

# *Procrustomachia*

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## Two new subgenera of American *Acmaeodera* ESCH. (Coleoptera: Buprestidae)

Roman B. HOŁYŃSKI

PL-05822 Milanówek, ul. Graniczna 35, skr. poczt. 65, POLAND

e-mail: [rholyński@o2.pl](mailto:rholyński@o2.pl)

### Introduction

As regards  $\alpha$ -taxonomy, faunistics or bionomy the Nearctic fauna of **Buprestidae** LEACH is better known than that of any other biogeographical Region of the World, and *Acmaeodera* ESCH. is no exception. However, while VOLKOVITSH's (ВОЛКОВИЧ 1979) classification of Palaearctic taxa – even if not quite satisfying in several aspects – has provided some insight in the internal structure of that part of the genus, its American representatives still constitute an amorphous agglomeration of heterogeneous elements, formally “belonging” to the nominotypical subgenus, although many (if not all) of them have evidently little in common with the type-species, European *A. cylindrica* (F.). Neither my experience with Nearctic fauna, nor the available material allow me to attempt any more comprehensive systematic study, but in the course of my work on the *Acmaeodera* ESCH. of the Indian subregion (HOŁYŃSKI 2017) I noticed the striking, apparently not purely convergent similarity between SE-Asian *sg. Cobosiella* VOLK. and some groups inhabiting Mexico and SW-USA, and thus – to enable the discussion of its possible origin and history – a clear formal definition of these groups seems needed. The purpose of this paper is just to provide such definition.

### Conventions and abbreviations

Like in my other publications (unless “corrected” by editors...), I follow the very useful conventions of applying (of course, except wordly citations, where the original form must be retained) SMALL CAPS to **all** [irrespective of context and full vs. abbreviated version: inconsistent use deprives the display of any sense!] personal family- (**not** given-) names, *italicizing* species- and genus-group names (as well as citations and words in languages different from that of the main text), and writing the suprageneric taxon-names in **Bold** [the latter is not a generally accepted custom, but is often important, as some of such names (*e.g.* of the subtribes **Buprestina** LEACH, **Melobasina** BÍLÝ or **Coraebina** BED.) are (or may easily become) “homonymous” (but valid!) with generic or subgeneric ones (*Buprestina* OBB., *Melobasina* KERR., *Coraebina* KERR.)]: we must make possibly unequivocal what we have in mind, and possibly easy for the reader to “optically” spot the “wanted” name in the (especially longer) text!

## *Acmaeodera* ESCH.

*Acmaeodera* ESCHSCHOLTZ 1829: 8

Type species: *Buprestis cylindrica* FABRICIUS 1775

### *Sonoridera* sg.n.

Type species: *Acmaeodera stigmata* HORN 1894

**General characteristics:** A distinctive group of rather small (*ca.* 5.5 – 7.5 mm.), moderately elongated, black or bluish-black species with red spot at or behind midlength of elytral sides (in some additional red or yellow symmetrical elytral markings may occur). Pubescence white, erect or semierect on dorsal, mostly recumbent on ventral side, usually very densely tomentous on sides of sternum and abdomen, dense on head, sparser on pronotum, elytra and especially median parts of ventral surface. Lateral branches of epistome narrow, depressed, inconspicuous; front *ca.* as long as wide, shallowly depressed along midline; antennae abruptly serrate from 5. joint. Pronotal sides subparallel in basal half, rounded anteriorly, regularly convex except for more or less distinct prescutellar fovea. Dorsal profile of elytra arcuate all along, humeral protuberances well marked, sides shallowly sinuate in anterior half and arcuately tapering to narrowly jointly rounded apices, posterolateral margins finely denticulate, subhumeral incision shallow and inconspicuous. Anterior margin of prosternum bituberculate; margins of anal sternite often finely carinulate.

**Included species:** *A. transversa* VD., *A. acanthicola* BARR, *A. bivulnera* HORN, *A. davidsoni* BARR, *A. stigmata* HORN, *A. philippinensis* OBB.

**Geographical distribution:** The distribution area of the new subgenus extends from SW United States (southwesternmost Texas, New Mexico, Arizona, S-California) to S-Mexico (Oaxaca). The type-locality of *A. philippinensis* OBB. (“*Philippines*”) is somewhat enigmatic: natural *intraspecific* disjunction between Mexico and SE-Asia is hardly conceivable, but on the other hand simple mislabelling or single specimen introduction does not seem easy to reconcile with the fact of the existence of more than one apparently Philippinean representatives of this species: I have seen at least two examples (none of them being the type), in two different collections, labelled “Luzon” and “Philippines”; so, apparently introduced was a group of “founder” individuals sufficient to establish an at least temporarily surviving population (no new records are known to me – it would be interesting to check whether *A. philippinensis* OBB. does or does not still occur on Philippines?).

