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The mode of life and manner of feeding of dynastine beetle larvae changed to a much lesser extent than in the adults. While the larvae, as also in the forest zone, developed within a moist decomposing substrate, the adults of the dynastine desert beetle adapted themselves to completely new conditions of locomotion in sand both in the period of emergence from the deep sand layers to the surface and also when searching for new plants for oviposition. It is precisely because of this that the adult characteristics of the dynastine desert beetle have changed so markedly.

E. ata Sem. et Medv. is a narrowly specialized endemic species distributed in the Karakum in sand-dune areas with sparse vegetation, represented by species of *Astragalus*, *Artemisia dimo*, *Calligonum* and the herbaceous plant *Cistanche flava* (C.A. Mey) Korsh., parasitic on the latter.

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NEW BUPRESTIDS OF THE TRIBE ACMAEODERINI (COLEOPTERA, BUPRESTIDAE) FROM THE PALEARCTIC AND SOUTH-EASTERN ASIA

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In the collections of the Zoological Museum in Copenhagen (Zoologisk Museum, Denmark - ZMC), the National Museum in Prague (Národní Museum v Praze, Czechoslovakia - NMP), the Institute for Plant Protection in Eberswalde (Institut für Pflanzenschutzforschung, Zweigstelle Eberswalde, German Democratic Republic - IPE), the Slovak National Museum in Bratislava (Slovenské Národné múzeum, Czechoslovakia - SNMB), and also in collections received in recent years from H. Mühle and P. Brandl (Munich, German Federal Republic) and C. Holzschuh (Vienna, Austria), we discovered a series of species new to science. Study of the collection of J. Obenberger (NMP) revealed that some forms described by this author as aberrations and varieties, in fact belong to distinct species. On the basis of studies of extensive materials it was established that the forms of the species *Acmaeodera* (s.str.) *flavolineata* Cast.-Gory, distributed in the islands of Cyprus and Crete, differ markedly from the continental forms and externally show greater resemblance to closely related species, and not to the nominate subspecies; it is therefore expedient to separate them into individual subspecies.

We wish to express our thanks to Dr. S. Bílý (NMP), Dr. Ole Martin (ZMC), Dr. I. Okali (SNMB), Dr. L. Dieckmann (IPE), H. Mühle, P. Brandl, C. Holzschuh and also to Dr. Z. Kaszab (Természettudományi Múzeum, Budapest, Hungary - TMB), and other persons who made the material for this work available.

The types of the forms described are deposited in the collections enumerated above; some paratypes with the kind permission of their owners have been retained in the collection of the Zoological Institute of the USSR Academy of Sciences (ZIN).

1. *Acmaeodera* (s.str.) *eckweileri* Volkovitsh, sp.n. (Fig. 1).

Elongated, flattened, without dorsal flexure; copper-bronze, elytra straw yellow, with irregular light brown-brown maculae and stripes, with tendency to longitudinal fusion; covered with brown setae and white hairs.

Head flattened, frons just noticeably impressed mesally, its margins virtually rectilinear, very slightly convergent towards vertex. Vertex with high sharp carina; 1.53-1.67 times as broad as diameter of eye and a little less broad than frons above antennal fossa. Sculpture ocellate, formed of smallish, round umbilicate punctations with whole granules; intervals shiny. Pubescence consisting of dark brown and whitish setae and hairs. Clypeus narrow, broadly arcuately emarginate anteriorly. Antennae 1.39-1.51 times as long as height of eye, delating, beginning from 5th segment; 2nd-4th segments of same length, 5th-10th segments triangular, wider than long; 11th segment foliate; antennae in female shorter and less dilated than in male.

Pronotum rather convex, slightly transverse; 1.66-1.76 times broader at base than length, maximal breadth in posterior third; sides lengthwise with slight flexure convergent anteriorly. Anterior margin straight, basal one slightly concave. Lateral carina very thin, complete. Lateral pits surrounded by slight impressions, prescutellar pit round, very large; disk with or without traces of longitudinal groove. Sculpture reticular, consisting of round umbilicate punctations with large flat granules; on disk punctations eroded. Pronotum with straight, inclined, brownish and whitish hairs oriented in different directions. Anterior margin of prothorax straight, margined with deep groove. Thorax below with umbilicate punctations, largest ones in hypomera.

Elytra elongate, 2.41-2.50 times as long as basal breadth, flattened in anterior third; sides virtually parallel as far as posterior third, then arcuately converging to obtuse apices. Lateral margin in posterior third with distinct teeth (Fig. 5). Punctate striae formed by fine, elongated superficial punctations, fusing in posterior half of elytra; not impressed sulciformly; size of punctations varying in relation to angle of illumination. Intervals flat, 2.5-3 times broader than rows, with diffuse rugose sculpture on mat background and with rearwards oriented, brownish and whitish setae, as long as breadth of intervals. Elytra straw yellow, with irregular, asymmetrical light brown-brown maculae and bands, with tendency to longitudinal fusion.

Hindcoxae with blunt tooth on lateral margin. Brushes of hairs on first 2 tarsal segments very small, growing larger towards apex. Claws with distinct tooth in base.

Abdomen light bronze, with copper sheen and umbilicate punctations, slightly eroded and raduliform mesally, and adherent white hairs. Anal sternite regularly rounded on apex in both sexes, without impressions.

Aedeagus Fig. 2, 3. Apices of parameres obtuse, their inner margin appreciably curving.

Ovipositor uritiform (Fig. 4). Dorsal hemisternites constricting markedly anteriorly, their apices slightly lobately dilated. Ventral hemisternites at base narrow, markedly dilating anteriorly, slightly sclerotized.

Body length 7.0-8.2 mm, breadth 2.2-2.5 mm.

Material. Holotype ♂, "Iran, Fars, 10 km n. Sarvestan, 2200-2500 m, 20-26.V. 1980, leg. Eckweiler" (P. Brandl collection). Paratype - ♀, same loc. (H. Mühle collection).

