Poekilloptera phalaenoides (Hemiptera: Flatidae) on *Abarema villosa* (Fabales: Fabaceae) in Diamantina, Minas Gerais State, Brazil

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Abarema Pittier (Fabales: Fabaceae) is a genus with 35 species described in the Amazonia and another 15 in other biomes in Brazil including the Cerrado (Barneby & Grimes 1996). The medicinal use of *Abarema* plants in Brazil is due to their analgesic, anti-inflammatory, and antioxidant actions (Silva et al. 2010; Dias et al. 2013) as well as beneficial effects on skin lesions and some snake bites (Sánchez-Fidalgo et al. 2013; Saturnino-Oliveira et al. 2014). *Abarema* roots are colonized by nitrifying bacteria, which can improve soil properties (Barrett & Parker 2005; Parker 2015).

Abarema villosa Iganci & M. P. Morim (Fabales: Fabaceae) is a small tree, attaining heights of about 4.0 m, and flowering and fruiting between Nov and May (Iganci & Morim 2012). This plant was described in 2009 from specimens collected in the Espírito Santo, Minas Gerais, and Rio de Janeiro states, Brazil (Iganci & Morim 2009). It occurs in isolated groups due to degradation of its environment resulting from anthropogenic activities, including mining. This plant is considered at risk of extinction (Iganci & Morim 2012).

Poekilloptera phalaenoides L. (Hemiptera: Flatidae) has been reported in Bahia, Goiás, Mato Grosso, Minas Gerais, Pará, Paraíba, Rio de Janeiro, Rio Grande do Sul, Roraima, São Paulo, and Sergipe states, Brazil (Pires et al. 2011). *Poekilloptera phalaenoides* adults have yellow wings with black spots (Fig. 1A). This insect ingests plant sap and excretes honeydew, which is used as a food source by fungi that, in turn, reduce the rate of photosynthesis of the host plant (de Menezes et al. 2012).

Hundreds of adults and nymphs of *P. phalaenoides* were observed on 2 *A. villosa* plants (Fig. 1A) spaced about 1.0 m apart. These plants were in a garden with Cerrado plants in the campus of the Federal University of the Jequitinhonha and Mucuri Valleys (UFVJM) in Diamantina, Minas Gerais State, Brazil (18.3000°S and 43.6000°W; 1,250 masl; average annual rainfall of 1,082 mm; average annual temperature of 19.4 °C). The *P. phalaenoides* were feeding on the vascular tissues of *A. villosa* branches, and adults were displaying parental care behavior when observed during the last week of Apr 2015, at the end of the rainy season in Diamantina (Vieira et al. 2010). Powdery whitish filaments were observed terminally at the abdomen of *P. phalaenoides* nymphs (Fig. 1B). These filaments are composed of hydrophobic wax that provides protection to these insects against contamination by their own excrement (Rakitov & Gorb 2013).

Ten adult *P. phalaenoides* (sex not determined) were collected with a fabric insect net and brought to the laboratory where they were mounted, labeled, and deposited. The wing morphology of the individuals collected was analyzed and the insects were identified as *Poekilloptera phalaenoides* L. (Hemiptera: Flatidae) by comparing them with specimens previously identified (de Oliveira & Frizzas 2015) by Dr. Stephen W. Wilson, Department of Agriculture, Central Missouri University, in Warrensburg, Missouri, USA. *Abarema villosa* was identified by Dr. Evandro L. M. Machado, of the Forestry Engineering Department at the UFVJM, Diamantina, Minas Gerais, Brasil, by comparing branch samples collected in Diamantina with dried samples deposited in the UFVJM herbarium, with photographs sent by curators of other herbaria, and with taxonomic descriptions (Iganci & Morim 2009).

