



## First Report of *Eutetranychus banksi* (McGregor) on Mahogany (*Swietenia macrophylla* King)

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### ABSTRACT

Texas citrus mite, *Eutetranychus banksi* (McGregor) (Acari: Tetranychidae: Tetranychinae), considered a serious pest of the citrus crop in some countries, is reported for the first time on mahogany seedlings (*Swietenia macrophylla* King, Meliaceae) in Brazil, causing foliar tanning with chlorotic spots and premature fall of leaves.

**Keywords:** Texas citrus mite, acarology, forest pest.

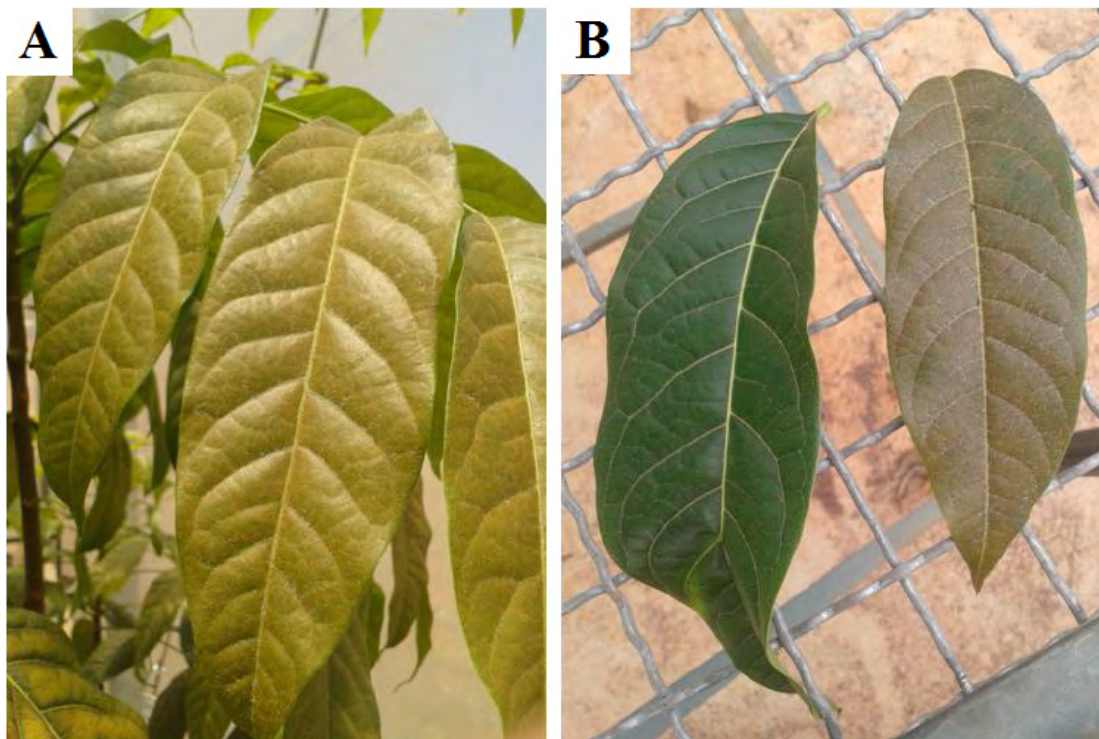
Mahogany (*Swietenia macrophylla* King), belonging to the family Meliaceae, is a tree species native to the Amazon region and greatly valued for its high quality wood. Large scale planting of this tree is limited due to the occurrence of *Hypsipyla grandella* Zeller (Lepidoptera: Pyralidae), whose caterpillar feeds mainly on the apical bud of the plant, causing bifurcations (Carvalho, 2007). Besides this insect, few organisms have been reported associated with mahogany. This paper aims to report on the occurrence of the Texas citrus mite, *Eutetranychus banksi* (McGregor) (Acari: Tetranychidae: Tetranychinae), on *S. macrophylla* leaves in Brasília, Federal District, Brazil.

When analyzing leaves of mahogany seedlings in a greenhouse with shade cloth as part of a study conducted in Brasília (15°43'49.8"S, 47°53'59.1"W), a large number of mites were found on the adaxial surface of the leaf. In total, 200 seedlings which were approximately eight months old were carried in vases contained PlantMax® substrate. The seedlings were watered daily and fertilized quarterly with Osmocote® fertilizer. The samples were examined

