

NEW SPECIES AND NEW RECORDS OF CLICK BEETLES FROM THE PALEARCTIC REGION (COLEOPTERA, ELATERIDAE)

Giuseppe Platia

Via Molino Vecchio, 21/a, 47043 Gatteo (FC), Italia – pinoplatia-@teletu.it

Abstract: Twelve species belonging to the genera *Compsolacon* Reitter, 1905 (Iran), *Lanelater* Arnett, 1952 (Syria), *Anostirus* Thomson, 1859 (Spain), *Athous* Eschscholtz, 1829 (Azerbaijan; Russia, Ussuri reg.), *Ampedus* Dejean, 1833 (Armenia), *Cardiophorus* Eschscholtz, 1829 (Morocco; Turkey), *Dicronychus* Brullé, 1832 (Bulgaria), *Melanotus* Eschscholtz, 1829 (Iran; Jordan; Turkey) are described. Additionally, new geographic records or new systematic notes are given for ten other species belonging to the genera *Lacon* Castelnau, 1838, *Mulsanteus* Gozis, 1875, *Agriotes* Eschscholtz, 1829, *Chastanus* Dolin & Gurjeva, 1976, *Ampedus* Dejean, 1833, *Reitterelater* Platia, & Cate, 1990, and *Cardiophorus* Eschscholtz, 1829.

Key words: Coleoptera, Elateridae, new species, new records, Palearctic region.

Especies nuevas y citas nuevas de elatéridos de la región Paleártica (Coleoptera, Elateridae)

Resumen: Se describen doce especies nuevas pertenecientes a los géneros *Compsolacon* Reitter, 1905 (Irán), *Lanelater* Arnett, 1952 (Siria), *Anostirus* Thomson, 1859 (España), *Athous* Eschscholtz, 1829 (Azerbaiján; Rusia, región de Ussuri), *Ampedus* Dejean, 1833 (Armenia), *Cardiophorus* Eschscholtz, 1829 (Marruecos; Turquía), *Dicronychus* Brullé, 1832 (Bulgaria), *Melanotus* Eschscholtz, 1829 (Irán; Jordania; Turquía). Se aportan nuevas citas geográficas o nuevas notas sistemáticas para otras diez especies pertenecientes a los géneros *Lacon* Castelnau, 1838, *Mulsanteus* Gozis, 1875, *Agriotes* Eschscholtz, 1829, *Chastanus* Dolin & Gurjeva, 1976, *Ampedus* Dejean, 1833, *Reitterelater* Platia, & Cate, 1990 y *Cardiophorus* Eschscholtz, 1829.

Palabras clave: Coleoptera, Elateridae, especies nuevas, citas nuevas, región Paleártica.

Taxonomy / Taxonomía: *Compsolacon mertliki* n. sp., *Lanelater palmirensis* n. sp., *Anostirus osellai* n. sp., *Athous* (*Orthathous*) *talyshensis* n. sp., *Athous* (*Orthathous*) *ussuricus* n. sp., *Ampedus margaritae* n. sp., *Cardiophorus maroccanus* n. sp., *Cardiophorus yozgatensis* n. sp., *Dicronychus bulgaricus* n. sp., *Melanotus cappadocius* n. sp., *Melanotus anomalus* n. sp., *Melanotus bishapurensis* n. sp.

Introduction

The examination of click-beetles from various countries of the Palearctic region, recently received for study by colleagues and the Museum of Prague, give me the opportunity to describe twelve new species belonging to eight genera. Particularly interesting is the presence of a new *Anostirus* from Central Spain close to *A. haemapterus* (Illiger, 1807) but separated essentially for the flat, not subcostiform, third and seventh elytral interstriae; the first new species of *Athous* of subgenus *Orthathous* from the Ussuri region, previously studied and in litteris named by the late Dr. Pecirka; a *Melanotus* species from Jordan with both the last two articles of antennae solded to form a unique curved article. Further the female of *Reitterelater elongatus* Platia, 2010, a species originally known on a male specimen from Iran, is shortly described and recorded from Azerbaijan; for the first time the sclerites of bursa copulatrix of *Chastanus rosti* Schwarz, a rare species from Azerbaijan, are published.

Material and methods

Measurements – Body length is measured along the midline from the anterior margin of frons to apex of the elytra; width is measured across the broadest part of the body. Pronotal length is measured along the midline; the width is at the broadest part, usually at hind angles.

Abbreviations – The names of institutions, museums and collections providing material for this study are abbreviated as follows:

CDZ, Dusanek coll., Zábřeh city, (Czech Republic).
CKK, Królik coll., Kluczbork (Poland).
CLB, Lasoń coll. (Białystok, Poland).
CMHK, Mertlik coll., Hradec Králové (Czech Republic).
CPG, Platia coll., Gatteo (Italy).
CRG, Riese coll., Genoa.
CZP, Zbuzek coll., Praha, Czech Republic,
NMPC, Národní Muzeum, Praha, Czech Republic (Jiří Hájek).

The subfamilial and tribal placement of genera listed below follows Bouchard *et al.*, 2011. The abbreviations of countries, given by “distribution” follows Cate, 2007.

Results

Tribe AGRYPNINI Candèze, 1857

Compsolacon mertliki n. sp.

Fig. 1, 1a, 14, 31, 42.

MATERIAL EXAMINED. Holotype ♂ - Iran: W Azarbaygan-e Prov., Tahkt-e Suleiman, (36°36'12"N, 43°13'59"E), 2190 m, 3-4.X.1998, P. Kabatek (CMHK).

DIAGNOSIS. A species immediately separated by *C. crenicollis* (Ménétriés, 1832) for the shining integuments of a brown-ferruginous colour, very convex pronotum and shorter elytra compared to pronotum.

