

# A Checklist and a Key to the Taxa of the Subfamily Polycestinae Lacordaire, 1857 (Coleoptera: Buprestidae) in Bulgaria

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**Abstract:** A checklist of 19 species and subspecies of the subfamily Polycestinae (Coleoptera: Buprestidae) from Bulgaria is presented. Identification key to the tribes, genera, subgenera and species is compiled.

**Keywords:** Coleoptera, Buprestidae, Polycestinae, Bulgaria, Balkan Peninsula, Europe

## Introduction

The most abundant polycestine species in Bulgaria belong to Acmaeoderini. This is the most speciose tribe (56% of polycestine species in the world, 86% in the Palaearctic). Contrary to other Polycestinae, Acmaeoderini are widely distributed in the temperate zones of the World, being more numerous and diverse in the regions with Mediterranean type of climate and vegetation and adjacent semi-desert and desert territories (VOLKOVITSH 1986). Thus, in the Palaearctic Acmaeoderini are most abundant in the Mediterranean and adjacent arid territories of North Africa, Middle East, Iran and Middle Asia. In Northern Mediterranean and Southern Europe, the number of polycestine species increases from Italy eastwards to Turkey and westwards to Spain.

The aim of this work is to present a checklist of the Bulgarian Polycestinae as well as to compile a key for their determination.

## Material and Methods

The present paper is based upon the fieldwork of the authors in different regions of Bulgaria in

1984–2013 and studies of buprestid collections in Bulgarian and European Museums and private collections. In addition, we also included data from literature sources. The examined collections (in alphabetical order) are as follows: Hungarian Natural History Museum (Budapest, Hungary), National Museum of Natural History (Sofia, Bulgaria), National Museum of Bratislava (Bratislava, Slovakia), National Museum (Prague, Czech Republic), Natural History Museum (Blagoevgrad, Bulgaria), Natural History Museum (Plovdiv, Bulgaria), Zoological Institute, Russian Academy of Sciences (St. Petersburg, Russia); Svatopluk Bílý collection (Prague, Czech Republic, currently in the National Museum, Prague) and Vít Kubáň collection (Brno, Czech Republic).

The checklist is given according to SAKALIAN (2003). The general distribution follows VOLKOVITSH (2006).

Images of adults were taken using a Leica MZ-9.5 stereomicroscope with mounted Leica DFC-290 camera. Measurements were taken using eyepiece micrometer in MBS-9 stereomicroscope. Genitalia

images were taken using a Bresser-Biolux light microscope with integrated imaging system.

## Results and Discussion

### Checklist of Polycestinae Lacordaire, 1857 of Bulgaria

#### Subfamily Polycestinae Lacordaire, 1857

Twelve tribes, 80 genera and over 1250 species world-wide (BELLAMY 2008; updated); six tribes, 18 genera and over 270 species in the Palaearctic region (VOLKOVITSH 2006); two tribes (Ptosimini and Acmaeoderini), three genera and 19 species in Bulgaria (SAKALIAN 2003).

#### Tribe Ptosimini Kerremans, 1902

Two genera and 12 species world-wide (BELLAMY 2008, VOLKOVITSH 2008); one genus and three species in Palaearctic (VOLKOVITSH 2006); one species in Europe.

#### Genus *Ptosima* Dejean, 1833

Eleven species in Nearctic, Oriental and Palaearctic regions (BELLAMY 2008, VOLKOVITSH 2008, 2014); one species in Bulgaria.

*Ptosima undecimmaculata undecimmaculata* (Herbst, 1784) (Figs. 1, 28)

#### Tribe Acmaeoderini Kerremans, 1893

Four subtribes, 14 genera and nearly 700 species world-wide except Australia and Oceania (BELLAMY 2008, VOLKOVITSH 2008); four genera and over 240 species, all belonging to the subtribe Acmaeoderina in Palaearctic region (VOLKOVITSH 2006).

#### Subtribe Acmaeoderina Kerremans, 1893

Ten genera, over 650 species world-wide (BELLAMY 2008, VOLKOVITSH 2008); four genera and over 240 species in the Palaearctic (VOLKOVITSH 2006); two genera and 18 species in Bulgaria (SAKALIAN 2003).

#### Genus *Acmaeodera* Eschscholtz, 1829

Twelve subgenera, over 500 species distributed world-wide (BELLAMY 2008, VOLKOVITSH 2008); nine subgenera, 98 species in the Palaearctic (VOLKOVITSH 1979, 2006); three subgenera and eight species in Bulgaria (SAKALIAN 2003).