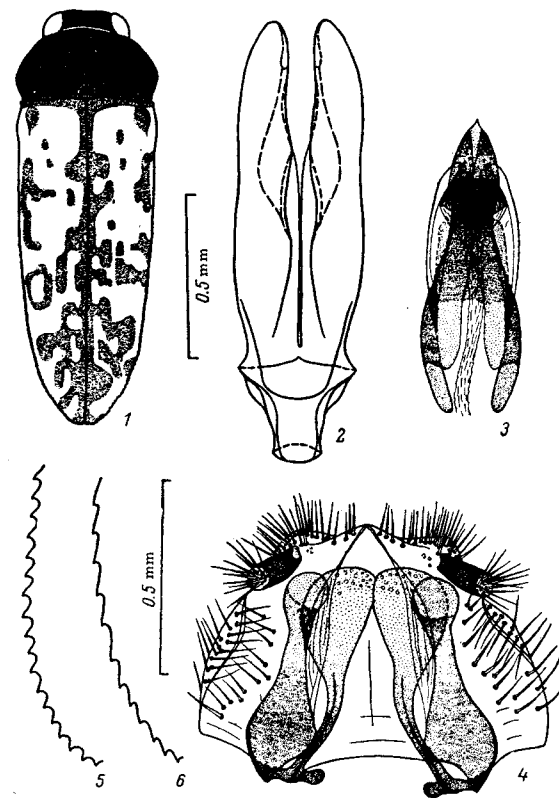


Fig. 1-6. *Acmaeodera* (s.str.) *eckweileri* sp.n. and *A. babatauensis* Obenb., structural details.

1-5) *A. eckweileri* sp.n.: 1) external view; 2) tegmen; 3) penis; 4) ovipositor; 5) teeth of elytra; 6) *A. babatauensis* Obenb., teeth of elytra.

It belongs to the *brunneipennis* (= *elater*) group, differing from the other species of this group in the maculate markings of the elytra and in the structure of the genitalia. From the closely related species *A. babatauensis* Obenb., erroneously attributed by us to the *cylindrica* group (Volkovich, 1979), it differs in the frons constricting towards the vertex, the acute triangular antennal segments, the straight anterior margin of the pronotum, the markings (in *A. babatauensis* a tendency is noted to transverse fusion of the maculae), the well developed teeth on the elytra (Fig. 5, 6) and the structure of the genitalia. Externally it resembles *A. holzschuhi* Volk. and Bilý of the *pulchra* group, but differs from it in the elongated body, the slightly dilated pronotum with scarcely visible lateral processes, the copper-bronze shiny body, the sculpture of the elytra, the absence of the rust brown marginal fringe on the elytra, and especially in the structure of the genitalia.

2. *Acmaeodera* (s.str.) *fabriciana* Volkovitsh, sp.n. (Fig. 7).

Elongated, slightly flattened, with gentle dorsal flexure; black, shiny; elytra in male in anterior half brown-black, with scarcely perceptible violet sheen, in posterior half rusty colored; females brown-black, unicolored; covered with short brownish and whitish hairs.

Head flattened, frons with slight longitudinal impression; its margins extending almost rectilinearly towards vertex. Vertex with thin, inconspicuous carina; 1.72-2.00 times as broad as diameter of eye and 1.02-1.13 times as broad as frons above antennal fossae. Sculpture ocellate, consisting of smallish, round-umbilicate punctations with distinct granules and shiny intervals. Hairs short, oriented forwards, brownish and whitish. Clypeus broad, with deep arcuate emargination anteriorly. Antennae 1.88-1.98 (♂) or 1.69-1.72 (♀) times as long as height of eye; dilating, beginning from 5th segment; 2nd-4th segments virtually of same length, slightly elongated, 3rd-4th segments thickening towards apices, 5th-10th segments transverse, foliate, 11th segment emarginate apically; antennae of female shorter, with segments less dilated.

Pronotum slightly convex, transverse; 1.68-1.85 times as broad at base as long. maximal breadth mesally or behind middle, sides rounded. Anterior margin slightly arcuately projecting forwards, basal margin straight. Lateral carina thin, interrupted. Lateral pits deep, punctiform often surrounded by shallow impressions; prescutellar impression smallish, alveolate, an indistinctly manifested longitudinal groove sometimes interrupted mesally arising from it. Sides of pronotum with reticular sculpture, consisting of large, round umbilicate punctations without granules, with distinct fine punctations; on disk borders of punctations obliterated and simple sometimes slightly raduliform punctation remaining. Sides with adherent whitish and brownish hairs, disk with inclined brown hairs. Anterior margin of prothorax slightly arcuately emarginate, margined by deep groove. Hypomera with large superficial punctations with rough bottom, remaining surface with small, deep umbilicate punctations.

Elytra elongated, slightly flattened; 2.62-2.72 times as long as basal breadth. Sides of elytra convergent behind humeri, then converging towards posterior third, from where they converge arcuately towards the rounded and slightly obtuse apices. Lateral margin in posterior third with smallish, but distinct teeth. Color and sculpture different in both sexes. Elytra in male bicolored: anterior half brown-black with very slight violet sheen, posterior half rusty colored (Fig. 7). Punctate striae anteriorly formed by fine, slightly oval, superficial, frequently fused punctations; intervals completely smooth, 4-5 times as broad as rows. Rearwards striae deeply sulciformly impressed, size of punctations varying in relation to angle of illumination, intervals convex. Elytra of female unicolored, brown-black; punctations of striae sulciformly impressed throughout whole length of elytra, round. Intervals in both sexes with fine, multirowed, confused punctations on slightly rugose, shiny background; from these punctations fine, inclined, yellowish and brownish hairs arising, not quite half as long as intervals.

Hindcoxae without tooth laterally, with straight posterior margin. Brushes of hairs normally developed on all tarsal segments, dilating towards apex. Claws short, broad, with large tooth on inner margin.

Abdomen brown-black, with raduliform sculpture, side of 1st sternite with umbilicate punctations. Anal sternite slightly obtuse in both sexes.

Aedeagus Fig. 8, 9. Parameres obtuse apically, with slight construction anteriorly. Penis with large triangular lamina.

Ovipositor (Fig. 10) uritiform, with thickened modified styli, apically with large conoid sensilla.

