

A new species of *Echthistatus* Pascoe, 1862 and considerations on synonymy of *Edechthistatus* Monné, 2006 (Coleoptera, Cerambycidae)

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Abstract

Echthistatus cobosi new species is described based on two males from Celaque Mountain (Honduras) and one female from Chiapas (Mexico). *Edechthistatus* Monné, 2006 (a replacement name to *Parechthistatus* Giesbert, 2001) is considered a synonym of *Echthistatus*. The identification of the specimen figured in Chemsak & Linsley (1983) as *Echthistatus spinosus* Pascoe, 1862 is questioned. A key to the species of *Echthistatus* is added.

Additional key words: Cerambycidae; Honduras; Lamiinae; Mexico; synonymy; taxonomy.

Resumen

Nueva especie de *Echthistatus* Pascoe, 1862 y consideraciones sobre la sinonimia de *Edechthistatus* Monné, 2006 (Coleoptera, Cerambycidae)

Se describe *Echthistatus cobosi* nueva especie (Coleoptera: Cerambycidae), una nueva especie hallada en la montaña Celaque (Departamento de Lempira, Honduras) y en Chiapas, México. *Edechthistatus* Monné, 2006 (nuevo nombre para *Parechthistatus* Giesbert, 2001) está considerado como un sinónimo de *Echthistatus*. Se cuestiona la identificación del espécimen ilustrado en Chemsak y Linsley (1983) como *Echthistatus spinosus* Pascoe, 1862 y se propone una clave para las especies de *Echthistatus*.

Palabras clave adicionales: Cerambycidae; Honduras; Lamiinae; México; sinonimia; taxonomía.

Introduction

Parmenini Mulsant, 1839 is a somewhat small tribe of Lamiinae (Cerambycidae) represented in the Americas by 21 genera (nearly all monotypic) and 30 species (Monné and Monné, 2008; Monné and Bezark, 2009). According to the website «Lamiinae du Monde» (<http://www.lamiinae.org>), Parmenini comprises 84 genera and 236 species distributed throughout the world, being better represented in the Oriental Region (Oriental and Oceanian), where 179 species occur. All known specimens of *Echthistatus* have been found in high altitude forests of Central America and Mexico.

Material and methods

The holotype (Fig. 1) and paratype males of the new species were collected by Guillermo Cobos at 2,550 m at Celaque Mountain (Lempira, Honduras). According to the collector, since it was very cold (2°C) he gathered some fallen branches and lighted a campfire. From inside the campfire two specimens left running, were collected and placed in 70% ethanol.

The paratype female of the new species (Fig. 2) was collected in Mexico (Chiapas) by beating vegetation in a cloud forest, during an expedition of a program to gather knowledge of the arthropod fauna in Meso-

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Abbreviations used: BMNH (The Natural History Museum, London, United Kingdom), CJED (Colección José Esteban Durán, INIA, Madrid, Spain), CMNC (Canadian Museum of Nature, Notario, Ottawa, Canada), (EMEC, Essig Museum of Entomology, University of California, Berkeley, USA), FSCA (Florida State Collection of Arthropods, Gainesville, USA), USNM (National Museum of Natural History, Washington D.C., USA).



Figure 1. *Echthistatus cobosi* new species, holotype male: a) dorsal view; b) ventral view; c) lateral view; d) head, frontal view.

america (LLAMA-Leaf Litter Arthropods of Mesoamerica).

Detailed photos of the holotype of *Echthistatus spinosus* Pascoe, 1862 along with label data were provided by Sharon Shute (The Natural History Museum, London, BMNH), and two specimens from the Essig Museum of Entomology (UCA, Berkeley, USA; EMEC), sent by Cheryl Barr, were examined and considered to establish the synonymy proposed in this work.