*Acmaeodera (Acmaeodera) brevipes brevipes* Kiesenwetter, 1858 (Figs. 29, 72)

*Acmaeodera (Acmaeodera) edmundi edmundi* Obenberger, 1935 (Figs. 30, 48, 49, 68, 74)

*Acmaeodera (Acmaeodera) pilosellae pilosellae* (Bonelli, 1812) (Figs. 3, 7, 31, 69)

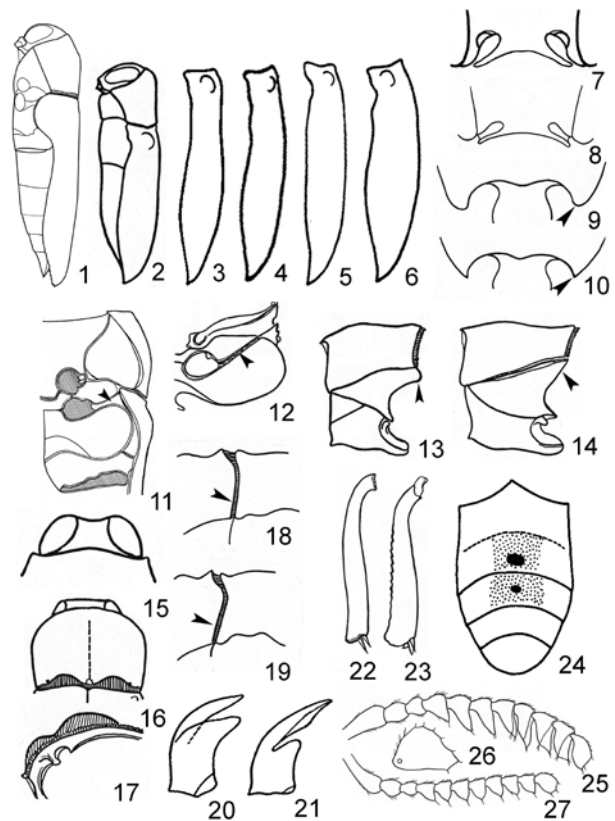


Fig. 1–27. Ptosimini and Acmaeoderini, diagnostic characters.

