SCIENTIFIC NOTE

First Report of the Citrus Hindu Mite, *Schizotetranychus hindustanicus* (Hirst) (Prostigmata: Tetranychidae), in Brazil

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ABSTRACT - The citrus Hindu mite, *Schizotetranychus hindustanicus* (Hirst), is reported for the first time in Brazil and for the second time in South America. Mite specimens were collected from citrus in the municipality of Boa Vista, State of Roraima, northern Brazil. Symptoms associated with *S. hindustanicus* infestations on citrus are described. The importance of avoiding dissemination of this mite to the main citrus production areas in Brazil is discussed.

KEY WORDS: Lemon, spider mite, South America, Roraima, plant protection

Some mites are important pests of citrus around the world (McMurtry 1985, Yaninek & Moraes 1991, McCoy 1996). Considering the importance of citrus in Brazil, extensive information has been published about the mites of this crop in the country. The main phytophagous citrus mites in Brazil belong to Tenuipalpidae and Eriophyidae; damage by Tetranychidae mites is only occasionally observed (Moraes & Flechtmann 2008).

In February/March 2008, the presence of uniformly distributed circular whitish spots (1-3 mm in diameter) was observed on leaves and fruits of "tahiti" and "galeguinho" lemon trees (Fig 1) from small farms and domiciliary orchards in urban areas of the municipality of Boa Vista, Roraima, sometimes over the entire canopy. Most often, the spots were observed on fruits and upper leaf surface, but spots were never found on orange trees. Samples of attacked leaves were collected for detailed examination in the Laboratório de Fitopatologia e Entomologia, Embrapa Roraima, at Boa Vista, RR.

Each spot corresponded to the webbing that protected a colony of adults and immatures of a yellowish mite that had dark internal spots on the sides of the idiosoma. A sample of those mites was collected in 70% ethanol and sent to the Laboratório de Quarentena Vegetal, Embrapa Recursos Genéticos e Biotecnologia, in Brasília, DF, where they were mounted on microscopic slides and identified as *Schizotetranychus hindustanicus* (Hirst) (Prostigmata: Tetranychidae). The main taxonomic characters used to identify the genus and species are presented (Fig 2), and the Regulations of the Ministry of Agriculture from Brazil guiding records of new pests into the country were strictly followed.

This species, mentioned in the English literature as citrus Hindu mite or citrus nest-webbing mite, was originally described from citrus from Coimbatore, southern India (Hirst 1924). For almost 80 years after its description, *S. hindustanicus* was known only from India, until Quirós & Geraud-Pouey (unpubl.) reported it in Zulia, northwestern Venezuela. No further records of this species in other countries have been published.

Symptoms observed in Brazil are similar to those described by Quirós & Geraud-Poney (unpubl.) in Venezuela. Those authors reported that symptoms first appeared on the upper leaf surface, along the main rib, later extending to the entire leaf blade; on fruits, the females webbed over concavities or depressions of the rind; attacked fruits became uniformly silvered and hard when the infestation was extensive (Quirós & Geraud-Poney unpubl.).

The origin of the common name "nest-webbing mite" is related to the behavior of females, which spin circular webs under which its eggs are laid. Each nest increases in diameter as the colony underneath grows; larvae and nymphs are found only under the web, whereas adults are found under the nest or on the surrounding areas (Quirós & Geraud-Poney unpubl.).

Severe damage to citrus leaves and fruits, in domiciliary or commercial orchards, has been observed in Venezuela (Quirós & Geraud-Poney unpubl.), what should affect the commercial value of infested fruits, although nothing has been published about the resulting economic impact.