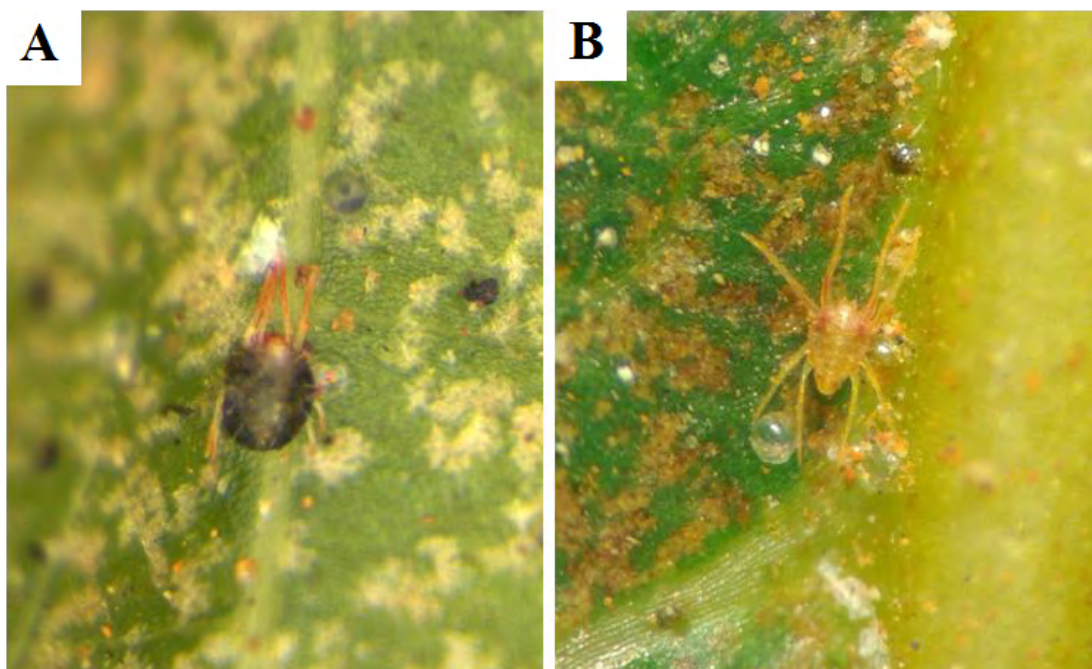
under a stereomicroscope, collected and preserved in Hoyer's medium on glass slides (Moraes & Flechtmann, 2008). The mites were identified under the phase-contrast microscope and compared with the original description (McGregor, 1914, 1935). Voucher specimens were deposited in the Laboratory of Entomology and Acarology, ESALQ, Universidade de São Paulo, Piracicaba, São Paulo, Brazil.

The main damage caused by these mites is foliar tanning (Figure 1), with chlorotic spots and silvery appearance, due to the large amount of exuviae. Under intense attack, some leaves fall. Symptoms were observed most frequently on the lower portion of the seedlings, especially in the older leaves. In total, 53 seedlings were attacked by the mite (26,5% of the seedlings).

*Eutetranychus banksi* was described by McGregor (1914) from Orlando, Florida, USA, associated with two hosts – *Ricinus communis* L. (Euphorbiaceae) and *Mucuna pruriens* (L.) DC. (Leguminosae). In Brazil, the species was first reported on citrus in Bahia (Bondar, 1928). It is currently known by more than 20 countries and 109 hosts (Migeon & Dorkeld, 2017).



**Figure 1.** *Eutetranychus banksi* on mahogany leaves. A) Yellowing and leaf bronzing caused by the attack of *E. banksi*. B) Comparison between a healthy (left) and a damaged leaf (right).



**Figure 2.** Female (A) and male (B) adults of *Eutetranychus banksi* on mahogany leaves.

The eggs of this mite are flat and disk-shaped with a thin edge. They range in color from light yellow to light green. Nymphs are very similar to females in shape and color. Females are broad, sturdy and flat, with moderately strong legs (Figure 2A). The coloration ranges from brownish green to dark brown, with greenish to brown dots and stripes near the lateral margins of the body. Males, on the other hand, have a triangular shaped body and are smaller than females, with slightly larger legs (Figure 2B). They range in coloration from bronzed to light brown with dark to greenish dots and stripes on the marginal side of the body.

*Eutetranychus banksi* presents a high morphological variation between populations and hosts, which often leads to erroneous identifications. In addition, variations may occur in the same population, especially in relation to the length and shape of the dorsal setae (Mattos & Feres, 2009), thus being considered a polytypic species. *E. orientalis* Klein, 1936, is similar to *E. banksi*; still, the differences can be observed in the pattern distribution of the female idiosome dorsal setae – *E. orientalis* forms a square figure and *E. banksi* forms a trapeze figure – and in the legs – *E. orientalis* shows the insertion of the most dorsal setae on tubers (Ferragut et al., 2013).

This mite is considered a serious pest of the citrus and others crops (Moraes & Flechtmann, 2008; Vacante, 2010) and it has already been registered on some hosts in Brazil besides citrus, including cultivated hosts like *Ilex paraguariensis* St. Hil. (Aquifoliaceae) and native hosts like *Pachira aquatica* Aubl. (Bombacaceae), causing yellowing leaf or no apparent damage (Ferla et al., 2005; Feres et al., 2009; Moraes & Flechtmann, 2008). In the family Meliaceae, *E. banksi* has been found on *Melia azedarach* L. and *Trichilia casaretti* C. DC. in Brazil (Demite et al., 2013). This is the first report of this mite species on *S. macrophylla*.

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