



The Elachistinae (Lepidoptera: Gelechioidea: Elachistidae) of Ecuador with descriptions of five new species

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Abstract

The occurrence of seven species of Elachistinae is reported from Ecuador, including the descriptions of five new species: *Elachista adunca* sp. n., *E. laxa* sp. n., *E. lata* sp. n. and *E. phiala* sp. n. One species is documented, but not named pending the availability of additional material. The new species are diagnosed and illustrated with photographs of the adults and genitalia. *Elachista saccharella* (Busck) is reported for the first time from Ecuador and a new host plant is recorded for this species.

Key words: taxonomy, Neotropical, Ecuador, *Perittia*, *Elachista*, new species

Introduction

The Elachistinae (Elachistidae) is a cosmopolitan moth subfamily with more than 600 described and about 200 discovered, yet unnamed species (Kaila & Ståhls 2006). The subfamily comprises inconspicuous small moths with a wingspan usually between 6 and 14 mm. The head is smooth-scaled with a weakly raised neck tuft, and a short, basally scaled haustellum. The scape of antenna is usually with a pecten consisting of several hair-like scales, and the flagellum extends to about 2/3 of the forewing. The forewing pattern consists either of a white fascia and spots on a dark background or fuscous marks on a light background; or the moths can be unicolorous (white, yellowish or cream). The moths rest in a very characteristic posture: the antennae are directed backwards along the costal margin of the forewing and the tornal area of the forewing is produced above the dorsum. The male genitalia are symmetrical, usually with a spinose distal knob of gnathos and a bilobed uncus. Larvae of Elachistinae are obligate leaf miners, most species feed on monocotyledonous grasses; only some species feed on dicotyledonous plants (Traugott-Olsen & Nielsen 1977; Parenti & Varalda 1994).

According to the phylogenetic treatment of Kaila (1999a), the monophyly of the Elachistidae *sensu stricto* (=Elachistinae) is supported by nine synapomorphies: 1) reduction of basal area of maxilla; 2) hindwing vein M3 absent; 3) hindwing Rs stalked; 4) metathoracic laterophragmata narrowly fused; 5) ventral shield of juxta developed; 6) basal arms of gnathos posteriorly widened; 7) larvae leaf miners; 8) pupal hindwing visible only up to abdominal tergum; 9) pupal intersegment 6/7 immobile. However, the synapomorphies 5 and 6 provide the best support for the monophyly.

In contrast to the other zoogeographical regions, where the Elachistinae have been studied extensively (e.g., Braun 1948; Traugott-Olsen & Nielsen 1977; Parenti 1981, 1983, 1996; Sruoga 1990, 2000; Kaila 1992, 1995, 1996, 1997, 1999b, 2007; Sruoga & Puplėsis 1992; Traugott-Olsen 1992; Bland 1996; Sinev & Sruoga 1997; Kaila & Junnilainen 2002; Kaila & Karsholt 2002; Kaila *et al.* 2003; Sugisima 2005a–c; Sugisima & Kaila 2005; Sruoga & De Prins 2009; etc.), the Neotropical Region has been long neglected and is still poorly explored (Kaila 1999b, 2000; Sruoga & Puplėsis 2003). Until now, only one species (*Perittia smaragdophanes* (Meyrick)) in the Elachistinae has been described from Ecuador.

The primary aim of this paper is to describe five new species of *Elachista* found during our field work undertaken in Andean Ecuador in February 2007.