Body length 6.5-8.8 mm, breadth, 1.9-2.7 mm.

Material. Holotype ♂, "Prae, Siam, 1929-33, Paul Fogh" (ZMC). Paratypes:

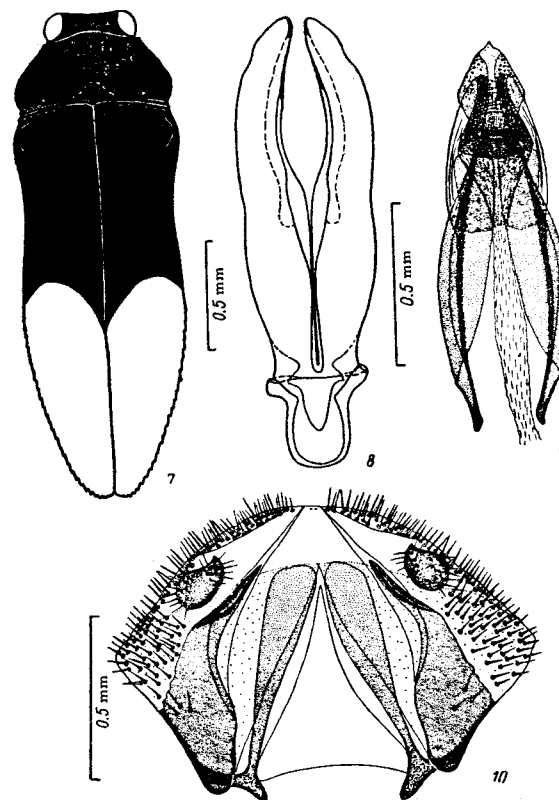


Fig. 7-10. *Acmaeodera* (s.str.) *fabriciana* sp.n.
7) external view (♂); 8) tegmen; 9) penis; 10) ovipositor.

3 ♂, 2 ♀, same loc. (ZMC, ZIM). According to a communication of Dr. Ole Martin, the type series was collected near Denzhay village on River Yom, Thailand.

A. fabriciana sp.n. belongs to the *brunneipennis* group, differing from the species of this group known to us in the unusual coloration of the male; the sculpture on the pronotum, reticular on sides and simple on disk; the multirowed tangled pubescence of the elytra; the absence of the tooth on the hindcoxae; and the structure of the genitalia. Of particular interest is the relationship of *A. fabriciana* sp.n. with some Mediterranean and Central Asian species (*A. brunneipennis* Kerr., *A. damasensis* Pic, *A. medvedevi* Volk.).

3. *Acmaeodera* (s.str.) *distigma* Obenberger, 1924, stat.n.

Obenberger, 1924: 48 (*brevipes* Ksw., pro ab.). - *tetrastigma* Obenberger, 1934: 193 (*brevipes*, ab.), syn.n. - *bitristicta* Obenberger, 1940: 122 (*brevipes*, ab.), syn.n.

Broad, robust; bronze, sometimes with copper sheen; elytra black, often with bluish sheen, unicolored or with more or less regular markings of reddish or orange flecks; covered with white and brown hairs.

Head convex, frons with longitudinal impression, not dilated or slightly dilated towards vertex; its margin slightly arcuately convergent mesally. Vertex with or without thin longitudinal carina; 1.67-1.97 times as broad as diameter of eye and 1.04-1.15 times as broad as frons above antennal fossae. Sculpture consisting of very smallish, round-umbilicate punctations with distinct granules. Hairs long, undulate, oriented forwards, white and brownish. Antennae short, 1.18-1.41 times as long as height of eye, virtually identical in both sexes, dilating, beginning from 5th segment; 2nd-3rd segments slightly elongated, 4th segment noticeably dilated towards apex, 5th segment triangular, 6th-10th segments transverse, 11th segment irregularly rounded.

Pronotum impressed at base, transverse; 1.69-1.93 times broader basally than long; maximal breadth mesally, behind middle, or in posterior third; sides rounded. Anterior margin slightly arcuately projecting forwards, almost straight; basal margin straight or slightly concave. Lateral carina thin, often interrupted. Lateral pits combined with shallow, curved, transverse impression, slightly cariniformly elevated parts in base separating between lateral and prescutellar pits; very slight longitudinal groove in prescutellar impression. Sculpture on sides reticular, consisting of large, superficial, umbilicate punctations, sometimes with scarcely discernible concentric rugae; sculpture on disk slightly raduliform. Hairs long, on disk undulate, brownish and whitish. Anterior margin of prothorax mesally slightly projecting forwards, margined by deep groove. Underside of thorax with small umbilicate punctations, larger on hypomera.

Elytra slightly convex, 2.17-2.38 times as long as basal breadth; sides almost parallel up to posterior third, then smoothly arcuately convergent to narrowly rounded apices. Lateral margin with faint teeth in posterior third. Punctate striae consisting of fine oval or striate punctations, fusing in posterior half; not impressed sulciformly. Intervals flat, 3-5 times as broad as rows, with coarse punctate-rugose sculpture; surface of elytra mat. Elytra black, sometimes with bluish sheen, unicolored or with 1-2 pairs of more or less large, symmetrically arranged, reddish or orange maculae (in holotype only 1 pair of maculae, arranged in midlength of elytra on 6th-8th intervals); sometimes markings consisting of multitude of irregular maculae, as in *A. brevipes* Ksw. Hairs inclined, arranged virtually in regular rows, mainly whitish, length not exceeding breadth of intervals.

Hindcoxae with or without blunt tooth laterally. Tibiae noticeably dilated towards apices, slightly curving. Brushes of hairs developed on all tarsal segments, becoming larger toward apex. Claws short, broad, with large tooth on inner margin.

Abdomen copper-bronze, covered with raduliform punctations, sides of 1st sternite with reticular sculpture. Anal sternite with narrow oblique impressions on sides; narrowly rounded on apex in both sexes.

Aedeagus - Fig. 1-16.

Ovipositor - Fig. 17.

Body length 7.8-11.1 mm, breadth 2.7-3.9 mm.