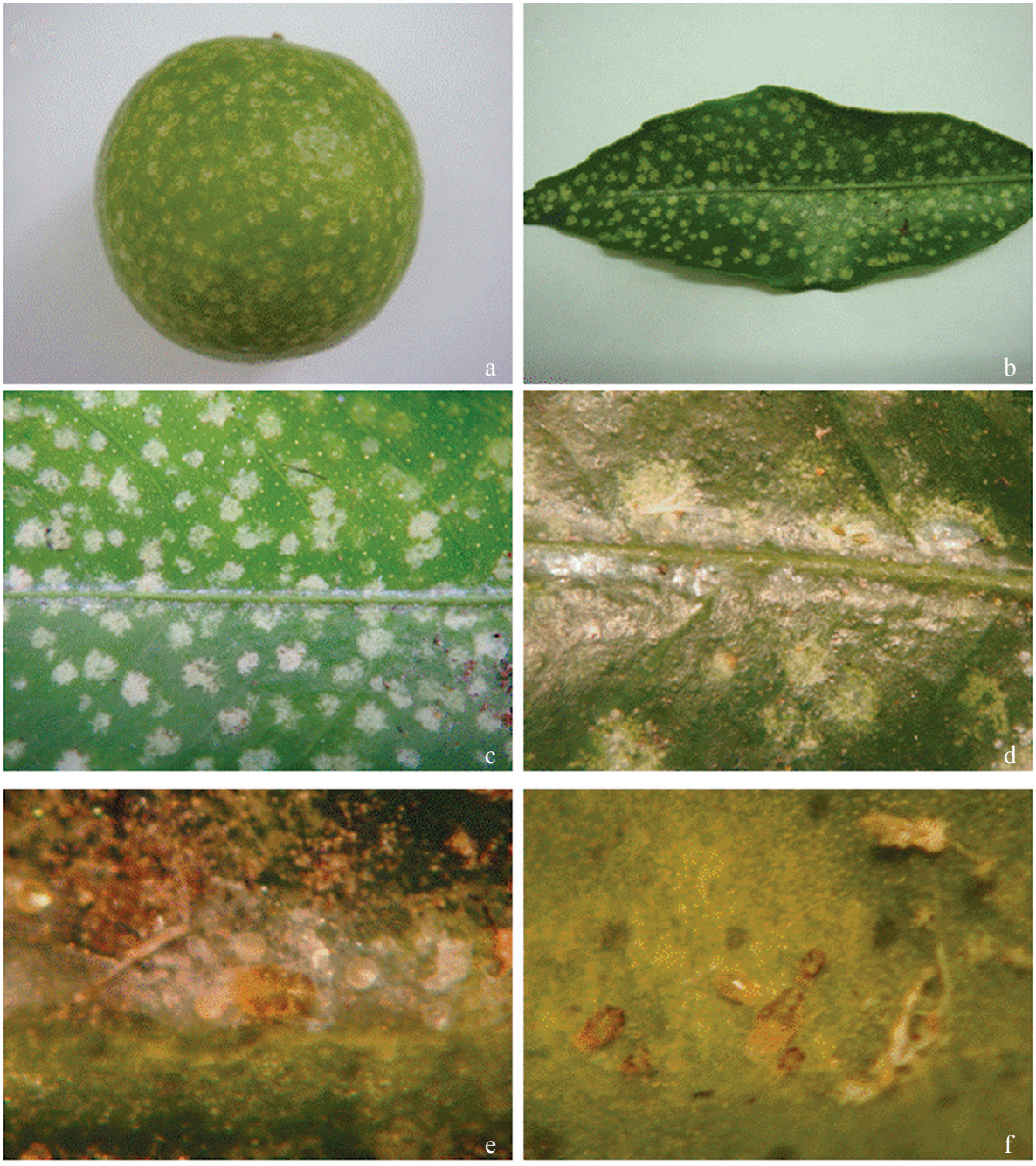

Fig 1 The Citrus Hindu Mite, *Schizotetranychus hindustanicus* - colonies on "tahiti" and "galeguinho" lemon, Boa Vista, Roraima, Brazil. a) symptoms on fruit; b) and c) distribution of colonies on fruits; d) distribution of colonies on leaves along mid-rib; e) colony in initial stage of establishment; f) established colony shown after removal of web. (Photos: A L Marsaro Jr)

Brazil is the largest citrus producer and most of the production in concentrated in the southeastern and northeastern parts of the country. It is also the largest citrus exporter, but most of the exportation is done as concentrated orange juice. Lately, exportation of fresh fruits has increased significantly, especially of lemons (Toda Fruta 2005). Thus, the dispersal of *S. hindustanicus* to the main citrus production areas in Brazil could cause high economic impact and/or commercial restrictions due to sanitary barriers.