DESCRIPTION. Male. Shiny; body entirely brown with ferruginous shadings; antennae and legs ferruginous; covered with moderate, grey, uniformly distributed, scales.

Head with eyes narrower than anterior margin of pronotum, frons flat, just impressed before the anterior margin, this very feebly arcuate, not thickened and just protruding above the clypeus; punctures coarse, with very short, shiny intervals. Antennae short, just exceeding the middle of pronotum, serrated from fourth article on; second article subcylindrical, a little longer than wide and just longer than third; third subconical nearly as long as wide; second and third, taken together, 1,4x longer than fourth; fourth-tenth strongly serrated, as long as wide the fourth, a little wider than long the fifth to tenth; last longer than penultimate, subellipsoidal constricted before the apex.

Pronotum as long as wide, widest at middle, strongly convex on disk, abruptly sloping at sides and base with a shallow, wide, mid-longitudinal impression on the basal slope: sides crenulate, very arcuate from middle gradually converging forwards, more abruptly backwards slightly sinuate before the posterior angles, the latter short, slightly divergent and emarginate at apex, with a fine carina, running subparallel to the lateral margin and obsolete after the middle; puncture coarse, approximately of the same size, on the disk with intervals on average equal to their own diameters, gradually denser towards the sides with very short intervals.

Scutellum just wider than long, subpentagonal, strongly sinuate at sides in the first half, moderately convex, sparsely punctured.

Elytra very short, 1,91x longer than pronotum and as wide as it, convex, flat on the central part of the disk from behind the scutellum to the middle, then abruptly sloping at sides and to the apices; striae deeply punctured, not well distinct on the disk, clear at sides, few apparent at the apical third; interstriae flat, few apparent, coarsely punctured.

Aedeagus as in fig. 1, 1a (length 2,07 mm).

Female unknown.

Size. Length 9,5 mm; width 3 mm.

ETYMOLOGY. The species is dedicated to the friend Josef Mertlik that kindly sent me the specimen for study.

NOTE. The genus *Compsolacon* Reitter, 1905 (Type-species *Elater crenicollis* Ménériés, 1832) was recently revalued on the significance of genital characters (Prosvirov & Savitsky, 2011).

***Lanelater palmirensis* n. sp.**

Fig. 15, 15a, 27, 27a, 37, 40, 41, 43.

MATERIAL EXAMINED. Holotype ♀ - Syria: Talilah National Park (Palmira), 16.VII.2000, G. Serra. (CPG).

DIAGNOSIS. Species that can be compared with *L. persicus* (Candèze, 1874) but it is separated by the black colour, third antennal article shorter compared to second, disk of pronotum flattened at centre, elytral striae less apparent after the middle and nearly obsolete at the apical third, prosternum convex behind the prosternal lobe.

DESCRIPTION. Female. Moderately shiny; entirely black-piceous with antennae and legs dark-brown; covered with very short and moderate yellowish, pubescence.

Head with eyes just narrower than the anterior margin of pronotum; frons with a shallow impression from middle to

the anterior margin, the latter regularly arcuate, directed downwards and just protruding above the clypeus, punctures deep, simple, with very short, shagreened intervals.

Antennae just surpassing the middle of pronotum, serrated from fourth article on; second article subcylindrical, a little longer than wide, third subconical, 1,8x longer than second and 1,7x longer than wide, second and third, taken together, 1,6x longer than fourth; fourth-tenth subtriangular, fourth longer than following, 1,4x longer than wide; fifth-tenth just longer than wide; eleventh longer than penultimate, ellipsoidal, strongly constricted at the apical third.

Pronotum just longer than wide, widest at the apices of posterior angles, convex, flattened at middle of the disk, gradually sloping at sides, more abruptly sloping at base with a trace of mid-longitudinal smooth line from before to the basal slope; prescutellar tubercle short and smooth in a dorsal view, vertically sloping and transversally impressed at middle; sides moderately arcuate, widest behind the middle, slightly sinuate before the posterior angles, the latter elongate, acuminate and just divergent, carina elongate reaching nearly the anterior margin, few apparent after the middle and running subparallel to the lateral, complete, margins; puncturation coarse, punctures on disk deep, simple, with intervals on average equal to a little smaller than their own diameters and moderately shagreened; from the sides slopes the punctures are more superficial, more or less clearly umbilicate, denser, with shortest, shagreened intervals.

Scutellum subrectangular, strongly sloping from base to apes, sinuate at sides, rounded at apex, sparsely punctured with interval shagreened.

Elytra 2,05x longer than pronotum and as wide as it, moderately convex, sides suboval, from middle gradually converging forwards and backwards to the apices, these rounded; striae moderate, from base to middle superficially punctured, further not punctured and very few apparent at apical third; interstriae flat, densely punctured and with shagreened surface.

Prosternal suture deeply furrowed for all its length; prosternum convex for a short length behind the prosternal lobe, coarsely punctured with punctures umbilicate and intervals on average much more smaller than their own diameters and weakly shagreened; propleura densely punctate with punctures umbilicate and very short, clearly shagreened, dull, intervals.

Male unknown.

Size. Length 24 mm; width 7 mm.

ETYMOLOGY. The name is derived from Palmira, the well known locality of the Syrian desert where the species was caught.

