

New Record of *Leptoglossus zonatus* (Dallas) (Heteroptera: Coreidae) Attacking Starfruit (*Averrhoa carambola* L.) in Sinop, Mato Grosso, Brazil

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Abstract. *Leptoglossus zonatus* (Dallas) (Heteroptera: Coreidae) is a phytophagous bug widely found in the American continent. This species is associated with different crops, which they use to establish due to the favorable food supply and conditions for their development. The aim of this work was to record the occurrence of *L. zonatus* attacking starfruit in Sinop, Mato Grosso, Brazil and report a new host plant to this bug species. Adults and immatures were found between September and November of 2009 feeding on starfruit (*Averrhoa carambola* L.) in Sinop, Mato Grosso, Brazil. The attack affected the fruit quality, allowing other insects, such as some Phoridae species, to access to the fruit secretions through the hole made by the rostrum of this bug and then causing damage to the quality of the fruit.

Keywords: Pest; starfruit; true bug

Novo Registro de *Leptoglossus zonatus* (Dallas) (Heteroptera: Coreidae) Atacando Frutos de carambola (*Averrhoa carambola* L.) em Sinop, Mato Grosso, Brasil

Resumo. *Leptoglossus zonatus* (Dallas) (Heteroptera: Coreidae) um percevejo fitófago amplamente encontrado no continente Americano. Essa espécie encontra-se associada a diversas culturas agrícolas, onde se estabelecem devido a oferta de alimento e de condições favoráveis ao seu desenvolvimento. O objetivo foi registrar a ocorrência de *L. zonatus* atacando frutos de carambola em Sinop, Mato Grosso, Brasil e relatar nova planta hospedeira para esse percevejo. Adultos e imaturos foram encontrados durante os meses de setembro a novembro de 2009, atacando frutos de carambola (*Averrhoa carambola* L.) no município de Sinop, Mato Grosso, Brasil. O ataque desse percevejo prejudica a qualidade dos frutos, permitindo que outros insetos como dípteros da família Phoridae tenham acesso a secreções do fruto pelo orifício feito pelo estilete desse percevejo, causando assim, danos na qualidade da carambola.

Palavras-chave: Carambola; percevejo; praga

L*eptoglossus zonatus* (Dallas) (Heteroptera: Coreidae) is a species of coreid bug usually found in southeast of United States of America, Mexico and Central and South America (ALLEN 1969; SCHAEFER & PANIZZI 2000; HENNE *et al.* 2003). This species is related damaging different plants such as cotton (*Gossypium hirsutum* L.), egg plant (*Solanum melogena* L.), citrus (*Citrus* spp.), bean (*Phaseolus vulgaris* L.), guava (*Psidium guajava* L.), passion fruit (*Passiflora edulis* Sims), water melon (*Citrullus lanatus* (Thunb.) Matsum. & Nakai.), melon (*Cucumis melo* L.), corn (*Zea mays* L.), peach (*Prunus persica* (L.) Batsch), pomegranate (*Punica granatum* L.), soybean (*Glycine max* L.), sorghum (*Sorghum bicolor* (L.) Moench), tomato (*Lycopersicon esculentum* Mill. (SILVA *et al.* 1968; ALLEN 1969; ALBRIGO & BULLOCK 1977; SOLOMON & FROESCHNER 1981; PANIZZI 1989; KUBO & BATISTA 1992; ZUCCHI *et al.* 1993; RODRIGUES NETTO & GUILHERM 1996; MATRANGOLO & WAQUIL 1994; RAGA *et al.* 1995; JOHNSON & ALLAIN 1998; SCHAEFER & PANIZZI 2000; XIAO & FADAMIRO 2009) and also *Chilopsis linearis* (Cav.) Sweet, *Gossypion* spp., *Phoenix dactylifera* L., *Sida* spp., *Spathodea campanulata* P.Beauv. and *Trinfetta* spp. (SILVA *et al.* 1968; ALLEN 1969; SOLOMON & FROESCHNER 1981; SCHAEFER & MITCHELL 1983; SOUZA & AMARAL-FILHO 1999). Then, the aim of this work was to record the occurrence of *L. zonatus* attacking starfruit in Sinop, Mato Grosso, Brazil and report a new host plant to this bug species.

Adults and immatures of *L. zonatus* were found in the Municipality of Sinop, Mato Grosso State, Brazil (Latitude S 11° 53' 101" and Longitude W 55° 29' 766") between September and

November of 2009 feeding on starfruit (*Averrhoa carambola* L.) fruits and plants (Figure 1 A, B and C). The records presented in this work were obtained from daily observations of *L. zonatus* feeding on starfruits during the maturation of the fruits between September and November. The attack of this species damages the fruit and decreases the its quality. This occurs because this coreidae inserts its stylet for feeding and causes damages on the fruit surface. Also, this behaviour lets other insects, such as Phoridae species, to attack the fruits through the feeding hole of *L. zonatus* that together with its salivary content (digestive enzymes present during the extra-oral process of Heteroptera) (COHEN 1990; 1993; 1995) may become the fruit not viable to be used because of the putrefaction (brown area) and decrease of the consistency on the attacked region (soft area) (Figure 1 D).

Comparing the period of the occurrence of *L. zonatus* in the field, without period of maize plants (the main host plant) and soybean (alternative host plant) in Sinop - MT (September to November) it is possible to hypothesize that the occurrence of this insect species on starfruit plants is associated with foraging for alternative plants to overcome the shortage of food because previous research has shown that this insect behavior using alternative plants to overcome the off-season maize (PANIZZI 1989). The fact that *L. zonatus* seek other plants during the period without maize may contribute to overlapping generations throughout the year, significantly increasing the populations of this insect in corn harvest periods.



Figure 1. (A and B) Adults and (C) nymphs of *Leptoglossus zonatus* (Heteroptera: Coreidae) on *Averrhoa carambola* (Oxalidaceae) plants and fruits. (D) Phoridae species attacking *A. carambola* (Oxalidaceae) fruits through the damage made by *Leptoglossus zonatus* in Sinop, Mato Grosso State, Brazil.

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