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A new genus of Prioninae (Coleoptera, Cerambycidae)

Antonio Santos-Silva
Museu de Zoologia
Universidade de São Paulo
Caixa Postal 42494
04218-970, São Paulo, SP, Brazil

Michael C. Thomas
Florida State Collection of Arthropods
Florida Department of Agriculture and Consumer Services
P. O. Box 147100
Gainesville, FL 32614-7100, USA

James E. Wappes
American Coleoptera Museum
8734 Paisano Pass
San Antonio, TX 78255, USA

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A new genus of Prioninae (Coleoptera, Cerambycidae)

Antonio Santos-Silva

Museu de Zoologia
Universidade de São Paulo
Caixa Postal 42494
04218-970, São Paulo, SP, Brazil
toncriss@uol.com.br

Michael C. Thomas

Florida State Collection of Arthropods
Florida Department of Agriculture and Consumer Services
P. O. Box 147100
Gainesville, FL 32614-7100, USA
Michael.Thomas@freshfromflorida.com

James E. Wappes

American Coleoptera Museum
8734 Paisano Pass
San Antonio, TX 78255, USA
wappes@earthlink.net

Abstract. *Neoma*, a **new genus** of Cerambycidae (Coleoptera: Cerambycidae: Prioninae: Macrotomini) is described for *Mallodonopsis corrosus* Bates, 1879, compared to related genera (*Aplagiognathus* Thomson, 1861; *Archodontes* Lameere, 1903; and *Mallodonopsis* Thomson, 1861), and its tribal position discussed. A **lectotype** for *Mallodonopsis corrosus* is here designated with the species redescribed and figured.

Keywords. Macrotomini; Rhaphipodini; systematics.

Introduction

The genus *Mallodonopsis* was described by Thomson (1861) for the single species *M. mexicanus*. Later, Bates (1879) added a second species, *M. corrosus*, writing, “Distinguished by its narrow convex form, in which it resembles *Aplagiognathus spinosus* more than it does its congener *M. mexicanus*. It forms, indeed, a connecting link between the two genera, the scape being much shorter than in *Mallodonopsis*, though retaining the same curved and compressed shape and thus differing from the short, thick, clavate form of the same joint in *Aplagiognathus*”.

In this work we provide a redescription of *M. corrosus*. We believe this is necessary, because the redescription presented by Lameere (1903) is incomplete and some characters mentioned for *Mallodonopsis* (such as antennal length, scape length, form of the spines of the prothorax in males) apply to *M. mexicanus* Thomson but not to *M. corrosus*.

Lameere (1903) placed *Mallodonopsis* as a subgenus of *Basitoxus* Audinet-Serville, 1832 and commented: “Ces Insectes offrent les caractères essentiels du sous-genre *Archodontes*, mais ils sont allés plus loin dans l'évolution” [These insects have the essential characters of the subgenus *Archodontes*, but they went further in the evolution].

Examination of members of *Mallodonopsis* reveals that *M. corrosus* is more similar to members of *Archodontes* Lameere, 1903 than to its congener, *M. mexicanus*, and requires the erection of a new genus.

Materials examined

The collection codens used for repositories in the text are as follows:
ACMT American Coleoptera Museum, San Antonio, Texas, United States;

BMNH The Natural History Museum, London, United Kingdom;
DHCO Daniel Heffern Private Collection, Houston, Texas, United States;
FSCA Florida State Collection of Arthropods, Gainesville, Florida, United States;
ISNB Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium;
MELN Museo Entomológico de León, León, Nicaragua;
MCZN Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, United States;
MZSP Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil.

***Neoma* gen. nov.**

Etymology. *Neoma*, is formed from the first two letters of Macrotomini and the Greek prefix neos (= new); the gender is feminine.

Type species. *Mallodonopsis corrosus* Bates, 1879.

Description. Size from medium to large (up to 4.0 cm).

Male. Body not depressed. Eyes large. Epistoma wide. Labrum not coplanar with the epistoma. Hypostomal area slightly depressed, rugose-punctate or anastomosedly punctate. Galea abundantly pilose, reaches about the middle of second palpomere of maxillary palpi. Mandibles, at most, as long as half the length of head; dorsal carina wide, not distinctly separated from the outer and inner surfaces. Antennae not reaching the apex of elytra; scape reaching the posterior ocular edge (sometimes surpassing).

