

## Notas Científicas

### Occurrence of *Quesada gigas* on *Schizolobium amazonicum* trees in Maranhão and Pará States, Brazil

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**Abstract** – An infestation of *Quesada gigas* Olivier (Hemiptera: Cicadidae) on “paricá” *Schizolobium amazonicum* (Huber) Ducken (Fabales: Fabaceae) was reported in the Municipalities of Itinga, Maranhão State and Paragominas, Pará State. Nymphs of this insect on roots and adults and exuvias on trunks of the plant were observed. Exit holes of nymphs in the soil were also observed. The occurrence of *Q. gigas* on *S. amazonicum* shows the damage potential of this species and the necessity of developing integrated management programs for species of this group, specially in reforested areas with “paricá”.

**Index terms:** Cicadidae, cicada, reforestation, soil pest, paricá.

### Ocorrência de *Quesada gigas* em *Schizolobium amazonicum* em municípios do Maranhão e do Pará

**Resumo** – Há relatos sobre a infestação de *Quesada gigas* Olivier (Hemiptera: Cicadidae) em paricá *Schizolobium amazonicum* (Huber) Ducken (Fabales: Fabaceae) nos municípios de Itinga, Estado do Maranhão e Paragominas, Estado do Pará. Observaram-se ninfas nas raízes e adultos e exúvias nos troncos da planta. Orifícios no solo, de saída de ninfas móveis dessa cigarra também foram verificados. A ocorrência de *Q. gigas* em *S. amazonicum* mostra o potencial de danos da espécie e a necessidade de se desenvolver programas de manejo integrado de espécies desse grupo, principalmente *Q. gigas*, em áreas reflorestadas com paricá.

**Termos para indexação:** Cicadidae, cigarras, reflorestamento, pragas de solo, paricá.

Cicadas are hemimetabolic insects that usually feed on sap of native plants. However, plantations in extensive areas with a predominant species can lead to biological unbalance which favors the adaptation of species of this group to such conditions (Martinelli & Zucchi, 1997a; Reis et al., 2002).

Researches on cicadas in Brazil have been restricted to species of this group associated to coffee plants (*Coffea arabica* L.) due to damage caused by these insects in plantations in the states of Minas Gerais, São Paulo and Paraná. This situation has led to studies on taxonomy, biology, geographical distribution and host preference aiming to minimize damage potential of these insects (Martinelli & Zucchi, 1997a). The elaboration of identification keys made possible to recognize species of cicada associated to coffee plants (Martinelli & Zucchi, 1997a) and monitoring programs have been developed to determine the geographical distribution of

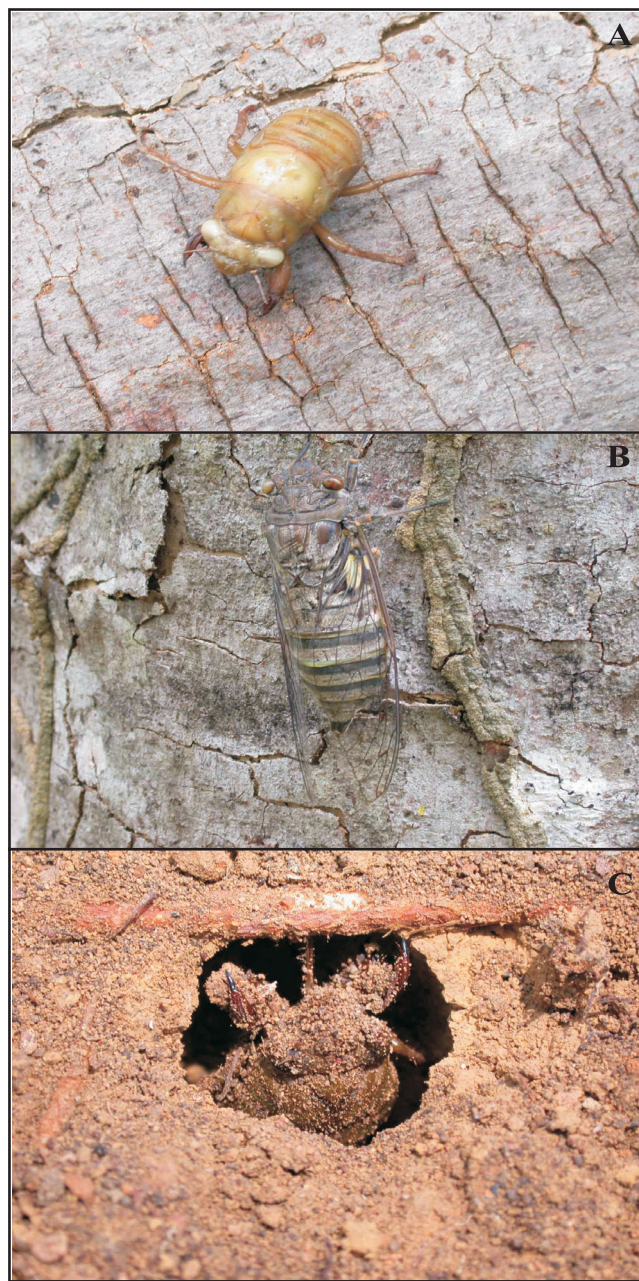
these species in Brazil (Martinelli, 1990). The cicada *Quesada gigas* Olivier (Hemiptera: Cicadidae) is the main pest of this group in the coffee culture, but this species have also been reported in other hosts such as *Acacia farnesiana*, *Caesalpinia peltophoroides*, *Cassia* spp., *Morus alba*, *American persea*, *Piptadenia* sp. and *Theobroma cacao* (Martinelli & Zucchi, 1997b).

