



Revision of the genus *Pachystethus* Blanchard with description of three new species from Mexico (Coleoptera: Scarabaeidae: Rutelinae: Anomalini)

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Abstract

Descriptions or redescrptions along with comments on the distribution and habits of six species in the genus *Pachystethus* are provided. *Anomala nutans* Bates and *A. vidua crassesculpta* Bates are transferred to the genus *Pachystethus* and *P. matzapatleucus* **new species**, *P. ixtacomitanus* **new species** and *P. nectoctenus* **new species** are described from Oaxaca, Chiapas, and Veracruz, Mexico, respectively. Lectotypes for *Popillia sticticollis*, *Anomala nutans*, and *A. vidua crassesculpta* are designated. Color photographs, illustrations of diagnostic characters, and a key to species are also included.

Key words: taxonomy, Rutelinae, Anomalini, *Anomala*, *Pachystethus*, new species

Introduction

Shiny chafers of the tribe Anomalini are represented in the New World by 17 genera and nearly 300 species (Morón & Nogueira 1998, Jameson *et al.* 2003, Ramírez-Ponce & Morón 2009), but revisions, keys to species, and other natural history information are scarce, despite the fact that a large number of species are of economical importance as pests. Past studies on the taxonomy of these species are problematic because the taxa were not adequately delineated, the species usually have vast character variability, the genitalia were rarely described, and the authors do not agree with the use of morphological characters or with the status of the names (Potts 1974, Morón & Nogueira 1998, Jameson *et al.* 2003, Ramírez-Ponce & Morón 2009).

Based on generic-level phylogenetic studies of selected Anomalini of the world, Ramírez-Ponce and Morón (2009) proposed the revalidation of the genus *Pachystethus* Blanchard, and the redefinition of the genera *Anomala* Samouelle, *Paranomala* Casey, and *Callistethus* Blanchard, because the representatives of these lineages have unique combinations of morphological characters with some synapomorphies supporting the clades in the strict consensus tree obtained from the analysis.

This paper follows the phylogenetic study on the tribe Anomalini of Ramírez-Ponce and Morón (2009), which supports the revalidation of the genus-name *Pachystethus* Blanchard. In depth study of literature and collections led us new evidence derived from additional described and undescribed species to be included in *Pachystethus*. Herein, we provide redescription of the genus and type species, descriptions of three new species from southeastern Mexico, redescrptions of additional two species transferred to this genus, and identification key to the species.

The type species of *Pachystethus* was described by Newman (1838) as *Popillia vidua* Newman, along with *P. sticticollis* Newman, *P. semirufa* Newman, *P. castor* Newman, and *P. pollux* Newman. Later, Newman (1841) published a treatise of *Popillia* species deposited in Hope's collection and designated species groups by geographic regions; several groups were from Asia and Africa and only two groups were from Mexico. The first Mexican group was comprised of the first three species cited above (*P. vidua*, *P. sticticollis*, and *P. semirufa*), characterized by elytra without striae or dorsal excavations, and the other Mexican group was comprised of two species with striae of elytrae very deep and terminal segment of abdomen dorsally pilose. The latter two species were synonymized by Burmeister (1844) and later transferred to the genus *Strigoderma* Blanchard by Bates (1888).