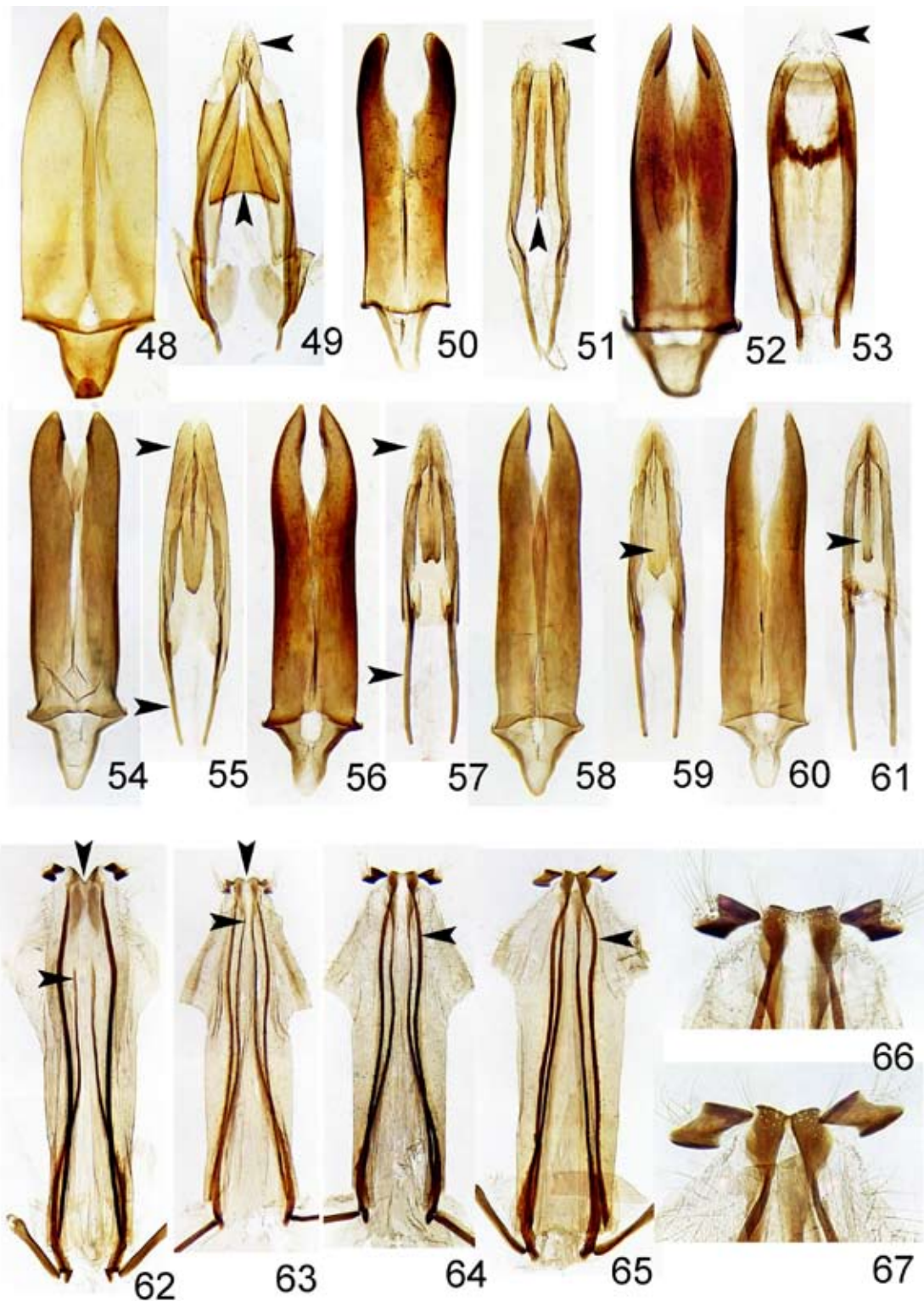
1 – Ptosimini, 2–27 – Acmaeoderini. 1, 2 – lateral view: 1 – *Ptosima undecimmaculata* (Herbst, 1784); 2 – *Acmaeoderella (Omphalothorax) adspersula* (Illiger, 1803). 3–6 – elytron, lateral view: 3 – *Acmaeodera (Acmaeodera) pilosellae* (Bonelli, 1812); 4 – *A. (Palaeotethya) bipunctata* (Olivier, 1790); 5 – *A. (Acmaeotethya) degener* (Scopoli, 1763); 6 – *Acmaeoderella (Carininota) flavofasciata* (Piller & Mitterpacher, 1783). 7, 8 – clypeus: 7 – *Acmaeodera (Acmaeodera) pilosellae* (Bonelli, 1812); 8 – *Acmaeoderella (Carininota) flavofasciata* (Piller & Mitterpacher, 1783). 9, 10 – *Acmaeoderella (Carininota) spp.*, anterior pronotal angles (arrows): 9 – *A. (C.) mimonti* (Boieldieu, 1865); 10 – *A. (C.) flavofasciata* (Piller & Mitterpacher, 1783). 11, 12 – thorax, ventral view (arrows indicate mesepimeron): 11 – *Acmaeodera (Acmaeotethya) degener* (Scopoli, 1763); 12 – *Acmaeoderella (Carininota) flavofasciata* (Piller & Mitterpacher, 1783). 13, 14 – prothorax, lateral view (arrows indicate posterior margin of hypomerion): 13 – *Acmaeodera (Palaeotethya) bipunctata* (Olivier, 1790); 14 – *A. (Acmaeotethya) degener* (Scopoli, 1763). 15–17 – head and pronotum, dorsal (15, 16) and caudal (17) view: 15 – *Acmaeoderella (Euacmaeoderella) gibbulosa* (Ménétriés, 1832); 16, 17 – *A. (Carininota) spp.*, basal pronotal carinae. 18, 19 – *Acmaeoderella (Carininota) spp.*, pronoto-elytral joint, lateral view: 18 – *A. (C.) flavofasciata* (Piller & Mitterpacher, 1783); 19 – *A. (C.) mimonti* (Boieldieu, 1865). 20, 21 – *Acmaeoderella (Acmaeoderella) coarctata seminata* (Abeille de Perrin, 1895), foretarsal claws: 20 – male; 21 – female. 22, 23 – *Acmaeodera (Acmaeotethya) spp.*, shape of foretibiae: 22 – *A. (A.) degener* (Scopoli, 1763); 23 – *A. (A.) ottomana* (Frivaldszky, 1837). 24 – *Acmaeoderella (Acmaeoderella) levantina* (Obenberger, 1934), female abdomen, ventral view. 25–27 – *Acmaeoderella (Euacmaeoderella) subcyanea* (Reitter, 1890), antennae: 25, 26 – male; 27 – female. 1, 2, 7, 9–12, 15, 17–19, 22, 23, 26 – original; 3–6, 8, 13, 14, 20, 21 – after VOLKOVITSH (1979); 16, 25, 27 – after VOLKOVITSH (1977); 24 – after VOLKOVITSH (1989).



