

Entomofauna of Hemiptera Auchenorrhyncha in chayote (*Sechium edule*) fields with chayote witches'-broom (ChWB) disease

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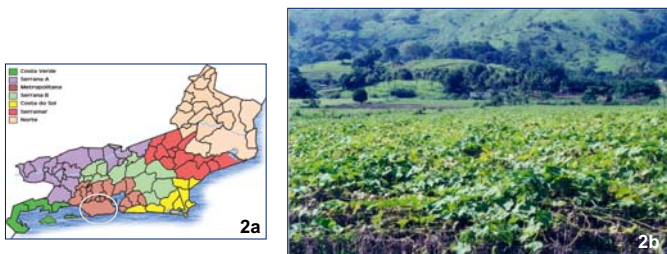
Introduction

Chayote is a commercially important vegetable crop which is affected by chayote witches'-broom (ChWB) disease, associated with 16SrIII-J phytoplasma. Symptoms exhibited by diseased plants (Fig. 1a) include fruit malformation (Fig. 1b). The phytoplasma was also discovered in diseased plants of *Momordica charantia* (Fig. 1c) growing as weeds in fields of chayote in Brazil. It is probable that *M. charantia* is the main reservoir of chayote witches'-broom phytoplasma (ChWBIII), and it is important to investigate the presence of putative insect vectors. In the growing season of 2001, yellow sticky traps were used to collect leafhoppers in commercial chayote fields with ChWB. In 2002, throughout the new growing season, Malaise trap was installed in order to allow investigation of the Auchenorrhyncha fauna in the chayote plots.



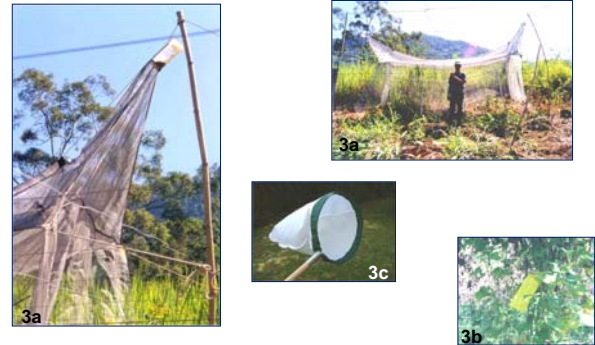
Objectives

At the location of Mendanha (State of Rio de Janeiro, Fig. 2a), a preliminary survey was conducted to examine the presence of Hemiptera Auchenorrhyncha, in commercial chayote fields (Fig. 2b) with ChWB, in order to identify the leafhopper fauna.



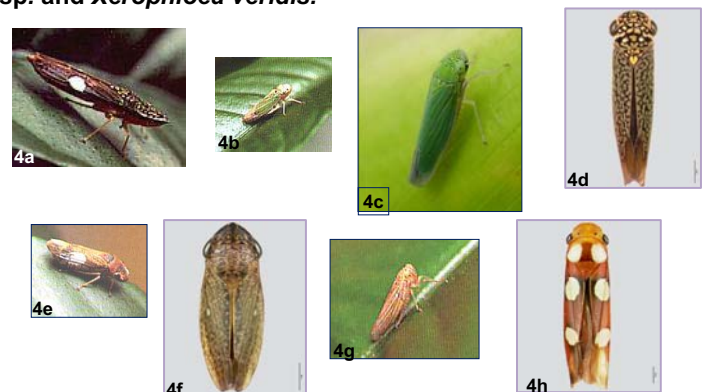
Material and Methods

New chayote commercial plantings established in March 2001, received yellow sticky traps (double face, 10 cm x 21 cm; *Biocontrolle Inc.*), that were distributed in the field, following plant height development. When the canopy of the plants reached trellises, sticky traps were located 2 m above ground. In the following growing season - March 2002 - the presence of leafhoppers was investigated by using yellow sticky traps (Fig. 3a), Malaise trap (Fig. 3b) and sweep net (Fig. 3c).



Results

Specimens examined could be identified to the family/subfamily levels, distributed among Achilidae, Agallinae, Cicadellidae, Cicadellinae, Cixiidae, Delphacidae, Delthocephalinae, Gyponinae Membracidae, Nogodinidae and Thyphlocibinae. Collected species identified were *Acrogonia* sp. (Fig. 4a), *Balclutha hebe*, *Bucephalogonia xanthopis* (Fig. 4b), *Copidonus hyalipennis*, *Curtara concava*, *Curtara curtara*, *Fonsecaiulus* sp., *Hortensia similis* (Fig. 4c), *Ileopeltans aberrans*, *Macugonalia cavifrons* (Fig. 4d), *Oncometopia facialis* (Fig. 4e), *Oragua triplehorni* (Fig. 4f), *Plesiommata corniculata* (Fig. 4g) *Scaphytopius (Convelinus) marginelineatos*, *Scopogonalia altinani*, *Tettisama quinquemaculata* (Fig. 4h), *Xerophloea* sp. and *Xerophloea veridis*.



Discussion

ChWB is found in the major producing states of Brazil. The epidemiology of ChWB is poorly known, except for the fact that *M. charantia* is considered the main reservoir of the phytoplasma. In fields next to chayote plantings, 16SrIII-J phytoplasma was found associated with pumpkin yellows, what suggests the involvement of insect vectors in the dissemination of 16SrIII-J phytoplasma among species of the family Cucurbitaceae. To our knowledge, this preliminary study consists in the first attempt to identify the leafhopper fauna present in chayote fields with ChWB. Efforts should be addressed to search for potential vectors and, to gain understanding of the spread of ChWBIII phytoplasma to chayote and other plant species.