Material. Holotype ♂, "Asia Minor, Taurus Cilic., 1895, Holtz", "*Amaeodera brevipes* var. *distigma* m., Type, Det. Dr. Obenberger", "Mus. Nat. Pragae, inv. 26382" (NMP). *A. brevipes* ab. *tetrastigma* Obenb.: holotype, "Asia Minor" (NMP, no. 26383). *A. brevipes* ab. *bitristriata* Obenb.: holotype, "Syrien" (NMP, no. 26384). Additional material: 3 spms, "Bodemeyer, Asie-turquie, Tschakit-Thal" (NMP, IPE); 2 spms, Syrie, Akbes. C.D., 1891" (NMP, ZIN); 1 spm, "Syrie" (NMP); 2 spms, "Anatolien, Prov. Adana, leg. C. Holzschuh", "Nurdagi gecidi, 800-1300 m, 13-27.V.1970" (C. Holzschuh collection); 4 spms, "Türkei, VI.1975, ö. Bingöl, D. Bernhauer" (P. Brandl collection, ZIN); 3 spms, "Anatolien, 30 km östlich von Bingöl, 25-30.VI.1973, 1400 m. leg. C. Holzschuh" (C. Holzschuh and S. Bilý collections, ZIN).

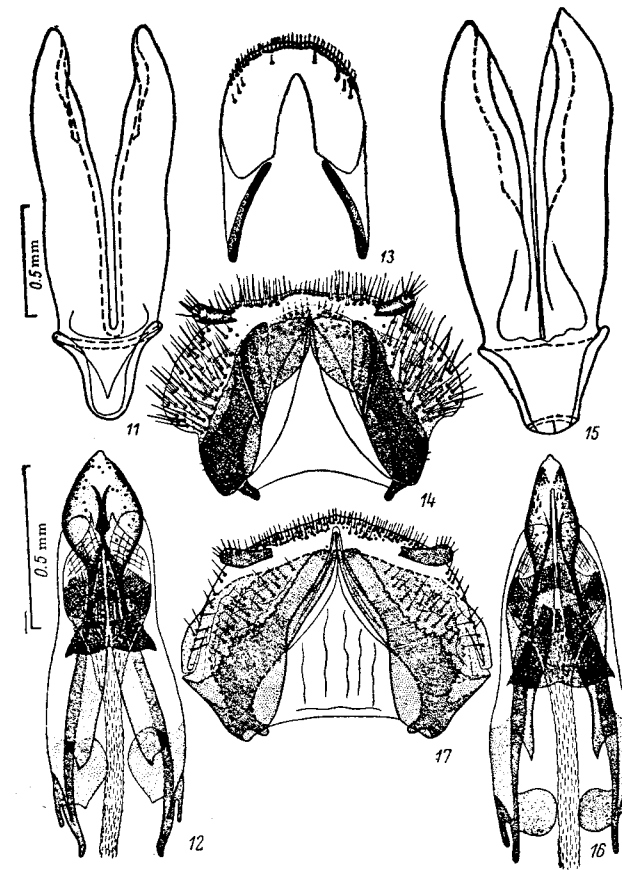


Fig. 11-17. *Amaeodera* (s.str.) *brevipes* Ksw. and *A. distigma* Obenb., stat.n., genitalia.

11-14) *A. brevipes* Ksw.: 11) tegmen; 12) penis; 13) 9th tergite, 14) ovipositor; 15-17) *A. distigma* Obenb.: 15) tegmen; 16) penis; 17) ovipositor.

It is very close to *A. brevipes* and sympatric with it; in the collections it is often to be found among the specimens of the latter. Unlike the unitoned (except for the markings on the elytra) *A. brevipes*, *A. distigma* is bicolored due to the bronze-copper coloration of the head and pronotum and the black elytra with a bluish sheen (it conforms to *A. brevipes abeilleana* Obenb.). The markings are more ordered than in *A. brevipes*, usually symmetrical. Because, however, of the overlap of the ranges of variability of both species, they can only be identified from the genitalia, as is shown in the following key.

1 (2). 9th tergite in ♂ regularly rounded, slightly incised apically, with almost parallel sides (Fig. 13). Apices of parameres narrow, curved, obtuse; inner margins on dorsal surface not dilating (Fig. 11). Penis narrow, with broad

rounded apodeme (Fig. 12). Dorsal hemisternites of ovipositor virtually not constricting towards apices, noticeably curved within; ventral hemisternites constricted mesally; anterior margin straight or with slight process mesally; hairs longer than styli or equal to them (Fig. 14). *A. brevipes* Ksw.

- 2 (1). 9th tergite in ♂ broadly rounded apically and laterally, transverse (Fig. 22). Apices of parameres broad, straight, tapering; inner margins on dorsal surface broader than on ventral one (Fig. 15). Penis broad, with narrow, tapering apodeme (Fig. 16). Dorsal hemisternites of ovipositor sharply constricting towards apex, not curved within; ventral hemisternites not constricting mesally; anterior margin markedly projecting forwards; hairs shorter than styli (Fig. 17) *A. distigma* Obenb.

4. *Acmaeodera* (s.str.) *flavolineata cypricola* Volkovitsh, subsp. n.

Copper red or copper-bronze, sometimes with pronounced violet hue; dark areas of elytra with bronze sheen. Punctate striae in anterior half of elytra consisting of round superficial punctations, scarcely discernible in anterior third. Intervals absolutely flat, as broad or twice as broad as striae; with very coarse sculpture, consisting of punctations virtually of the same size as in striae. Markings, as in the nominate subspecies.

In the sculpture of the pronotum and body color it resembles *A. pilosellae* (Bon.), but differs from it in the straight short hairs of the head and pronotum and in genital structure.

