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Authors: Claubert W. G. De Menezes, Marcus A. Soares, Sebastião L. Júnior, Sady Júnior M. C. De Menezes, José B. Dos Santos, et. al.

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BRONTOCORIS TABIDUS (HETEROPTERA: PENTATOMIDAE) PREYING ON PODALIA WALKERI (LEPIDOPTERA: MEGALOPYGIDAE) ON EUCALYPT PLANTS IN BRAZIL

CLAUBERT W. G. DE MENEZES1, MARCUS A. SOARES1**, SEBASTIÃO L. DE ASSIS JÚNIOR2, SADY JÚNIOR M. C. DE MENEZES3, JOSÉ B. DOS SANTOS1 AND JOSÉ C. ZANUNCIO4*

1Departamento de Agronomia, Universidade Federal dos Vales do Jequitinhonha e Mucuri (UFVJM), Diamantina, 39100-000, Minas Gerais State, Brazil
2Departamento de Engenharia Florestal, Universidade Federal dos Vales do Jequitinhonha e Mucuri (UFVJM), Diamantina, 39100-000, Minas Gerais State, Brazil
3Instituto de Três Rios (ITR), Universidade Federal Rural do Rio de Janeiro (UFRRJ), Três Rios, 25802-100, Rio de Janeiro State, Brazil
4Departamento de Biologia Animal, Universidade Federal de Viçosa (UFV), Viçosa, 36570-000, Minas Gerais State, Brazil
*Corresponding author; E-mail: marcusasoares@yahoo.com.br

Eucalyptus spp. (Myrtales: Myrtaceae: Eucalypteae) are intensively cultivated in Brazil to produce raw materials for industry and construction, and products such as wood, coal, cellulose, and oils (Zanuncio et al. 2010). Lepidopteran defoliators are found in eucalyptus plantations whose importance is increasing (Soares et al. 2009a). Integrated Pest Management (IPM) can reduce the use of pesticides (Pires et al. 2011a; Souza et al. 2012) and conservation of natural enemies is essential for IPM programs to manage lepidopteran pests in eucalyptus plantations (Lacerda et al. 2004).

Caterpillars recorded damaging eucalyptus in Brazil includes Automeris sp. (Walker), Eacles imperiæs (Walker) and Hylesia sp. Hübner (Lepidoptera: Saturniidae), Eupseudosoma aberrans (Schaus) and Eupseudosoma involuta (Sepp) (Lepidoptera: Arctiidae), Oxysia vesulia (Cramer), Sabulodes caberata (Guenée) and Thyrinteina arnobia (Stoll) (Lepidoptera: Geometridae), Euselasia eucerus (Hewitson) (erroneously reported as Euselasia apisona) and Euselasia hygenius (Stoll) (Lepidoptera: Riodinidae) (Zanuncio et al. 1998; Soares et al. 2009b,c).

Podalia walkeri (Berg) (Lepidoptera: Megalopygidae) was reported as a significant defoliator in eucalyptus plantations in Minas Gerais State (Zanuncio et al. 1998) and Rio Grande do Sul State (Bernardi et al. 2011). This pest is a significant defoliator of eucalyptus plants, and there are no effective strategies for its control in commercial plantations. Besides, the stinging hairs of P. walkeri caterpillars can cause health problems in humans (Cardoso & Haddad Júnior 2005; De Roodt et al. 2000).

Brontocoris tabidus is a generalist predator that naturally controls defoliating insects in Eucalyptus plantations in Brazil. This species is the first to arrive in areas infested by defoliating caterpillars, followed by other predator species, especially Podisus nigrispinus Dallas (Pentatomidae); and these natural enemies build large populations in the field (Zanuncio et al. 2011). Moreover, B. tabidus is easily reared in the laboratory and has potential for biological control programs (Pires et al. 2011b; Zanuncio et al. 2011). Thus, studies on the biology and mass rearing of B. tabidus and its predation rate on P. walkeri both in the laboratory and the field are being conducted in order to allow the use of this natural enemy in biological control programs of P. walkeri caterpillars.

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Monitored eucalyptus trees were 4 yr old. Immature Br. tabidus were collected and sent to the Laboratory of Biological Control of Insects of the Federal University of the Jequitinhonha and Mucuri Valleys (UFVJM). These insects were reared on eucalyptus seedlings with Tenebrio molitor L. (Coleoptera: Tenebrionidae) pupae until the adult stage, when they could be identified at the species level.

The preying of B. tabidus on P. walkeri caterpillars is important for the IPM of this pest in eucalyptus plantations. Preliminary studies indicate that nymphs of B. tabidus can dominate and kill a caterpillar of P. walkeri in 16 min, and may consume several P. walkeri caterpillars before ecosisting into the adult. Caterpillars of P. walkeri have previously been reported to damage this plant in Minas Gerais State (Zanuncio et al. 1998) and Rio Grande do Sul State (Bernardi et al. 2011). This pest is a significant defoliator of eucalyptus plants, and there are no effective strategies for its control in commercial plantations. Besides, the stinging hairs of P. walkeri caterpillars can cause health problems in humans (Cardoso & Haddad Júnior 2005; De Roodt et al. 2000).

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The objective of this study was to record and to elaborate the preying of Brontocoris tabidus (SIGNORET) (Heteroptera: Pentatomidae) on P. walkeri caterpillars on eucalyptus plants. In Jan 2012 fourth instar nymphs of B. tabidus were observed feeding on P. walkeri caterpillars (Fig. 1A, B, C and D) on Eucalyptus urophylla S. T. Blake in Diamantina (S 18° 18' W -43° 36', mean annual rainfall 1082 mm, mean annual temperature of 19.4 °C and 1250 m asl), Minas Gerais State, Brazil.
This is the first report *B. tabidus* preying on *P. walkeri* in Brazil. Our observations suggest that *B. tabidus* has the potential to suppress *P. walkeri* caterpillars as a component of IPM programs in eucalyptus plantations. This predator appears able to keep populations of *P. walkeri* below the economic injury level, and thereby preclude the excessive use of pesticides, and minimize losses in eucalyptus production as well as accidents involving workers in eucalyptus plantations.

**SUMMARY**

There are many *Eucalyptus* spp. of commercial importance in Brazil. However, plants of this genus can be damaged by lepidopteran defoliators, which necessitates the development of Integrated Pest Management (IPM) programs against these pests. We observed significant levels of predation of *Podalia walkeri* (Berg) (Lepidoptera: Megalopygidae) caterpillars by *Brontocoris tabidus* (Signoret) (Heteroptera: Pentatomidae) on eucalyptus plants in Diamantina, Minas Gerais State, Brazil. Our observations suggest that *B. tabidus* has the potential to suppress *P. walkeri* caterpillars as a component of IPM programs in eucalyptus plantations.

Key Words: Asopinae, biological control, caterpillars, IPM, Pentatomidae

**RESUMO**

*Eucalyptus* spp. possui várias espécies de interesse comercial no Brasil. No entanto, plantas desse gênero podem ser danificadas por lepidópteras desfolhadoras, o que torna necessário o Manejo Integrado de Pragas (MIP) para esses insetos. Foi relatada, neste trabalho, a predação da lagarta *Podalia walkeri* (Berg) (Lepidoptera: Megalopygidae) pelo percevejo predador *Brontocoris tabi-
dus (Signoret) (Heteroptera: Pentatomidae), em plantas de eucalipto no município de Diamantina, Minas Gerais, Brasil.

Palavras Chave: Asopinae, controle biológico, lagartas, MIP, Pentatomidae

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