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New species of *Agriotes* (Coleoptera: Elateridae) from Mexico with a key to species

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Abstract

Four new species of *Agriotes* from Mexico are described and illustrated: *Agriotes minutus*, *A. pedregalensis*, *A. rhombus*, and *A. trinotatus*.

Key words: Coleoptera, Elateridae, *Agriotes*, Mexico, new species

Introduction

The genus *Agriotes* was described by Eschscholtz (1829, p.34). It is one of the most speciose genera among the subfamily Elaterinae, with approximately 230 species. Some species are of agricultural importance such as *A. sputator* L. and *A. lineatus* L. There are 24 species of this genus in Mexico, most of them were reviewed and described in the *Biologia Centrali-Americana* (Champion 1894, 1896).

Members of this genus can be distinguished from other genera of the tribe Agriotini by the following characters: front carina not raised above labrum, and incomplete, either directed toward meson, but becoming indistinct in middle (*criddlei* group), or directed downward toward labrum, frequently becoming indistinct before reaching labrum (Becker, 1956). The species from Mexico and Central America are included in the *sputator* group that is characterized by three sclerotized plates in the bursa copulatrix and collateral glands saclike, kidney shaped, or deeply bilobed.

This paper represents the first part of a research project to revise the species currently placed in the genus *Agriotes* from Mesoamerica and is the first work that describes new species of this genus from Mexico since the *Biologia Centrali Americana* (1894, 1896). Herein, we describe four new species of the *sputator* group, bringing the total number of species of *Agriotes* from Mexico to 28.

Material and methods

The specimens of the genus *Agriotes*—including type material studied by Champion—were obtained from four insect collections: La Colección Nacional de Insectos del Instituto de Biología de la Universidad Nacional Autónoma de México (CNIN); Texas A&M University, Insect Collection, (TAMU); The Natural History Museum [formerly British Museum (Natural History), BMNH] (NHM), London, England; and The Canadian National Collection of Insects, Arachnids and Nematodes, Agriculture and Agri-Food Canada, Ottawa Ontario, Canada (CNCI). The measurements of the insects were made as follow: head length was measured along the midline from the anterior margin of the frons to the base of the head, the width was measured across the eyes, body length was measured along the midline from the anterior margin of the frons to the apex of the elytra; body width was measured across the broadest part of the specimen, the relative width of the eyes was determined using the ocular index (Campbell and Marshall 1964—this is determined by measuring the narrowest distance between the eyes