***Lacon graecus* (Candèze, 1857)**

MATERIAL EXAMINED. 15 spcm. (♂ ♀) - **Syria:** Damaskus, 14.IV.1935, W. Wittmer. **Lebanon:** Chouf, Djebel Barouk, Passo W Kefraya, m 1700, 4.7.VI.1999, G. Sama; Kesrouane, Asyoun es Simane, m 1800, 5.VI.1999, G. Sama; Dj. Sannine vers. NE, m 1800, 16.V.2000, G. Sama; Jbail, Laklouk, m 1400, 8.10.V.2000, G. Sama; Byblos, Qartaba, 6.VI.1999, P. Rapuzzi; Dabr el Baidar (str. Beirut-Damasco), m 1500, 23.VI.1971, A. Vigna; J. Sannin, Aayoun en Simane, 5.VI.1999, P. Rapuzzi; Bcharré, Cedres, 1960 m, 12.VI.1999, P. Rapuzzi; Dj. Sannin (bei Faqra), 1900-2100 m, 17-31.V.1999, Heinz. (CPG).

DISTRIBUTION. E: GR A: TR (Cate, 2007). **New to Syria and Lebanon.**

***Lacon punctatus* (Herbst, 1779)**

MATERIAL EXAMINED. 3 specm. (1) Tunisia: Jendouba, Ain Draham, m 1000, 22.23.V.1990, G. Magnani. (2) Algeria: Chrea (Blida), m 1500, 4.VI.1986, G. Sama; Akfadou, 21.IV.1987, G. Sama. (CPG).

DISTRIBUTION. E: AB AR BH BU CR CT CZ FR GE GG GR HU IT MA PT RO SK SL SP ST SZ TR UK YU A: CY JO SY TR N: MO (Cate, 2007); Pakistan (Akhter *et al.*, 2012); Albania (Kovacs & Merkl, 2013). **New to Algeria and Tunisia.**

Tribe PROSTERNINI Gistel, 1856

***Anostirus osellai* n. sp.**

Fig. 2, 2a, 16, 16a, 17, 32, 33, 44, 45.

MATERIAL EXAMINED. Holotype ♂ - Spain: Sierra de Gredos, Laguna Grande, 2000 m, 7.VII.1985, G. Osella (CPG). 1 Paratype ♀ - same data as Ht (CPG). 25 Paratypes (22 ♂, 3 ♀) - (1) same data as Ht (CPG); (24) Sierra of Gredos, Prado de Las Pozas (40°16'18.96"N, 5°14'58.03"W), 1994 m, 16.V.2011, V. Dusanek, J. Mertlik & B. Zbuzek (CDZ, CMHK, CZP).

DIAGNOSIS. A species close to *A. haemapterus* (Illiger, 1807) (fig. 34, 35) for the general shape and size, it can be separated for the yellow-orange colour of elytra and particularly for the flat third and seventh interstriae of elytra, slightly convex only at base instead to be subcostiform for all of its length.

DESCRIPTION. Male. Bicoloured; entirely black-piceous except for elytra yellow-orange and legs dark brown; covered with moderate, yellow-fulvous pubescence.

Head with eyes as wide as the anterior margin of pronotum, frons flat, anterior margin at middle obsolete, merged with clypeus; puncturation coarse, punctures of variable sizes, more or clear umbilicate, with very short, shiny intervals or contiguous.

Antennae exceeding by about three articles the apices of posterior angles of pronotum, lamellate from third to tenth article; second article very small, globous; third article with lamella a little shorter than its length; fourth article with lamella as long as its length; fifth-tenth articles with lamellae a little longer than their length; last article simple, longer than penultimate, constricted at the apical third.

Pronotum quadrangular, widest at the apices of posterior angles, regularly convex, abruptly sloping at sides and base, sides arcuate, sinuate before the posterior angles, the latter with apex truncate and divergent, not carinate; lateral margins complete and totally visible in a dorsal view; puncturation uniformly distributed, punctures deep, simple, with very short, scarcely shagreened, intervals.

Scutellum shield shaped, longer than wide, ridged at base, sinuate at sides in the first half, with surface flat in the first half and impressed in the second half.

Elytra 2,9x longer than pronotum and widest than it at middle, convex, widest behind the middle, striae well marked and deeply punctured; third and seventh interstriae slightly convex only at base, all other flat for all its length with surface densely punctured and wrinkled.

Aedeagus as in fig. 2, 2a (length 1,43 mm).

Female. Larger and very different from the male, antennae shorter just reaching the apices of posterior angles of pronotum, serrated from third article on; pronotum 1,15 wider than long, with more shiny surface.

Size. Length 7,8-10 mm (♂), 9-10 mm (♀); width 2,5-3,0 (♂), 2,8-3,1 mm (♀).

ETYMOLOGY. The species is dedicated to prof. G. Osella, specialist of Coleoptera Curculionidae, collector of the species and that many years ago incited me to the study of the click-beetles.

Tribe DENDROMETRINI Gistel, 1848

***Athous (Orthathous) talyshensis* n. sp.**

Fig. 3, 3a, 18, 25, 49.

MATERIAL EXAMINED. Holotype ♂ - Azerbaijan: Yardimli rayonu, Talysh Mountains, 23 km N of Yardimli (38°56'N, 48°26'E), 368-450 m, 6.VI.2013, A. Lasoñ. (CLB). 1 Paratype ♂ - same data as HT, 1.VI.2013. (CPG).

DIAGNOSIS. Compared to *A. (Orthathous) lasoni* Platia, 2011 of the same locality, it is separated for the smaller size, third articles of antennae slenderer, pronotum a little longer than wide with short and just divergent posterior angles.

DESCRIPTION. Male. Head, pronotum and scutellum dark-brown; elytra lighter, yellow-ferruginous with undefined darkish shadings; antennae and legs yellow-ferruginous; covered with dense and long yellow-golden pubescence.

Head with eyes just narrower than the anterior margin of pronotum, frons widely impressed from middle to the anterior margin, the latter moderately thickened, regularly arcuate or substraight, directed downwards, just protruding above the clypeus; punctures coarse, simple, with very short, shiny, intervals or contiguous.

