First Report of *Fingeriana dubia* Cavichioli Transmitting *Xylella fastidiosa* to Citrus

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Primeiro relato de *Fingeriana dubia* Cavichioli transmitindo *Xylella fastidiosa* para Citros

Este trabalho relata, pela primeira vez, a transmissão da bactéria *Xylella fastidiosa*, agente causal da clorose variegada dos citros, por *Fingeriana dubia* Cavichioli (Hemiptera: Cicadellidae: Cicadellinae). Uma planta de três testadas mostrou-se infectada e apresentou sintomas típicos da CVC aproximadamente 9 meses após a inoculação por esta espécie de cigarrinha.

Citrus Variegated Chlorosis (CVC) was first reported in Brazil in 1987, in sweet orange [*Citrus sinensis* (L.) Osbeck] orchards of North and Northeast regions of São Paulo State (Rossetti & de Negri, Laranja, 11:1, 1990). Later, the disease was found in other regions and today is present in most Brazilian citrus areas. In São Paulo State and Southwest of Minas Gerais State ('Triângulo Mineiro' region), 43.3 % of the sweet orange trees show CVC symptoms (www.fundecitrus.com.br). The main vectors of *Xylella fastidiosa* are leafhoppers (Hemiptera: Cicadellidae) from the subfamily Cicadellinae, commonly known as sharpshooters. This taxon of leafhoppers is diverse and several species have been recorded in citrus orchards of São Paulo State (Yamamoto & Gravena, An. Soc. Entomol. Brasil, 29:169. 2000; Marucci *et al.*, Rev. Bras. Entomol. 46:149. 2002), and shown experimentally to transmit *Xylella fastidiosa* to citrus (Roberto *et al*., Fitopatol. Bras. 21:517. 1996; Lopes, Laranja 20:329. 1999; Yamamoto *et al.*, Summa Phytopathol. 28:178. 2002). Because *Fingeriana dubia* Cavichioli (Figure 1) is a new Cicadellinae species found in coffee and citrus orchards in Paraná, São Paulo and Minas Gerais States (Cavichioli, Rev. Bras. Zool., 20:247. 2003), we conducted this experiment to verify its ability to transmit *X. fastidiosa* to citrus. The specimens of *F. dubia* used in the transmission experiment were captured in a citrus farm and caged on a CVC diseased plant for a 48-h acquisition access period (AAP). After AAP, groups of adults were confined on healthy seedlings of 'Caipira' sweet orange variety for a 48-h inoculation access period (IAP). Because of the low *D. dubia* abundance in the field, we inoculated only three test plants (10 insects per plant). After IAP, the specimens were killed and the test plants transferred to 12-liter pots, which were maintained inside an insect proof greenhouse under periodical treatments with insecticides. One of the three inoculated plants showed typical CVC disease symptoms after approximately 9 months. The presence of *X. fastidiosa* was confirmed by PCR using specific primers (Pooler & Hartung, Curr. Microbiol. 31:377. 1995). None of the 30 non-inoculated test plants (negative controls) showed symptoms or infection by *X. fastidiosa*. This result demonstrates experimentally that *F. dubia* transmits the CVC pathogen. Further studies on host plants and population dynamics of this sharpshooter are necessary to determine its epidemiological importance as a vector of *X. fastidiosa* in citrus and other possibly affected crops.

FIG. 1 – Adult of *Fingeriana dubia* Cavichioli.

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