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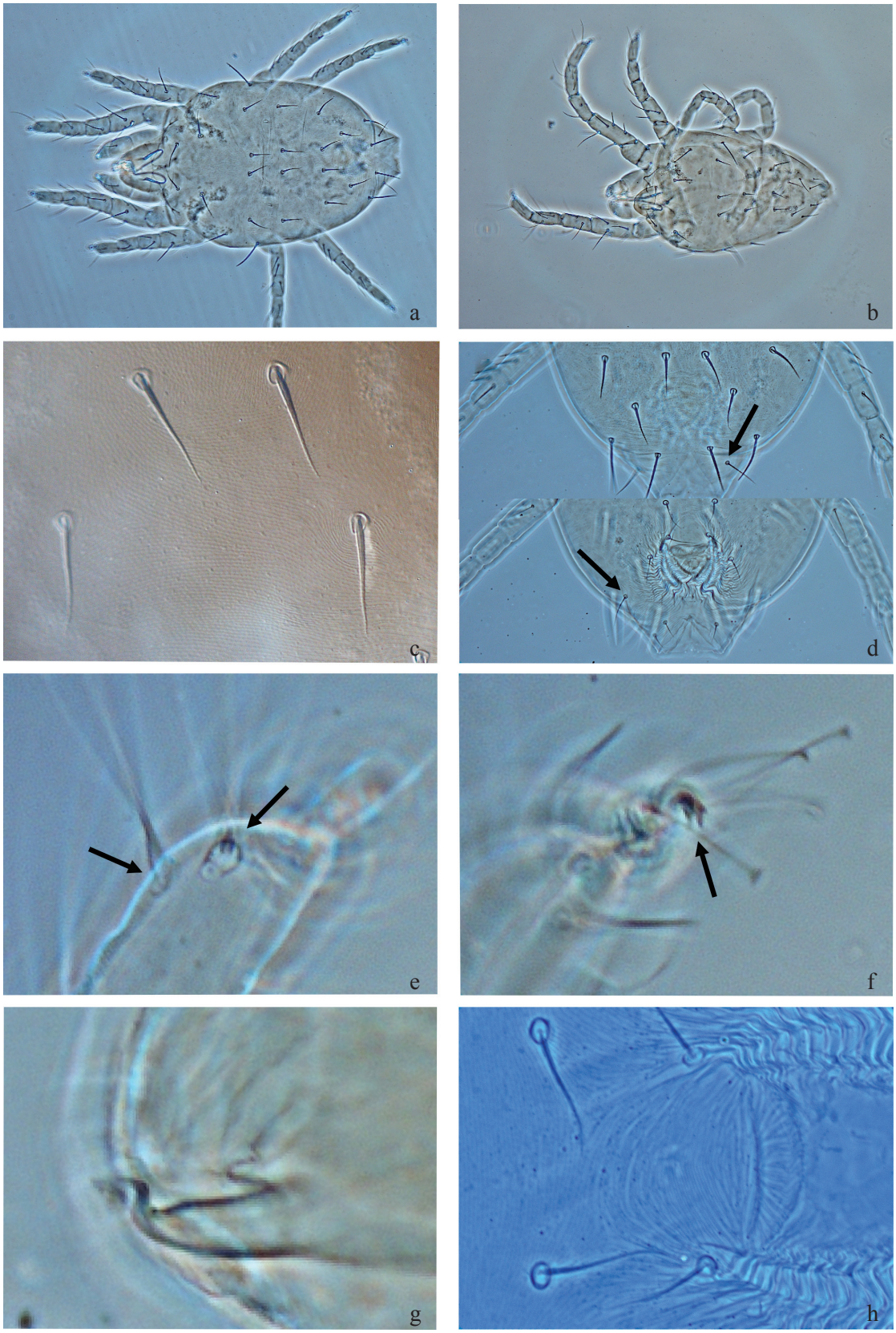

Fig 2 The Citrus Hindu Mite, *Schizotetranychus hindustanicus*: micrographs under phase contrast microscopy. a) dorsum of female; b) dorsum of male; c) duplex setae on tarsus I; d) two pairs of para-anal setae; e) aedeago; f) empodium bifid; g) dorsal striation between *e* and *f* setae; h) arched pregenital striation. (Photos: F J Ferragut)

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