Antennae exceeding about 2,5 articles the apices of posterior angles of pronotum, serrated from fourth article on; second article subcylindrical, slightly longer than wide; third subconical, nearly twice longer and wide and longer than second; second and third, taken together, 1,25x longer than fourth; fourth-tenth subtriangular on average twice longer than wide, last longer than penultimate, subellipsoidal moderately constricted at the apical third.

Pronotum slightly longer than wide, widest at the apices of posterior angles of pronotum (Ht) or at middle and apices (Pt), convex, flat at the centre of the disk (Ht) or with a vestige of mid-longitudinal impressed line before the basal slope (Pt); sides subparallel or very slightly arcuate, just sinuate before the posterior angles, the latter short, truncate, slightly divergent, not carinate; lateral margins complete and well visible on a dorsal view only in the first half; puncturation uniformly distributed, punctures coarse, simple with very short intervals on the disk, also contiguous at sides.

Scutellum smaller than the interelytral space, convex, sinuate at sides in the first half, roughly punctured.

Elytra 2,8x longer than pronotum and slightly wider than it, convex; sides subparallel for about the two-third of its length, further gradually converging to the apices; striae well marked for all of its length, interstriae flat with dense and finer punctures.

Fourth tarsal article much more shorter and narrower than third.

Aedeagus as in fig. 3, 3a (length 1,18 mm).

Female unknown.

Size. Length 8,7- 9,0 mm (Ht); width 2,37-2,62 mm (Ht).

ETYMOLOGY. The name is derived from Talysh Mountains where the species was collected.

Athous (Orthathous) ussuricus n. sp.

Fig. 4, 4a, 19, 26, 28, 50.

MATERIAL EXAMINED. Holotype ♂ - Russia: Sibir. Or., Ussuri, Vladivostok (without other data) (*Athous ussuricus*, nov. spec. prope *mingrelicus*, det. J. Pecirka, Type, (original label). (NMPC).

DIAGNOSIS. The only species of the subgenus *Orthathous* known from the Ussuri region, it is particularly distinct for the divaricate posterior angles of pronotum.

DESCRIPTION. Male. Vertex of frons, the great part of disk of pronotum, scutellum and antennae, propleura and prosternum dark-brown; the remaining parts, elytra and antennae yellowish with dark shadings; covered with dense, yellow-golden pubescence.

Head with eyes a little narrow than the anterior margin of pronotum, frons triangularly impressed from the middle to the anterior margin, this arcuate, moderately thickened, directed downwards and just protruding above the clypeus; punctures coarse, deep, simple, variable in diameters with very short intervals or contiguous.

Antennae exceeding for about three articles the apices of posterior angles of pronotum; second article subcylindrical, nearly twice longer than wide, third conical nearly twice longer than second and shorter than third; second and third, taken together, 1,3x longer than fourth; fourth-tenth subtriangular, on average 2,2x longer than wide; last longer than penultimate, subellipsoidal.

Pronotum as long as wide, widest at the apices of posterior angles, convex, abruptly sloping at sides and base; sides nearly subparallel, posterior angles long, acuminate strongly divergent, not carinate; lateral margin complete and well apparent for all its length in a dorsal view; puncturation uniformly distributed, punctures deep, simple, approximately of the same size, with very short, shiny, intervals.

Scutellum smaller than the interelytral space, subrectangular, strongly punctured with rough surface.

Elytra 3x longer than pronotum and a little wider than it, convex; sides subparallel from base to the middle then gradually converging to the apices; striae regularly marked from base to the apices, punctured; interstriae flat, densely and finely punctured.

Fourth tarsal article, very small, much more shorter and narrower than third.

Aedeagus as in fig. 4, 4a (length 1,18 mm).

Female unknown.

Size. Length 9,3 mm; width 2,4 mm.

ETYMOLOGY. The name is the same given by J. Pecirka that studied the species without to describe it, derived from the Ussuri region.

Tribe ELATERINI Leach, 1815

***Mulsanteus adanensis* Schimmel, Platia & Tarnawski, 2009**

MATERIAL EXAMINED. 14 spcm. - **Israel:** Mt Carmel, 18.VIII.1983, B. Orbach; Mt Carmel, Nakhal Oren, 8.IV-8.V.2009, 19.VI.-2.VII.2009, 10-31.VII.2009, 2-30.VII.2009, window trap, south facing slope, J. Buse & T. Pavlicek; Mt Carmel, Ha'arbaim (Fourties), 28.VI.-10.VII.2009, window trap on *Quercus calliprinos*, J. Buse & T. Pavlicek.

DISTRIBUTION. Turkey. Lebanon (Platia, 2010). **New to Israel.**

Tribe AGRIOTINI Laporte, 1840

***Agriotes proximus* Schwarz, 1891**

MATERIAL EXAMINED. 20 spcm. (5) Germany: Bez. Potsdam, 25.IV.1983, Munnich; Bezirk Cottbus, Stadtgebiet Weisswasser, KronlauerWeg., Grabenufer, J. Gebert; Weisswasser, 29.VI.1989, J. Gebert. (14). Romania: Crisana-Bihor, Cefa nat. Park, 24.V.-19.VI.2009, 1-23.V.2009, 9.I-27.II.2010, 28.II-28.III.2010, M. Petrovici. (1) Macedonia: Tetovo, Mavrovo, m 1600, 11.VI.1990, G. Sama.

DISTRIBUTION. E: AB AU BU GR HU IT MD PT SK SP ST UK. N: MO (Cate, 2007); A: JO TR, Israel (Platia, 2010); Switzerland (Chittaro & Blanc, 2012); Armenia (Mardjanian et Avetisyan, 2013). **New to Germany, Romania, Macedonia.**

Tribe PHYSORHININI, Candèze, 1859

***Chastanus rosti* (Schwarz, 1897)**

Fig. 11, 11a, 46.