*Q. gigas* presents the largest geographical distribution and it is the better studied species of the ten most important of this group in the American continent. Besides, it is the only species which has been registered in North America, the Antillas and in most Brazilian States where coffee is produced (Martinelli & Zucchi, 1987). Plants attacked by cicada nymphs present chlorosis of leaves in branch extremities, losses of leaves, nude branches, leaves only in the apexes, low production and death of plants (Reis et al., 2002).



An infestation of a cicada species was registered in November 2002 in a reforested area with *Schizolobium amazonicum* (Huber) Ducken (Fabales: Fabaceae) plants in Itinga, Maranhão State and Paragominas, Pará State with severe damage to trees in 15 hectares. Immobile nymphs and adults (Figure 1) of this insect were observed on trunks of trees as well as circular

holes (Figure 2A) in the soil around trunks of *S. amazonicum* trees, which are exit holes of movable nymphs of cicadas. After leaving the soil, these nymphs turn to an immobile stage and after a final molting the adult emerges. Such holes demonstrated that these nymphs were attacking *S. amazonicum* roots (Figure 1C), leading to a fall of leaves and reduction on growth (Figure 2B). This



**Figure 1.** Nymph (A) and adult (B) of *Quesada gigas* on a trunk of *Schizolobium amazonicum* and nymph (C) of this insect feeding on root of this plant.



**Figure 2.** Exit holes of *Quesada gigas* (A), plants of *Schizolobium amazonicum* with symptoms of attack by this insect (B) and trap to capture nymphs (C).



damage is similar to that observed in coffee trees with emphasized symptoms during periods of water deficit and with insignificant blooming, low fruit production and tree death if this pest is not controlled (Reis et al., 2002).

Adults cicadas were manually collected in trunks of *S. amazonicum* and seemed to belong to a single species. Movable nymphs of this insect were collected with traps (Figure 2C) made of a two-meter-diameter cloth screen around *S. amazonicum* trees when they left the soil through exit holes. Adults of this cicada were killed, fixed in alcohol 70% and sent to Universidade Estadual Paulista for identification. Insects were identified as *Q. gigas* and they represent the first report of this species on *S. amazonicum* in Itinga, Maranhão State and Paragominas, Pará State.

The substitution of native hosts by monoculture in extensive areas and cultivation during long periods can be one of the reasons which explains biological unbalance presented by some insects such as cicadas especially with species of the family Cicadidae. These insects are adapting to the new conditions where they can obtain food from cultivated plants (Martinelli & Zucchi, 1997b).

The fact that studies on cicadas have been usually restricted to species associated to coffee trees (*Coffea* spp.) in Brazil shows the necessity of developing researches to identify the occurrence and to minimize damages by these insects to other cultures. The potential of damage of *Q. gigas* in *S. amazonicum* needs to be considered because the area reforested with this plant is over 20,000 hectares in the States of Maranhão and Pará and damages to trees attacked by this insect were

very severe. It also shows the necessity of studies on the efficiency of insecticides to be used in forest areas to control this pest in emergence situations, giving priority to low toxicity products in order to reduce environmental impacts of these operations.

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