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## MORPHOLOGICAL ANALYSIS OF *MECOSARTHON* BUQUET AND *XIXUTHRUS* THOMSON AND REEVALUATION OF GENERIC ASSIGNMENT OF *XIXUTHRUS DOMINGOENSIS* FISHER (COLEOPTERA, CERAMBYCIDAE, PRIONINAE)

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### ABSTRACT

*The characters defining Mecosarthron Buquet, 1840 and Xixuthrus Thomson 1864 are discussed, along with a historical review of the literature that described and classified these taxa. Through morphological examination of these genera and most of the included species, we addressed the systematic placement of Xixuthrus domingoensis Fisher, 1932 that was placed in Mecosarthron by Ivie (1985). We restore its placement in the genus Xixuthrus. The first description of the female of X. domingoensis is provided, along with comparative redescrptions of Mecosarthron gounellei (Lameere, 1903), and M. buphagus Buquet, 1840. We include a key to the species currently in Mecosarthron.*

KEY-WORDS: Systematics; Hispaniola; South America; Longhorned beetles; Sexual dimorphism; Morphology.

### INTRODUCTION

The taxonomic history and characters of two genera of Prioninae, *Mecosarthron* Buquet 1840 and *Xixuthrus* Thomson 1864, are discussed. The relationship of these genera is poorly known since they share some characters but differ in others. The main purpose of this work is to elucidate their taxonomy through examination of the characters in all the relevant species. As a result of this work, we transfer one species from *Mecosarthron* to *Xixuthrus*, provide descriptions or redescrptions for three species in these groups, and provide an identification key to *Mecosarthron*.

### MATERIAL AND METHODS

Morphological examination and measurements were made using Axiovision software and a Zeiss AxioCam HRc camera attached to a Zeiss Discovery V.20 stereomicroscope with Sycop motorized zoom, focus control, and a PlanApo S 0.63X objective. Material was examined from many institutions whose acronyms are as follows: **BMNH**: The Natural History Museum, London, England; **DZUP**: Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Brazil; **INPA**: Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil; **IRSN**: Institute Royal

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des Sciences Naturelles de Belgique, Brussels, Belgium; **MCNZ**: Museu de Ciências Naturais, Fundação Zoobotânica do Rio Grande do Sul, Porto Alegre, Brazil; **MNHN**: Muséum national d'Histoire naturelle, Paris, France; **MNRJ**: Museu Nacional, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil; **MZSP**: Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil; **USNM**: National Museum of Natural History, Washington D.C., USA.

### On the original descriptions and subsequent classifications of *Mecosarthron* Buquet, 1840, and *Xixuthrus* Thomson, 1864

Buquet (1840) proposed *Mecosarthron* based on a single species he described, *M. buphagus*, and defined the genus as follows: head longer than wide, longitudinally and deeply sulcate; mandibles strongly punctate, weakly arched, inner margin toothed, outer face slightly emarginate near apex; antennae with eleven segments, reaching the posterior third of elytra; scape almost as long as the following four together; pedicel very short and longer than wide; antennomeres III–XI subequal in length; prothorax transverse, almost 1.5 times the length, laterally spiny, and with a long, broad spine at posterior angles; elytra elongate, convex, slightly narrowed posteriorly with a straight spine at sutural angle; scutellum as wide as long, rounded posteriorly; legs long, equal, entirely rugose and covered by small spines or denticles that are stronger on the first two pairs of legs; tarsi wide, thick, with the first segment almost as long as the following two together; abdomen wide with last ventrite rounded laterally and truncate at apex.

Thomson (1861) included *Mecosarthron* in his division “Macrotomitae”, characterized mainly by the head not being elongate behind the eyes; long antennae which, in males, frequently reach the elytral apex; antennomere III very long; upper eye lobes subapproximate; mandibles subvertical; prothorax laterally spiny or crenulate; elytra long, hind legs weakly elongate; foretibiae toothed at least in male; tarsomere I shorter than II–V together. Besides *Mecosarthron*, Thomson’s “Macrotomitae” included: *Ancistrotus* Audinet-Serville, 1832, *Hoplideres* Audinet-Serville, 1832, *Enoplocerus* Audinet-Serville, 1832, *Psalidocoptus* White, 1856, *Aulacocerus* White, 1853, *Ctenoscelis* Audinet-Serville, 1832, *Ergates* Audinet-Serville, 1832, *Navosoma* Blanchard, 1846, *Strongylaspis* Thomson, 1861, *Aulacopus* Audinet-Serville, 1832, *Macrotoma* Audinet-Serville, 1832, *Trichocnemis* LeConte, 1851, *Rhesus* (according to Lacordaire

1868: “M.J. Thomson a mentionné deux fois ce genre ..., sans en exposer les caractères et en l’attribuant à M. De Motschoulsky, dans les ouvrages de qui je ne parviens pas à le découvrir”), *Remphan* Waterhouse, 1835, *Olethrius* Thomson, 1861, *Hermerius* Newman, 1844, and *Malldodonopsis* Thomson, 1861.

Thomson (1864) described *Xixuthrus* for *Macrotoma microcera* White, 1853, and compared it with *Mecosarthron*: “Fascies *G. Mecosarthronis*, sed multum magis elongatus, statura majore, antennarumque artic. 1° tertio brevior, subito dignoscitur”.

According to him, *Xixuthrus* has the following characters: upper eye lobes just subapproximate; antennae slender, reaching the posterior third of the body, with eleven segments; scape exteriorly toothed, scabrous; antennomere III slightly longer than scape, underside spiny; antennomeres IV–X slender, gradually shorter; antennomere XI longer than X; genae projecting; mandibles elongate, projecting, weakly curved downwards, with four teeth at inner face (two at base and two more apical); palpi elongate; prothorax narrowed anteriorly, laterally toothed or crenulate; scutellum rounded; elytra very elongated, almost flat, subparallel, apex with sutural spine; pro- and mesosternal process almost laminiform; forelegs longer than middle and hind legs, robust; all legs inferiorly with two series of spines; tarsi wide, last segment notably long.

Thomson (1864) included *Xixuthrus* and *Mecosarthron* among his “Ctenoscelitae”, characterized by: upper ocular lobes sub-approximate; scape frequently elongate, slender, rarely short and somewhat thick; antennomere III longer than following (except in *Mecosarthron*); prothorax wide, crenulate, with sexual dimorphism very distinct; elytra wide, almost flat, laterally enlarged; pro- and mesosternal process laminiform; legs more or less spiny, rarely unarmed. “Ctenoscelitae” was a division of “Macrotomitae”, and besides *Xixuthrus* and *Mecosarthron* included: *Ancistrotus*, *Ialysus* Thomson, 1861, *Ctenoscelis*, *Ergates*, *Navosoma* and *Trichocnemis*. That group had many exceptions (some of them pointed out by Thomson himself), and at least one character that does not occur in *Mecosarthron* and frequently not in *Xixuthrus* [but weakly so in the type species, *X. microcerus* (White, 1853)]: pronotum with sexual dimorphism distinct.

Lacordaire (1868) maintained *Xixuthrus* and *Mecosarthron* in “Cténoscélides” that also included *Ialysus* and *Ctenoscelis*, and characterized this group as follows: ligulae moderately emarginate; mandibles very distinct, sub-horizontal or tilted down, rarely vertical, almost flat dorsally; antennae filiform; eyes

not divided; prothorax usually with sexual dimorphism marked, and in this case, in males finely rugose or abundantly and finely punctate; with shining callosities in males and always rugose and irregular in females, laterally crenulate in both sexes; legs long, tibiae spiny; tarsomere III bilobed.

That there was confusion about the phylogenetic relationships of *Xixuthrus* and *Mecosarthron* is clear by looking at the sequence of treatments by Lameere. Lameere (1901) placed *Xixuthrus* and *Mecosarthron* in “Macrotomites” and subtribe “Titanines”: “*Mecosarthron* est le point de départ de *Ctenoscelis* (y compris *Jalyssus*? [sic], *Aulacocerus*, *Titanus*, *Ancistrotus*, *Apotrophus*, probablement de *Chalcoprionus*, qui m’est inconnu, et vraisemblablement aussi de *Macrodonia*, genre qu’il m’est impossible de bien juger, n’ayant pas à ma disposition les espèces inférieures”. To Lameere the “Macrotomites” had the eyes unemarginate, with two subtribes: “Macrotomines”, in which the ligulae are small and undivided; and “Titanes”, in which the ligulae are large and bilobed.

To Lameere (1903a) the inclusion of *Mecosarthron* in “Cténoscélides” was unjustifiable because the ligulae are different, and according to him, the shape of eyes, legs, etc., led to his conclusion that the approximation of Buquet (1840) was quite superficial. Lameere (1903b) placed *Xixuthrus* and *Mecosarthron* in “Mécosarthrines” and provided a key to the genera in that group, characterized as follows: sides of prothorax crenulated; ligulae large and bilobed; scape very long. “Mécosarthrines” included, besides *Xixuthrus* and *Mecosarthron*: *Omotagus* Pascoe, 1867, *Dysitatus* Pascoe, 1869, *Clinopleurus* Lansberge, 1884, and *Daemonarthra* Lameere, 1903b.

Lameere (1912) revised his opinion, stating for “Mécosarthrines” (translated): “This group must take the name of Xixuthrines, genus *Mecosarthron* to me appearing decidedly, having to be removed to be placed near *Basitoxus*”. He provided no explanation as to why he changed his opinion from 1903. Lameere (1913) maintained *Xixuthrus* and *Mecosarthron* in Macrotomini, the former being in the subtribe “Xixuthri” and the latter in “Basitoxi”.