MATERIAL EXAMINED. 2 spcm. ♀ - **Azerbaijan:** Yardimli rayonu, Talysh Mts: 17 km NE of Yardimli, 24-27.V.2013, R. Krolik. (CPG; CRK).

DISTRIBUTION. E: AB A: IN (Cate, 2007).

NOTE: Uncommon species of which we publish for the first time the characteristic of sclerites of bursa copulatrix as in fig. 11, 11a.

Tribe AMPEDINI Gistel, 1848

***Ampedus margaritae* n. sp.**

Fig. 5, 5a, 20, 20a, 30, 48.

MATERIAL EXAMINED. Holotype ♂- Armenia: Tavush, Prov., Semyonovka, 15.VI.2013, L. Kruszelnicki ex. R. Krolik coll. (CPG).

DIAGNOSIS. Among the known armenian species it can be compared to *A. samedovi* Dolin & Agajev, 1983 for the same typology of puncturation of pronotum but it is separated for the trapezoidal shape of it, shorter antennae, aedeagus with slenderer and elongate apices of paramera.

DESCRIPTION. Male. Bicoloured; head, antennae, pronotum, scutellum, underbody, black; elytra entirely red-carmine except for a very small, black area at the apical extremities; legs black with tarsi brownish; covered with very dense, yellow-fulvous vestiture, particularly apparent on pronotum and sides of elytra.

Head with eyes as wide as the anterior margin of pronotum, frons convex, anterior margin regularly arcuate; punctures variable in diameters, umbilicate and contiguous.

Antennae not reaching for about one article the apices of posterior angles of pronotum, serrated from fourth article on; second article subcylindrical, as long as wide, third subconical, 1,28x longer than second and longer than wide; second and third, taken together, as long as fourth; fourth-tenth triangular, on average just longer than wide, last a little longer than penultimate, subellipsoidal, moderately constricted at the apical third.

Pronotum 1,35x wider than long, widest at the apices of posterior angles, convex, with a wide but shallow mid-longitudinal depression on basal slope; sides from just behind the middle regularly converging forwards, subparallel to the posterior angles, the latter not divergent, with a short carina directed inwards; punctuation coarse, punctures on the disk slightly umbilicate with variable intervals, on average smaller than their own diameters, gradually denser towards the sides, more clearly umbilicate, some becoming subovate, with very short intervals or contiguous.

Scutellum shield-shaped, subrectangular, flat, ridged at base, finely punctured.

Elytra 3,2x longer than pronotum and as wide as it, convex; sides, from base, gradually and regularly converging to the apices; striae well marked and punctured; interstriae subconvex, densely and finely punctured.

Aedeagus as in fig. 5, 5a (length 1,37 mm).

Female. Unknown.

Size. Length 11,2 mm; width 3,37 mm.

ETYMOLOGY. The species is dedicated to Margarit Mardjanian, armenian specialist of Elaterids.

Ampedus forticornis (Schwarz, 1900)

MATERIAL EXAMINED. 5 spcm ♂ ♀ - Croatia: Istria, Castelvenera, 3.V.1936, ill.; Repen-Volnik, 2.III.1930, Springer; Velebit, Krasno, 8.VI.1984, Padovani & Malmusi; Velebit, Ostarjje, m 800, 2.VII.1989, Padovani & Malmusi; Kvarnar, RI-Senj, Stolac, 8.VI.-8.VII.2008, P. Rapuzzi, wine traps; Velebit GS, Brusane, 1-15.VII.2011, M. Malmusi. (CPG).

DISTRIBUTION: E: AL AU BH BU CZ GE GR HU IT RO SL SK YU (Cate, 2007); Macedonia (Platia, 2011). **New to Croatia.**

Reitterelater elongatus Platia, 2010

Fig. 12, 12a, 21, 29, 36, 38, 47.

MATERIAL EXAMINED. 1 spcm. ♀ - Azerbaijan: Yardimli rayonu, Talysh Mountains, Gosmalyan env. (38°41'N, 48°23'E), 1400-1600 m, 29-31.V.2013, R. Kroluk. (CPG).

DESCRIBED on a male specimen.

Female. Identical to the male for colour and size, it can be separated for the shorter antennae not reaching for about one article the apices of posterior angles of pronotum, with second and third articles, taken together longer than fourth. The species is well separated for the long elytra compared to pronotum and particularly for the prosternal process, immediately and abruptly bent behind the procoxal cavities as in fig. 38. Bursa copulatrix sclerified with a very high number of very fine and, variable in shape, thorns as in fig. 12, 12a.

Size. Length 12,5 mm; width 3,5 mm.

DISTRIBUTION: Described from Iran, Golestan Prov. **New to Azerbaijan.**

Cardiophorus maroccanus n. sp.

Fig. 6, 6a, 51.

MATERIAL EXAMINED. Holotype ♂ - Morokko: Anti Atlas, Col du Kerdous, 17.III.1982, Meybohm. (CPG).

DIAGNOSIS. The species remembers *C. scapulatus* Candèze but it is easily separated for the darker and less defined colour of the anterior part of the elytra, denser punctuation of pronotum, more reduced length of wings.

DESCRIPTION. Bicoloured; Entirely black with antennae, centre of scutellum, base of elytra prolonged from sixth interstriae to the sides just after the middle, propleurae and legs, yellow-ferruginous; covered with dense and yellowish pubescence.

Head with eyes just narrower than the anterior margin of pronotum, frons flat, slightly impressed at the anterior margin, the latter subarcuate, directed downwards and just protruding above the clypeus; punctuation coarse and uniformly distributed, punctures contiguous on all the surface.

