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A new species of *Acmaeodera* Eschscholtz, 1829 from Gran Canaria and Tenerife and notes on *Acmaeodera (Acmaeotethya) cisti* Wollaston, 1862 (Coleoptera, Buprestidae)

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Resumen: Se describe *Acmaeodera (Acmaeotethya) guayarmina* n. sp. sobre ejemplares procedentes de Gran Canaria y Tenerife. La nueva especie es muy próxima a *Acmaeodera (Acmaeotethya) cisti* Wollaston, 1862. Se aporta una clave dicotómica de estas dos especies endémicas del archipiélago. Se confirma la sinonimia de *Acmaeodera palmensis* Lindberg, 1953 con *A. cisti* y se designa el lectotipo de esta última especie.
Palabras clave: Coleoptera, Buprestidae, nueva especie, *Acmaeodera (Acmaeotethya) guayarmina, A. cisti*, lectotipo, sinonimias, distribución, islas Canarias.

Abstract: *Acmaeodera (Acmaeotethya) guayarmina* sp.n. from Gran Canaria and Tenerife, Canary Islands, is described and illustrated. The new species is closely related to *Acmaeodera (Acmaeotethya) cisti*, and the two species, both endemic to the Canaries are keyed. A lectotype is designated for *Acmaeodera cisti*.
Key words: Coleoptera, Buprestidae, new species, *Acmaeodera (Acmaeotethya) guayarmina, A. cisti*, lectotype, synonymy, distribution, Canary Islands.

During two field trips to Gran Canaria on 1996-1998, several specimens of a new *Acmaeodera* species were collected; previously a female of *Acmaeodera* from Tenerife was examined by the senior author and detained as belonging to an undescribed species, in the collection of the Zoological Museum, Helsinki University on 1994. This specimen, bearing the following label: "Tenerife, Pico di Teyde, R. Stora / 3873 / *Acmaeodera fracta* Woll., Uyttenb. det.", was misidentified as

Acmaeodera fracta Wollaston, 1864 and recorded by Uyttenboogaart (1935:6) himself under that name (*Acmaeodera fracta* Woll. T. Pico d. Teyde. New for Tenerife!). Later on, the above mentioned quotation was reported by Cobos (1953A; 1969) under the name of *Acmaeodera rubromaculata fracta*. This female from Tenerife and the Gran Canarian specimens proved to be cospecific and are now included in the type series of the new *Acmaeodera* here described.

The following acronyms are used throughout the text: ALCR = collection of Andrea Liberto, Rome, Italy; BMNH = British Museum of Natural History, London, U.K.; TFMC = Museo de Ciencias Naturales de Tenerife, Canarias, Spain; MNHN = Muséum National d'Histoire Naturelle, Paris, France; UZMH = Zoological Institute, University of Helsinki, Finland; ZMAS = Zoological Institute, Russian Academy of Sciences, St.Petersburg, Russia; ZMHB = Museum für Naturkunde, Berlin, Germany.

***Acmaeodera (Acmaeotethya) guayarmina* sp.n.** (Fig. 1)

Type material. "Canarias, Gran Canaria, Cumbre Central, 1600 m, Cortijo De los Llanos de Pez y Pargana, A. Liberto leg.", reared on July-September of 1999 from branches of *Adenocarpus foliolosus* Ait. (DC.) collected on December 13, 1998: 1 male holotype (TFMC) 2 males and 3 female paratypes (ALCR, ZMAS); "Canarias, Gran Canaria, Cumbre Central, 1600 m, Cortijo De los Llanos de Pez y Pargana, A. Liberto leg.", reared on May-September 1997 from branches of *Adenocarpus foliolosus* collected on October 7, 1996: 2 male and 3 female paratypes (ALCR). "Tenerife, Pico di Teyde, R. Stora / 3873 / *Acmaeodera fracta* Woll., Uyttenb. det.", 1 female paratype (UZMH).