Lameere (1919) described “Xixuthri” and “Basitoxi”, clarifying his opinion of 1912. Comparing the descriptions of the two groups, the differences are almost nonexistent or nearly all characters are variable according Lameere himself, and inadequate for separating the groups of genera. Among the characters recorded for the two groups by Lameere we can mention one in which he did not indicate variation: body convex in “Xixuthri” and weakly convex in “Basitoxi”. In the key to the groups of Macrotomini, Lameere

separated “Xixuthri” and “Basitoxi” at couplet 1: lateral margins of prothorax on a ridge (crest) and explanate sides, prothoracic episterna wide, antennae with the scape and antennomere III usually somewhat elongate, and body less depressed: “Basitoxi”; lateral margins of prothorax not on a ridge, sides not explanate but declivous, prothoracic episterna more or less narrow, antennae frequently with scape and antennomere III elongated, and body more convex: “Xixuthri”. Clearly, the key does not fully distinguish the groups of genera, and nearly all are based on subjective, variable or dubious characters.

Vitali (2008) used a tribal status for “Rhaphipodi” *sensu* Lameere (1912), including, besides the genera allocated by him, the following ones: *Mecosarthron*, *Mallodonopsis* Thomson, 1861, *Olethrius* Thomson, 1861 and *Samoethrius* Vitali, 2008. Rhaphipodini was characterized by Vitali: “habitus relatively stout; head with Y-shaped suture; labrum small; mandibles with scarce sexual dimorphism; scape flattened, long (reaching the anterior angles of the pronotum or at least abundantly surpassing the posterior margin of eyes in males), not shorter than antennomere III, straight or abruptly bowed at base; pronotum laterally denticulate; elytra with three longitudinal ridges, sometimes obsolete; legs more or less visibly denticulate; anterior legs of males longer and more robust than those of females”. Yet according to Vitali (2008: 29), Rhaphipodini (including *Mecosarthron*) differs from “Xixuthri in the 4 elytral ridges and the concave labrum”.

To assess the relationships and phylogenetic placement of *Mecosarthron domingoensis* (Fisher, 1932), we have analyzed the type species, as well as others, of all the associated tribes or subtribes based on the paper of family group names by Bousquet *et al.* (2009). To this list, we have added several species of other groups proposed by Vitali (2008) since his classification differs. Clearly, a thorough phylogenetic study involving all genera in these groups needs to be undertaken, but the goal of this work is simply to understand the most appropriate placement of the species currently placed in *Mecosarthron*. An analysis of the type species in these genera will suffice to achieve that goal.

#### The similarities and differences between *Xixuthrus* and *Mecosarthron*

As the convoluted literature on tribal affinities suggests, *Xixuthrus* and *Mecosarthron* have more morphological features in common than

different, especially when we compare some species such as *M. tritomegas* Lameere, 1920 and *X. microcerus* (White, 1853). Among the features in common, the more notable are: prothorax margins with numerous small spines; prosternal process large (although very variable in shape, mainly in the species currently placed in *Xixuthrus*); epipleuron at humerus smooth and margined dorsally with a distinct carina; 3-4 elytral costae visible; profemora in male rugose-scabrous; tibiae (particularly first pair) lined with numerous denticles and small spines; two moveable spurs adjacent to one another at apex of metatibia; tarsal pads 1-3 with narrow, glabrous middle region.

The scape and antennomere III in *Xixuthrus* vary in form and length. The same occurs in *Mecosarthron*, if *M. tritomegas* really is a true *Mecosarthron* (see comments below).

The first protarsomere in *Xixuthrus* is also variable and does not distinguish this genus from *Mecosarthron*, although in the species included originally in *Xixuthrus* by Lameere (1903b) (*X. microcerus*, *X. costatus* (Montrouzier, 1855) and *X. heros* (Heer, 1868)) it is strongly narrowed at base and very elongate, while in *Mecosarthron* it is moderately narrowed at the base and less elongate.

The protibia in *Xixuthrus* (mainly in males) is proportionally narrower and longer (Fig. 1) than in *Mecosarthron buphagus* (Fig. 2), or at least it is strongly enlarged apically (as in *X. lameerei* Marazzi *et al.*, 2006). However, the holotype male of *M. tritomegas* is aberrant in that feature (Fig. 7B), because the protibia is the same as in many *Xixuthrus* (strongly variant from middle and hind tibiae).

*Xixuthrus* (and also *Dysiatus* Pascoe, 1869 [Fig. 8]) differs from *Mecosarthron* by having the prothorax of males microsculptured (sexual punctation of Lameere (1903b)) and the elytral costae visible, frequently pronounced. In *Mecosarthron*, the prothorax of males is not microsculptured, and the elytral costae are not pronounced (or not well delimited). In *M. gounellei* (Lameere, 1903a) the elytral costae are distinct, but they are not well delimited as in *Xixuthrus*. In some males of *Xixuthrus*, the sexual punctation of the prothorax is not evident, but the sculpturing of the pronotum differs from *Mecosarthron*: in *Xixuthrus* it is finely punctate and frequently with callosities distinctly contrasting with the areas around them; in *Mecosarthron* the pronotum is distinctly more coarsely punctate, and there are no contrasting callosities.

Marazzi *et al.* (2006) synonymized *Clinopleurus* Lansberge, 1884 with *Xixuthrus*, based on the similarity of shape of the mesosternal apophysis, allometric length of the mandible, length of the palpi, and shape

of pronotum. Currently, *Xixuthrus* is divided into two subgenera based on the development of the protibia: *Xixuthrus sensu stricto*, type species *Macrotoma microcera* White, 1853, and *X. (Daemonarthra)*, type species *Daemonarthra helleri* Lameere, 1903b. The species of *Xixuthrus (Xixuthrus)* have the protibia slender, frequently very long, not uniformly enlarged from the base towards apex and not appreciably thickened at apex, and tarsomere I notably long. *Xixuthrus (Daemonarthra)* do not have the apex of the protibia notably thickened. However, there are species with intermediate features, such as *X. solomonensis* Marazzi & Marazzi, 2006, and other species that have the protibia not fitting the subgeneric definitions, such as *Xixuthrus (Xixuthrus) thomsoni*, *X. (X.) lameerei*, and *X. (X.) arfakianus*, suggesting that the validity of the subgeneric classification needs to be re-examined.

***Xixuthrus (Xixuthrus) domingoensis* Fisher, 1932,  
Restored Combination  
(Figs. 4, 5E, F, 9)**

*Xixuthrus domingoensis* Fisher, 1932: 1; Blackwelder, 1946: 552 (cat.).

*Mecosarthron domingoensis*; Ivie, 1985: 246 (comb. nov.); Chemsak *et al.*, 1992: 14 (cat.); Monné & Giesbert, 1994: 5 (cat.); Monné, 1995: 7 (cat.); Monné & Hovore, 2005: 14 (cat.); 2006: 13 (cat.); Monné, 2006: 54 (cat.); Lingafelter & Woodley, 2007: 173.

Russo (1930) mentioned an undescribed species of *Xixuthrus* from the Dominican Republic. Fisher (1932) described this species, then known only from two males, as *Xixuthrus domingoensis* (we provide the first description of females below). Ivie (1985) reconsidered the generic placement and suggested it would be better placed in *Mecosarthron*. Monné (2006) in his catalog of Cerambycidae of the Neotropical Region, accepted this conclusion. Lingafelter & Woodley (2007), although challenging Ivie's placement, retained its position in *Mecosarthron*, pending further research.

Ivie (1985) examined the holotype of *Xixuthrus domingoensis* and concluded that it should be placed in *Mecosarthron* Buquet. According to him "*Mecosarthron* differs from *Xixuthrus* by having the profemora longer than or subequal to the mesofemora in males (profemora shorter than mesofemora in *Xixuthrus*)". However, males of *X. microcerus* have the profemora slightly longer than the mesofemora and males of *X. helleri* have the pro- and mesofemora subequal in



length, exactly as in males of *M. buphagus*. Further, the length of the forelegs in *Xixuthrus* is allometric and variable (Yanega *et al.*, 2004). Further, according to Ivie (1985), “the third antennomere [is] distinctly shorter than the first ... (subequal in *Xixuthrus*)”. However, because antennomere III is highly variable in *Xixuthrus* (e.g., distinctly longer than the first in *X. heros* and *X. terribilis* Thomson, 1877; distinctly shorter in *X. helleri* and *X. costatus*; and subequal in *X. arfakianus*), this is also a spurious character on which to base his decision. Finally, Ivie (1985) wrote: “... the anterior margin of the pronotum [is] acutely indented near the sides and in the middle [*X. domingoensis* – holotype] (smoothly bisinuate in *Xixuthrus*)”. Again, this character is not useful to distinguish *Xixuthrus* from *Mecosarthron* because it is variable. For example, *X. granulipennis* Komiya, 2000, *X. costatus*, and *X. helleri* have the anterior edge of the prothorax very similar to *X. domingoensis*. Curiously, Ivie (1985) indicated the main difference between *Xixuthrus* and *Mecosarthron*, as was pointed out by Lameere (1903b): “*Mecosarthron domingoensis* Fisher can be distinguished from *M. buphagus* Buquet (Brazil) and *M. gounellei* Lameere (Brazil) by the finely punctate pronotum with irregular, smoothly glabrous calli on each side of disk”. This character alone, even without any other, supports keeping Fisher’s species in *Xixuthrus*, but the form of the protibia and protarsomere I (Fig. 4) is also identical to that found in nearly all species of *Xixuthrus* (for *M. buphagus*, see Fig. 2).