Antennae reaching and just exceeding the apices of posterior angles of pronotum, moderately serrated from third article on; second article subcylindrical, twice longer than wide and a little shorter than third; third-tenth subtriangular, on average 2,2x longer than wide; last a little longer than penultimate, subellipsoidal.

Pronotum as long as wide, widest at middle, strongly convex, abruptly sloping at base and sides, sides strongly arcuate, posterior angles truncate, shortly carinate, not divergent; punctuation uniformly distributed, punctures deep, simple, very dense with very short intervals, at sides also contiguous; lateral suture like, fine but complete.

Scutellum heart-shaped, just wider than long, flat with short and narrow emargination at middle of base, sparsely and finely punctured.

Elytra 2x longer than pronotum and as wide as it, ovaliform, widest at middle, convex; striae deeply punctured; interstriae subconvex, with finer punctures.

Aedeagus as in fig. 6, 6a (length 0,94 mm).

Claws simple.

Wing reduced to a stump, not able to fly.

Female unknown.

Size. Length 5,5 mm; width 2,12 mm.

ETYMOLOGY. The name is derived from the country of origin of the species, Morokko.

Cardiophorus yozgatensis n. sp.

Fig. 7, 7a, 52.

MATERIAL EXAMINED. Holotype ♂ - Turkey: Central Anatolia, Sekili, Yozgat Prov., 8.V.2011, G. Sama. (CPG).

DIAGNOSIS. Among the unicoloured turkish species (Platia & Gudenzi, 2002) it can be compared to *C. turgidus* Erichson for the same general habitus, colour, shiny body and can be separated only by the examination of aedeagus with a particular shape of paramera as in the fig. 7.

DESCRIPTION. Male. Shiny; entirely black-piceous except for the legs with femura and tibia ferruginous and tarsi brownish; covered with fine yellow-fulvous pubescence.

Frons convex from vertex to nearly the anterior margin, this regularly arcuate and just protruding above the clypeus; punctures approximately of the same size, deep, simple, with very short, shiny, intervals.

Antennae just reaching the apices of posterior angles of pronotum, serrated from third article on; second article subcylindrical, 1,5x longer than wide; third-tenth subtriangular on average twice longer than wide, last long as penultimate, ellipsoidal.

Pronotum 1,14x wider than long, widest behind the middle, very convex, abruptly sloping at sides and base with a very shallow and short mid-longitudinal impression on the basal slope; sides very arcuate, posterior angles truncate, not divergent, shortly carinate; lateral suture-like obsolete after the middle; punctuation uniformly distributed, punctures fine, simple, approximately of the same size, on average with very shiny intervals equal to larger than their own diameters.

Scutellum heart-shaped, as long as wide, with a shallow impression at centre, just emarginate at middle of base, finely punctured.

Elytra 2,6x longer than pronotum and as wide as it, convex; sides very gradually and regularly converging from base to the apices; striae well marked and punctured superficially; interstriae flat with finer and very dense punctures.

Aedeagus as in fig. 7, 7a (length 1,01 mm).

Claws simple.

Female. Unknown.

Size. Length 6,5 mm; width 2,06 mm.

ETYMOLOGY. The name is derived from the province where the species was collected, Yozgat.

***Cardiophorus neolienus* Platia & Gudenzi, 1999**

MATERIAL EXAMINED. 1 spcm. ♀ - **Syria:** 50 km SE Suwayda, Anata, 20.V.1996, M. Halada. (CPG).

DISTRIBUTION. E: AB AR A: IQ (Cate, 2007); Turkey, Israel, Jordan (Platia, 2010). **New to Syria.**

***Dicronychus bulgaricus* n. sp.**

Fig. 13, 13a, 13b, 53.

MATERIAL EXAMINED. Holotype ♀ – Bulgaria: Sandanski, env. Lozenica, 6.V.2009, F. Pavel. (CPG).

DIAGNOSIS. Among the bulgarian species it can be compared to *D. marani* (Roubal, 1936) but it is easily distinguished for the finer punctures of pronotum, more raised sold third and fourth basal elytral interstriae, intermediate pieces of bursa copulatrix.

DESCRIPTION. Female. Entirely black with a moderate bronzed lustre; legs dark-brown; covered with very dense, greysh pubescence.

Head with eyes as wide as the anterior margin of pronotum, frons flat, anterior margin regularly arcuate, punctures fine but very dense, contiguous.

Antennae not reaching for about one article the apices of posterior angles of pronotum, slightly serrated from third article on; second article subcylindrical, 1,4x longer than wide; third-tenth subtriangular, on average twice longer than wide; last as long as penultimate, subellipsoidal.

Pronotum just wider than long, widest at middle, very and regularly convex, abruptly sloping at sides and base, with a short and narrow mid-longitudinal depression on the basal

slope; sides very arcuate, from middle converging forwards and backwards; posterior angles truncated, slightly divergent at apices, very shortly carinate; lateral suture-like fine and obsolete after the middle; punctuation very uniformly distributed on all the surface, punctures fine, very dense, nearly contiguous giving to the surface a nearly dull appearance.

Scutellum heart-shaped as long as wide, deeply impressed and emarginate at middle of base.

Elytra 2,6x longer than pronotum and as wide as it, very convex; sides subparallel widest at the apical third, further very gradually converging to the apices; striae well marked and moderately punctured; interstriae subconvex with very dense, fine, nearly contiguous punctures; at base third and fourth interstriae are sold to form a very raised, shiny and sparsely punctate, surface.

Claws dilated from base to the middle.

Bursa copulatrix sclerified as in fig. 13, 13a, 13b, the intermediate pieces are very distinctive with apices finely dentate.

Male unknown.

Size. Length 9,5 mm; width 3 mm.

ETYMOLOGY. The name is derived from Bulgaria the country where the species was collected.