Prothorax transverse; anterior angles slightly projected forward; lateral angles acute. Pronotum laterally distinctly inclined downwards; lateral margins weakly explanate, crenulate-spinose (sometimes only spinose); disc plate shining; laterally coarsely rugose-punctate; without sexual dimorphism (sexual punctation). Prosternum with sexual dimorphism. Proepimera and proepisterna with the same kind of sexual dimorphism of the prosternum. Prosternal process wide, surpassing the apex of procoxae. Metepisterna narrow; weakly, widely concave centrally (width at central region equal to about 0.2 times the length). Legs moderately short. Profemora strongly asperate-punctate, mainly on ventral surface; meso- and metafemora somewhat asperate on ventral surface, mainly in mesofemora. Tibiae thick, distinctly enlarged towards apex (mainly the protibiae); protibiae with asperities on ventral face; meso- and metatibiae without asperities.

Female. Antennae reaching from the apex of the anterior third of elytra to almost middle; scape usually, not or just reaching the posterior edge of eyes. Anterior angles of the prothorax projected forwards; lateral margins of the pronotum more distinctly spinose than in males. Femora and tibiae not asperate.

Included species. *Neoma corrosa* (Bates, 1879).

Diagnosis and Remarks. *Neoma* differs from *Mallodonopsis* Thomson, 1861 (Fig. 14-15) in its smaller size (usually, less than 4.0 cm); scape at most just surpassing the posterior ocular edge in male and usually, not reaching it in female; pronotum weakly explanated laterally (Fig. 1-5); anterior angles of prothorax narrow and slightly projected forward (Fig. 6-13); meso- and metafemora without spines on ventral surface in either sex; protibiae uniformly enlarged from base to apex, and with asperities ventrally in male. In *Mallodonopsis* the size is larger (usually, more than 4.0 cm); scape distinctly surpassing the posterior ocular edge (more so in male); pronotum distinctly explanated laterally (Fig. 16, 17); anterior angles of prothorax wide and distinctly projected forward (Fig. 14-17); meso- and metafemora with spines on ventral surface; protibiae enlarged apically; protibiae with spines on ventral surface (more conspicuous in male).

Neoma differs from the species of *Archodontes* Lameere, 1903 mainly by the mandibles slightly different between male and female (more evident in *Archodontes*), and by the absence of sexual punctation on the pronotum of male (present in *Archodontes*).

Neoma corrosa differs notably from *Aplagiognathus* Thomson, 1861 by the form of scape (as pointed out by Bates), by the narrow metepisterna, by the pronotum without sexual dimorphism (sexual puncta-

tion), and by the profemora strongly asperate-punctate in male. In *Aplagiognathus* the scape is short and thick, the metepisterna is wide, the pronotum has sexual dimorphism (sexual punctation present in male), and the profemora is almost smooth in male. Thus, the link between *Aplagiognathus* and *Mallodonopsis*, suggested by Bates (1879) is inconsistent and based primarily on general appearance versus morphological characters.

Neoma is more similar to *Archodontes* than to *Aplagiognathus*, but it also is much more similar to *Archodontes* than to *Mallodonopsis*. *Archodontes*, *Neoma* and *Mallodonopsis* have the same kind of sexual dimorphism on prosternum, proepimera and proepisterna, and the same kind of metepisterna (narrow), but the scape, legs and prothorax are more similar in the first two than in *Mallodonopsis*.

Vitali (2008) placed *Mallodonopsis* in Rhaphipodini: "Definitively, *Olethrius* finds a more natural place among Rhaphipodi [*sic*] than among Mallodontini. In particular, it seems to be related to *Ialyssus* for several characters (simple mandibles, long scape, spined legs, and elytral puncturing) and to *Rhaphipodus* through some glabrous smooth species (*O. tyrannus salomonum*, *O. laevipennis*, *O. caroliniensis*). *Mecosarthron* and *Mallodonopsis* are also well characterized inside the American Mallodontini and must be transferred to Rhaphipodi [*sic*]".

Santos-Silva and Galileo (2010) focused mainly on the separation of Macrotomini but also questioned the division of Macrotomini into tribes or subtribes. In our opinion, *Mallodonopsis* and *Neoma* belong to Macrotomini and not to Rhaphipodini (without entering in the merit of the validity or not of Rhaphipodini). Apparently, Vitali (2008) allocated *Mallodonopsis* based only on *M. mexicanus*: "The ancestor of *Olethrius* seems uncertain; nevertheless, it might have affinity with *Mecosarthron* and *Mallodonopsis* since both genera are characterized by a long scape". *Neoma corrosa* has the scape elongated, but distinctly shorter than in *Mecosarthron buphagus* Buquet, 1840 [*M. gounellei* (Lameere, 1903) and *M. tritomegas* Lameere, 1920, also have shorter scape] and *Mallodonopsis mexicanus*. But, there is no doubt that *Neoma* and *Mallodonopsis* are close to each other. The first one does not agree with the following character of Rhaphipodini pointed out by Vitali (2008): "scape flattened, long (reaching the anterior angles of the pronotum or at least abundantly surpassing the posterior margin of eyes in males)" – not abundantly surpassing in *M. corrosa* (as in *Mecosarthron gounellei* and *M. tritomegas*).

