

Triplaris americana L. (Polygonaceae), a New Host Plant For *Aethalion reticulatum* (Linnaeus, 1767) (Hemiptera: Aethalionidae)

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ABSTRACT

Triplaris americana is a plant that has been applied as ornamental specie and also as natural medicine. Adults and immature stages of *Aethalion reticulatum* were observed colonizing specimens of this plant in Sinop, MT, Brazil, which represent the first record of this leafhopper colonizing this specie.

Key words: Ants, bees, geographic distribution, honeydew

INTRODUCTION

Triplaris americana Linnaeus is a plant of the family Polygonaceae which has about 40 genera and 1,100 species reported around the world. In Brazil there are seven genera and about 90 species recorded (Souza and Lorenzi 2012).

It is considered a species which presents wide geographical distribution with greater concentration in the Northern Hemisphere (Souza and Lorenzi 2012), In Brazil it is known as “pau-formiga”, “pau-de-formiga”, “pau-de-novato”, “formigueiro” and “taxizeiro” (Lorenzi 2000).

Triplaris americana is important in the urban landscaping industry (Lorenzi 2000) and also used as a medicinal plant for the treatment of various diseases (Arbelaez 1975; Dewalt et al. 1999).

Its pollination is performed by bees and dispersion by anemochory, due to winged fruits, which can be dispersed over considerable distances. Its trunk is internally hollow and houses of *Pseudomyrmex*

ants that attack aggressors, herbivores and even plants touching its trunk (Flora of Santa Catarina). *Aethalion reticulatum* (Linnaeus 1767) (Hemiptera: Aethalionidae) is a species of leafhopper, popularly known as “cigarrinha do pedúnculo”, that feeds on the sap of plants, especially fruit, which can hinder plant and fruit growth.

Infestations of this species in agricultural areas can result in production losses (Araujo et al. 2010), and recently *A. reticulatum* has been observed feeding on eucalyptus plants, indicating its supposed migration and adaptation to this new host and its potential to become a forest pest (Menezes et al. 2012).

The association of *A. reticulatum* with other insects, especially bees and ants is commonly observed, since these Hymenoptera benefit from this relationship, feeding on a sugary compound (honeydew) expelled by the leafhoppers (Brown 1976; Baronio et al. 2012). Thus, this study sought to extend the geographical distribution records of

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the leafhopper (*A. reticulatum*) and reports *T. americana* as a host plant of this insect.

Adults and immature of *A. reticulatum* were observed colonizing plants of *T. americana* (Fig. 1 A, B and C) as of March 2013 on the campus of the Federal University of Mato Grosso (UFMT) (11° 51' 50" S Latitude and 55° 28' 58" W Longitude), located in the municipality of Sinop, Mato Grosso State, Brazil (Fig. 2 A). The weather variables rainfall, relative humidity and temperature were recorded from the weather

station situated in the campus of UFMT - Sinop.

After one year of weekly monitoring, it was found that *A. reticulatum* remained associated with *T. americana* during the entire period.

Some specimens were collected, fixed, labeled (Fig. 2 B) and species identified by Prof. Dr. Evaldo Martins Pires of the Federal University of Mato Grosso, and then deposited in the Southern Amazon Biological Collection ("Acervo Biológico da Amazônia Meridional" - ABAM) of the UFMT.



Figure 1 - (A and B) Adults and immature of *Aethalion reticulatum*, and specimens of *Trigona spinipes* (Hymenoptera: Apidae) on branches of *T. americana*. (C) Adults and nymphs of *A. reticulatum* and ants *Camponotus* sp. (D) Detail of the egg mass of *A. reticulatum* on branches of *T. americana*.