**Remarks:** *A. philippinensis* OBB. has been described by OBENBERGER (1924) as “*Speciei A. Luzonica Nonfried valde affinis*”; he considered it a Philippinean species, so affinity with another inhabitant of the same archipelago seemed quite natural. However, later it became obvious that *A. philippinensis* OBB. is in fact a representative of geographically remote Nearctic group (first supposed to be identical with *A. stigmata* HORN, finally recognized as senior synonym of meanwhile – FISHER 1949 – described *A. oaxacae* FISH.), and nevertheless the representatives of this group – the sg. *Sonoridera* sg.n. – show indeed much resemblance (pattern of colouration and pubescence, dorsal profile of elytra, &c.), and probably true phylogenetic affinity, to *Cobosiella* VOLK. However surprising this may seem, S-Nearctic/SE-Asian inter(sub-)generic disjunctions [dating probably at least to the end of mid-Miocene climatic optimum but perhaps to the Eocene/Oligocene transition, when global cooling (LIU & al. 2009) terminated the Early Tertiary thermal maximum – characterized by subtropical climates even as far as 60-65°N (WOLFE 1978) – breaking the trans-Beringian continuum (“*before this transition, mild forests during the Eocene and the presence of high-latitude land bridges allowed an Arctic rainforest and its associated fauna to extend across continents, up to 76-78°N paleolatitude*” – BRUNKE & al. 2017 ) and forcing thermophilous organisms to retreat southward separately (and, thus, evolve divergently) on both sides of the Pacific Ocean] have been well known in several groups [including **Buprestidae** LEACH:

besides the best known case of *Pachyschelus* Sol., of evidently Nearctic affinities is e.g. *Sinokele* BÍLÝ (judging from the description – BÍLÝ 1989 – a subgenus of American *Trachykele* MARS.) while some apparent offshoots of (presently) Indochinese branch of *Psiloptera* DEJ. inhabit Mexico and nearby countries (HOŁYŃSKI 1999); the case of *Chrysophana holzschuhi* BÍLÝ seems somewhat suspect due to the very slight differences between the unique specimen involved and its Nearctic relatives – BÍLÝ (1984) quotes four characters, all being in fact expressions of slightly more elongated body – and locality (high mountains of NW-Pakistan) just the least expectable for a disjunct representative of otherwise American group].



Fig. 1  
*A. (Sonoridera) stigmata* HORN  
 BPjkl; Mexico: Baja Calif. Sur



dorsal view  
 Fig. 2  
*A. (Barriola) acuminata* KERR.  
 BPhcb; Mexico



Fig. 3  
*A. (Sonoridera) stigmata* HORN  
 BPjkl; Mexico: Baja Calif. Sur



lateral view  
 Fig. 4  
*A. (Barriola) acuminata* KERR.  
 BPhcb; Mexico

### ***Barriola* sg.n.**

Type species: *Acmaeodera acuminata* KERREMANS 1900

**General characteristics:** Body strongly elongate, black with symmetrical (longitudinal posthumeral and transverse postmedian) red markings on elytral sides. Lateral branches of epistome broad, front flat, antennae serrate from 4. joint. Dorsal pubescence long, grayish, erect or semierect, dense on head and pronotum, much sparser on elytra; ventral white, semirecumbent, dense on sides of sternum and abdomen, less so medially. Pronotum transversely trapezoidal, widest at base, sulcate along midline, with deep prehumeral foveae; lateral carina sharp, entire. Elytra definitely flattened in anterior half; humeral protuberances

prominent; periscutellar depression deep and broad; subhumeral incision shallow, indefinite; elytral sides shallowly but distinctly sinuate behind humeri and cuneately tapering from midlength to narrowly jointly rounded apices; lateroapical margins sharply denticulate; striae coarsely punctured, wider than interstriae. Anterior margin of prosternum very shallowly emarginate, without tubercles.

**Included species:** *A. acuminata* KERR.

**Geographical distribution:** Mexico.

**Remarks:** With its unique mixture of characters similar to *Sonoridera* *sg.n.* (elytral sculpture, pubescence), to *Cobosiella* VOLK. (triangular 4. antennomere, apically cuneate elytra, non-tuberculate anterior prosternal margin), to both (pattern of colouration), or to none (trapezoidal and medially sulcate pronotum, anteriorly flattened elytra) *A. acuminata* KERR. seems to closely resemble what could be expected of their common ancestor, *i.e.* *Barriola* *sg.n.* would be the “mother” taxon which both those subgenera have evolved from – of course this hypothesis needs verification by careful phylogenetic analysis. The name has been selected in memory of William F. BARR, one of the leading authorities in taxonomy and biogeography of **Buprestidae** LEACH and **Cleridae** LATR., author of several important papers concerning – among others – Nearctic *Acmaeodera* ESCH.

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c/o Roman B. HOLYŃSKI

PL-05822 **Milanówek**, ul. Graniczna 35, skr. poczt. 65, **POLAND**

e-mail: rholynski@o2.pl