

A MORPHOLOGICAL REVIEW AND KEY TO THE ENTIMINAE (COLEOPTERA: CURCULIONIDAE) HOUSED AT THE MUSEUM OF ENTOMOLOGY, UNIVERSIDAD DEL VALLE, COLOMBIA

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INTRODUCTION

The order Coleoptera includes more than 350,000 described species placed in some 170 families. The Curculionidae, or weevils, are the most diverse beetle family, with approximately 60,000 described species. One of the most diverse weevil subfamilies, in turn, are the Entiminae or broad-nosed weevils, with approximately 1150 genera and 12,200 described species and a worldwide distribution. Fifty genera and 254 species of entiminae have been reported for Colombia (Wibmer & O'Brien 1986).



Figure 1. Ventral view of rostrum (*Litostylus*)

The broad-nosed weevils are named as such for the main diagnostic feature shared by members of this subfamily; viz. the presence of a short and broad rostrum. The apically positioned mandibles bear a deciduous process that breaks off shortly after the emergence of the adult, leaving a characteristic mandibular scar (Fig. 1). Entimine weevils are typically covered with various types of scales as well as setae. Their length ranges from 2 to 25 mm.

Many species within the subfamily are of economic importance, primarily because their phytophagous larvae attack plant roots, and some are notorious pest of cultivars, e.g. the citrus root weevil. As is the case for most South American weevil lineages, there are no adequate taxonomic treatments for the Entiminae of Colombia, and experts agree that most genera are in need of systematic revision.

This study presents the first key to a larger section of Neotropical genera, and represents the first contribution to the knowledge of Colombian entimine weevil - their taxonomy, morphology, and distribution - and provides an overview of their regional diversity.

MORPHOLOGICAL ANALYSIS

The external morphology of 370 adult specimens of entiminae was reviewed.

CHARACTERS

Head

Three basic patterns may be distinguished:

Figure 2. Basic patterns of the head in dorsal view. (A) rounded head, elongate rostrum (*Hyponotus*); (B) subquadrate head, apically slightly widened (*Compso*); (C) trapezoidal head, eyes strongly projected, rostrum apically narrowed (*Macrostylus*).



Antennae



Typically the funicle is 7-segmented and the club is 4-segmented. The length ratio of funicular antennomeres 1 and 2 is useful for separating certain groups.

Figure 3. Dorsal view of the antenna of *Platymus*.

Anterolateral margin of the prothorax



Figure 4. Postocular lobe (*Hyponotus*).

Figure 5. Postocular setae (*Pandeleteius*).

Characters such as the presence or absence of a postocular lobe and/or postocular setae are useful for identifying some taxa.

Legs

- The inner femoral margins may be toothed.
- The inner tibial margins are either unarmed or present spine-like setae or larger cuticular teeth.
- The apical inner margin of the tibiae is mucronate; the mucro tends to be larger on the front tibiae than on the hind tibiae.
- The tarsal claws are free and simple.



Figure 7. Leg in frontal view (*Exorides*).

Elytra



Figure 6. Elytra of *Macrostylus*. (A) dorsal view, (B) lateral view.

The shape of the elytra humeri, position and extension of striae IX and X, and the relative elevation of the elytral intervals, are important diagnostic features.

Hind tibia - corbel



Figure 8. Main corbel types. (A) open, (B) semi-enclosed, (C) closed.

The apex of the hind tibia has a characteristic structure called corbel with three main types, depending on the presence of an inner margin and surrounding setal combs.

TAXONOMIC ANALYSIS

The specimens housed at the Museo de Entomología, Universidad del Valle, pertain to the following five tribes:

TRIBE ANYPOTACTINI



Small specimens (length 3 to 7 mm); characterized by the presence of three longitudinal carinae on the rostrum.

TRIBE LORDOPINI



Medium-sized specimens (length 8 to 15 mm); readily identified by the presence of a postocular lobe.

TRIBE EUSTYLINI

Medium to large-sized specimens (length 8 to 25 mm); characterized by a subquadrate head; highly variable colors and densely arranged scales throughout the body surface.



TRIBE NAUPACTINI

Medium-sized specimens (length 8 to 12 mm); diagnosed by a trapezoidal head. The genus *Macrostylus* is highly variable in color. The genera *Galapaganus*, *Pantomorus* and *Platymus* constitute new reports for Colombia (names in green).



TRIBE TANYMECINI



Small to medium-sized specimens (length 3 to 15 mm); identified consistently by the presence of postocular setae. The genus *Pandeleteius* has strongly expanded front femora.

GEOGRAPHIC COVERAGE

The examined specimens were collected in several Departments of Colombia, mainly in Valle del Cauca (64.5%), Risaralda (8%) and Caldas (5.7%), spanning an altitudinal range from 10 to 3600 meters above sea level, during the period of 1970 to 2006.

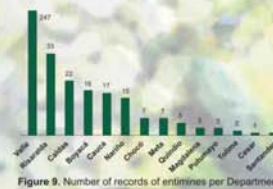


Figure 9. Number of records of entiminae per Department.



Figure 10. Political map of Colombia, showing the distribution of Entiminae from Museo de Entomología, Universidad del Valle. Darker areas correspond to Departments with the highest number of specimens.

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THE KEY

Here we present snapshots from the dichotomous key, based on the studied characters, for identifying the genera housed at the Museo de Entomología, Universidad del Valle.