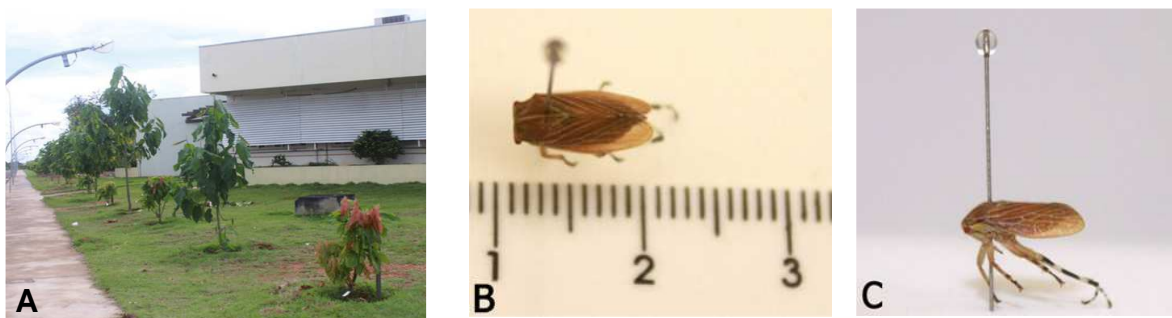


Figure 2 - (A) Plants of *Triplaris americana* on the Campus of UFMT – Sinop. (B and C) Dorsal and lateral views of *Aethalion reticulatum*.

This leafhopper was observed feeding on twigs and branches of *T. americana* in association with its symbionts *Trigona spinipes* Fabricius 1973 (Hymenoptera: Apidae), popularly known as the “Arapuá bee”, and ants of the genus *Camponotus* that fed on the excrement released by *A. reticulatum* (honeydew).

Changes in the number of individuals throughout the monitoring period did not draw the attention of researchers since the population remained constant and the presence of all life cycle stages were observed, even during the dry (April/2013 to October/2013) and rainy seasons (March/2014 to November/2013). Precipitation and relative humidity characterize these two periods (Fig. 3A and B), and even during periods of low rainfall and low RH, the period in which the plant may be more susceptible to attack and consequent damage caused by insects due to water deficit that can reduce plant defense mechanisms (Lawrence et al. 1991), no lesions on *T. Americana* were observed, or changes in population number. The temperature showed little variation during the year of monitoring (Fig. 3 C), which characterizes the municipality of Sinop as warm throughout the year, therefore this variable may be disregarded as able to promote changes in the size of insect populations.

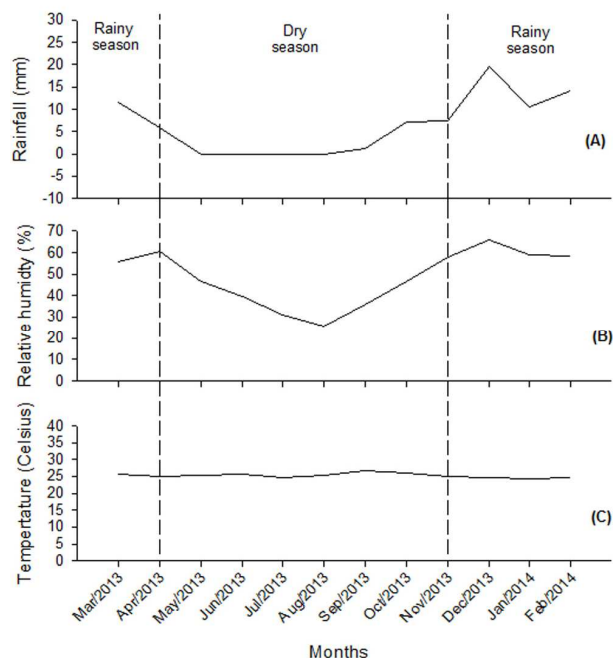


Figure 3 - Weather variables: (A) rainfall, (B) relative humidity and (C) temperature with evidence to dry and rainy seasons recorded in Sinop, Mato Grosso State, Brazil.

In both dry as wet seasons, no damage was observed on the plant due to the presence of *A. reticulatum*, and thus *T. americana* may be an important source of food and shelter, as well as a location for breeding of this species so that it may be considered a host plant for this Hemiptera.

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