Results

Systematics

Echthistatus Pascoe, 1862

Echthistatus Pascoe, 1862: 353; Thomson, 1864: 131; Pascoe, 1865: 223; Thomson, 1867: 18; Lacordaire, 1869: 261; Gemminger and Harold, 1873: 2994 (cat.; part); Aurivillius, 1922: 8 (cat.; part); Breuning,

1950: 138; Chemsak & Linsley, 1983: 226; Monné, 1994: 3; 2005: 605 (cat.).

Type-species - *Echthistatus spinosus* Pascoe, 1862 (monotypy).

Parechthistatus Giesbert, 2001: 9, not *Parechthistatus* Breuning, 1942.

Edechthistatus Monné, 2005: (cat.; new name to *Parechthistatus* Giesbert). Syn. nov.

Type-species - *Parechthistatus hawksii* Giesbert, 2001 (monotypy and original designation).

Pascoe (1862) proposed *Echthistatus* for *E. spinosus* and recorded about the type locality: «Major Parry, to whom this, I believe, unique Longicorn belongs, having a note to the effect that it was taken from a box of Mexican insects. Notwithstanding, I cannot help thinking that, like *Ceraegidion*, it is a native of Australia». Chemsak and Linsley (1983) commented on the type locality of *E. spinosus*: «He commented on the affinities of this genus with *Ceraegidion* Boisduval from Australia and speculated that *Echthistatus* was also



Figure 2. *Echthistatus cobosi* new species, paratype female: a) dorsal view; b) ventral view; c) lateral view; d) frontal view. Photos courtesy of Steven W. Lingafelter (USNM).

Australian, though he listed the type-locality of *spinosus* as questionable. Thomson (1864, 1867) and McKeown (1947) recorded *E. spinosus* as occurring in Australia while other authors (Lacordaire, 1869; Aurivillius, 1922; Breuning, 1950, 1961) indicated the type-locality with a question mark. In essence, *E. spinosus* has generally been regarded as an Australian species in spite of the fact that Pascoe indicated in his discussion of the genus that the specimen, belonging to Major Parry, was taken from a box of Mexican insects. The collection of five specimens of *E. spinosus* from Mexico confirms its occurrence in that fauna». However, Pascoe (1865) recorded the species from Mexico: «Mexico and Texas have *Moneilema* and *Echthistatus*, and California has *Ipochnus*».

Giesbert (2001) described *Parechthistatus* to allocate *P. hawksii* (Fig. 6) from Honduras, and recorded: «*Parechthistatus* may be separated from that distinctive genus (*Echthistatus* Pascoe, 1862) by the lateral position of the posthumeral elytral spines (discal in

Echthistatus), which are also less gibbose at their base, the less prominent discal tubercles of the pronotum, the straight form of the tibiae, and the lack of antennal and tibial annulations». However, the position of the «posthumeral elytral spines» (= elytral gibbosities) is somewhat variable, as observed in *Echthistatus cobosi* new species, in which the gibbosities are placed more distant from the humeri than in *E. hawksii*. Giesbert (2001) also used the annulation of antennae as distinction between *Echthistatus* and *Parechthistatus*, but we consider this character is specific and not generic. *Echthistatus cobosi* new species has this annulation weakly visible or distinctly visible. Thus, not only does *E. cobosi* new species bear this distinctive annulation but this feature itself happens to be utterly visible. Thus, apparently, there is only a single character that differentiates the above discussed genera from each other: the tibial form (very narrow in Chemsak and Linsley, 1983).

As pointed out by Monné (2005), *Parechthistatus* Giesbert, 2001 is a homonym of *Parechthistatus*

Breuning, 1942 (both described in Cerambycidae). Thus, Monné (2005) proposed the replacement name for Giesbert's genus: *Edechthistatus*.

Pascoe (1862) presented the following diagnoses to *Echthistatus*: «Head convex in front; eyes oblong, scarcely emarginated. Antennae setaceous, longer than the body, arising from two diverging tubercles, the basal joint robust and longest, the third with the remainder sub-equal. Epistome and labrum small, narrow. Palps slender, the last joint obliquely truncate. Prothorax transverse, strongly spined at the side. Elytra short, ovato-conical, each with a nearly central elevated spine, the humeral angle extending beyond the base of the prothorax. Legs long, robust, femora not clavate. Tarsi with the basal joint nearly as long as the two next together. Prosternum toothed».