***Neoma corrosa* (Bates, 1879)**

(Fig. 1-13)

Mallodonopsis corrosus Bates, 1879: 7; 1884: 234, pl. 16, fig. 10; Damoiseau and Cools 1987: 32 (paratypes); Monné and Giesbert 1994: 5 (checklist); Monné 1995: 6 (cat.); Monné and Hovore 2005: 14 (checklist); 2006: 13 (checklist); Monné 2006: 53 (cat.); Hovore 2006: 371 (distribution); Swift et al. 2010: 8 (checklist).

Mallodonopsis corrosa; Lameere 1883: 10 (checklist); Casey 1912: 229; Lameere 1913: 11 (cat.); 1919: 28; Blackwelder 1946: 552 (checklist); Chemsak et al. 1992: 14 (*checklist*); Noguera and Chemsak 1996: 396 (checklist).

Basitoxus (Mallodonopsis) corrosus; Lameere 1903: 219.

Description. Integument brown to dark-brown.

Male (Fig. 1). Head (without mandibles) just shorter than prothorax, wider than long; dorsal surface coarsely, confluent, abundantly, deeply punctate, usually sparser and just smaller between the eyes; area between the ocular carina and the central sulcus without depression. Upper ocular lobe just narrower than lower ocular lobe; distance between upper ocular lobes about 1.4 times the width of a lobe; distance between lower ocular lobes about 0.7 times the width of the apex of genae. Ocular carina low and narrow; punctuation coarse, somewhat abundant and confluent on base, gradually sparser and finer towards apex, with the area closer to the scape finely and abundantly punctate. Epistoma centrally distinctly lower than the area between the upper ocular lobes, separated from it by two deep, oblique sulcus, united in the central area; anterior margin emarginated centrally. Hypostomal area slightly depressed, rugose-punctate; pilosity moderately long and abundant. Inner margin of mandibles with a single, large tooth; apex wide, bifid, distinctly separated from the outer surface by a constriction; punctuation abundant, coarse and partially anastomosed, mainly on outer side. Antennae just surpassing the middle of elytra; scape approximately as long as antennomeres III-IV together, punctation on dorsal