Based on the morphological characters of the type species of *Mecosarthron* and *Xixuthrus*, we return *Mecosarthron domingoensis* to *Xixuthrus* (*Xixuthrus*), re-establishing the original combination. The arguments used by Ivie (1985) to place this species in *Mecosarthron* are not supported. However, we need to say that some features found in *X. (X.) domingoensis* agree better with those found in *Dysiatus* than in *Xixuthrus*, as for example, the very distinct sexual punctuation in males (Fig. 5E) [for males of *Dysiatus melas* see Fig. 8A]. The differences pointed out by Pascoe (1869) (“mandibulae crassae, subverticales, productae, rectae, apice abrupte arcuatae, intus bidentatae ... Antennae graciles, dimidio corporis longiores; scapo subelongato, depresso, scabro, intus denticulato; articulo tertio multo brevior ... Prothorax transversus, utrinque denticulatus, angulis anticis productis, rotundatis, apice bisinuato, basi truncate ...”) to separate *Dysiatus* from *Xixuthrus* do not really distinguish these genera. Pascoe (1869) separated *Xixuthrus* and *Dysiatus* in a key: anterior angles of the prothorax rounded (*Xixuthrus*); anterior angles of the prothorax produced (*Dysiatus*). This feature is variable in the

species actually placed in *Xixuthrus* and does not exclude *X. domingoensis* from *Dysiatus*. Pascoe (1869) also wrote: “tarsi antici articulo basali haud elongato”. This is not true: the photographs of the holotype of *Dysiatus melas* Pascoe (Figs. 8A, B) show that tarsomere I is elongate, as in some species of *Xixuthrus*, although not notably elongate as in *X. microcerus* and *X. domingoensis*.

Gressitt (1959) also separated *Xixuthrus* from *Dysiatus* in a key, using the form of anterior angles of prothorax: rounded in the species of *Xixuthrus* from New Guinea and projected forward in *Dysiatus*. However, this character does not distinguish the genera, and reveals a mistake: the anterior angles of *Xixuthrus* (*Daemonasthra*) *helleri*, a species that occurs in New Guinea and was mentioned by Gressitt (1959), are as in *Dysiatus*. Furthermore, other species recently described, such as *X. lameerei* Marazzi *et al.* (2006), also from Papua New Guinea, have the anterior angles of the prothorax as in *Dysiatus*.

Similarly, the characters used by Lameere (1903b) are inadequate to distinguish *Xixuthrus* from *Dysiatus*: “Antennes à 3<sup>e</sup> article notablement plus court que le 1<sup>er</sup>; mandibles renflées à la base; tarsi antérieurs à 1<sup>er</sup> article non allongé”, for *Dysiatus*; and “Antennes à 3<sup>e</sup> article au moins presque aussi long que le 1<sup>er</sup>; mandibles non renflées à la base tarsi antérieurs à 1<sup>er</sup> article allongé”, for *Xixuthrus*.

The shape and punctuation of the prothorax in males, type of mandible, and length of antennomere III is very similar in *D. melas* and *X. domingoensis*, but the length and shape of the protibia and tarsomere I (longer and finer) and the presence of elytral pubescence [absent in males of *D. melas*], allow the exclusion of Fisher’s species from *Dysiatus*. According to Lameere (1912) the females of *D. melas* have the elytra slightly pubescent.

The geographical isolation of *X. (X.) domingoensis* suggests that the species may have been introduced. However, no known species of *Xixuthrus* in the Pacific Islands (its geographic center of diversity) match this species. Thus, it is most likely a native species, although it is challenging to explain the presence of a species of *Xixuthrus* on an Atlantic island, while it doesn’t occur in Africa or North, Central, or South America.

The original description of the male (Figs. 4A-C, 9) is detailed and needs few additional comments. Nevertheless, Fisher (1932) recorded some features that do not agree with the holotype or with the specimens more recently collected: “Elytra five times as long as pronotum” (actually just longer than four times); and “eyes ... separated from each

**1A****1B****1C****1D****1E****1F**

**FIGURE 1:** *Xixuthrus microcerus* (White). **A.** dorsal habitus, male; **B.** ventral habitus, male; **C.** lateral habitus, male; **D.** dorsal habitus, female; **E.** ventral habitus, female; **F.** lateral habitus, female.





2A



2B



2C



2D



2E



2F

FIGURE 2: *Mecosarthron buphagus* Buquet. A. dorsal habitus, male; B. ventral habitus, male; C. lateral habitus, male; D. dorsal habitus, female; E. ventral habitus, female; F. lateral habitus, female.

other on the top by about the width of the upper lobe" (actually, the distance between upper lobes is equal to about 1.5 X the width of the lobe, and a little greater than its length). Since the original description was based only on males, we present the first description of the female below, followed by comments on sexual dimorphism in this species.

*Description* (female, Fig. 4D-F): Integument reddish-brown, mostly matte due to pubescence; darker on head, pronotum, venter, and appendages than on elytra; mostly covered with very short, fine, translucent to slightly golden pubescence.

Head coarsely and confluent punctate between the eyes; punctures of differing sizes; area between the posterior edge of eyes and occiput densely punctate-granulate; punctures becoming less dense on antennal tubercle; pilosity short and moderately dense between eyes, with equal abundance, density, and length between eyes and occiput. Labrum centrally strongly concave, arcuate at base; pilosity long, moderately dense, projecting forward. Eyes large, with only slight indentation near antennal tubercle; from lateral view, eye extends the entire height of head from vertex to gula, somewhat broader ventral to tubercle than dorsally; from ventral view, eye extends nearly length of head from posterior margin to just before mandible base. Minimum distance between upper eye lobes about 2/3 length of antennomere III; distance between lower lobes greater, but less than length of antennomere III. Area around eye margin not sulcate; strongly depressed between eyes and antennal tubercles with central sulcus extending from between antennal tubercles to occiput. Gula between ventral lobes of eyes strongly vermiculate, lacking pubescence. Gena strongly produced anteriorly into broad, but blunt tooth below mandibular insertion. Mandibles ventrally projecting, from 0.5 to 0.6 times the length of the head; with strong, acute, broad apical tooth, smaller tooth at middle, and weak tooth at base; coarsely, confluent punctate on outer surface, except for teeth (anterodorsally); mostly smooth on underside (posteroventrally); pilosity short, sparse, limited to margins and base. Antennae reaching about middle of elytra or slightly surpassing middle. Scape about as long as antennomeres II-III-IV together (about length of head); dorsally flat, coarsely, shallowly, sparsely punctate, otherwise smooth and shiny, without denticles; neither vermiculate or asperate.

Pronotum much broader posteriorly than anteriorly; strongly multispinose on lateral margins (10-15 well defined spines), with well-defined spines at anterolateral and posterolateral corners; densely

punctate; punctures mostly confluent but of different sizes; weakly depressed at middle with small, shiny, impunctate region just anteromedially, extending in a partial medial line posteriorly, but not attaining posterior margin; pronotal sculpturing forming several incomplete, elevated ridges laterally on disk. Most pronotal punctures each bear a single, short, inconspicuous, translucent seta, but otherwise the pronotum appears shiny and glabrous. Prosternum moderately but shallowly punctate-vermiculate, becoming less dense at sides and base of prosternal process. Prosternal process wide, slightly narrowed between procoxae; widened again and rounded on apex. Pubescence of prosternum short, sparse, but more conspicuous than on pronotum.

Elytra with mostly matte finish, but with shiny areas around base, suture, and costal ridges; mostly covered with very short, fine, translucent to slightly golden pubescence; very finely punctate; each micropuncture bearing a single, short, translucent seta. Elytra each with three incomplete costae equally spaced between suture and lateral margin; integument with microrugulae throughout, visible under high magnification.

Femora and tibiae mostly smooth but with scattered asperites throughout and microspinules irregularly scattered along inner margin; protibiae each with two confluent spurs apicomally and a spine apicolaterally. Protibiae slightly curved laterad from base to apex. All femora about as long as tibiae; overall length of legs similar, but middle legs slightly shorter.

*Dimensions in mm* (female, n = 4): Total length (including mandibles), 60-85; length of prothorax, 9-13; width of prothorax between bases of posterolateral spines, 16-23; width of prothorax between bases of anterolateral spines, 8-11; body width at humeri, 19-27; elytral length, 43-62.

*Remarks on sexual dimorphism:* Sexual dimorphism in *X. domingoensis* is most apparent in the structure of the forelegs, pronotum, antennae, and mandibles. The legs (especially protibiae and profemora) are strongly spinulose and asperate in males and very weakly so in females. The protibiae of males are slightly but distinctly curved mesally toward apex (inward curvature) while in females they are outwardly curved toward apex. The protibiae in males are distinctly longer than the profemora (ratio of 1.2-1.3), while in females, they are of approximately the same length. The pronotum in males is very evenly, densely, confluent punctate and lacking ridges. There are 4 small, shiny, semi-impunctate regions on the disk in males: 1 on



either side and just anterior to middle, and one posterolateral to that, on each side. In females, the pronotum is as described above, with punctures mostly confluent but of different sizes and with a small, shiny, impunctate region anteromedially, extending into a partial median line posteriorly. The antennae of females reach to approximately the middle of the elytra, while in males, the antennae reach to approximately the apical fourth of the elytra. In females, the mandibles are approximately half the length of the head, while in males, the mandibles are greatly enlarged and nearly as long as the head.

*Geographical distribution:* *Xixuthrus domingoensis* is known only from the Dominican Republic (Provinces of Santiago, San Pedro de Macorís, and Altagracia) on the island of Hispaniola.

