Brief Communication

First record of predation on the psyllid *Euphalerus clitoriae* & Guajará by the ladybird beetle in *Clitoria fairchildiana* (Howard)

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Abstract

The psyllid *Euphalerus clitoriae* Burckhardt & Guajará is a common pest of the clitoria tree, a common urban plant in Brazil that naturally occurs in the Amazon rainforest. Here we report the occurrence of Delphastus davidsoni Gordon on clitoria trees highly infested with the psyllid *E. clitoriae* in the city of Altamira, Pará. This is the first record of a coccinellid predator associated with *E. clitoriae*. It is also one of the few records suggesting predation on psyllids by a Delphastus species.

Key-words: Delphastus davidsoni, Prey Preference, Natural Enemy, Urban Tree

*Clitoria fairchildiana* (Howard) (Fabaceae: Papilionoidea) is a common urban tree in Brazil that naturally occurs in the Amazonian Dense Ombrophylous Forest (Ducke, 1949). Its association with the psyllid *Euphalerus clitoriae* Burckhardt & Guajará was first recorded for the state of Rio de Janeiro by Burckhardt & Guajará (2000). It was subsequently recorded for the states of São Paulo, Pernambuco, Bahia, Goiás and Mato Grosso (Marques et al., 2002; Gondin Junior et al., 2005; Magistrali et al., 2009). In the study by Gondin Junior et al. (2005) two non-identified coccinellid species were found in association with *E. clitoriae* on clitoria tree. Here we report the occurrence of the coccinellid *Delphastus davidsoni* Gordon (Microweiseinae: Serangiini) (Figure 1) on clitoria trees highly infested with the psyllid *E. clitoriae* in the city of Altamira, Pará. This is the first record of a coccinellid predator associated with this psyllid. *Delphastus* is a genus of shiny and small coccinellids characterized by the tapered last maxillary palpomere, enlarged last antennal article and mouthparts totally concealed by the anteriorly expanded prostromum. Members of the genus are known to be predators of whiteflies (Hemiptera: Aleyrodidae) and regarded as potential biological control agents for the pest species of this hemipteran family (Heinz et al., 1994; Hodek and Honěk, 2009). Host data however suggest a larger variety of prey items (Gordon, 1994). Lozano-Contreras and Argumedo (2012) reported the presence of a non-identified *Delphastus* species in commercial orchards of citrus infested with the psyllid *Diaphorina citri* Kuwayama in Yucatán, Mexico. To the best of your knowledge, this is the only published record suggesting predation on psyllid by a *Delphastus* species.

*Delphastus davidsoni* has been shown to be an efficient predator of the silverleaf whitefly *Bemisia tabaci* (Gennadius) in greenhouse conditions (Baldin et al., 2011). It is one of the five species of the genus that occur in Brazil and has been recorded for the states of São Paulo, Mato Grosso and Pará (Gordon, 1994). This species is very similar to *D. argentinicus* Nüenemacher and an accurate distinction can only be accomplished by genitalia examination.

The predation of *D. davidsoni* on *E. clitoriae* was confirmed in laboratory where both adults and
larvae of the coccinellid were offered adults and nymphs of the psyllid, all collected from the infested clitoria trees. Both adults and larvae consumed psyllid nymphs, but no predation was observed on the adults. Our findings suggest that D. davidsoni might be a potential agent for the biological control of E. clitoriae. Future research should investigate the specificity of this predator as well as its predatory potential.


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References

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