According to Chemsak and Linsley (1983) «The genus *Echthistatus* may be characterized by the ovoid, tapering body form; long, slender antennae; prominent, acute lateral pronotal tubercles; very prominent discal pronotal tubercles; tuberculate prosternal process; and the very highly elevated, large, acute gibbosities at the basal 1/3 of the elytra».

We carefully examined the descriptions and drawings in Pascoe (1862) and Chemsak and Linsley (1983) (Figs. 3, 4 and 5) and then made comparisons with the newly described species. We did not understand how the antennae and tibiae in the male and female of Pascoe's species could be so different, while in the new species that apparently belonged to a genus very similar in many features; they are practically identical in the form.

To be sure on the form of the antennae and legs in the holotype of *E. spinosus*, we requested Sharon Shute (BMNH), to compare the new species with the holotype of *E. spinosus* (Figs. 3, 4 and 5). The details of the holotype of *E. spinosus* (Sharon Shute, personal communication) confirm the differences among this species, *E. cobosi* new species and *E. hawksii*. Likewise, this information evidences the differences between the holotype of *E. spinosus* and the figure of Chemsak & Linsley (1983). This suggests that the specimen figured by Chemsak and Linsley (1983) belong to another species.

Additionally we examined a photograph of a specimen deposited at EMEC, apparently female (available at <http://plant.cdfa.ca.gov/byciddb>) and identified by Chemsak as *E. spinosus*, that does not agree with the



Figure 3. *Echthistatus spinosus* Pascoe, 1862, holotype male: dorsal and ventral view, and labels. Photo courtesy of Sharon Shute (BMNH).



Figure 4. *Echthistatus spinosus* Pascoe, 1862, holotype male: a) pronotum, b) head, frontal view; c) foreleg; d) elytral apex. Photos courtesy of Sharon Shute (BMNH).

drawing in Chemsak and Linsley (1983). This specimen has the antennae very similar to that of the holotype male figured in Pascoe (1862). This suggested that the female figured in Chemsak and Linsley (1983) belonged to a different species.

Cheryl Barr (EMEC) sent photos of two females deposited at EMEC, identified one of them by Chemsak as *E. spinosus*; the same figured in <http://plant.cdfa.ca.gov/byciddb>. Those females agree very well with the holotype male, and show the same kind of difference between the sexes, that occurs in the new species here described. Additionally, Robert Anderson and François Génier (CMNC) also sent photos of one male and two females of *E. spinosus*, from Mexico (Oaxaca), that also agree with the holotype of that species, but do not agree with the figure in Chemsak & Linsley (1983). Finally, we examined photo of another male deposited at FSCA, sent by Michael C. Thomas.

We do not know what the female in Chemsak & Linsley (1983) is, but we believe that even if it really is not *E. spinosus*, the differences in the form of legs

and antennae, alone, do not allow separating it in another genus.

We have not found any character that allows separating *Edechthistatus* from *Echthistatus*, mainly because the characters pointed out by Giesbert (2001) are not present in the type-species of *Echthistatus* («straight form of the tibiae», assuming that they are curved in *Echthistatus*), or they are specific and not generic («lack of antennal and tibial annulations»), or because they are variable in the genus («position of the posthumeral elytral spines»). Based on these considerations, we consider *Edechthistatus* a synonym of *Echthistatus*.

Echthistatus cobosi Esteban & Santos-Silva, new species (Figs. 1 and 2)

Type material

Holotype male, HONDURAS, *Lempira*: Celaque Mountain (2550 m), 29.XII.2009, Guillermo Cobos



Figure 5. *Echthistatus spinosus* Pascoe, 1862, female sensu Chemsak & Linsley (1983): dorsal view.

coll. (CJED). Paratypes - male, same data as in holotype (CJED). MEXICO, *Chiapas*: 4 km SE Custepec (15.70777° N, 92.93110° W, 2125 m), female, Leaf Litter Arthropods of Mesoamerica (LLAMA) Project col., 02.III.2004 (USNM).