*Type data:* Holotype male (Fig. 9A-C), from Dominican Republic (Santiago), collected by Giuseppe Russo Gounelle, in 1926, deposited at USNM.

*Material examined:* All DOMINICAN REPUBLIC: La Altagracia Province, Punta Cana near Ecological Reserve, 0.5 meters, 18°30.477'N, 68°22.499'W: 2-7 July 2005, S.W. Lingafelter (1 female, USNM); 2-7 July 2005, N.E. Woodley (1 female, USNM); 3 July 2005, Charyn J. Micheli (1 female, USNM); 14-17 June, 2010, S.W. Lingafelter (1 female, USNM).

***Mecosarthron buphagus* (Buquet, 1840)  
(Figs. 2, 5A, B)**

*Mecosarthron buphagus* Buquet, 1840: 172; White, 1853: 10; Thomson, 1864: 296; 1878: 17; Lacordaire, 1868: 90; Lameere, 1903b: 318; Melzer, 1919: 38; Pentead-Dias, 1984: 226; Blackwelder, 1946: 552 (checklist); Monné & Giesbert, 1994: 5 (checklist); Monné, 1995: 7 (cat.); Monné & Hovore, 2005: 14 (checklist); 2006: 13 (checklist); Monné, 2006: 54 (cat.).

*Stenodontes* (*Mecosarthron*) *buphagus*; Lameere, 1903a: 136.

*Redescription:* Male (Fig. 2A-C). Integument piceous to dark reddish-brown except for apical 3/4 of elytra which are lighter reddish-brown; elytra moderately shiny with inconspicuous, very short, fine, translucent pubescence.

Head integument with shagreened appearance, more coarsely developed between eyes and on antennal tubercles, more finely developed on vertex and

occiput; very few defined punctures present; pilosity short, sparse, becoming denser in indistinct patches behind eyes; broad at base (10-12 mm). Labrum centrally moderately concave, arcuate at base; pilosity of moderate length and density, projecting forward. Eyes large, singularly lobed, with only very vague indication of indentation at side near antennal tubercle; from lateral view, eye extends nearly entire height of head from vertex to gula, somewhat broader ventral to tubercle than dorsally; from ventral view, eye occupies about 50% of length of head from anterior genal apex to posterior pronotal margin. Minimum distance between upper eye lobes barely less than length of antennomere III; distance between lower lobes just greater than length of antennomere III. Area around eye margin not sulcate; strongly depressed between eyes on vertex. Gula between ventral lobes of eyes strongly vermiculate, lacking pubescence. Gena strongly produced anteriorly into broad tooth below mandibular insertion. Mandibles ventrally projecting, from 0.7 to 0.8 times the length of the head; with strong, acute, broad apical tooth, smaller tooth at middle, and weak tooth at base; coarsely, confluent punctate on outer surface, except for teeth (anterodorsally); mostly smooth on underside (posteroventrally); pilosity short, sparse, limited to margins and base. Antennae reaching to at least apical fourth of elytra. Scape elongate (11-13 mm), slightly longer than antennomeres II-III-IV together (extending to anterior third of pronotum); with denticles or spinules on mesal-ventral margin, weakly asperate on dorsolateral margin.

Pronotum slightly broader posteriorly than anteriorly; strongly multispinose on lateral margins (12-15 well defined spines), with poorly defined spines at anterolateral and posterolateral corners; densely, uniformly reticulate-punctate; small, indistinct impunctate region anteromedially; lacking ridges or raised calli. Sparse, short, inconspicuous, translucent setae present, otherwise pronotum shiny and glabrous. Prosternum moderately vermiculate, without distinct punctures. Prosternal process wide, narrowed and elongated posterior to procoxae. Pubescence of prosternum short, sparse, but more conspicuous than on pronotum.

Elytra weakly shiny, mostly covered with very short, fine, translucent pubescence; lacking punctures; microrugulate and shagreened throughout. Elytra each with two vaguely indicated, minimally raised costae equally spaced from suture laterally, and a third vague depression between lateral-most costa and lateral margin.

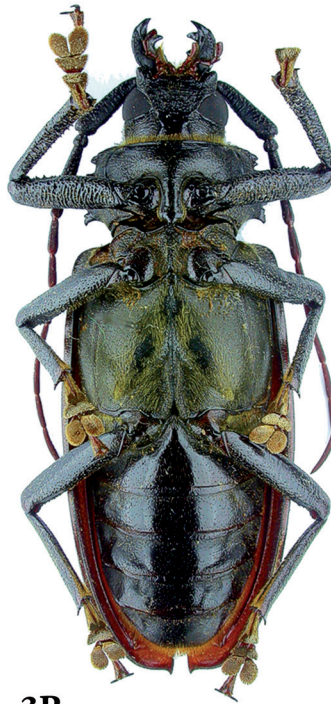
First and middle legs asperate and covered in spinules, particularly on inner margins; metafemora

and metatibiae smoother, with scattered asperites throughout and microspinules irregularly scattered along inner margin; protibiae each with two small,

separate spurs apicomesally and a larger spine apicolaterally. Protibiae barely curved mesally from base to apex. Femora and tibiae of the same length



3A



3B



3C



3D



3E

FIGURE 3: *Mecosarthron gounellei* (Lameere). A. dorsal habitus, male; B. ventral habitus, male; C. lateral habitus, male; D. dorsal habitus, female; E. lateral habitus, female.



for each leg. Forelegs longest (profemora/protibiae, 19-21 mm), middle legs shortest (mesofemora/mesotibiae, 16-17 mm), hind legs intermediate in length (metafemora/metatibiae, 18-20 mm).

*Female* (Fig. 2D-F): General appearance similar to that of male. Head distinctly smaller (8-9 mm wide at base);

antennae reaching middle of the elytra; scape relatively short (7-9 mm; just surpassing the anterior pronotal margin). Pronotum uniformly reticulate, with vaguely defined middle longitudinal line or depression. Legs mostly smooth, not asperate, with scattered spinules on inner margins of tibiae and femora. Forelegs subequal in length to hind legs; slightly outwardly curved apically.

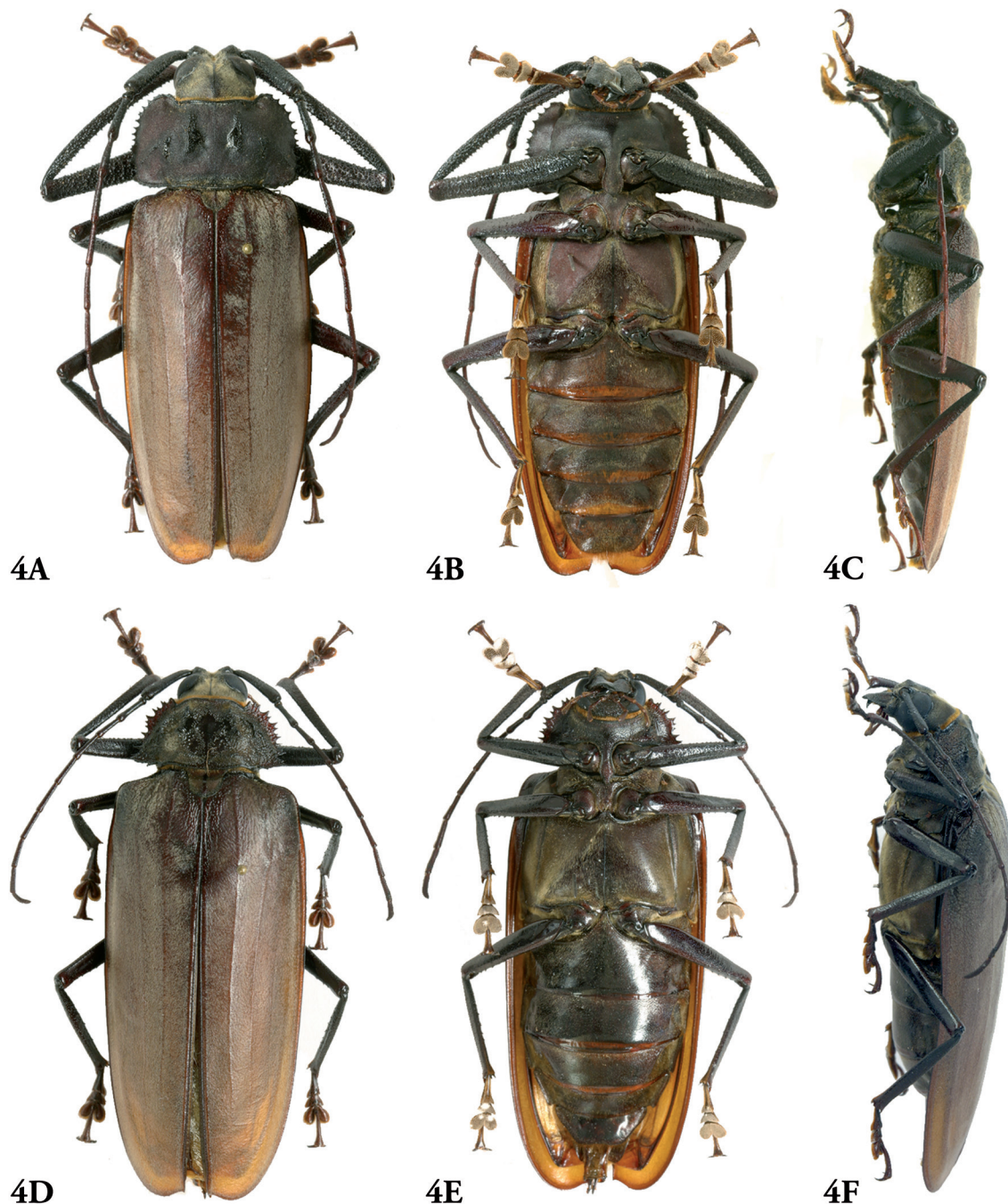


FIGURE 4: *Xixuthrus domingoensis* Fisher. A. dorsal habitus, male; B. ventral habitus, male; C. lateral habitus, male; D. dorsal habitus, female; E. ventral habitus, female; F. lateral habitus, female.

