

TITLE: MOLECULAR DETECTION OF BRAZILIAN PORCUPINEPOX VIRUS IN *COENDOU PREHENSILIS* IN MATO GROSSO, BRAZIL.

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ABSTRACT:

A free-ranging wild adult female Brazilian porcupine (*Coendou prehensilis*) weighing 3kg was sent, in May 2021, by the Secretariat of the Environment (SEMA) to the Veterinary Hospital located in Federal University of Mato Grosso (HOVET-UFMT), Cuiabá, Brazil. The animal had edematous lesions and pustules on the face and perianal region. In the necropsied was observed on macroscopy, wrinkling, thickening and erythema in skin. Inguinal lymphnodes was slightly increased. On microscopy, there was moderate inflammatory infiltrate composed basically of histiocytes and a few foamy macrophages, there was generalized edema, accentuated and ballooning degeneration of the keratinocytes. The epidermis exhibited marked hyperplasia, distinct orthokeratotic hyperkeratosis, and presence of intracytoplasmic eosinophilic viral inclusions in keratinocytes. Due to the characteristics of the lesions, a molecular exam was requested to confirm the diagnosis of Poxvirus. For molecular characterization, the DNA of skin punch was extracted using the phenol-chloroform method. The polymerase chain reaction technique was using specific low-GC pan-poxvirus primers, that amplified a fragment of 231pb. For confirmation, the amplicon was purified using Agencourt® AMPure® XP System magnetic beads (Beckman Coulter), following the manufacturer's instructions and sequenced using an ABI-PRISM 3500 Genetic Analyzer (Life Technologies Corporation, USA). Subsequently, the sequences obtained were compared into the GenBank database using the Basic Local Alignment Search Tool (BLAST) program (<http://www.ncbi.nlm.nih.gov/blast/Blast.cgi>) on the NCBI server (<http://www.ncbi.nlm.nih.gov/BLAST>) and deposited with the identification #MZ709431. We observed a systemic poxvirus infection. Reports of Brazilian porcupine with lesions similar was related in Uberlândia, Minas Gerais, that proposed by phylogenetic analysis, the name of a new genus of the poxviridae family, subfamily Chordopoxvirinae, Brazilian porcupinepox virus (BPoPV). It's the first identification in the State of Mato Grosso, contributing to the epidemiological study of this virus. Furthermore, the zoonotic potential of this virus is still unknown and further studies are crucial.

Keywords: Chordopoxvirinae, molecular diagnosis, PCR, Poxviridae, viruses.