# HUMAN-MITE INTERACTION: A CASE OF *ORNITHONYSSUS BURSA* (MESOSTIGMATA: MACRONYSSIDAE) AND ASSOCIATED PATHOGENS IN BRAZIL

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**Abstract**

*Ornithonyssus bursa* (Berlese), commonly known as the "tropical fowl mite," is a hematophagous mite found in domestic and wild birds, which occasionally bites humans. Human infestation primarily occurs when abandoned nests are near homes or when humans handle infested birds. In Brazil, the first report of human dermatitis caused by *O. bursa* was in the municipality of Viamão, State of Rio Grande do Sul. Since then, this mite has been reported in the states of Espírito Santo, Maranhão, Paraíba, Paraná, Rio de Janeiro, Rio Grande do Sul, and São Paulo, with most records concentrated in the Southeast and South regions of the country. In this study, we report a new case of *O. bursa* biting humans, accompanied by molecular characterization and the detection of pathogens and endosymbionts. One of the co-authors, residing in Campinas, São Paulo, observed the construction of a pale-breasted thrush (*Turdus leucomelas*) nest in her residence, which eventually also served as a breeding site for a chick of the parasitic shiny cowbird (*Molothrus bonariensis*). After the nest was completely abandoned, the co-author began experiencing mite bites that caused inflammation. The mites were collected and sent to the Laboratory of Zoological Collections, Butantan Institute, for morphological and molecular identification, including pathogen screening. After extracting DNA from 50 *O. bursa* specimens, we obtained partial *cox1* gene sequences, which revealed a single haplotype when compared. Furthermore, these specimens were screened for Anaplasmataceae pathogens, resulting in the detection of *Ehrlichia* sp. and *Wolbachia* sp. strains. This case represents a new locality and host record for *O. bursa*. Additionally, based on the analyzed material, we were able to provide, for the first time, partial *cox1* sequences, as well as the first records of the pathogenic bacterium *Ehrlichia* and the endosymbiont *Wolbachia* in *O. bursa* specimens from Brazil.

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