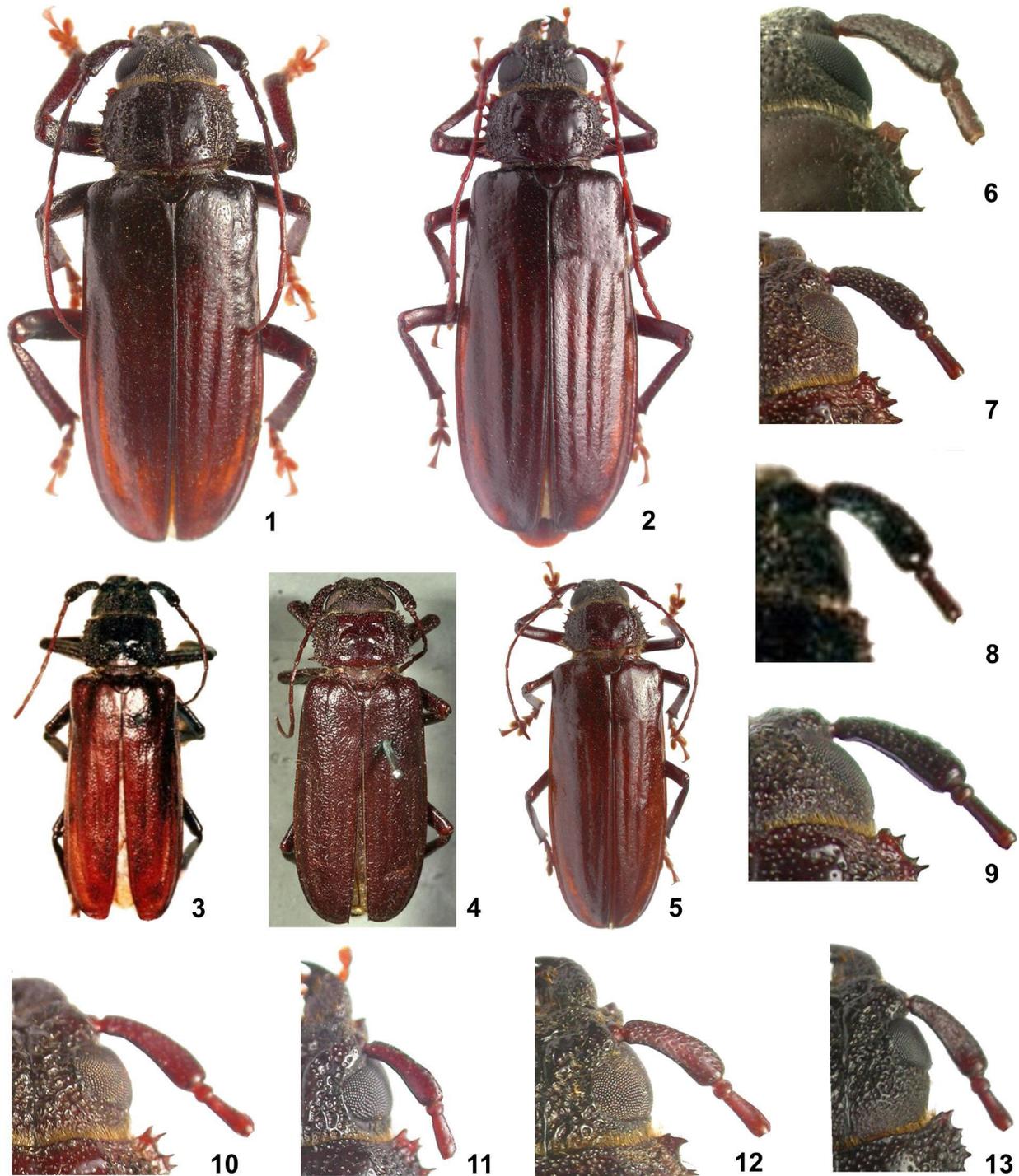


Figure 1-13. *Neoma corrosa* (Bates, 1879). 1-5) Dorsal habitus - 1) Male; 2) Female; 3) Lectotype male (BMNH); 4) Paralectotype male (MCZN - <http://insects.oeb.harvard.edu/MCZ/index.htm>). 5) Female. 6-13) Scape, antennomere III, anterior angle of the prothorax - 6-9) Male; 10-13) Female.

surface coarse, abundant, confluent on basal third, gradually smaller and sparser towards apex; antennomeres III-XI distinctly narrower than apex of scape.

Lateral angles of the prothorax adjacent to the posterior angles, longer than them; posterior angles acute. Disc of the pronotum shining, finely, sparsely punctate, with a transverse, coarsely punctate

furrow on each side of basal fourth; pilosity on disc very short and somewhat sparse, except on the transverse furrow, where the hairs are distinctly longer and more abundant; pilosity on sides moderately long and abundant. Prosternum finely, abundantly punctate laterally in a large band on each side that does not reach the anterior and posterior margins; pilosity moderately short and abundant, intermixed by long hairs. Pilosity of the prosternal process long and somewhat sparse, closer towards apex; margins with fringe of hairs. Pilosity of the metepisterna long and abundant. Pilosity of metasternum moderately short, abundant, intermixed with long hairs, except on the central triangular area, which is almost glabrous. Elytral punctation moderately fine and moderately abundant; apex rounded, with small spine at suture; each elytron with three carinae. Urosternites I-IV centrally almost flat, and laterally somewhat chagrined and with some small granules; pilosity very short and sparse centrally, laterally distinctly longer and more abundant. Tarsomere V approximately as long as I-II together.

Female (Fig. 2). Scape not reaching the posterior margin of eyes. Anterior angles of the prothorax frequently projected forwards more than in males. Prosternum coarsely, abundantly punctate laterally. Proepimera and proepisterna coarsely rugose-punctate. Pilosity of the metasternum and metepisterna, long and abundant, except on the central triangular area, where it is long and distinctly sparser. Elytral punctation as in males.

Variability. The body can be proportionally wide (Fig. 1, 2, 4) or narrow (Fig. 3, 5), mainly in females.