Diagnosis (Table 1). A new species of *Acmaeodera* closely related to *Acmaeodera cisti*, but easily distinguished by the very short decumbent or semierect hairs and setae of head and pronotal disc, by the pseudoalveolate or simply punctured sculpture of head, pronotum and hypomera, by the longer antennae expanded from the fourth antennomere instead than expanded from the fifth like in *A. cisti*. Further diagnostic characters are shown by the shape of the pronotum that in the new species is less transverse than in *A.cisti*, with a yellow marginal band or separate spots on the sides; the new species can be distinguished from *A.cisti* also by the structure of the male anal sternite and by the shape of the aedeagus (Figs 3-6).

Description. Body medium-sized, length 8.0 (6.0-9.9) mm, width 2.2 (1.7-2.8) mm; elongated, broad, flattened, with or without very poor dorsal curvature; dark-bronze with metallic sheen; elytra brownish-yellow with poorly defined, asimmetric pattern of brown, longitudinal stripes connected with transverse fasciae and isolated spots; covered with short, mainly decumbent white hairs, sometimes mixed with brown setae.

Head slightly convex when seen from above, feebly flattened in the middle. Vertex evenly convex, without longitudinal keel or depression, 1.73 (1.55-1.90) x as wide as the diameter of an eye seen from above, and 1.04 (0.97-1.07) x as wide as frons above antennal depressions. Frons from poorly flattened in the middle to weakly depressed. Clypeus narrow, distally with a broad and shallow arcuate emargination

Fig. 1. *Acmaeodera (Acmaeotethya) guayarmina* sp.n., habitus.
Fig. 2. *Acmaeodera (Acmaeotethya) cisti* Woll., habitus.

in the middle. Head densely punctured, punctures fine and simple without inner structures, intervals smooth, shining; covered with a short, fine, white, directed forward or decumbent pubescence. Antennae long, 2.29 (2.12-2.41) x (male) or 1.84 (1.75-1.94) x (female) as long as the height of an eye; expanded from antennomere 4; antennomere 2 lengthened, feebly expanded; antennomere 3 similar to 2, apically thickened; antennomere 4 strongly expanded apically, triangular; antennomeres 5-10 triangular with external margin arcuate, slightly wider than long; antennomere 11 slender with the apex obliquely truncate.

Pronotum convex, slightly wider than long, basal width 1.44 (1.36-1.54) x length, widest at posterior 1/3 or in front of base; sides arcuated, rarely nearly parallel-sided; anterior margin arcuately projecting, feebly bisinuate; basal margin straight. Lateral carina thin, poorly defined, entire at basal 1/3 only. Disc with distinct, wide, shallow median depression sometimes poorly defined or shortened. Prescutellar basal fossa small, shallow, jointed to median depression, lateral basal fossae small. Pronotum with pseudoalveolate sculpture of small, deep, simple punctures without inner structures, disc with simple punctate sculpture of very dense punctures with narrow, smooth, shining intervals; sides without any trace of concentric rugae. Pronotum covered with very short, decumbent, white hairs, disc sometimes with semierected brown setae of the same length. Pronotal sides with marginal yellow band of variable shape and size, usually not extending the base or frequently divided in poorly defined

in poorly defined isolated spots; disc sometimes with additional small spot on the bottom of prescutellar fossa. Anterior prosternal margin straight, bordered by a fine groove; prosternum flattened, without depressions; posterior margins of prosternal projection elevated. Prosternum with pseudoalveolate sculpture of small, deep punctures without inner structures; metasternum and hind coxae with the same structure but made of larger punctures. Hypomera with larger and shallower punctures, sometimes with indistinct inner structures.

