



New *Agrilus* Curtis (Coleoptera: Buprestidae) from México and Costa Rica mimicking parasitic wasps

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Abstract

Three species of the genus *Agrilus* are described: *A. bellamyi* New Species from México, and *A. braconoides* New Species and *A. lucindae* New Species from Costa Rica. The male of *Agrilus braconicoloratus* Hespeneide from México is also described for the first time. These four species are hypothesized to be mimics of wasps in the family Braconidae, some of which are parasitic on wood-boring beetles. The mimicry complex is briefly described and discussed for Costa Rica and Panamá and probably involves both Mullerian and Batesian relationships with other beetles (Cerambycidae, Cleridae, and baridine Curculionidae) and Hymenoptera (Ichneumonidae and Mutillidae), predatory Heteroptera (Reduviidae), Diptera (Tipulidae), and other taxa. Examples are also given for South America and the Old World.

Key words: *Agrilus*, Braconidae, Buprestidae, Cerambycidae, Chrysididae, Cleridae, Coleoptera, Costa Rica, Diptera, Hymenoptera, Ichneumonidae, México, mimicry, Reduviidae, Tipulidae

Introduction

A recurring color pattern among Neotropical insects involves a combination of black, orange or red and gold, from the anterior to posterior end usually black, then orange or red, and then three bands in the sequence gold-black-gold. Among beetles it is found in the Cerambycidae, Cleridae, Curculionidae, Mordellidae and Buprestidae. It is also found in the Heteroptera (Reduviidae) and the Hymenoptera (especially the Braconidae, Figure 11, as well as in the Mutillidae and Ichneumonidae). Many of these are wood-boring insects (Cerambycidae, Mordellidae and Buprestidae) or predators or parasitoids of wood-boring insects (Cleridae; Braconidae and Ichneumonidae). I have suggested that this pattern characterizes a mimicry complex whose primary models are species of Braconidae and Ichneumonidae (Hespeneide 1989) and described a species of *Agrilus* that is hypothesized to belong to this complex (*Agrilus braconicoloratus* Hespeneide, 1989). The present paper describes the previously unknown male of *Agrilus braconicoloratus* and three new species of *Agrilus* from México and Costa Rica that are hypothesized to belong to this complex, and the putative mimicry complex is described further.

Measurements were made to the nearest 0.05 mm. The following collection codens are used throughout the text (Evenhuis 2009): CHAH, Henry A. Hespeneide, University of California, Los Angeles, CA, U.S.A.; CLBC, C.L. Bellamy, Sacramento, CA, U.S.A.; INBC, Instituto Nacional de Biodiversidad, Santo Domingo de Heredia, Costa Rica; CNIN, Universidad Nacional Autónoma de México, Mexico D.F., México.

Agrilus braconicoloratus Hespeneide, 1989:151

(Figs. 1, 2, 3)

Description. Male: As female but front golden on lower 2/3, anterior portion of abdominal ventrite 1 with small patch of longer, semi-erect setae; 7.00 mm long, 2.10 mm wide; genitalia as in Fig. 3.