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A new species of *Lixophaga* Townsend (Diptera: Tachinidae) from Colombia, a parasitoid of *Neoleucinodes elegantalis* (Guenée) (Lepidoptera: Crambidae)

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Abstract

A new species of *Lixophaga* Townsend (Diptera: Tachinidae) from Colombia, *Lixophaga puscolulo* Carrejo & Woodley, **sp. nov.**, is described and illustrated. It is a parasitoid of the tomato fruit borer, *Neoleucinodes elegantalis* (Guenée) (Lepidoptera: Crambidae), an insect pest of *Solanum quitoense* Lam., in Colombia. Aspects of its biology are briefly discussed.

Key words: Diptera, Tachinidae, *Lixophaga puscolulo*, new species, Neotropical Region

Introduction

In the New World, the genus *Lixophaga* Townsend is one of the most species-rich genera of Blondeliini (Wood 1985). The genus has a wide distribution range which extends from much of the New World to the Oriental and Palearctic regions (Byun & Han 2011). In the New World, there are currently 64 described species of *Lixophaga* (Guimarães 1977; Wood 1985). Prior to now, no species of *Lixophaga* has been recorded from Colombia, but numerous species must occur there. There is very little taxonomic information on Neotropical *Lixophaga* other than the summary provided by Wood (1985), making it a difficult group to study. Arnaud (1978), Crosskey (1973), Guimarães (1977) and Shima (2006) list 28 genera of Lepidoptera and 10 genera of Coleoptera that have been reported as insect hosts of about 14 species of *Lixophaga*.

Recently, Byun & Han (2011) presented a diagnosis of *Lixophaga* listing a number of character states. However, these character states individually are found in other Blondeliini, so only the combination of these character states can be considered diagnostic for the genus. Wood (1985) provided a more detailed diagnosis of *Lixophaga*, and mentioned the presence of a large seta on each side of sternite 5 in the male of at least some *Lixophaga* species, which is probably apomorphic for that group of species. The species of *Lixophaga* described below possesses these setae. For practical purposes, the keys to genera in Wood (1985) and Wood & Zumbado (2010) can be used to identify *Lixophaga*.

The tomato fruit borer, *Neoleucinodes elegantalis* (Guenée) (Lepidoptera: Crambidae), is a Neotropical oligophagous pest which is mainly associated with cultivated species of the family Solanaceae, such as *Capsicum annum* L. (green and red pepper), *Solanum quitoense* Lam. (lulo or narajanjilla), *S. betaceum* Cav. (tree tomato), *S. lycopersicum* Lam. (tomato), *S. melongena* L. (eggplant), *S. sessiliflorum* Dunal (cocona), *S. pseudolulo* Heiser (pacific lulo) and other wild species of Solanaceae (Capps 1948; A.L.A.E 1968; Sánchez 1973; Posada *et al.* 1981; Gallego & Velez 1992; Viáfara *et al.* 1999; Morales *et al.* 2003; Diaz 2009, 2010; Revelo *et al.* 2010; Anteparra *et al.* 2010). Here we describe a new species of *Lixophaga*, *L. puscolulo* Carrejo & Woodley, **sp. nov.**, a parasitoid which was reared from the last instar larvae of *N. elegantalis*. The parasitoid has been reared only from the host associated with *S. quitoense* and from the wild solanaceous plant *S. hirtum* Vahl in Colombia (Diaz & Brochero 2012).

p.m., applying active ingredients that act on *N. elegantalis* by ingestion and not by contact, recovering parasitoids by collecting infested fruits, and maintaining the parasitoid populations by conserving weed plants in the orchard that provide nectar and pollen to the populations of *L. puscolulo*. These strategies will help to preserve populations of this natural biological control agent.

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