**Fig. 28–47.** Ptosimini and Acmaeoderini, dorsal views.

28 – *Ptosima undecimmaculata undecimmaculata* (Herbst, 1784), body length 11.5 mm; 29 – *Acmaeodera (Acmaeodera) brevipes brevipes* Kiesenwetter, 1858, 9.2 mm; 30 – *A. (A.) edmundi edmundi* Obenberger, 1935, 8.1 mm; 31 – *A. (A.) pilosellae pilosellae* (Bonelli, 1812), 7.3 mm; 32 – *A. (Palaeotethya) bipunctata bipunctata* (Olivier, 1790), 6.7 mm; 33 – *A. (Acmaeotethya) crinita crinita* Spinola, 1838, 6.4 mm; 34 – *A. (A.) degener degener* (Scopoli, 1763), 10.5 mm; 35 – *A. (A.) ottomana ottomana* (Fivald-szky, 1837), 7.5 mm; 36 – *A. (A.) quadrizonata* Abeille de Perrin, 1891, 9.5 mm; 37 – *Acmaeoderella (Omphalothorax) adspersula adspersula* (Illiger, 1803), 4.9 mm; 38 – *A. (Carininota) mimonti mimonti* (Boieldieu, 1865), 8.5 mm; 39 – *A. (C.) flavofasciata flavofasciata* (Piller & Mitterpacher, 1783), 9.4 mm; 40 – same, melanistic form, 9.2 mm; 41 – *A. (Liogastrina) chrysanthemi* (Chevrolat, 1854), 5.4 mm; 42 – *A. (Acmaeoderella) levantina* (Obenberger, 1934), 5.5 mm; 43 – *A. (A.) circassica* (Reitter, 1890), 5.1 mm; 44 – *A. (A.) coarctata seminata* (Abeille de Perrin, 1895), 5.0 mm; 45 – *A. (Euacmaeoderella) gibbulosa* (Ménétriés, 1832), 5.7 mm; 46 – *A. (E.) vetusta* (Ménétriés, 1832), 7.3 mm; 47 – *A. (E.) subcyanea* (Reitter, 1890), 5.6 mm. Photo: 1–35, 37–43, 45–47 – M. Volkovitch; 36, 44 – V. Kubáň.





**Fig. 48–67.** Acmaeoderini, male and female genitalia.

48–61 – aedeagus (48, 50, 52, 54, 56, 58, 60 – tegmen, 49, 51, 53, 55, 57, 59, 61 – penis): 48, 49 – *Acmaeodera* (*Acmaeodera*) *edmundi* Obenberger, 1935, 1.9 and 1.35 mm; 50, 51 – *A.* (*Palaetothya*) *bipunctata* (Olivier, 1790), 1.4 and 1.05 mm; 52, 53 – *A.* (*Acmaeotethya*) *ottomana* (Frivaldszky, 1837), 1.72 and 1.35 mm; 54, 55 – *Acmaeoderella* (*Liogastrina*) *chrysanthemi* (Chevrolat, 1854), 1.5 and 1.15 mm; 56, 57 – *A.* (*Acmaeoderella*) *levantina* (Obenberger, 1934), 1.5 and 1.1 mm; 58, 59 – *A.* (*A.*) *circassica* (Reitter, 1890), 1.3 and 1.0 mm; 60, 61 – *A.* (*A.*) *coarctata seminata* (Abeille de Perrin, 1895), 1.85 and 1.35 mm. 62–67 – ovipositor (62–65 – dorsal view, 66, 67 – apical part): 62 – *Acmaeoderella* (*Liogastrina*) *chrysanthemi* (Chevrolat, 1854), 2.0 mm; 63 – *A.* (*A.*) *levantina* (Obenberger, 1934), 1.37 mm; 64, 66 – *A.* (*A.*) *circassica* (Reitter, 1890), 1.5 mm; 65, 67 – *A.* (*A.*) *coarctata seminata* (Abeille de Perrin, 1895), 1.65 mm. Arrows indicate: 49, 51, 53, 55, 57 (upper) – apical apodema; 49, 51 (lower), 59, 61 – lamina; 55, 57 (lower) – basal struts; 62, 63 – shape of apex (upper) and ventral hemisternites (lower); 64, 65 – dorsal hemisternites. Photo: M. Volkovitsh.

