

TITLE: SURVEY OF POTENTIAL ZONOTIC VIRUSES ASSOCIATED WITH CAPYBARAS AND PSITTACIFORMES FECES SAMPLED IN SÃO PAULO STATE, BRAZIL

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ABSTRACT:

Continuous monitoring of natural reservoirs, including wildlife, is vital to successfully mitigate potential emerging zoonosis. Recent studies have been showed that the proportion of potentially zoonotic viruses is higher in mammals and birds. Capybaras (*Hydrochoerus hydrochaeris*) are the world's largest rodents and occur only in South America. Their population is growing, in frequent contact with humans, and well-established reservoirs for Brazilian spotted fever. Psittaciformes is one of the most conspicuous avian orders, with species characterized by longevity and advanced cognitive abilities. Brazil is the country with the largest number of representatives of the *Psittacidae* family. *Amazona aestiva* are traditionally kept as pets in the country and have been historically exploited internationally in the trade and trafficking of wild animals. The aim of the present study was to monitor potential zoonotic viruses circulating in fecal samples from capybaras and psittaciformes in order to obtain further knowledge on epidemiologic role in the transmission of zoonotic pathogens. From 2018 to 2020, a total of 337 and 35 fecal specimens were collected from capybaras and psittaciformes, respectively, in São Paulo metropolitan area. The samples were screened for Rotavirus group A (RVA) using commercial enzyme-linked immunosorbent assay (ELISA); Rotavirus groups B-J and Picobirnavirus (PBV) using polyacrylamide gel electrophoresis (PAGE); Adenovirus (AdV) using conventional nested-PCR, and SARS-CoV-2/Betacoronavirus using commercial RT-qPCR kit. All fecal samples tested from capybaras were negative for rotavirus groups A to J, PBV, AdV and SARS-CoV-2, suggesting that no active infection was present in these animals and that capybaras probably do not constitute a reservoir for these in the studied area. Three samples tested positive for AdV from *Amazona aestiva*. AdVs are known infect wild birds, which may act as a natural reservoir and play a role in the spreading of these viruses in the environment. The detailed role of sylvatic animais, such as capybaras and tropical birds, and transmission pathways of potential zoonotic enteric viruses needs to be futher investigated.

Keywords: capybaras, psittaciformes, zoonotic viruses, molecular surveillance

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