Elytra elongated, broad, flattened; 2.65 (2.57-2.75) x as long as wide at base; sides slightly diverging at shoulders, feebly converging to anterior 1/4, then again evenly arcuately diverging toward posterior 1/3, finally converging to narrow jointly rounded apices. Subhumeral incisure shallow but distinct; apical denticles of epipleura small, saw-like, visible in apical 1/3 of the elytra. Striae with fine, large, round, deep, separated punctures; forming shallow grooves on the whole length of each elytron; paratype from Tenerife has those superficial, distinct on entire length. Intervals convex or flat, nearly similar, usually equal to or 1.5-2.5 x, rarely 2-3 x, as wide as striae; 9th interval not elevated, without serration; with fine, disordered, multi- or uniseriate punctures on finely rugulose background, covered with short, disordered, multi- or uniseriate, semierect, white and brown setae approximately as long as interval width; surface feebly shining. Elytra brownish-yellow with poorly defined, asimmetric pattern of irregular, brown, longitudinal stripes on sutural, 4-6th and 8-9th intervals connected with transverse fasciae, and with isolated spots; pattern is similar to that of lightly coloured specimens of *A. cisti* Woll.

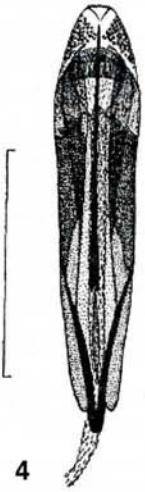
Legs blackish-brown, sometimes with bronzy sheen; metacoxae with posterior margin slightly emarginate, without lateral tooth. Tibiae thin, very feebly expanded apically, nearly straight. Legs covered with white and brown hairs and setae; metatibiae bearing a row of yellowish setae externally. Tarsomeres nearly similar; 5th thin, weakly expanded apically; tarsal pulvilli poorly developed on the tarsomere 1st, each larger toward distal end. Claws in male long, broad, curved, with large, acute tooth at anterior 1/3, in female with small tooth in frons of the middle of internal margin.

Abdomen black, sometimes with bronzy sheen, with pseudoalveolate sculpture of dense, deep, simple punctures without inner structures; disc with sparser and finer, slightly asperate punctures and feebly shagreened intervals; covered with fine, white, decumbent setae. Anal sternite of male short, blunted apically, bordered with very deep, broad groove, posterior margin before the groove forming a distinct ledge; that of female short, triangularly rounded, bordered with fine groove, posterior margin without a ledge.

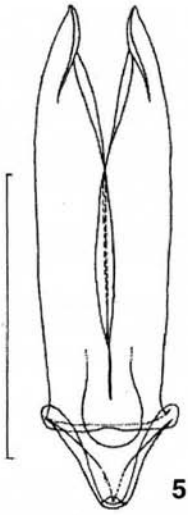
Male: Aedeagus (Figs. 3, 4). Penis (Fig. 4) with very long, thin, rod-like lamina and extremely short free portions of apophyses.

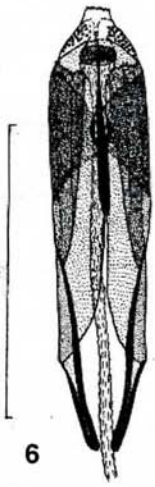
Female: ovipositor (Figs.7, 8) of tubular type and usual structure for *Acmaeotethya*; long, approximately 4 x as long as enlarged part; deeply triangularly emarginate apically; styli separated from each other at their double length and bearing apically 7 long setae. Hemisternites thin, slightly curved; apical sclerotization of dorsal ones poorly defined and without recurved branches.

Etymology. The new species was named "guayarmina" after the name of a princess of the Gran Canarian natives: "Guayarmina" is still used in the Canaries as first name to call baby girls.