*Acmaeodera (Palaeotethya) bipunctata bipunctata* (Olivier, 1790) (Figs. 4, 13, 32, 50, 51)

*Acmaeodera (Acmaeotethya) crinita crinita* Spinola, 1838 (Fig. 33)

*Acmaeodera (Acmaeotethya) degener degener* (Scopoli, 1763) (Figs. 5, 11, 14, 22, 34, 70, 73)

*Acmaeodera (Acmaeotethya) ottomana ottomana* (Frivaldszky, 1837) (Figs. 23, 35, 52, 53, 71)

*Acmaeodera (Acmaeotethya) quadrizonata* Abeille de Perrin, 1891 (Fig. 36)

**Genus *Acmaeoderella* Cobos, 1955**

Six subgenera and over 120 species distributed exclusively in the Palaearctic (VOLKOVITSH 1979, 2006, 2008, BELLAMY 2008); four subgenera and ten species in Bulgaria (SAKALIAN 2003).

*Acmaeoderella (Acmaeoderella) circassica* (Reitter, 1890) (Figs. 43, 58, 59, 64, 66)

*Acmaeoderella (Acmaeoderella) coarctata*

*seminata* (Abeille de Perrin, 1895) (Figs. 20, 21, 44, 60, 61, 65, 67)

*Acmaeoderella (Acmaeoderella) levantina* (Obenberger, 1934) (Figs. 24, 42, 56, 57, 63)

*Acmaeoderella (Liogastrina) chrysanthemii* (Chevrolat, 1854) (Figs. 41, 54, 55, 62)

*Acmaeoderella (Omphalothorax) adspersula adspersula* (Illiger, 1803) (Fig. 37)

*Acmaeoderella (Carininota) flavofasciata flavofasciata* (Piller & Mitterpacher, 1783) (Figs. 6, 8, 10, 12, 18, 39, 40)

*Acmaeoderella (Carininota) mimonti mimonti* (Boieldieu, 1865) (Figs. 9, 19, 38)

*Acmaeoderella (Euacmaeoderella) gibbulosa* (Ménétriés, 1832) (Figs. 15, 45)

*Acmaeoderella (Euacmaeoderella) subcyanea* (Reitter, 1890) (Figs. 25-27, 47)

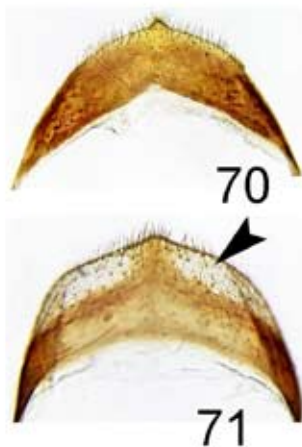
*Acmaeoderella (Euacmaeoderella) vetusta* (Ménétriés, 1832) (Fig. 46)



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**Fig. 68–74.** *Acmaeoderini*, dorsal setation, male pregenital segments, and ovipositor.

68, 69 – dorsal setation: 68 – *Acmaeodera (Acmaeodera) edmundi* Obenberger, 1935; 69 – *A. (A.) pilosellae* (Bonelli, 1812). 70, 71 – sternite VIII (arrow indicates membranous areas at anterior margin: 70 – *A. (Acmaeotethya) degener* (Scopoli, 1763); 71 – *A. (A.) ottomana* (Frivaldszky, 1837). 72, 73 – tergite IX (arrows indicate paraprost connection): 72 – *Acmaeodera (Acmaeodera) brevipes* Kiesenwetter, 1858; 73 – *A. (Acmaeotethya) degener* (Scopoli, 1763). 74 – *Acmaeodera (Acmaeodera) edmundi* Obenberger, 1935, ovipositor, 0.8 mm. 68–73 – no scale. Photo: M. Volkovitsh.

**Key to the tribes, genera, subgenera and species of the Bulgarian Polycestinae**

1. Scutellum present; pronotum with longitudinal stripes of transverse rugosity bordering disc; subhumeral lobe of elytra very large (Fig. 1) completely covered metepisternum (Ptosimini: *Ptosima*). Black, elytra with 3 pairs of lateral, yellowish, orange or reddish transverse bands not reaching suture and sometimes merging longitudinally, frequently with preapical maculae; frons and pronotal disc occasionally also with maculae. 9.0–14.0 mm. Fig. 28. ....  
*P. undecimmaculata undecimmaculata* (Herbst)  
 – Scutellum and subhumeral lobe of elytra absent, lateral margin of elytra at base straight, curved or emarginated (Figs. 2–6), metepisternum open (Fig. 11); pronotal disc without stripes of transverse rugosity. (Acmaeoderini: Acmaeoderina). Figs. 29–47. .... 2

2. Body covered with setae and hairs; clypeus normal (Fig. 7), with well marked lateral branches and deep anterior emargination; mesepimeron strongly reduced but distinct (Fig. 11) (*Acmaeodera* Eschscholtz). .... 3  
 – Body covered with scales, sometimes mixed with setae; clypeus strongly reduced (Fig. 8); mesepimeron inconspicuous (Fig. 12) (*Acmaeoderella* Cobos). .... 10