Males. area between the ocular carina and the central sulcus with shallow or deep depression; ocular carina sometimes almost indistinct; antennae distinctly surpassing the middle of the elytra; scape surpassing the posterior edge of eyes, ending from slightly short of to slightly past the apex of the anterior angles of prothorax (Fig. 4, 6-9); largest width of the scape proportionally narrow (Fig. 7) or wide (Fig. 8); length of the antennomere III from 0.40 to 0.48 times the length of the scape; antennomere III proportionally short and thick (largest width equal to about 0.42 times the length) (Fig. 6) or long and narrow (largest width equal to about 0.32 times the length) (Fig. 7-8); hypostomal area anastomosedly punctate; anterior angles of the prothorax vary from distinctly projected forward to slightly projected; lateral margins of the prothorax with spines varying from abundant and of uniform size (Fig. 7) to sparse and with variable size (Fig. 6); disc of the pronotum with punctation moderately abundant or sparser; disc of the pronotum almost glabrous; scutellum proportionally short or long; granules on ventral face of the protibiae from present and moderately abundant to absent.

Females. scape reaches or surpasses the ocular posterior edge; largest width of the scape variable as in males (Fig. 10-13); length and shape of the antennomere III as variable as in males (Fig. 10-13); anterior angles of the prothorax variable in shape and projection forward (Fig. 10-13); lateral margins of the prothorax with spines variable in shape, concentration and arrangement (Fig. 2, 5); disc of the pronotum with punctuation variable in shape (fine or moderately coarse), concentration (abundant or sparse), and arrangement (sometimes absent or almost so centrally); scutellum variable as in males; elytral punctation very abundant and distinct; apical spine of the elytra distinct or just indicated.

Dimensions in mm (male/female). Total length (including mandibles), 28.8-35.3/28.9-41.8; length of prothorax, 4.4-5.4/4.2-5.6; larger width of prothorax, 7.0-9.5/7.3-9.9; humeral width, 8.0-9.4/7.6-11.0; elytral length, 19.0-22.8/19.5-28.0.

Material examined. GUATEMALA, *Baja Verapaz*: 19-24 km N Salama (4500'), female, 25-31.V.1989, J. E. Wappes col. (ACMT). HONDURAS, *Olancho*: Parque Nacional La Muralla, male, 24-27.V.1995, J. E. Wappes col. (ACMT). NICARAGUA, *Jinotega*: Cerro Diablo vic. (1300 m), female, 9-10.IV.2005, E. van den Berghe col. (DHCO); El Diablo - Datanli La Esmeralda, 2 females, IV.2005, J.M. Maes col. (MELN). COSTA RICA, *Puntarenas*: Monteverde, 3 females, 22-23.V.1974, E. Giesbert col. (FSCA); male, female, 1-3.VI.1978, E. Giesbert col. (FSCA); male, 12-16.VI.1978, E. Giesbert col. (FSCA); female, 4-6.VI.1980, E. Giesbert col. (FSCA); 2 females, 4-6.VI.1980, J. E. Wappes col. (ACMT); male, 23.IV.1981, E. Giesbert col. (MZSP); 4 females, 23.IV.1981, E. Giesbert col. (FSCA); 2 males, 4 females, 24.IV.1981, E. Giesbert col. (FSCA); male, 25.IV.1981, E. Giesbert col. (FSCA); female, 19-26.IV.1988, E. Giesbert col. (MZSP); 4 females, 19-26.IV.1988, E. Giesbert col. (FSCA).