Material. Holotype ♀, "Cyprus, Zukak, 3.VI.1950", "Typus", "*Anthaxia* (?) *mavromoustaktisi* m., Type, Det. Dr. Obenberger", "*Acmaeodera* n.sp. prope *krüperi* m., Det. Dr. Obenberger" (NMP). Paratypes: 2 spms, same loc. (NMP, ZIN); 1 spm, "Episcopi Forest, Cyprus, 12.IV.51, Mavromoustakis" (NMP); 1 spm, same loc., 24.IV.50 (NMP); 3 spms, "Limassol, Cyprus, F. Tippmann" (NMP, ZIN); 1 spm, "Cyprus, Zakaki, 23-25.V.50" (NMP); 2 spms, "Cyprus, Stavro Vuni, Bordan (TMB, ZIN); 1 spm, "Cyprus, Limassol, Mavromoustakis" (SNMB); 3 spms, "Cyprus, Pyrgos, V.52" (SNMB); 1 spm, "Cypern", "coll. Stierlin", "*flavolineata* det. Obenberger" (IPE); 1 spm, "Cypern, Baudi" (2 labels as in preceding case) (IPE)

5. *Acmaeodera* (s.str.) *flavolineata piloselloides* Volkovitsh, subsp. n.

Body and dark areas of elytra bright copper or copper-bronze. Sides of pronotum extending into posterior third or rearwards of middle, as in *A. pilosellae* (Bon.). Markings of elytra often markedly reduced and represented only by irregular, dark presutural band.

It is very similar to *A. pilosellae*, but differs in the straight hairs of the head and pronotum. In the J. Obenberger collection, 1 spm of the new subspecies was identified as *A. pilosellae*; this is probably to be explained by the discovery of the latter in Crete.

Material. Holotype ♂, "Levka Ori, Crete, Štěpánek, 1938" (NMP). Paratypes: 2 spms, same loc. (NMP, ZIN); 1 spm, "Kreta: Omalos, Ewr. lg., VI.26" (NMP); 1 spm, "Nida-Ida montes, Crete, V.1934, coll. Barton" (NMP); 3 spms, "kreta, Chania, Kavallos, 1.VI.1981, leg. Mühle" (H. Mühle collection, ZIN).

For the identification of the subspecies *A. flavolineata* Cast. et G. the following key is presented.

- 1 (2). Punctations of striae in anterior half of elytra round, superficial; interval as broad or twice as broad as stria, also bearing large punctations; striae scarcely discernible in anterior third of length of elytra. Copper red or copper-bronze, frequently with violet sheen. Cyprus *A. flavolineata cypricola* subsp.n.

- 2 (1). Punctations of striae in anterior half of elytra smallish, oval, fused; striae slightly sulciform; intervals 4-5 times as broad as striae, with very fine punctation; striae clearly apparent up to base of elytra.
- 3 (4). Black, black-bronze, more rarely bronze, sides of pronotum rounded, not forming processes. Eastern Mediterranean, Transcaucasia. *A. flavolineata flavolineata* Cast.-Gory.
- 4 (3). Bright copper or copper-bronze; sides of pronotum protruding sideways angularly. Crete *A. flavolineata piloselloides* subsp.n.
6. *Acmaeodera* (s.str.) *lucida* Volkovitsh, sp.n. (Fig. 18).

Elongated, slightly convex, with slight dorsal flexure; light bronze, sometimes with copper sheen; elytra ochreous yellow, with irregular light brown-brown (sometimes with bronze sheen) and light brown fused maculae concentrated along suture; covered with long white hairs.

Head slightly convex, frons with longitudinal or pit-like impression mesally; virtually of same breadth throughout whole length or slightly constricting towards vertex, margins slightly arcuate. Vertex with distinct thin carina; 1.26-1.47 times as broad as diameter of eye and 1.06-1.13 times as broad as frons above antennal fossae. Sculpture ocellate, consisting of smallish, round, umbilicate punctations with distinct granules. Hairs long, oriented forwards, straight or slightly curved, white. Clypeus narrow, emargination shallow, arcuate. Antennae relatively short, 1.25-1.39 times as long as height of eye; dilating, beginning from 5th segment; 2nd segment round, as long as two following ones, thinner; 4th segment appreciably thickened towards apex, 5th-10th segments triangular, wider than long; 11th segment foliate (♂) or oval (♀); antennae in female shorter and less dilated.

Pronotum convex, slightly transverse; at base 1.70-1.87 times as broad as long; maximal breadth behind middle or in posterior third, margins slightly arcuate. Anterior margin projecting forwards angularly, basal one rather concave. Lateral pits deep, punctiform, with shallow impressions in front of them; prescutellar impression deep, from it a distinct median groove extending forwards. Lateral carina thin, complete. Sculpture reticular, consisting of round umbilicate punctations with large flat granules. Hairs long, inclined, straight or slightly curved, white. Anterior margin of prothorax slightly projecting forwards arcuately, margined by groove. Hypomera with large round umbilicate punctations and distinct granules; remaining surface with small umbilicate punctations.

Elytra narrow, elongated, slightly convex; 2.37-2.47 times as long as basal breadth; sides in anterior half parallel, not quite reaching posterior third, beginning to converge slightly arcuately towards narrow rounded apices. Lateral margin in posterior third with scarcely discernible teeth. Punctate striae formed of smallish, round, superficial punctations, fusing in posterior half of elytra. Intervals flat, 2.5-4 times as broad as rows; covered with fine single-row punctations and slightly rugose, shiny background. Hairs in anterior half of elytra erect, in posterior half inclined, white, longer than breadth of intervals. Elytra ochreous yellow, with irregular, asymmetrical, light brown-brown markings concentrated along suture, resembling markings of *A. pilosellae* (Bon.), *A. edmundi* Obenb., and closely related species; diffuse pale brown maculae and bands on periphery.

Hindcoxae with smallish, sometimes scarcely perceptible tooth laterally. Brushes of hairs slightly developed on first 2 tarsal segments. Claws short, broad, with large tooth on inner margin.

Abdomen bronze, with copper sheen and raduliform punctations; sides of 1st sternite with umbilicate punctations. Anal sternite regularly rounded apically in both sexes.

Aedeagus - Fig. 19, 20.