Diagnosis

The following combination of morphological characters, outstanding shape and position of conical gibbosities, elytral punctation and design, distinguish this species from the related *Echthistatus hawksii* (Giesbert, 2001).

Description

Male (Fig. 1). Integument black; antennomeres IV-XI dark-brown with blackish apex. Frons convex, with a wide plate «V»-like, whose base is close to clypeus and apices at base of antennal tubercles. Eyes strongly emarginate. Upper ocular lobes, each one placed on a rather distinct swelling in relation to the area between and behind them; largest width approximately equal to 0.7 times the basal width of antennomere III; distance between the lobes about 2 times the basal width of antennomere III. Largest width of lower ocular lobes from 1.1 to 1.2 times the basal width of antennomere III; distance between the lobes from 5.4 to 5.5 times

the basal width of antennomere III. Antennal tubercles strongly elevated; apex projected and rounded; each other closer than the middle of basal width of antennomere III. Genae strongly detached in relation to occiput; apex rounded. Gula smooth and glabrous. Hypostomal area with transverse furrow, wide and deep, that interconnects to occiput at same depth, and together form an arch. Ochreous pubescence of head, with a more yellowish fringe bordering eyes, covers all dorsal surface and genae, except a glabrous narrow band (Figs. 1c, 1d) that occurs between upper ocular lobes and antennal tubercles. Same type of pubescence borders lower ocular lobes and continues down towards point of insertion of clypeus, and farther on until bordering genal apex, while nearly fusing to the glabrous band placed on hypostomal area close to the anterior elevation. Dorsal surface shows spots bearing sparse, long and erect hairs. Clypeus about four times wider than long, smooth, glabrous, and with long and decumbent pilosity at anterior border. Labrum with convex shape at basal 3/4, and tilted down at the apical fourth; anterior margin emarginated and with dense brush; dorsal pilosity long and decumbent, more concentrated at posterior third. Apical palpomere of maxillary and labial palpi fusiform. Mandibles approximately as long as 0.6 times the distance between lower ocular lobes; dorsal surface finely and abundantly punctate, and with pilosity short, decumbent and concentrated on a longitudinal band that does not reach apex; inner margin of left mandible with small tooth near apical curvature, preceded by wide and accentuated concavity; inner margin of right mandible without teeth, and with concavity wide and little accentuated; outer face with pilosity decumbent and abundant, and punctation fine and abundant up to the apical curvature; apex vertical in relation to the dorsal axis, bifid in the left mandible and weakly bifid in the right mandible. Antennae as long as 2.1 or 2.4 times the body length (measured between the apex of antennal tubercles and elytral apex); antennomeres covered by ochreous pubescence; scape thick, weakly enlarged towards apex (largest width equal to about 1.5 times the basal width), slightly longer than antennomere III; antennomere III from 4.4 to 4.5 times longer than pedicel and from 1.1 to 1.2 times longer than antennomere IV; antennomere IV 1.1 times longer than V; antennomeres V-VII subequal in length; antennomeres VIII-IX subequal in length and about 0.9 times the length of antennomere VII; antennomeres X-XI subequal in length and about 0.9 times the length of antennomere IX.