Tribe NEGASTRIINI Nakane y Kishii, 1956

***Negastrius sabulicola* (Boheman, 1854)**

MATERIAL EXAMINED. 1 spcm. - Macedonia: Bogomila, 2.VII.2012, J. Dalihod. (CRG).

DISTRIBUTION. E: AU BE BG BU BY CT CZ DE FR GB GE GR HU IT LA LT NL NT PL RO SK SV UK (Cate, 2007); A: Turkey (Mertlik & Platia 2008). **New to Macedonia.**

***Zorochros stibicki* Leseigneur, 1970**

MATERIAL EXAMINED. 2 spcm. - Macedonia: Bogomila, 2.VII.2012, J. Dalihod. (CRG).

DISTRIBUTION. E: AU GE IT HU SL YU A: TR (Cate, 2007); Slovakia (Merkli & Mertlik, 2005); Czech Rep. (Mertlik, 2009). **New to Macedonia.**

Tribe MELANOTINI Candèze, 1859

***Melanotus cappadocius* n. sp.**

Fig. 8, 8a, 22, 39, 54.

MATERIAL EXAMINED. Holotype ♂ - Turkey: Cappadocia (Kapadokya), 7.VII.2002, M. Matassoni. (CPG).

DIAGNOSIS. One of the most larger species of *Melanotus* from the western palearctic region resembling *M. fusciceps* (Gyllenhal, 1817) but separated for the larger body, shorter antennae and male genitalia.

DESCRIPTION. Male. Entirely ferruginous, with not well defined blackish shadings at margins of body, of scutellum, along the elytral suture; covered with short, dense, yellow-fulvous pubescence.

Head with eyes as wide as the anterior margin of pronotum, frons flat between the eyes, slightly impressed before the anterior margin, this simple, substraight at middle, just protruding above the clypeus; punctures coarse, umbilicate, with very short intervals or contiguous.

Antennae reaching the apices of posterior angles of pronotum, serrated from fourth article on; second article globous, just wider than long, third subconical, twice longer than second and 1.9x longer than wide; second and third, taken together, a little shorter than fourth; fourth-tenth triangular on average twice longer than wide, last longer than penultimate, subellipsoidal.

Pronotum 1.2x wider than long, widest behind the middle and at apices of posterior angles, convex, abruptly sloping at sides and base; sides arcuate, from middle gradually converging forwards, moderately sinuate before the posterior angles, the latter truncate, not divergent, with a short carina running subparallel to the complete lateral margins; puncturation rather uniformly distributed, punctures on disk umbilicate, with shortest shiny, intervals, gradually denser towards the sides contiguous or confluent at the lateral extremities.

Scutellum shield shaped, longer than wide, with a shallow depression at middle, ridged at base, sparsely punctured.

Elytra 2.9x longer than pronotum and as wide as it, convex; sides very gradually and regularly converging from base to the apices; striae superficial and regularly punctured; interstriae flat with dense and fine punctures.

Prosternal process immediately bent behind the procoxal cavities, not emarginate at apex.

Aedeagus as in fig. 8, 8a (length 3,12 mm).

Size. Length 20 mm; width 6 mm.

Female unknown.

ETYMOLOGY. The name is derived from Cappadocia, the region of Anatolia where the species was collected.

***Melanotus anomalus* n. sp.**

Fig. 9, 9a, 23, 23a, 23b, 55.

MATERIAL EXAMINED. Holotype ♂ - Jordan: Ghawr Kabid, 7.IV-3.V.1995, A. Katbeh, light trap. (CPG).

DIAGNOSIS. Small species that cannot be confused with the known species of the region particularly for the characteristics of the last two articles of antennae soldered and forming a unique, curved, article; also the male genitalia is distinctive.

DESCRIPTION. Male. Entirely brown-ferruginous, covered with dense yellow-fulvous pubescence.

Head with eyes as wide as the anterior margin of pronotum, frons flat, anterior margin very arcuate, just protruding above the clypeus; punctures coarse, umbilicate, with very short, shiny intervals.

Antennae just exceeding the apices of posterior angles of pronotum, serrated from fourth article on; second article small, globous, as long as wide, third subconical nearly twice longer than second and slightly longer than wide, second and third, taken together, a little shorter than fourth, fourth-ninth triangular, on average twice longer than wide; tenth-eleventh soldered to form a unique article as in the fig. 23a.

Pronotum 1.15x wider than long, widest at the apices of posterior angles, convex, with a trace of mid-longitudinal, shiny and smooth carina, after the middle to the beginning of the basal slope; sides arcuate, from middle converging regularly to the apex and base, sinuate before the posterior angles, the latter long, acuminate, not divergent at the apices, with a short carina running parallel to the complete, lateral margins; puncturation coarse and uniformly distributed, punctures on disk, deep, umbilicate, with very short, shiny intervals, at the

sides more superficial, clearly umbilicate, contiguous or confluent.

Scutellum shield-shaped, longer than wide, sinuate at sides in the first half, moderately impressed at middle, punctured.

Elytra 2.8x longer than pronotum and as wide as it, convex; sides subparallel from base to middle further gradually converging to the apices; striae well marked and deeply punctured; interstriae flat, densely punctured and with a roughly surface.

Aedeagus as in fig. 9, 9a (length 1,75 mm).

Prosternal process immediately bent behind the procoxal cavities and running sub-horizontally after the middle.

Female unknown.

Size. Length 10 mm; width 3 mm.

ETYMOLOGY. The name is referred to the anomaly of tenth and eleventh articles of both the antennae soldered to form a unique and curved article.

NOTE. I wonder if the particular characters of the last two articles of antennae could be a teratology, but it is very strange that both the antennae have the same particularity and I never observed it in literature. Anyway there are no doubts on the identity of the new species separated from all the known of the region by the general shape, small size and male genitalia.

