

Yellow fever virus investigation in tissues of vampire bats *Desmodus rotundus* during a wild yellow fever outbreak in Brazilian Atlantic Forest

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Abstract

In the last decade a large outbreak of Yellow Fever (YF) has been observed in Brazilian Atlantic Forest region, that is traditionally non-endemic area. In this scenario, the role of wild mammal species as YF reservoirs can be questioned, especially the hematophagous bat, endemic to the Atlantic Forest. So, the objective was to analyze molecularly the presence of the YF virus (YFV) in hematophagous bats during a YF outbreak in Brazil. Twenty-one samples were collected from seven adults' male hematophagous bats *Desmodus rotundus*. Due YFV is considered a viscerotropic and neurotropic virus, samples of liver, kidney and brain were collected and molecularly analyzed using the RT qPCR technique. The animals were captured according ethical protocols during a YF outbreak in Brazil in 2017 from a region of the Brazilian Atlantic Forest. The results revealed that the analyzed tissue samples were not infected with the YFV. The negative results for this species of bats allow us to infer that other animals may be reservoirs of this virus in this ecosystem and are probably not being identified. Therefore, health surveillance actions are essential to monitor the role of wild animals in the yellow fever dissemination in Brazilian Atlantic Forest and alert to possibility to new geographic amplification of areas where YF occur. This research encourages the news search about role of wild animals in the YFV transmission and reinforce the importance of epidemiological surveillance in the transmission of human infectious disease.

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