3. Subhumeral margin of elytra nearly straight (Fig. 3); male: 9<sup>th</sup> tergite with paraprocts separated medially (Fig. 72), penis with large sclerotised apical apodema and short broad lamina (Fig. 49); female: ovipositor very short, sclerotised (Fig. 74) (Subgenus *Acmaeodera* s. str.). .... 4  
 – Subhumeral margin of elytra curved, or emarginated (Figs. 4–6); male: 9<sup>th</sup> tergite with paraprocts fused medially (Fig. 73), penis with small membranous apical apodema and long narrow lamina or lamina absent (Figs. 51, 53); female: ovipositor long, membranous with thin sclerotised dorsal and ventral hemisternites (baculi), expanded apically (Figs. 62–65). .... 6

4. Elytra blackish-bronze with feeble cooper or violet sheen, rarely unicolourous, covered with small, nearly uniformly dispersed orange markings; dorsal pubescens white, long and wavy (Fig. 69). 7.5–11.5 mm. Fig. 29  
 ..... *A. (A.) brevipes brevipes* Kiesenwetter  
 – Elytra orange or ochre-yellow with bronze or brown markings concentrated along suture and lateral margin, occasionally forming transverse bands; dorsal pubescens consists of mixed white and brown setae. Figs. 30, 31 .

..... 5  
 5. Head, pronotum, elytral markings and ventral surface bright cooper-bronze; head, pronotum and elytra basally with wavy hairs and setae (Fig. 69). 5.4–9.7 mm. Fig. 31.....  
 ..... *A. (A.) pilosellae pilosellae* (Bonelli)  
 – Head, pronotum and ventral surface blackish-bronze, elytral markings blackish-brown or brown; head, pronotum and elytra with straight or curved but not wavy setae (Fig. 68). 5.7–9.7 mm. Fig. 30. ....  
 ..... *A. (A.) edmundi edmundi* Obenberger

6. Subhumeral margin of elytra curved (Fig. 4), posterior margin of hypomeron lobate (Fig. 13) (subgenus *Palaeotethya*); subcylindrical, blackish-bronze, covered with long (as long as double width of elytral interval) erect white and brown setae, elytra dark brown with 3–5 pairs of yellowish maculae, occasionally merging or reduced; aedeagus as in Figs. 50, 51. 4.7–6.7 mm. Fig. 32. ....  
 ..... *A. (P.) bipunctata bipunctata* (Olivier)  
 – Subhumeral margin of elytra emarginated (Fig. 5), posterior margin of hypomeron nearly straight (Fig. 14); body flattened; aedeagus as in Figs. 52, 53. (subgenus *Acmaeotethya*). .... 7

7. Protibia not or feeble widened toward apex (Fig. 22); dorsally covered with straight, erect, brown setae, on elytra as long as or longer than interval width; elytra unicolorous or with symmetric small yellowish maculae, sternite 8 uniformly sclerotised (Fig. 70) (*gr. degener*). .... 8  
 – Protibia distinctly widened toward apex (Fig. 23), head and pronotum covered with wavy, erect, brown and white setae, elytra with semi-erect or recumbent setae shorter than elytral width; elytra with transverse and longitudinal merging orange or reddish bands, sternite 8 with membranous areas at anterior margin (Fig. 71) (*gr. ottomana*). .... 9

8. Body and elytra uniformly blackish-brown, without markings and metallic sheen. 5.6–10.1 mm. Fig. 33.....  
 ..... *A. (A.) crinita crinita* Spinola  
 – Elytra dark brown with feeble violet or bluish metallic sheen, bearing small, symmetric, yellowish markings sometimes merging transversally, rarely unicolorous; head and pronotal sides occasionally also with yellowish markings. 7.2–12.5 mm. Fig. 34. ....  
 ..... *A. (A.) degener degener* (Scopoli)

9. Body and elytra metallic blue or greenish-blue; transverse bands on elytra merging longitudinally forming zigzag stripes at anterior half or along entire elytral length. 5.7–9.8 mm. Fig. 35.....  
 ..... *A. (A.) ottomana ottomana* (Frivaldszky)  
 – Body and elytra black, without metallic sheen; elytra with 4 zigzag transverse bands, occasionally 2

