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## Four new leaf-mining *Acalyptris* species from Guatemala and Belize, with new data on bionomics of *Stigmella pruinosa* (Lepidoptera: Nepticulidae)

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### Abstract

This paper describes four new species: *Acalyptris basicornis* Remeikis & Stonis, **sp. nov.**, *A. peteni* Diškus & Stonis, **sp. nov.**, *A. caribbicus* Diškus & Stonis, **sp. nov.** (host-plant: *Lantana involucrata* L., Verbenaceae), and *A. statuarius* Diškus & Stonis, **sp. nov.** Another species, *Stigmella pruinosa* Puplesis & Robinson, is re-described, with new distribution records in Guatemala and with the first documentation of leaf-mines on *Guazuma ulmifolia* Lam. (Malvaceae). All five species are illustrated with photographs of the leaf-mines, adults, and genitalia.

**Key words:** *Acalyptris*, Belize, Central America, Guatemala, *Guazuma*, *Lantana*, leaf-mines, Nepticulidae, new species, *Stigmella*, taxonomy

### Introduction

Central America, with a hugely diverse biota, is comparatively unexplored with respect to the collection and study of Nepticulidae. The minute size of adults, the concealed mining life-style of the larvae and the difficulty of rearing adults goes some way towards explaining why these intriguing insects are still poorly studied in many regions (Puplesis & Robinson 2000, Navickaitė *et al.* 2011). A historical review of the description of Nepticulidae from the Neotropical Region is given by Puplesis & Robinson (2000), with updates by Puplesis *et al.* (2002a, 2002b), and Šimkevičiūtė *et al.* (2009). Recently two new species were described from the lowland tropical forests of Yucatán (SE Mexico) (Stonis *et al.* 2013b), including *Stigmella maya*, a species that is among the smallest nepticulids and the smallest Lepidoptera known in the world. Seven other new species also were described from the highlands of Guatemala (Stonis *et al.* 2013a). Here we describe four new species of Nepticulidae and present new data on diversity and bionomics of the Central American Nepticulidae, including new distribution records of *Stigmella pruinosa* Puplesis & Robinson in Guatemala, with the first documentation of host-plant and leaf-mines, and the first photographic documentation of the genitalia and adult.

### Material and methods

Descriptions of new species are based on material collected by the Lithuanian-Guatemalan scientific expedition' 2012 in various areas of Guatemala and Belize (Fig. 59); habitats where collecting activities were focused are shown in Figs 60–65.

Collecting methods, techniques for genitalia preparation and protocols for description are outlined in Puplesis & Robinson (2000) and Puplesis & Diškus (2003).

Permanent slides were examined and photographed using a Leica DM2500 microscope and Leica DFC420 digital camera.

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