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## First discovery of *Quercus* feeding Nepticulidae (Lepidoptera) in Central America

JONAS R. STONIS<sup>1,2,5</sup>, ARŪNAS DIŠKUS<sup>1,2</sup>, ANDRIUS REMEIKIS<sup>1,3</sup> & JACK SCHUSTER<sup>4</sup>

<sup>1</sup>Department of Biology, Lithuanian University of Educational Sciences, Studentų St.39, Vilnius LT-08106, Lithuania

<sup>2</sup>Institute of Public Administration, Mykolas Romeris University, Valakų St.5, Vilnius LT-10101, Lithuania

<sup>3</sup>Nature Research Centre, Akademikos St. 2, Vilnius LT-08412, Lithuania

<sup>4</sup>Systematic Entomology Laboratory, Universidad del Valle de Guatemala, Guatemala City, Guatemala.

<sup>5</sup>Corresponding author. E-mail: [stonis@leu.lt](mailto:stonis@leu.lt)

### Abstract

Despite the high taxonomic diversity of oaks in Mexico and Central America, no *Quercus* feeding Nepticulidae have ever been recorded from the region. Here, we present seven species whose larvae are leaf-miners of *Quercus* (section Lobatae) in Guatemala. Except *Stigmella nigriverticella* (Chambers 1875), which was previously known from the United States, all other discovered species are new. We describe and name five new species (*Stigmella jaguari* Remeikis & Stonis, **sp. nov.**, *S. lauta* Diškus & Stonis, **sp. nov.**, *S. sublauta* Remeikis & Stonis, **sp. nov.**, *S. aurifasciata* Diškus & Stonis, **sp. nov.** and *S. guatemalensis* Diškus & Stonis, **sp. nov.**); the remaining new species is described but left unnamed because of lack of adults (i. e. moths and genitalia are described from developed pupae). All seven treated species are illustrated with photographs of the leaf-mines, adults, and genitalia.

**Key words:** Central America, Guatemala, leaf-mines, Nepticulidae, new species, *Quercus*, *Stigmella*

### Introduction

Oaks (*Quercus*), with about 600 species, are native to the northern hemisphere, extending from temperate to tropical latitudes in South East Asia and the Americas, with greatest taxonomic diversity and most important centres of endemism in South East Asia and North America (particularly southeastern United States, southern Mexico and the mountainous part of Central America) (Menickiy 1984, Nixon 2006, Torres-Miranda *et al.* 2011).

In contrast to Europe and East Asia, where leaf-mining or bark-mining Nepticulidae have extensively been studied (e. g. Johansson *et al.* 1990, Puplesis 1994, Puplesis & Diškus 2003, van Nieukerken & Liu 2000, Nieukerken & Johansson 2003, Stonis & Rocienė 2013, Rocienė & Stonis 2013), Central America has been neglected, with no *Quercus* feeding nepticulid species known. This paper is the first to report the Central American Nepticulidae species associated with *Quercus* as a host-plant.

### Material and methods

Adults of all species were collected by the Lithuanian-Guatemalan scientific expedition' 2012 in montane forests of Guatemala (Quetzaltenango, or more commonly known as Xela, 14°47'27"N, 91°32'09"W; Santa Cruz del Quiché, 15°01'22"N, 91°10'17"W; Panajachel, 14°45'06"N, 91°09'43"W) at elevations ca 1655–2500 m (Figs 2–6) by rearing imagos from mining larvae using the standard method (Puplesis 1994 and Diškus & Stonis 2012). Collecting methods, techniques for genitalia preparation, and protocols for description are outlined in Puplesis & Robinson (2000), Puplesis & Diškus (2003) and Diškus & Stonis (2012).

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

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- (\* Stonis, J. R., formerly Puplesis, R.)