*Dimensions in mm*, males, n = 2: Total length (including mandibles), 73-75; length of prothorax, 11-12; width of prothorax between bases of posterolateral spines, 19-20; width of prothorax between bases of anterolateral spines, 17-19; body width at humeri, 20-22; elytral length, 47-50. Females, n = 2: Total length (including mandibles), 56-72; length of prothorax, 7-10; width of prothorax between bases of anterolateral spines, 13-15; width of prothorax between bases of posterolateral spines, 14-18; body width at humeri, 17-22; elytral length, 41-50.

*Remarks on sexual dimorphism*: Sexual dimorphism is not as apparent as in *Xixuthrus* species. Males have the pronotum less broadened posteriorly than anteriorly as compared to females, but sculpturing is very similar. Males have more strongly multispinose pronota laterally (12-15 spinules laterally) as compared to females (less than 10 poorly defined spinules laterally). Head of males slightly broader at pronotal insertion than in females. Mandibles only slightly smaller in females compared to males, but in both cases very similar to overall head length. The front and middle legs are strongly spinulose and asperate in males and very weakly so in females. The protibiae of males are straight to slightly curved mesally toward apex (inward curvature) while in females they are outwardly curved toward apex. The antennae of females reach to about the middle of the elytra, while in males, the antennae reach to at least the apical fourth of the elytra.

*Geographical distribution*: *Mecosarthron buphagus* occurs in eastern Brazil from Bahia to Paraná (Monné, 2006).

*Type data*: Holotype male, from Brazil (no other data), deposited at MNHN.

*Material examined*: All BRAZIL: *Minas Gerais*: male (USNM); Campo Bello, female, 18-I-1938, Tippmann Coll. (USNM); Lambari, female, 3-I-1927, Halik Coll. (USNM). *Espírito Santo*: Viana, male, I-1935, A. Maller, Tippmann Coll. (USNM).

***Mecosarthron gounellei* (Lameere, 1903a)  
(Figs. 3, 6)**

*Stenodontes (Mecosarthron) gounellei* Lameere, 1903a: 135.

*Mecosarthron gounellei*; Lameere, 1903b: 318; 1913: 11 (cat.); 1919: 29, pl. 2, fig. 7; Melzer, 1919: 40.

*Mecosarthron gounellei*: Blackwelder, 1946: 552 (checklist); Monné & Giesbert, 1994: 5 (checklist); Monné, 1995: 7 (cat.); Monné & Hovore, 2005: 14 (checklist); 2006: 13 (checklist); Monné, 2006: 54 (cat.).

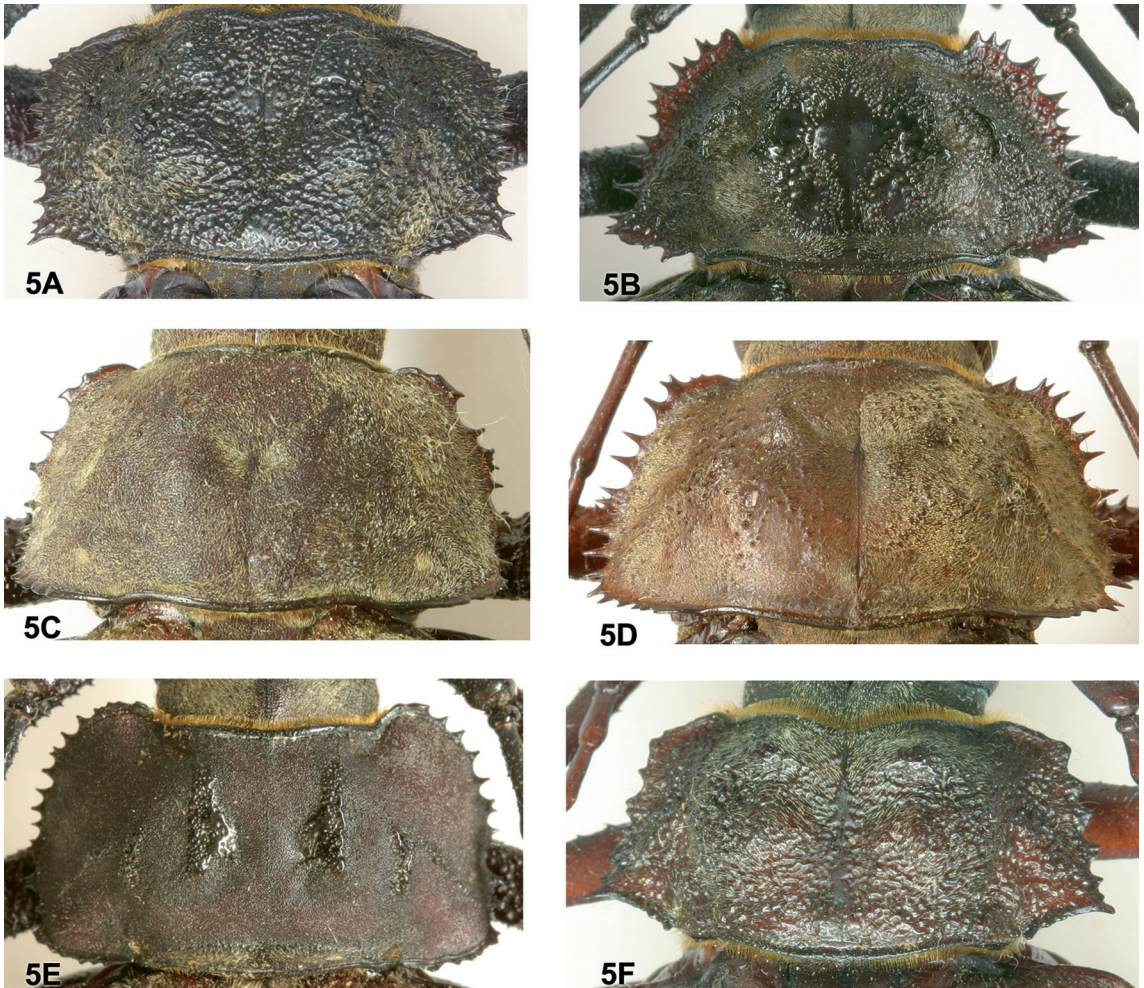
*Redescription*: Male (Fig. 3A-C). Integument dark brown, shining; mandibles blackish; tarsi and distal antennomeres slightly lighter.

Head coarsely and confluent punctate between the eyes, almost vermiculate; area between the posterior edge of eyes and occiput moderately, finely granulate; pilosity short and sparse between the eyes, distinctly more abundant between eyes and occiput. Labrum centrally, strongly concave, coplanar with clypeus at base; pilosity long, abundant, projected forward. Area behind eyes granulated between apex of upper ocular lobes and approximately the basal third of lower eye lobes (granules coarser and sparser than dorsal area of head behind upper lobes and slightly finer and closer behind lower lobes); area behind apical two-thirds of lower eye lobes transversely sulcate. Gular area strongly vermiculate; pilosity of short setae intermixed with long setae (more distinct in lateral view). Eyes wide; distance between upper lobes equal to or slightly wider than the length of antennomere III; distance between lower lobes slightly greater than between upper lobes. Mandibles from 0.5 to 0.6 X the length of the head; coarsely, confluent punctate, deeper on outer surface; pilosity short, moderately sparse. Antennae surpassing middle of elytra. Scape about as long as antennomeres III-IV together; dorsally flat, coarsely, confluent punctate, mainly on basal half; ventrally vermiculate, mainly on basal two-thirds, without denticles; distinctly surpassing posterior edge of eyes.

Gibbositities of pronotum less punctate on inner face than outer face and areas around them; pilosity short, moderately sparse, more abundant on small area close to posterior angles. Prosternal process wide and rounded at apex. Elytra coarsely, abundantly punctate; elytral costae present, but not well defined; pilosity short, sparse. Profemur scabrous on lateral surface (visible on dorsal view), vermiculate or punctate laterad; ventral surface with small spines on apical half (only near apex in small specimens); rugose-punctate on dorsal surface; meso- and especially metafemora less strongly sculptured than profemora. Tibiae with similar length, slightly, but distinctly enlarged from base to apex; protibiae with smaller spines on ventral surface (almost absent in smaller specimens).

*Female* (Fig. 3D-E): Examined only from a photograph. General appearance similar to that of male.





**FIGURE 5:** Pronota of *Mecosarthron* and *Xixuthrus*: **A.** *M. buphagus* Buquet, male; **B.** *M. buphagus* Buquet, female; **C.** *X. microcerus* (White), male; **D.** *X. microcerus* (White), female; **E.** *X. domingoensis* Fisher, male; **F.** *X. domingoensis* Fisher, female.

Head distinctly smaller; antennae reaching apex of basal third of elytra; scape reaching approximately to the apex of posterior edge of eyes.

*Dimensions in mm, n = 2:* Total length (including mandibles), 32-49; length of prothorax, 5-8; width of prothorax between bases of anterolateral spines, 9-13; width of prothorax between bases of posterolateral spines, 9-14; body width at humeri, 10-15; elytral length, 21-33.