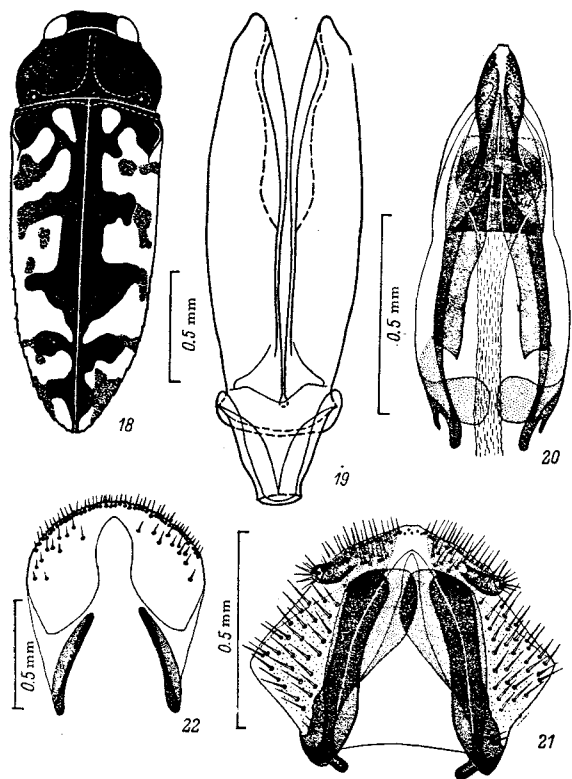


Fig. 18-22. *Acmaeodera* (s.str.) *lucida* sp.n. and *A. distigma* Obenb. stat.n., structural details.

18-21) *A. lucida* sp.n.: 18) external view; 19) tegmen, 20) penis; 21) ovipositor; 22) *A. distigma* Obenb., 9th tergite of ♂.

Ovipositor (Fig. 21) uritiform, with markedly projecting anterior margin.

Body length 6.6-8.7 mm, breadth 2.1-2.9 mm.

Material. Holotype ♂, "W Iran, Luristan, Bisheh, 1200-1700 m, 1-7.VI.78, leg. Eckweiler (H. Mühle collection). Paratypes: 1 ♂, 1 ♀, same loc. (H. Mühle collection, ZIN); 1 ♀, "S Iran, 30 km E Kazerun, 1300 m, 8-10.VI.1973, Exp. Nat. Mus. Praha" (NMP).

It belongs to the *cylindrica* group and is close to *A. araxicola* Reitt. and *A. edmundi* Obenb., differing in the almost pure white pubescence, the more elongated and narrow body, the light bronze coloration, the slightly concave base of the pronotum, the presence of pale brown macula lighter than those along the suture on the periphery of the markings of the elytra, and particularly in genitalic structure. In the structure of the tegmen, except for its basal part, the new species greatly resembles *A. edmundi*, but in the structure of the penis, particularly in the narrow

apodeme and regularly triangular lamina, it differs slightly from it. In the structure of the ovipositor, attention is drawn to the markedly prominent anterior margin with triangular zones of additional sclerotization on the sides; the narrow, striate dorsal hemisternites uncurved within and the curved, ventral hemisternites sharply dilating towards the apices (in *A. edmundi* the latter are almost undilated towards the apices, markedly curved, and in *A. araxicola* they are virtually straight); the anterior margin in both species is almost straight and slightly projecting arcuately.

7. *Acmaeodera* (*Acmaeotethya*) *deprivata* Obenberger, 1946, stat.n.

Obenberger, 1946: 13 (*simulans* Ab., pro ab.). - *deborah* Obenberger, 1946: 13 (*simulans* ab.), syn.n.

Elongated, very broad, slightly flattened, without dorsal flexure; black with metallic sheen; elytra black, with smallish, yellow speckles arranged symmetrically; covered with dark brown setae with admixture of whitish hairs.

Head slightly convex, frons slightly flattened, without impressions, dilated towards vertex, margins slightly arcuate. Vertex with thin carina, sometimes not expressed; 1.75-2.00 times as broad as diameter of eye and 1.05-1.13 times as broad as frons above antennal fossae. Sculpture reticular, consisting of smallish, round, deep punctations with indistinct granules. Hairs straight, oriented forwards, dark brown or brownish. Clypeus narrow, emargination shallow, arcuate or angular. Antennae long, 1.77-1.82 (♂) or 1.50-1.58 (♀) times as long as height of eye, dilating, beginning from 4th segment; 2nd segment elongated, slightly shorter than 3rd, 4th segment triangular, 5th-10th segments rectangular, 11th segment elongated, emarginate apically; antennal segments in female less dilated.

Pronotum flattened, slightly transverse; 1.44-1.65 times as broad as base as long; maximal breadth mesally or behind middle, margins regularly rounded. Anterior margin slightly arcuately or angularly projecting forward, basal margin straight. Lateral pits punctiform with deep round impressions frequently in front of them; prescutellar impression smallish, slight median groove arising from it, more distinct in anterior half. Lateral carina clearly manifested, complete. Sides of pronotum in posterior third often with yellow marginal bands (lacking in holotype). Sculpture on sides reticular-rugose, very coarse, rugae indistinct; disk with coarsely punctate sculpture, consisting of very dense, large, deep punctations without inner structure. Sides with white adherent hairs; disk with inclined dark brown or brownish setae. Anterior margin of prothorax straight, margined by thin groove. Hypomera with large, round, umbilicate punctations with rough bottom, remaining surface with small umbilicate punctations.

Elytra elongated, slightly flattened; 2.33-2.50 times as long as basal breadth; sides almost parallel or slightly divergent towards posterior third, then arcuately convergent towards narrowly rounded apices. Lateral margin with slightly arcuate emargination beyond humeri and scarcely discernible teeth in posterior third. Punctate striae consisting of smallish, oval, fused punctations, deeply sulciformly impressed in posterior, and sometimes also in anterior half. Intervals flattened or slightly convex, 3.5-5 times as broad as striae; covered with large single- or double-row confused punctations on markedly rugose, mat background. Hairs inclined, mainly dark brown, on maculae yellowish, appreciably shorter than breadth of intervals. Elytra black, with yellowish, symmetrically arranged speckles [as in *A. de-gener* (Scop.)], with tendency to transverse fusion. Maculae smallish, single; 2 anterior maculae of inner row sometimes reduced, 3 anterior maculae of outer row forming sharply broken line, and 2nd macula being markedly approximated to 3rd (Fig. 25).