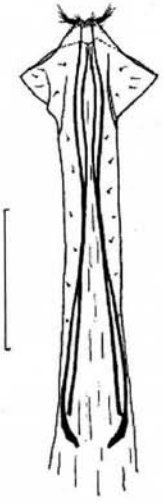


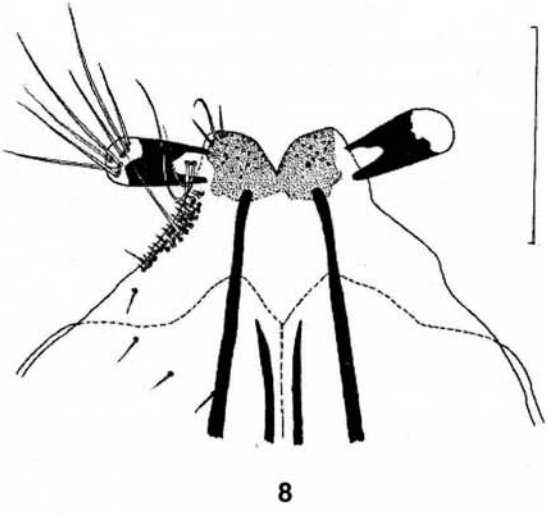
Figs. 3, 4. *Acmaeodera (Acmaeotethya) guayarmina* sp.n., aedeagus: 3, tegmen; 4, penis. Scale bars: 1 mm.





Figs. 5, 6. *Acmaeodera (Acmaeotethya) cisti* Woll., aedeagus: 5, tegmen, 6, penis. Scale bars 1 mm.





Figs. 7, 8. *Acmaeodera (Acmaeotethya) guayarmina* sp.n., ovipositor: 7, dorsal view; 8 apical part. Scale bars: 7 – 1 mm; 8 – 0.2 mm.

Table 1. Diagnostic characters of *Acmaeodera (Acmaeotethya) cisti* species-group from the Canary Islands.

Character	*A. guayarmina* sp.n.	*A. cisti* Woll.
Head, sculpture	Pseudoalveolate, consisting of dense, simple punctures without inner structures	Reticulate or ocellate of deep, umbilicate punctures
Head, pubescence	Short, decumbent, white hairs	Long, erect, white and brown hairs and setae
Antennae, shape	Expanded from antennomere 4	Expanded from antennomere 5
Antennae, length/ heigth of eye	2.29(2.21-2.41)x (male), 1.84(1.75-1.94) x (female)	1.97(1.78-2.07)x (male), 1.76(1.57-1.87) x (female)
Pronotum, basal width/length	1.44(1.36-1.54)	1.60(1.50-1.71)
Pronotum, marking	Sides with yellow marginal band or isolated spots	Sides without any marking
Pronotum, pubescence	Entirely with short, decumbent or semierect hairs and setae	Sides with shorter decumbent hairs, disc with long erect setae
Anal sternite of male, apex	Bordered with deep, broad groove, hind margin before the groove form distinct ledge	Bordered with thin, shallow groove, hind margin before the groove without distinct ledge
Aedeagus	Figs. 3, 4	Figs. 5, 6

Remarks. *Acmaeodera guayarmina* sp. n. belongs to the *A. (Acmaeotethya) cisti* species-group (Volkovitsh 1979), being closely related to *A. cisti* from which it can be easily distinguished by the whole set of characters summarized in table 1. The single paratype of *A. guayarmina* from Tenerife shows slight differences from the Gran Canarian ones, as follows: lighter elytral coloration with sharper pattern; well defined and distinct yellow marginal band of pronotum; deeper median pronotal groove; elytral striae made of smaller and shallower punctures, which do not form grooves; absolutely flat and wider intervals (2-3 x as wide as striae) with inconspicuous punctures. It seems likely that the populations of *A. guayarmina* sp.n. from Gran Canaria and Tenerife may be separated as distinct subspecies.

Ecological remarks. The Gran Canarian specimens of *Acmaeodera guayarmina* were reared from branches of robuste bushes (up to 2 meters high) of *Adenocarpus foliolosus* forming an isolated hedge surrounded by grazing lands. The larvae feed on the sapwood and duramen in branches of a diameter from 30 up to 80 mm about. Under the bark of these branches (looking suffering but still thriving), in the meristematic zone also develops in great number *Anthaxia guanche* Liberto, 2000, while no specimens of *Acmaeodera cisti* were detected. A two-years life cycle of the new species seems likely.

