TITLE: SEROLOGICAL, BACTERIOLOGICAL AND MOLECULAR STUDY OF LEPTOSPIROSIS IN WILD MAMMALS IN WESTERN AMAZONIA, BRAZIL

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ABSTRACT:

Leptospirosis stands out as a plural and neglected disease, which permeates various scenarios (urban, rural, and wild). This study aimed to contribute to the understanding of the epidemiology of leptospirosis in wild animals in Western Amazonia, Brazil. The animals were captured in four locations: Zoobotanical Park, Humaitá Experimental Farm of UFAC, Catuaba Experimental Farm of UFAC and Seringal Cachoeira in Xapuri, Acre. The Sherman and Tomahawk traps were employed and arranged on transects where food was offered daily. The trapped animals were anesthetized and sacrificed for collection of blood, kidney, bladder and urine. The microscopic agglutination test (MAT) was performed according to the OIE for the detection of anti-leptospira antibodies from the serum sampling by cardiac puncture. The live antigens formed a panel of 24 reference strains. The samples were cultured in EMJH liquid medium (Difco, BD, Franklin Lakes, NJ, USA), Fletcher (Difco, BD, Franklin Lakes, NJ, USA) and EMJH liquid medium supplemented with antibiotic cocktail called STAFF. Cultures were incubated at 28 ° C and evaluated weekly with darkfield microscopy for 30 weeks. PCR was performed in all samples for the detection of the LipL 32 gene, referred to as present only in pathogenic leptospires. LipL32 primers-45F (5'-AAG CAT TAC CGC TTG TTT TG-3 ') and LipL32-286R (5'-CTC GAA CCA TTT CAG CGA TT-3') were used. A total of 103 animals were captured, including small rodents and marsupials. Of these, 15 serum samples were submitted to MAT and only one was reactive showing the titre of 100 against serogroups Autumnalis and Australis. No bacterial isolation was obtained, which represents a non-unexpected result, due to well-known difficulties in the isolation of leptospira. More importantly, PCR produced 57 animals (55.34%) positive. These results strongly suggest that there is bacterial circulation in the species studied.

Keywords: isolation, *Leptospira* sp., PCR, serology

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