

FIRST REPORT OF *Brevipalpus ferraguti* Ochoa & Beard (TENUIPALPIDAE) IN BRAZIL, AND ITS POSSIBLE ROLE AS VECTOR FOR SOME *Brevipalpus*-TRANSMITTED VIRUS

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The family Tenuipalpidae (flat mites or false spider mites) has a worldwide distribution, all species in the family are phytophagous, and some are considered economically damaging pest, being *Brevipalpus obovatus* Donnadieu, *Brevipalpus californicus* (Banks) and *Brevipalpus phoenicis* (Geijskes) historically known as plant virus vectors. Recently, with the introduction of new morphological and molecular criteria, it was verified that *B. phoenicis*, originally reported as vector of these viruses, is indeed a complex of several mite species, including *B. ferraguti*, described from *Myoporum laetum* (Scrophulariaceae), from Valencia, Spain. The taxonomic revision of *B. phoenicis* species complex showed the need to review the *Brevipalpus* species present in Brazil and which of them are associated with plants infected by *Brevipalpus* transmitted virus (BTVs). During a survey to identify the species associated with BTV plants in Brazil, scanning electron microscopy and differential interference contrast was used to study and identify the morphological characters of these mites, also phylogenetic analyses based on molecular markers (nuclear and mitochondrial DNA sequences) were performed. The results obtained by these different methods confirmed the presence of *Brevipalpus ferraguti*. It was registered in Campinas, Cordeirópolis, Piracicaba and Santa Bárbara d'Oeste, São Paulo state; Brasília, Distrito Federal; and Uruguaiana, Rio Grande do Sul state. *B. ferraguti* was found on *Cestrum nocturnum* (Solanaceae) and *Solanum violifolium* (Solanaceae), infected by *Cestrum nocturnum* ringspot virus (CnRSV), a tentative member of the genus *Dichorhavirus*; on *Solanum violifolium* with symptoms of *Solanum violifolium* ringspot virus (SvRSV); and on *Ligustrum* sp. (Oleaceae) with *Ligustrum* leprosis virus (LigLV), tentative members of the genus *Cilevirus*. In most cases the *Brevipalpus* populations in these plants are composed by a mixture of species, making it difficult to determine the possibility of *B. ferraguti* act as BTV vector in these cases. In this study *B. ferraguti* is reported for the first time in Brazil, in South America, and even outside its type locality. In addition, new host plants are reported for *B. ferraguti*. Further studies are required to confirm its role as a BTV vector.

Keywords: *Brevipalpus*-transmitted viruses, South America, Neotropical, Solanaceae, Oleaceae.

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