- anterior bands merging longitudinally as in previous species; pronotal sides sometimes with reddish markings. 6.5–10.8 mm. Fig. 36. ....  
 ..... *A. (A.) quadrizonata* Abeille de Perrin
10. Three intervals: Pronotal base carinate (Figs. 16, 17) ..... 11  
 – Pronotal base not carinate ..... 13
11. Strongly elongate, narrow; pronotum nearly as long as wide, with complete longitudinal medial depression reaching anterior margin, nearly straight in lateral view (Fig. 2), basal pronotal carinae highest opposite humeral swellings; elytral markings consist of small maculae frequently merging and forming longitudinal stripes (subgenus *Omphalothorax*). 5.7–6.9 mm. Fig. 37. ....  
 ..... *A. (O.) adspersula adspersula* (Illiger)
- Robust; pronotum distinctly wider than long, gibbose in lateral view (Figs. 13, 14), with transverse prebasal and incomplete medial depressions, basal pronotal carinae highest opposite 3<sup>rd</sup>–4<sup>th</sup> intervals of elytra (Figs. 16, 17); elytral markings consist of curved transverse bands and maculae, rarely unicolorous, black (subgenus *Carininota*). ..  
 ..... 12
12. Slender; lateral pronotal carinae indistinct anteriorly, anterior angles of pronotum sharp, not lobate (Fig. 10); anterior angles of elytra rectangular, not projecting forward (Fig. 18); elytral intervals narrow, slightly convex; elytra and pronotum covered with narrow, white, lanceolate scales mixed with brown or black setae. 5.6–10.7 mm. Figs. 39, 40. .... *A. (C.) flavofasciata flavofasciata* (Piller et Mitterpacher)
- More robust; lateral pronotal carinae well marked anteriorly, anterior angles of pronotum blunt, lobate (Fig. 9); anterior angles of elytra sharpened, projecting forward (Fig. 19); elytral intervals wide, flat; elytra and pronotum covered with broad, white scales sometimes mixed with narrow brown scales. 6.8–10.2 mm. Fig. 38. ....  
 ..... *A. (C.) mimonti mimonti* (Boieldaui)
13. Vertex wide, 1.5–2 times as wide as transverse diameter of eye (Fig. 16); antennae nearly 2 times (males) or 1.5 times (females) as long as longitudinal diameter of eye; pronotum with alveolate sculpture at least laterally ..... 14  
 – Vertex narrow, less or equal to transverse diameter of eye (Fig. 15); pronotum entirely with dense punctuate sculpture, denser on sides; uniformly metallic bronze; antennae nearly as long as longitudinal diameter of eye in both sexes; elytral striae poorly visible at basal third being mixed with interval punctures. 4.2–7.4 mm. Fig. 45. ....  
 ..... *A. (Euacmaeoderella) gibbulosa* (Ménétriés)
14. Elytra with variable markings consisting of longitudinal dark and yellow stripes and maculae; head and pronotum with uniform alveolate sculpture ..... 15  
 – Elytra unicolorous, black, bronze or blue; at least pronotal disc with simple punctuate sculpture centrally. .... 16
15. Aedeagus: robust, apical apodema of penis broad, sclerotised, basal struts short (Fig. 55); ovipositor: ventral hemisternites (baculi) not reaching apical margin of ventral valve, apex deeply angularly or arcuately emarginated, bases of styli widely separated (Fig. 62); female abdomen with uniform punctuate sculpture, without medial clusters of micropunctures or small depressions on ventrites 2–3 (subgenus *Liogastrina*). Dark bronze, elytra ochre-yellow with dark stripes or blackish-brown with yellow stripes; covered with dense lanceolate scales. 3.4–6.9 mm. Fig. 41. ....  
 ..... *A. (L.) chrysanthemi* (Chevrolat)
- Aedeagus: slender, apical apodema of penis narrow, poorly sclerotised, basal struts long (Fig. 57); ovipositor: ventral hemisternites reaching apical margin of ventral valve, apex shallowly emarginated, bases of styli closely separated (Fig. 63); female abdomen with ventrites 2–3 bearing medial clusters of micropunctures (Fig. 24). Dark bronze, elytra blackish-brown with yellow stripes; covered with narrow scales. 4.7–6.0 mm. Fig. 42. ....  
 ..... *A. (Acmaeoderella) levantina* (Obenberger)
16. Smaller (3.7–6.1 mm), black or dark bronze; pronotum covered with uniform alveolate sculpture changing to punctuate sculpture of big dense punctures at the centre of disc; covered with short lanceolate scales ..... 17  
 – Larger (5.2–12.0 mm), bronze or black with blue elytra; pronotum covered with complicated sculpture of large alveolate punctures laterally and basally, and fine simple punctures formed transverse stripe bearing brush of dense setose scales at anterior third. .... 18
17. Tarsal claws of forelegs in male with long tooth reaching the apex of claw (Fig. 20), in female short (Fig. 21); lamina of penis narrow (Fig. 61); dorsal hemisternites of ovipositor strongly arcuate at apical third (Fig. 65), apex as in Fig. 67. 3.8–5.9 mm. Fig. 44. ....  
 ..... *A. (A.) coarctata seminata* (Abeille de Perrin)
- Tarsal claws of forelegs with short tooth in both sexes (Fig. 21); lamina of penis broad (Fig. 59); dorsal hemisternites of ovipositor poorly arcuate at apical third (Fig. 64), apex as in Fig. 66. 3.7–6.1 mm. Fig. 43. .... *A. (A.) circassica* (Reitter)
18. Uniformly bronze; dorsally covered with very dense, long setose scales, on elytra twice longer