*Geographical distribution:* *Mecosarthron gounellei* is known only from northeastern Brazil (Bahia).

*Type data:* Holotype male (Fig. 6), from Brazil: Santo Antonio da Barra, Bahia, collected by Gounelle, on 11.XII.1888, deposited at MNHN.

*Material examined:* BRAZIL, Bahia: female, same data as the holotype; Encruzilhada (Rio-Bahia road,

km 965; “Motel da Divisa”; 960 m), male, XI.1972, Seabra & Roppa col. (MNRJ); male, same data but XI.1974, Seabra & Roppa col. (MNRJ).

*Remarks:* *Mecosarthron gounellei* differs notably from the other species of the genus by having the prosteral process distinctly enlarged and rounded at the apex (Fig. 3B) and the elytra distinctly punctate and sparsely pubescent (Figs. 3A, C, D). In *M. buphagus* (Figs. 2B, E) and *M. tritomegas* (Fig. 7B) the prosteral process is narrowed towards the apex and the elytra are distinctly pubescent and not notably punctate (see Figs. 2A, D and 7A, respectively).

According to Lameere (1903a) the specimen was “capture à San Antonio da Barra, province de Bahia, au Brésil, le 11 décembre 1888”. Santo Antonio da Barra is now Condeúba, and the vegetation in the area is transitional between forest, cerrado (characterized by extensive savanna formations crossed by gallery

forests and stream valleys, that includes various types of vegetation), and caatinga (composed of stunted trees and thorny bushes, found in areas relatively xeric areas in Brazil). However the locality is situated near the area with vegetation characteristic of a “seasonal forest”, with general appearance of a forest with trees reaching 25 to 30 meters in height, covered with lianas and epiphytes. This Brazilian region displays notable endemism of Cerambycidae (e.g., *Antodice lenticula* Martins & Galileo; *Adetus minimus* Breuning; *Dorcasta quadrispinosa* Breuning; *Corimbion balteum* Martins; and *Minibidion confine* Martins). Generally specimens from this region are not common in the large collections of insects in Brazil (with the exception of MNRJ, where there is a good number of specimens collected by C.A. Campos Seabra in Pedra Azul (Minas Gerais), a place somewhat near Condeúba, but placed in the area of “Seasonal Forest”).

Lameere (1903b) recognized that the species is very distinct when compared with *M. buphagus*, and wrote: “C’est, parmi les Mécosarthrines, une forme très primitive qui ne peut se rattacher qu’à un type tel que *Omotagus Lacordairei*”. Given that Lameere had a very broad generic approach (for example, with his concept of *Callipogon* Audinet-Serville, 1832, that included as subgenera *Navosoma* Blanchard, 1846 and *Spiloprionus* Aurivillius, 1897), some could conclude that this unusual species merits a separate genus.

Lameere (1903b) wrote about the antennae: “Ce *Mecosarthron* [*M. buphagus*], supérieur au précédent, nous offre la répétition de ce phénomène d’allongement du 1<sup>er</sup> article des antennes qui s’est produit également dans l’évolution des *Xixuthrus*, mais, chez ces derniers, le phénomène [sic] s’accompagne d’un allongement du 3<sup>e</sup> article des antennes”. However, although in *Xixuthrus* the scape can vary in length, the variation in form is not pronounced, while the form of scape of *M. buphagus* is very different from that of *M. gounellei*.

### ***Mecosarthron tritomegas* Lameere, 1920**

(Fig. 7)

*Mecosarthron tritomegas* Lameere, 1920: 137; Blackwelder, 1946: 552 (checklist); Damoiseau & Cools, 1987: 38 (type); Monné & Giesbert, 1994: 5 (checklist); Monné, 1995: 7 (cat.); Monné & Hovore, 2005: 14 (checklist); 2006: 13 (checklist); Monné, 2006: 54 (cat.).

*Remarks:* *Mecosarthron tritomegas* was described from Brazil, without any detailed locality: “Un male du

Brésil (par Boneuil)”. The photo (Fig. 7) sent by Noël Mal (IRSN) confirms that information, but the collector’s name is Bonneuil, and the specimen is from the Desbrocher Collection.

Cambefort (2007) wrote on comte Roger Bonneuil: “Grand amateur de coléoptères, membre de la SEF (1858, démission em 1875), le comte de Bonneuil put réunir une riche collection en effectuant de nombreux échanges et achats. Il acquit notamment la collection Monchcourt\*. De sa propre collection, dispersée après 1900, les groupes suivants parvinrent au Muséum: buprestides *via* Théry\*; curculionides *via* Clerc\*; malacodermes, clérides et phytophages *via* Pic\*”. In the collection Monchcourt, for example, there was part of the collections of Castelnau, Guérin-Méneville, etc. Thus, it is impossible to track the origin of the holotype of *M. tritomegas*.

Although we do not know the exact locality where the specimen was collected in Brazil, it is likely that it is from Central Brazil, because Franceschini (2002) recorded a female of *Appula sericatulula* Gounelle, 1909 from IRSN collected by Bonneuil in Goiás.

According to Lameere (1920), *M. tritomegas* closely resembles *M. buphagus*, but has very different antennae, more similar to those of *Ialysus* Thomson, 1864 (the scape is proportionally shorter, weakly surpassing the posterior edge of eyes and antennomere III is longer than the scape, twice as long as antennomere IV, and about as long as IV-V together). In our examination, the form of the scape is more similar to males of *Ialysus tuberculatus* (Olivier) than to males of *M. buphagus*. However, many species of Macrotonini have the scape somewhat similar to *M. tritomegas*, while *M. buphagus* has an unusual scape. That character alone suggests that *M. tritomegas* is not a true *Mecosarthron*, however, another character, not mentioned by Lameere, is the form of the tibiae: In *M. tritomegas*, the form of the foretibiae is not similar to that of the meso- and metatibiae, and it is identical to that in *Xixuthrus*. This is strange because that strong difference (shape and length) among the tibiae does not occur in *M. buphagus* and *M. gounellei* in which the protibiae are little differentiated.

Lameere (1920) suggested that *M. tritomegas* is intermediate between *M. gounellei* and *M. buphagus*. However, *M. tritomegas* has no characters linking *M. gounellei* and *M. buphagus*. Comparing the scape in males of *M. gounellei* with males of *M. buphagus*, it is possible to see that they have some similarities in shape (e.g., form, basal curvature), although it is smaller and not ventrally rough. In *M. tritomegas* the scape is less uniformly enlarged from base to apex and also less curved at the base. *Mecosarthron tritomegas*



is not intermediate between the other species of the genus because the scape is smaller than in the others. Antennomere III in males of *M. gounellei* and *M. buphagus* are very similar in size and equal to or just longer than IV, while in *M. tritomegas* antennomere

III is distinctly longer, about twice the length of IV. Thus, using this feature, *M. tritomegas* is not intermediate between *M. buphagus* and *M. gounellei*. Last, the foretibiae in males of *M. gounellei* and *M. buphagus* are very similar (size, shape, and similarity with the

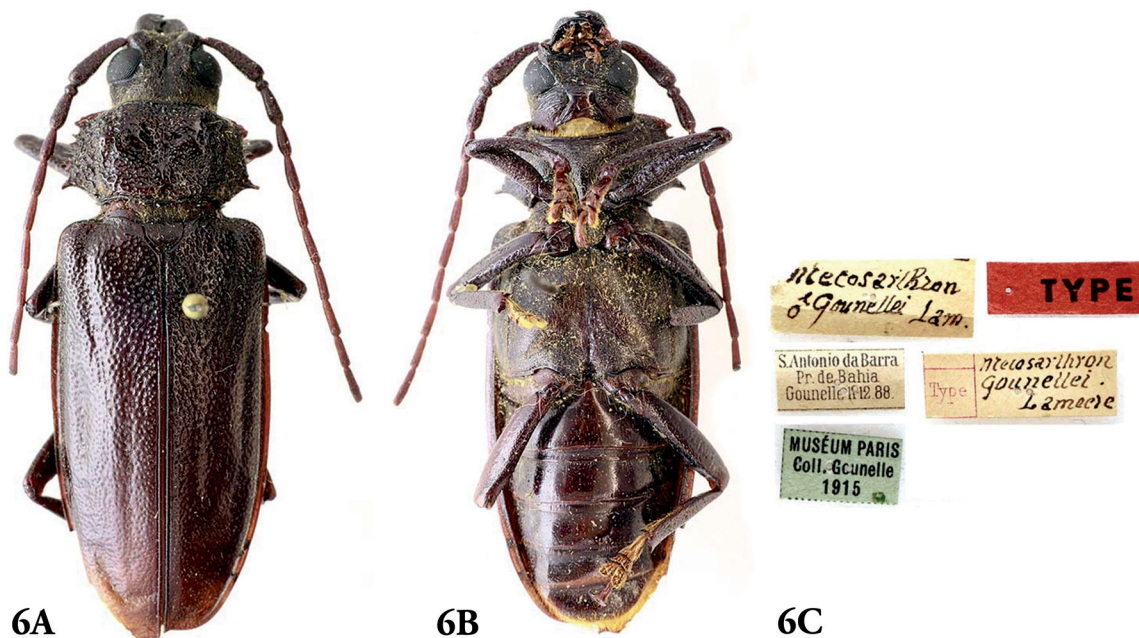


FIGURE 6: *Mecosarthron gounellei* (Lameere), holotype (male). A. dorsal habitus; B. ventral habitus; C. holotype labels.