Poekilloptera phalaenoides also has been observed in Jun and Jul 2012, during a dry period, on *Sclerolobium paniculatum* Vogel (Fabales: Fabaceae), a plant used for firewood and coal production, in Sinop, Mato Grosso State, Brazil (Manica et al. 2012), about 2,215 Km from Diamantina (Almeida et al. 2011). This insect also has been reported on *Acacia podalyriifolia* A. Cunn. (Fabales: Fabaceae) in an urban square in Viçosa, Minas Gerais State, Brazil, about 510 Km from Diamantina, in Oct 2007 (Pires et al. 2011) at the beginning of the rainy season (Freitas et al. 2013). The occurrence of *P. phalaenoides* on *A. villosa* at the end of the rainy season in Apr 2015 in Diamantina corresponds with its occurrence on *Mimosa caesalpinieaefolia* Bent (Fabales: Fabaceae), used for live fences, in Oct 2011 in Diamantina (de Menezes et al. 2012) at the beginning of the rainy season (Vieira et al. 2010). In Planaltina, Federal District, Brazil, 743 Km from Diamantina, *P. phalaenoides* was reported on *Maprounea guia-*

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Fig. 1. *Poekilloptera phalaenoides* (Hemiptera: Flatidae) adults and nymphs on *Abarema villosa* (Fabales: Fabaceae) branches (A). *Poekilloptera phalaenoides* nymphs with powdery whitish filaments (arrow) (B).

nensis Aublet (Malpighiales: Euphorbiaceae), *S. paniculatum* and *Salacia crassifolia* (Celastrales: Celastraceae) between 2005 and 2008, with peak population in Oct (de Oliveira & Frizzas 2015), which corresponds to the beginning of the rainy season in Planaltina (Oliveira et al. 2005).

The occurrence of *P. phalaenoides* feeding on Cerrado plants is synchronized with the climatic conditions of this biome. Adults of this insect are present at the beginning of the rainy season, which provides adequate oviposition sites for their eggs (Pires et al. 2011; de Menezes et al. 2012). After a period of diapause, the eggs hatch and the nymphs are present during drier periods, allowing them a lower incidence of interspecific competition and lower numbers of natural enemies (de Oliveira & Frizzas 2015). The occurrence of *P. phalaenoides* on *A. villosa* and *M. caesalpinieaefolia* at the end of the rainy season in Diamantina (de Menezes et al. 2012) is consistent with an infestation observed in Planaltina (de Oliveira & Frizzas 2015). These plants share common characteristics including the botanical family (Fabaceae) and subfamily (Mimosoideae), and locations only 10 Km apart. In addition, the occurrence of *P. phalaenoides* was common on plants in landscaping projects and live fences, near to or in urban areas (Pires et al. 2011; de Menezes et al. 2012).

This is the first report of *P. phalaenoides* on *A. villosa*, a medicinal and ornamental plant. This insect occurred in Diamantina, Minas Gerais State, Brazil, at the end of the rainy season. The host plant, *A. villosa*, provided food, shelter, and a suitable site for reproduction by *P. phalaenoides*. *Poekilloptera phalaenoides* apparently can coexist with humans, because it was collected near or in urban areas.

Summary

Abarema villosa Iganci & M. P. Morim (Fabales: Fabaceae) is a medicinal and ornamental plant in the Cerrado biome of Brazil. *Poekilloptera phalaenoides* L. (Hemiptera: Flatidae) is a polyphagous pest that imbibes plant sap. This insect was observed on *A. villosa* plants in Diamantina, Minas Gerais State, Brazil. *Poekilloptera phalaenoides* uses *A. villosa* plants as a site for shelter, feeding, and reproduction. This is the first report of *A. villosa* as a host of *P. phalaenoides*.

Key Words: Auchenorrhyncha; Fulgoroidea; Ingeae; Mimosoideae; pest

Sumario

Abarema villosa Iganci & M. P. Morim (Fabales: Fabaceae) é uma planta medicinal e ornamental no bioma Cerrado do Brasil. *Poekilloptera phalaenoides* L. (Hemiptera: Flatidae) é uma praga polifaga que suga seiva de planta. Este inseto foi observado nas plantas de *A. villosa* em Diamantina, Minas Gerais, Brazil. *Poekilloptera phalaenoides* usa plantas de *A. villosa* como um local para abrigo, alimentação e reprodução. Este é o primeiro relato de *A. villosa* como um hospedeiro de *P. phalaenoides*.

Palavras Chave: Auchenorrhyncha; Fulgoroidea; Ingeae; Mimosoideae; praga

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