than interval width, ventrally covered with the same scales much denser on the sides; antennae nearly equal in both sexes, expanding from antennomere 5. 5.2–12.0 mm. Fig. 46. ....

..... *A. (Euacmaeoderella) vetusta* (Ménétriés)

– Black with elytra blue or bronze, shagreened, dorsally covered with sparse short scales, on elytra not longer than interval width, ventrally covered with short scales much denser and longer on the sides of meso- and metaventrites, and abdomen; antennae expanded from antennomere 4, in male antennomeres 5–10 irregularly expanded (Figs. 25, 26), in female simple (Fig. 27). 5.2–8.9 mm. Fig. 47

..... *A. (E.) subcyanea* (Reitter)

## References

- BELLAMY, C. L. 2008. A World Catalogue and Bibliography of the Jewel Beetles (Coleoptera: Buprestoidea), Volume 1: Introduction; Fossil Taxa; Schizopodidae; Buprestidae: Juelodinae – Chrysochroinae: Poecilonotini. Sofia–Moscow, Pensoft Publishers, 625 pp.
- SAKALIAN, V. 2003. A Catalogue of the Jewel Beetles of Bulgaria (Coleoptera: Buprestidae). Zoocartographia Balcanica. 2. Pensoft Publisher, Sofia-Moscow, 246 pp.
- VOLKOVITSH, M. G. 1977. New species of buprestid-beetles of the tribe Acmaeoderini (Coleoptera, Buprestidae) from the USSR and Iran. – In: KRYZHANOVSKII O. L., A. K. GALKIN (Eds.): *Sistematika i faunistika nasekomykh. Zoologicheskii Institut. Akademiya Nauk SSSR, Leningrad*, 42–64 (In Russian).
- VOLKOVITSH, M. G. 1979. Review of the Palaearctic groups of Jewel Beetles of the tribe Acmaeoderini (Coleoptera, Buprestidae). – *Entomologicheskoe Obozrenie*, **58** (2): 333–354. (In Russian).
- VOLKOVITSH, M. G. 1986. Review of the buprestid tribe Acmaeoderini (Coleoptera, Buprestidae) of the fauna of the USSR and adjacent countries]. – In: KIREJTSHUK A.G. (Ed.). *Morfologiya, sistematika i faunistika maloizuchennykh grupp nasekomykh. – Trudy Zoologicheskogo Instituta, Akademiya Nauk SSSR*, **140**: 16–43. (In Russian, English summary).
- VOLKOVITSH, M. G. 1989. New and little known buprestid-beetles of the genus *Acmaeoderella* Cobos (Coleoptera, Buprestidae) from Eastern Mediterranean. – *Trudy Zoologicheskogo Instituta, Akademiya Nauk SSSR*, **208**: 43–63. (In Russian).
- VOLKOVITSH, M. G. 2006. New nomenclatorial and taxonomic acts, and comments. Buprestidae: Polycestinae and Buprestinae. pp. 56–58; Catalogue. Buprestidae: Polycestinae. pp. 330–342. – In: LÖBL I., A. SMETANA (Eds). *Catalogue of Palaearctic Coleoptera. Volume 3. – Scarabaeoidea – Scirtoidea – Dascilloidea – Buprestoidea – Byrrhoidea*. Apollo Books, Stenstrup, 690 pp.
- VOLKOVITSH, M. G. 2008. A review of the Buprestid genus *Cochinchinula* Volk. with description of new taxa from Thailand, and notes on the composition and classification of the tribe Acmaeoderini (Coleoptera, Buprestidae, Polycestinae.). – *Entomological Review*, **88** (3): 329–349.
- VOLKOVITSH, M. G. 2014. *Ptosima barri*, a new species from Southeast Asia with notes on Palaearctic and Oriental *Ptosima* Dejean, 1833 (Coleoptera: Buprestidae: Polycestinae: Ptosimini). – *Giornale italiano di entomologia*, **13** (59): 461–470.

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