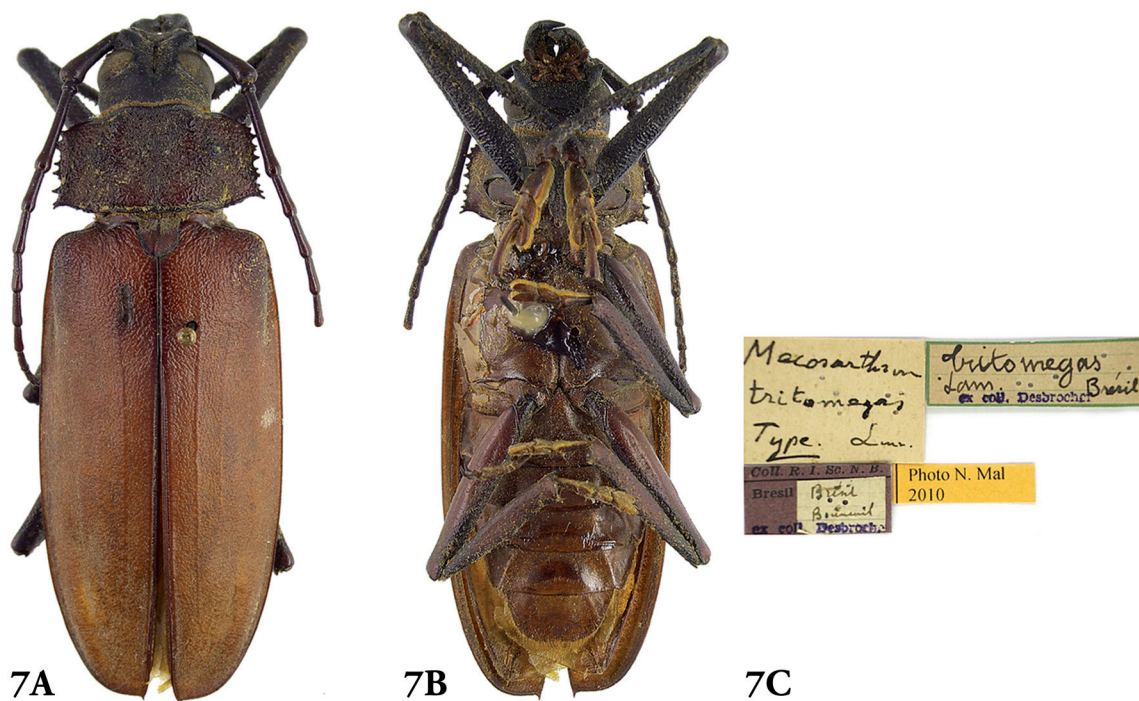


FIGURE 7: *Mecosarthron tritomegas* Lameere, holotype (male). A. dorsal habitus; B. ventral habitus; C. holotype labels.

other tibiae), while in *M. tritomegas* they are strongly different.

Lameere (1920) states further, on *Ialyssus*: “son existence [*M. tritomegas*] rend précaire le maintien du genre *Ialyssus* [sic] que ne diffère de *Mecosarthron* que para l’absence de pubescence et la présence d’une ponctuation sexuelle sur le prothorax du mâle”. However, the pronotum in males of *Ialyssus tuberculatus*, which is distinctly different from that in *Mecosarthron*

due to the distinct microsculpture, is not the only difference between *Mecosarthron* and *Ialyssus*: In *Ialyssus* the mandibles and tarsi are shorter (mainly tarsomere V), and the pubescence of the elytra is inconspicuous. Melzer (1919), who agreed with nearly all of Lameere’s proposals in his “sous-groupes”, and considered them as tribes, wrote: “O habito do *Julyssus* [sic] effectivamente é bastante semelhante ao *Mecosarthron*, mas embora seja sua lingueta bilobada, a grande difference

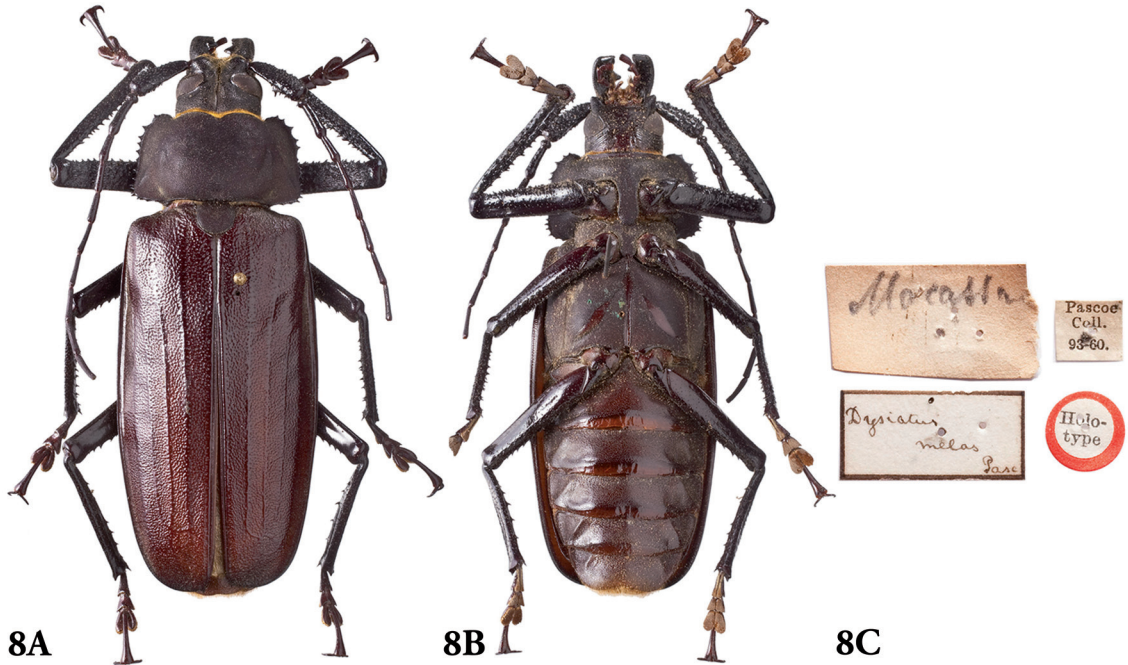


FIGURE 8: *Dysiatus melas* Pascoe, holotype (male). A. dorsal habitus; B. ventral habitus; C. holotype labels.

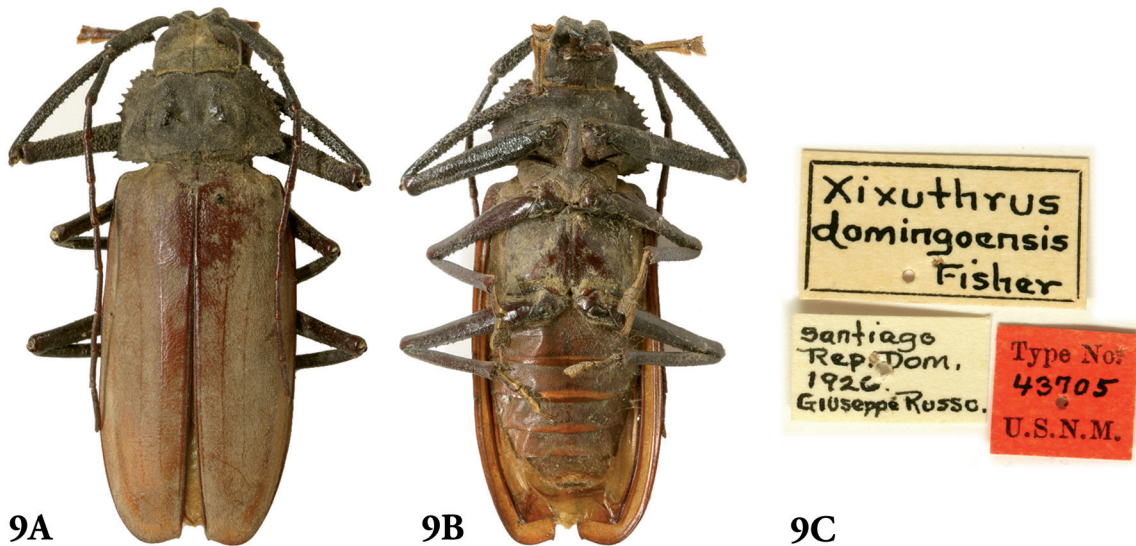


FIGURE 9: *Xixuthrus domingoensis* Fisher, holotype (male). A. dorsal habitus; B. ventral habitus; C. holotype labels.



sexual entre ♂ e ♀ do *Jalyssus* [sic] demonstram, que o mesmo não deve ser relacionado com aquele gênero”, commenting that *Ialyssus* is very similar to *Mecosarthron*, but the strongly sexually dimorphic conditions suggests that it cannot be closely related to that genus.

Upon examination of the photos of the holotype of *M. tritomegas* sent by Noël Mal (IRSN), we note that apparently the prothorax + head were glued to the mesothorax, and that the elytra were pubescent. Mal (*pers. comm.*) confirmed, “there is a tiny +/- dense pilosity quite apparent under enlargement but reduced on front of elytra (erosion?). The pronotum pubescence is longer but not so dense”. Based on the photos and information sent by Noël Mal we

think the possibility exists that the holotype is a composite specimen comprised of the body of a male of *M. buphagus* and head and prothorax of another species. The strong difference between the protibiae and meso- and metatibia, also corroborate the hypothesis of a composite specimen. However, we recognize the possibility that it is an unusual species, known only from the holotype, or an incorrectly labeled specimen originating from elsewhere in the world, because, for example, in *Xixuthrus* there is this kind of differentiation among the tibiae. We searched for specimens that match *M. tritomegas* in the largest entomological collections in Brazil (DZUP, INPA, MCNZ, MNRJ, MZSP) and in the USNM, but without success.