Legs black, foretibiae slightly dilating towards apices. Brushes of hairs well developed on all tarsal segments, increasing in size towards apex. Claws long, narrow, curved; in male tooth almost extending to apices of claw.

Abdomen black, with raduliform sculpture; sides of 1st sternite with umbilicate punctations. Anal sternite in male broadly rounded or obtuse on apex (Fig. 30), that of female narrowly rounded (Fig. 31).

Aedeagus - Fig. 23, 24. Tegmen very markedly dilated anteriorly.

Ovipositor long, of tubular type occurring in subgenus *Acmaeotethya*.

Body length 7.7-10.1 mm, breadth 2.3-3.3 mm.

Material. Holotype ♂, "W. el Kelt, 1.V.42" (Houška), "Typus", "*A. simulans* ab. *deprivata* m., Type, Det. Dr. Obenberger" (NMP). *A. simulans* ab. *deborah* Obenb.: lectotype (designated here) - ♀, "W. el Kelt, 1.V.42" (Houška), "Typus", "*A. simulans* ab. *deborah* m., Type, Det. Dr. Obenberger" (NMP); paralectotypes: 2 ♀, same loc. (NMP). Additional material: 1 ♂, "Syrien, Kaifa, Reitter", "*Acmaeodera guttifera* Mars., Coll. Reitter" (TMB); 1 ♂, "Ejn-Geddi, Israel, 8.IV.1951, Hebr. Univ., J. Wahrman".

It belongs to the *degener* group, and is closest to *A. saxicola* Spin. and *A. simulans* Ab., differing from all the species of the group in the markedly anteriorly dilated aedeagus. From *A. degener* it differs in the adherent white hairs on the sides of the pronotum. In *A. simulans* and *A. biseriata* Reitt. (Fig. 26, 27) the 3 the 2nd and 3rd maculae is equal to or a little less than the distance between the 2nd and 1st; furthermore, in *A. biseriata* the maculae are relatively large*. In *A. saxicola* (Fig. 29) the first 3 maculae of the inner row are lacking, the pronotum is either unicolorous or with smallish speckles in the posterior angles, and the anal sternite in the male is narrowly rounded apically (Fig. 32); the aedeagus is narrow, the parameres not dilated anteriorly. The new species also resembles *A. sedecimmacata* Ab. (Fig. 28) of the *ottomana* group, but in the latter the maculae of the outer row are much smaller than those of the inner one and the 1st macula (behind the humeral tubercles) is lacking, and the rest are distributed in a straight line; in addition, in *A. sedecimmacata* the disk of the pronotum has raduliform sculpture, and there are marked differences in the structure of the aedeagus.

8. *Acmaeoderella* (*Euaemaederella*) *hamadanica* Volkovitsh, sp.n. (Fig. 34).

Elongated, narrow, convex, with strong dorsal flexure; bronze, covered with lanceolate white scales, not forming continuous vestiture on abdomen.

Frons narrow, broadly longitudinally concave; its margins slightly convergent towards upper part of frons, then divergent towards vertex; slightly arcuate. Vertex with thin carina; as broad or 1.05-1.15 times as broad as diameter of eye and 1.05-1.22 times as broad as frons above antennal fossae. Sculpture ocellate,

*The markings on the vestiture of the buprestids of the tribe *Acmaeoderini*, and particularly of the subgenus *Acmaeotethya*, are subject to marked individual and geographical variability. In Fig. 25-27, 29 generalized schemes are depicted of the distribution of maculae on the elytra of a number of closely related species of the *degener* group, and also in the species *A. sedecimmacata* Ab. (Fig. 28) of the *ottomana* group; individual maculae may disappear, fuse, be reduced, or increase in size, and their relative distribution may also vary within certain limits. Study of extensive series of the individual species has revealed that the general scheme and specific tendencies for variability of the markings are species specific, but the diagnostic value of this character is only great when a sufficiently large sample is available, making it possible to determine the direction of the variability of the markings, or when there is complete correspondence in the general scheme of the markings of a specific species. For the identification of melanistic forms and in doubtful cases other characters need to be used.

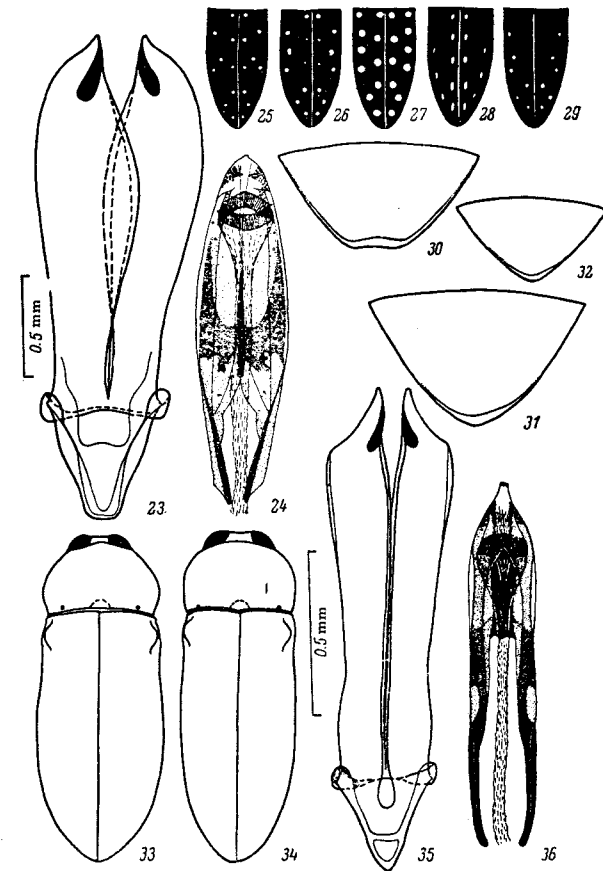


Fig. 23-36. *Acmaeoderini* sp.