Prothorax weakly longitudinal (without lateral tubercles and spines); each side with large tubercle provided with large spine slightly pointed upwards; pubescence abundant, ochreous with some areas moderately golden. Central region of pronotal disc strongly elevated, topped by three tubercles: two antero-lateral, large and conical; another on middle of base, with apex almost flat; area before and after discal elevation with transverse furrow, wide and not deep. Prosternum strongly elevated at central region. Prosternal process moderately wide, with apex projected and rounded. Procoxal cavities closed posteriorly. Mesosternal process with elongated tubercle. Metasternum strongly reduced, laterally little longer than ventrite I; central area, between the meso- and metacoxae, shaping an inverted «V». Pro- and mesosternum with abundant ochreous pubescence. Metepisterna narrow, with abundant ochraceous pubescence. Scutellum longitudinally sulcate in middle; pubescence moderately sparse and with fringe at lateral and apical margins. Elytra strongly narrowed towards apex; basal third with a large and conical gibbosity, very acute apically, slightly directed backwards and outwards; tubercles (except the apex that is as a spine) and area before them with coarse granules, scattered and well marked (each granule preceded by a coarse and deep puncture); remaining surface coarsely, deeply and sparsely punctate; pubescence ochreous, with golden areas (mainly between the tubercles), and irregular bands of yellowish pubescence; outer apical angle provided with moderately short and thick spine; sutural angle projected; humeri with short spine, projected forward and outward.

Process of ventrite I (Fig. 1b) strongly projected to the inside of emarginated area of metathorax and with apex outstanding; ventrite I, laterally, 1.2 times longer than ventrite II; ventrite II about 1.3 times longer than ventrites III to V individually; ventrite V weakly rounded at apex; pubescence abundant, decumbent and ochreous, with some areas more golden, interspersed by long, erect and sparse hairs. Forelegs with length subequal to the body; middle legs about 1.1 times longer than body; hind legs about 1.2 times longer than body; femurs weakly fusiform; tibiae moderately enlarged towards apex; tarsomere I slightly shorter than II-III together. General pubescence of legs ochreous with some areas more golden.

Female (Fig. 2). Antennae shorter, about 1.6 times length of body. Elytral spine of sutural angle more pronounced.

Dimensions in mm (male/female)

Total length (measured between the apex of antennal tubercles and elytral apex), 11.3-12.4/11.2; prothoracic length, 3.0-3.4/2.9; anterior prothoracic width, 2.8-3.0/2.9; posterior prothoracic width, 2.9-3.4/3.2; humeral width, (measured between the apex of spines), 4.4-4.8/4.6; elytral length, 7.4-7.6/7.3.

Etymology

We dedicate this singular species to Mr. Guillermo J. Cobos Hernández, colleague at INIA in Madrid, Spain, for his contribution to the knowledge of the entomological fauna of Central America.

Remarks

Males of *Echthistatus cobosi* new species (Fig. 1) differ from that of *E. hawksii* (Giesbert, 2001) (Fig. 6): antennae shorter (at most, with 2.6 times the body length); scape thicker; prothorax longer (about 0.45 times the elytral length); conical gibbosities of elytra more vertical; elytral punctuation coarser and sparser. In *E. hawksii*, the antennae have almost triple the body



Figure 6. *Echthistatus hawksii* (Giesbert, 2001), holotype male: dorsal view. Photo available from <http://plant.cdfa.ca.gov/byciddb> («A photographic catalog of the Cerambycidae of the New World»). Courtesy of Larry G. Bezark.

length, the scape is thinner, the prothorax is shorter (about 0.38 times the elytral length), the conical gibbosities of elytra are more horizontal, and the elytral punctuation is finer and more abundant.

Key to the species of *Echthistatus*

- 1 Prothorax longer (Figs. 3, 4a); elytral gibbosities somewhat erect (Fig. 3); area between elytral base and gibbosities with strongly and abundantly granulate. Mexico (Oaxaca).....*E. spinosus* Pascoe, 1862
Prothorax shorter (Figs. 1a, 2a, 6); elytral gibbosities more horizontal (Figs. 1a, 1d, 2c, 2d, 6); area between elytral base and gibbosities not or weakly granulate..... 2
- 2(1) Elytral punctuation finer and very abundant (Fig. 6). Honduras (Cortes).... *E. hawksii* (Giesbert, 2001)
Elytral punctuation coarser and not very abundant (Figs. 1a, 2a). Mexico (Chiapas), Honduras (Lempira)..... *E. cobosi* new species

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