Adults of the new species emerged under laboratory conditions, so that no data on adult phenology are available. The biological requirements of *Acmaeodera guayarmina* are very incompletely known, limited to the above reported collecting data. Even if *Acmaeodera guayarmina* seems to be an extremely rare species following the few collections, further investigations are needed to clarify its feeding habits, habitat preference, phenology and feeding competition with *Acmaeodera cisti*. The latter is a very polyphagous species that is recorded from the following host plants all over the islands: *Adenocarpus* spp. (Cobos, 1953a), *Spartium junceum* L., *Periploca laevigata* Ait., *Rumex lunaria* L., *Cistus* spp. (García Becerra *et al.*, 1992), *Chamaecytisus proliferus* L. (Link.), *Ficus carica* L., *Launaea arborescens* (Batt.) Murb. (Liberto, 2000), *Spartocytisus* sp. (Brandl, 1988).

Notes on *A. cisti* Wollaston, 1862

Acmaeodera (Acmaeotethya) cisti Wollaston, 1862: 439. (Fig. 2)
Acmaeodera palmensis Lindberg, 1953: 8

Type material examined. *A. cisti* Woll.: Lectotype (present designation): female, "Syntype / Palma / *Acmaeodera cisti* Woll., Type / The Canary Is., T. v. Wollaston, Brit. Mus. 1864-80", BMNH. Paralectotypes: 1 female, "Syntype / Palma / The Canary Is., T. v. Wollaston, Brit. Mus. 1864-80"; 1 male, 1 female, "G. Canary / The Canary Is., T. v. Wollaston, Brit. Mus. 1864-80", BMNH; 1 specimen (sex unknown), "*Acmaeodera cisti* Woll. / 42735 / Type / Ins. Canar.", ZMHB. *A. palmensis* Lindb.: 4 syntypes, La Palma, El Paso, 26.V.1947, Lindberg (UZMH: 3 specimens in coll. Harald Lindberg, 1 specimen in Palaearctic collection).

Examination of syntypes of *A. palmensis* (UZMH) confirmed the synonymy with *A. cisti*, proposed by Cobos (1953b). Only one syntype of *A. cisti* from La Palma among those examined was bearing an original type label by Wollaston, therefore it was designated as lectotype. The distributional range of *A.cisti*, described from Gran Canaria, Tenerife and La Palma (Wollaston, 1862) and also recorded from Gomera (Israelson *et al.*, 1982), is restricted to the Canaries. Authentic specimens of *Acmaeodera cisti oertzeni* Théry, 1928 (non *Acmaeodera oertzeni* Ganglbauer, 1889) from Tunisia (two females: Teboursouk, Dr. Sicard, coll. A. Théry, MNHN) were studied and proved to be specifically distinct from *A. cisti*.

Key to the species of *Acmaeodera (acmaeotethya) cisti* group from the Canary Islands

1(2). Upper part of the head and pronotal disc with long, erect white and brown setae. Male antennae 1.97 (1.78-2.07) x, female 1.76 (1.57-1.87) x as long as the height of an eye, expanded from antennomere 5. Pronotum transverse, 1.60 (1.50-1.71) x as wide as long; pronotal sides with no yellow marginal marking. Anal sternite of the male with no subapical ledge. Aedeagus: Figs. 5, 6. ..... ***A. cisti*** Woll.

2(1). Head and pronotum entirely with short, decumbent or semierect, mainly white hairs and setae of the same length. Antennae of male 2.29 (2.21-2.41) x, female 1.84 (1.75-1.94) x as long as the height of an eye, expanded from antennomere 4. Pronotum weakly transverse, 1.40 (1.36-1.44) x as wide as long; pronotal sides with yellow marginal band or isolated spots. Anal sternite of the male with distinct ledge before the apex. Aedeagus: Figs. 3, 4. ..... ***A. guayarmina*** sp. n.

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