### Key to the species of *Mecosarthron*

1. Pubescence of the pronotum and elytra sparse; apex of prosternal process wide and rounded (Fig. 3). Brazil (Bahia) ..... *M. gounellei* (Lameere, 1903)
- Pubescence of the pronotum and elytra dense; apex of prosternal process narrow and acute (Figs. 2, 7)... 2
- 2(1). Scape slightly surpassing posterior edge of eyes, shorter than antennomere III; foretibia narrow, only barely enlarged from base to apex, distinctly different from meso- and metatibia (Fig. 7). Brazil ..... *M. tritomegas* Lameere, 1920
- Scape distinctly surpassing posterior edge of eyes, longer than antennomere III; foretibia noticeably enlarged from base to apex, similar to meso- and metatibia (Fig. 2). Brazil (Bahia to Santa Catarina) ..... *M. buphagus* Buquet, 1840

### RESUMO

Os caracteres que definem *Mecosarthron* Buquet 1840 e *Xixuthrus* Thomson 1864 são discutidos, juntamente com uma revisão histórica da literatura que descreveu e classificou esses táxons. Com base no exame morfológico desses gêneros e da maioria das espécies incluídas, *Xixuthrus domingoensis* Fisher 1932, que havia sido transferido para *Mecosarthron* por Ivie (1985), foi restaurado em sua combinação original. Apresentamos a primeira descrição das fêmeas de *X. domingoensis*, juntamente com redescrições comparativas de *Mecosarthron gounellei* (Lameere, 1903), e *M. buphagus* Buquet (1840). Incluímos uma chave para as espécies de *Mecosarthron*.

PALAVRAS-CHAVE: América do Sul; Dimorfismo sexual; Ilha de São Domingos; Morfologia; Sistemática.

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### REFERENCES

- BLACKWELDER, R.E. 1946. Checklist of the coleopterous insects of Mexico, Central America, the West Indies and South America. Part 4. *Bulletin of the United States National Museum*, 185:551-763.
- BOUSQUET, Y.; HEFFERN, D.J.; BOUCHARD, P. & NEARNS, E.H. 2009. Catalogue of family-group names in Cerambycidae (Coleoptera). *Zootaxa*, 2321:1-80.
- BUQUET, J.B. 1840. G. *Mecosarthron*. *Mecosarthron* Buquet. *Magasin de Zoologie*, 1840: pl. 52.

- CAMBEFORT, Y. 2007. Des coléoptères & des collections de hommes. *Publications Scientifiques du Muséum national d'Histoire naturelle*, Paris, 375 pp.
- CHEMSAK, J.A.; LINSLEY, E.G. & NOGUERA, F.A. 1992. *Listados Faunísticos de México II. Los Cerambycidae y Disteniidae de Norteamérica, Centroamérica y las Indias Occidentales (Coleoptera)*. Universidad Nacional Autónoma de México, Instituto de Biología, México. 204 p.
- DAMOISEAU, R. & COOLS, J. 1987. Liste du matériel typique conserve dans les collections entomologiques de l'Institut royal des Sciences naturelles de Belgique. Coleoptera, Cerambycoidea, Cerambycidae: Aseminae, Cerambycinae, Disteniinae, Lepturinae, Parandrinae, Prioninae et Spondyliinae. *Documents de travail*, 42:1-39.
- FISHER, W.S. 1932. New West Indian cerambycid beetles. *Proceedings of the United States National Museum*, 80(22):1-93.
- FRANCESCINI, A.F. 2002. Revisão do gênero *Appula* (Cerambycinae, Elaphidiini). *Iheringia, Série Zoologia*, 92(1):5-40.
- GRESSITT, J.L. 1959. Longicorn beetles of New Guinea, I (Cerambycidae). *Pacific Insects*, 1(1):59-171.
- IVIE, M.A. 1985. The generic placement of *Xixuthrus domingoensis* Fisher. *Pan-Pacific Entomologist*, 61(3):246-250, 8 figs.
- LACORDAIRE, J.T. 1868. *Histoire Naturelle des Insectes. Genera des Coléoptères, ou exposé méthodique et critique de tous les genres proposés jusqu'ici dans cet ordre d'insectes*. Librairie Encyclopédique de Roret, Paris. v.8, 552 p.
- LAMEERE, A.A. 1901. Étude sur la Phylogénie des Longicornes. Première communication préliminaire. *Annales de la Société Entomologique de Belgique*, 45:314-323.
- LAMEERE, A.A. 1903a. Révision des Prionides. Cinquième Mémoire – *Olethrius* – *Annales de la Société Entomologique de Belgique*, 47:129-140.
- LAMEERE, A.A. 1903b. Révision des prionides (Huitième mémoire – *Mecosarthrinus*). *Annales de la Société Entomologique de Belgique*, 47(9):307-320.
- LAMEERE, A.A. 1912. Révision des prionides (Vingt-deuxième mémoire – Addenda et Corrigenda.). *Mémoires de la Société Entomologique de Belgique*, 21:113-188.
- LAMEERE, A.A. 1913. *Coleopterorum Catalogus*. Pars 52: Cerambycidae: Prioninae. W. Junk, Berlin, 108 p.
- LAMEERE, A.A. 1919. *Genera Insectorum*. Coleoptera, Fam. Cerambycidae, subfam. Prioninae. P. Wytsman, Bruxelles, n. 172, 189 p.
- LAMEERE, A.A. 1920. Prioninae nouveaux ou peu connus. *Annales de la Société Entomologique de Belgique*, 60:137-145.
- LINGAFELTER, S.W. & WOODLEY, N.E. 2007. A new species of *Derancistrus* Audinet-Serville (Coleoptera, Cerambycidae: Prioninae) from the Dominican Republic with notes on other species of Prioninae from Hispaniola. *The Coleopterists Bulletin*, 61(2):165-175.
- MARAZZI, G.; MARAZZI, V. & KOMIYA, Z. 2006. New *Xixuthrina* from Indo-Australian Region (Coleoptera Cerambycidae Prioninae). *Natura Edizioni Scientifiche*, Bologna, 48 pp.
- MELZER, J. 1919. Os longicórneos brasileiros da subfamília "Prioninae" tomando em consideração particular as espécies do Estado de São Paulo. *Revista do Museu Paulista*, 11:1-207.
- MONNÉ, M.A. 1995. *Catalogue of the Cerambycidae (Coleoptera) of the Western hemisphere. Part XXII. Subfamily Prioninae*. Sociedade Brasileira de Entomologia, São Paulo. Part 21, 115 p.
- MONNÉ, M.A. 2006. Catalogue of the Cerambycidae (Coleoptera) of the Neotropical region. Part III. Subfamilies Parandrinae, Prioninae, Anoplodermatinae, Aseminae, Spondyliinae, Lepturinae, Oxypeltinae, and addenda to the Cerambycinae and Lamiinae. *Zootaxa*, 1212:1-244.
- MONNÉ, M.A. & GIESBERT, E.F. 1994. *Checklist of the Cerambycidae and Disteniidae (Coleoptera) of the Western Hemisphere*. Wolfsgarten, Burbank. 410 p.
- MONNÉ, M.A. & HOVORE, F.T. 2005. *Checklist of the Cerambycidae, or longhorned beetles (Coleoptera) of the Western Hemisphere*. Bio Quip Publications, Rancho Dominguez, 393 pp.
- MONNÉ, M.A. & HOVORE, F.T. 2006. *Checklist of the Cerambycidae, or longhorned wood-boring beetles, of the Western Hemisphere*. Bio Quip Publications, Rancho Dominguez. 394 p.
- PASCOE, F.P. 1869. Longicornia Malaya; or, a descriptive catalogue of the species of the three longicorn families Lamiidae, Cerambycidae and Prionidae, collected by Mr. A.R. Wallace in the Malay Archipelago. *Transactions of the Entomological Society of London (Third Series)*, 3(6):497-710.
- PENTEADO-DIAS, A.M. 1984. Estudo comparativo do cordão nervoso nos Cerambycidae. *Revista Brasileira de Entomologia*, 28(3):223-243.
- RUSSO, G. 1930. Contributo alla conoscenza dei Cerambycidae della Rep. Dominicana (Antille) com descrizione di una nuova specie. *Bollettino dei Laboratorio di Zoologia Generale e Agraria del Istituto Superiore Agrario di Portici*, 24(14):140-147.
- THOMSON, J. 1861. *Essai d'une classification de la famille des cerambycides proprement dite, deuxième partie. Tribu Cerambycites*. Le Auteur, Paris. p. 129-396.
- THOMSON, J. 1864. *Systema cerambycidarum ou exposé de tous les genres compris dans la famille des cerambycides et familles limitrophes*. H. Dessain, Liège. 352 p.
- THOMSON, J. 1878. *Typi cerambycidarum* Musei Thomsoniani. E. Deyrolle, Paris. 21p.
- VITALI, F. 2008. Taxonomic and faunistic notes about the genus *Olethrius* Thomson, 1860 (Coleoptera, Cerambycidae). *Entomapeiron (P.S.)*, 2:1-32.
- WHITE, A. 1853. *Catalogue of the coleopterous insects in the collection of the British Museum. Longicornia I*. Taylor and Francis, London. 174 p.
- YANEGA, D.; OLSON, D.; SHUTE, S. & KOMIYA, Z. 2004. The *Xixuthrus* species of Fiji (Coleoptera: Cerambycidae: Prioninae). *Zootaxa*, 777:1-10.

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