23-25, 30, 31) *Acmaeodera* (*Acmaeotethya*) *deprivata* Obenb., stat.n.: 23) tegmen; 24) penis; 25) scheme of markings on elytra; 30) apical sternite of ♂; 31) idem, ♀; 26-29) *Acmaeodera* (*Acmaeotethya*) spp., scheme of markings on elytra: 26) *A. simulans* Ab.; 27) *A. biseriata* Reitt.; 28) *A. sedecimmacata* Ab.; 29) *A. saxicola* Spin.; 32) *A. saxicola* Spin., anal sternite of ♂; 33) *Acmaeoderella* (*Euaemaederella*) *gibbulosa* (Mén.), body contours; 34-36) *A. (Euaemaederella) hamadanica* sp.n., structural details: 34) body contours; 35) tegmen; 36) penis.

consisting of round umbilicate punctations with large granules and excentrically arranged speckles; in middle of frons punctations sparse, intervals with traces of shagreening. Pubescence consisting of short, narrow, lanceolate white scales. Antennae short, 1.05-1.20 times as long as height of eye, dilating starting from 5th segment; 2nd segment oval, 3rd segment moniliform, shorter than 2nd; 4th segment as long as or slightly longer than 3rd, with sharp tooth apically; 5th-10th segments triangular, appreciably broader than 4th, 11th segment irregularly oval.

Pronotum convex, slightly transverse; 1.32-1.48 times as broad at base as long; maximal breadth medially or behind middle, more rarely in posterior third; sides very slightly rounded, in basal half almost straight. Anterior margin slightly arcuately projecting forwards, basal margin straight. Lateral pits scarcely perceptible, punctiform; prescutellar impression slight, round; disk without median groove or line. Lateral carina thin, interrupted, sometimes absent. Sculpture alveolate; inside cells traces distinguishable of granules and markedly enlarged speckles; on disk cells somewhat eroded, but distinct, not changing into simple punctations. Pubescence consisting of adherent and inclined, lanceolate white scales, not masking surface. Anterior margin of prothorax slightly emarginate, margined by thin groove. Prosternum with small umbilicate punctations with shaded intervals; hypomera with large superficial umbilicate punctations. Sides of meso- and metathorax and coxal covers with coarse alveolate sculpture; in direction of median line cells change into umbilicate punctations.

Elytra elongated, narrow; 2.41-2.52 times as long as basal breadth; sides virtually parallel up to posterior third, then arcuately convergent towards rounded apices. Humeral tubercles projecting; subhumeral emargination deep. Lateral margin in posterior third with slight, scarcely perceptible teeth. Punctate striae consisting of large, round or oval punctations, fusing in posterior half; traceable up to actual base. Intervals smooth, 1.5-3 times as broad as striae, with coarse rugose sculpture, against background of which punctations hardly detectable, surface mat; 9th interval elevated, convex. Pubescence consisting of single-row or irregular double-row, lanceolate, white scales.

Legs bronze, shiny. Brushes of hairs smallish, slightly increasing in size towards last tarsal segment. Claws thin, long, with slight tooth medially.

Abdomen light bronze. First sternite with dense umbilicate punctations, remaining surface with raduliform punctations. Scales lanceolate, evenly covering abdomen, sparse. Anal sternite regularly rounded in both sexes; in male with marked, mesally fused, oblique lateral impressions.

Aedeagus - Fig. 35, 36. Parameres markedly dilated before apex, with membranous margins.

Ovipositor of tubular type (in paratype studied by us damaged), similar in structure to ovipositor of *A. gibbulosa* (Mén.) (dorsal hemisternites on apex slightly sclerotized, not forming processes; ventral hemisternites slightly dilated apically).

Body length 4.7-5.7 mm, breadth 1.5-1.8 mm.

Material. Holotype ♂, "Iran. Prov. Hamadan, 12 km N Razan, Mahnyan, 2100 m, 20-21.VI.1977, leg. Holzschuh and Ressler" (C. Holzschuh collection). Paratypes: 4 ♂, 2 ♀, same loc. (C. Holzschuh collection, ZIN).

A. hamadanica sp.n. belongs to the *gibbulosa* group and is close to *A. gibbulosa* (Mén.), *A. vaulogeri* (Ab.), *A. safavii* Volk., and *A. brandli* Volk., while it is sympatric with *A. gibbulosa* and *A. safavii* (all these species were collected at a single site). In body form *A. hamadanica* sp.n. resembles *A. safavii* and in the sculpture of the pronotum and elytra *A. brandli*. From all the species enumerated, it differs in the markedly dilated parameres, membranous before the apex. From *A. gibbulosa* and *A. vaulogeri* it also differs in the thin elongated body (Fig. 33, 34); the slightly transverse pronotum completely covered with cells and devoid of punctation, and the coarsely rugose intervals of the elytra. From *A. safavii* (Volkovich), 1981; *A. hamadanica* sp.n. differs in the small size, the alveolate sculpture of the pronotum, the rugose intervals, and the structure of the ovipositor; from *A. brandli* (Volkovich, 1981), it does so in the narrow elongated body, the slightly transverse pronotum, slightly rounded on the sides, and the ovipositor slightly rounded on the sides and devoid of processes.

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UDC 595.767(94)

BETLES OF THE TRIBE Hyocini (COLEOPTERA, TENEBRIONIDAE) OF AUSTRALIA. 1. Hyocis PASC., SUBGENERA Nannohyocis NOV. AND Neohyocis NOV.

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Description of the tribe Hyocini and a review of the species of the nominative subgenus *Hyocis* Pasc. were given in a previous work (Lawrence and Medvedev, 1982). The present work includes a review of the species of *Hyocis* belonging to 2 new subgenera, *Nannohyocis* and *Neohyocis*.

The types of the species described herein are deposited in the Australian National Insect Collection, Canberra, and some of the paratypes in the collections of the Zoological Institute of the Academy of Sciences of the USSR in Leningrad.

Genus HYOCIS Pascoe, 1866

Subgenus *Nannohyocis* G. Medvedev and Lawrence, subgen. n.

Type species, *Hyocis inquilina* Carter, 1921.