-words: Rickettsia, ticks, birds, Ixodes, Amblyomma

Financial support: FAPESP