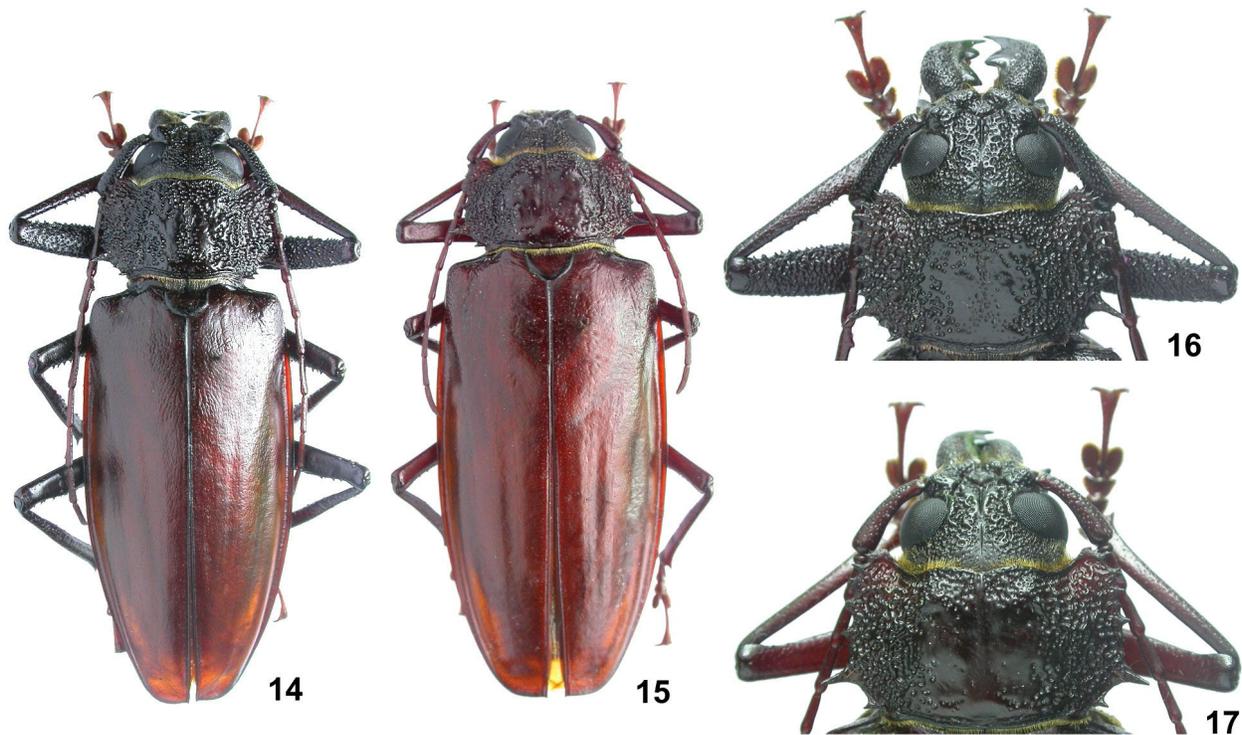


Figure 14-17. *Mallodonopsis mexicanus* Thomson, 1861. 14-15) Dorsal habitus - 14) Male; 15) Female. 16-17) Head and pronotum - 16) Male. 17) Female.

Geographical distribution (between parentheses is the author who first cited the country). Mexico (Blackwelder 1946), Guatemala (Bates 1879), Belize (Bates 1879), Panama (Casey 1912), Mexico to Panama (Chemsak et al. 1992).

Types. Bates (1879) did not record how many specimens or the sex of the specimens examined when he described the species, but he had males [specimens deposited in the BMNH and MCZN, whose photos were examined] and females [“lateribus denticulis acutissimis 8-10”]: “Long. 1 poll. 2 lin. usque 1 poll. 6 lin. [male and female symbol]”; “Hab. GUATEMALA (*Salvin*), Capetillo (*Champion*); BRITISH HONDURAS, R. Sarstoon (*Blancaneau*)”.

Damoiseau and Cools (1987) wrote: “**corrosus** BATES, 1879, Biol. Centr. Amer. 5: 7, **Mallodonopsis**. (*) 6 paratypes, (6), Guatemala: Capetillo, G. C. Champion”. Bates (1879) did not choose a holotype. Thus, the specimens deposited in the ISNB are syntypes and not paratypes.

Additionally, there is at least one specimen (male) deposited in MCZN (ex. Godman and Salvin Collection), figured at <http://insects.oeb.harvard.edu/mcz/> (Fig. 4).

Traditionally the specimens described by Bates in the *Biologia Centrali-Americana* are deposited in the BMNH, hence we **here designate** as **LECTOTYPE** the specimen male (Fig. 3) deposited in that Collection, that has the following labels:

1. Circular red edged: BM Type label;
2. White rectangular handwritten label: Guatemala (Bates handwritten)
3. sp. figured (printed) 4;
4. B.C.A., Col., V. / *Mallodonopsis*/ *corrosus*;
5. White handwritten det. label: *Mallodonopsis/corrosus*/Bates (Bates handwritten);
6. Rectangular red label: **LECTOTYPE** (printed).

Remarks. Jenis (2010: 47) figured a female specimen from Mexico (Durango) as *Archodontes corrosus*. That specimen, apparently, is a female of *Physopleurus maillei* (Audinet-Serville, 1832), a species that

occurs in Brazil (Alagoas, Espírito Santo, Rio de Janeiro, São Paulo, and Santa Catarina), Paraguay, and Argentina (Tucumán, Misiones).

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