***Melanotus bishapurensis* n. sp.**

Fig. 10, 10a, 24, 56.

MATERIAL EXAMINED. Holotype ♂ - S Iran: Bishapur, Tang-e-Chogan, 1050-1200 m, 10.-11.VI.1973, Expedition Nat. Mus. Praha. (NMPC).

DIAGNOSIS. Among the Iranian known species it can be compared to *M. punctosinus* Cate, Platia & Schimmel, 2002 for the general shape and colour but it can be separated for the larger body, second and third articles of antennae, taken together, as long as fourth, and the male genitalia.

DESCRIPTION. Male. Entirely brown-ferruginous, covered with dense yellowish pubescence.

Head with eyes as wide as the anterior margin of pronotum, frons flat, anterior margin regularly arcuate, not thickened, directed downwards and slightly protruding above the clypeus; punctures coarse, umbilicate, with very short, shiny intervals.

Antennae not reaching for about one article the apices of posterior angles of pronotum, serrated from fourth article on; second article subcylindrical, as long as wide, third subconical, twice longer than wide and longer than second; second and third, taken together, as long as fourth; fourth-tenth triangular, nearly twice longer than wide, last longer than penultimate, subellipsoidal, constricted at the apical third.

Pronotum 1.15x wider than long, widest at the apices of the posterior angles, very convex, abruptly sloping at sides and on the basal slope; sides moderately arcuate, from middle regularly tapering forwards, sinuate before the posterior angles, the latter truncate, not divergent, with a short carina subparallel to the complete, lateral margins; puncturation coarse; punctures on the disk deep, simple to slightly umbilicate with very short shiny intervals, gradually denser, clearly umbilicate towards the sides, contiguous and confluent at the lateral extremities.

Scutellum shield-shaped, just longer than wide, slightly impressed on middle, punctured.

Elytra 2,8x longer than pronotum and as wide as it, convex; sides subparallel from base to the middle, further gradually converging to the apices; striae more impressed at the basal slope then very superficial and few apparent at the apical third; interstriae flat densely and finely punctured.

Prosternal process immediately bent behind the procoxal cavities, not emarginate at apex.

Aedeagus as in fig. 10, 10a, (length 2,06 mm).

Female unknown.

Size. Length 14 mm; width 3,9 mm.

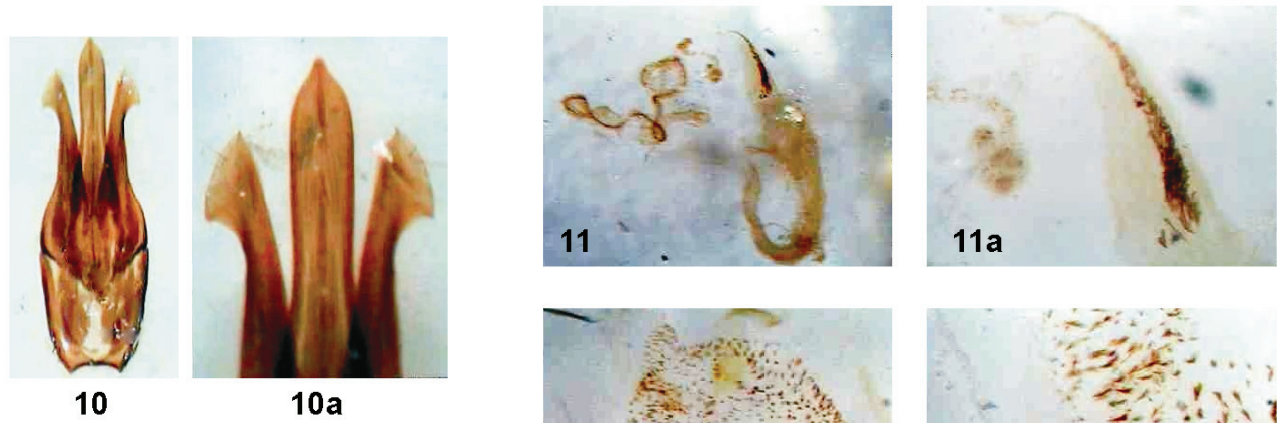
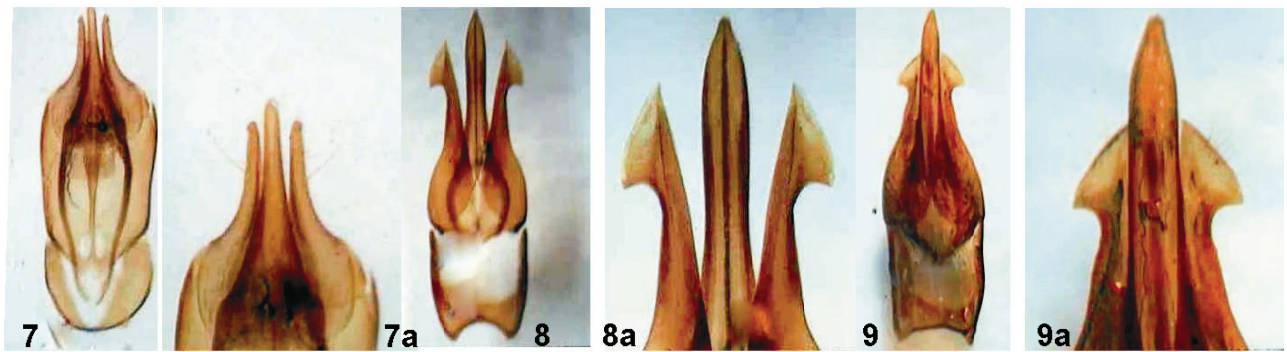
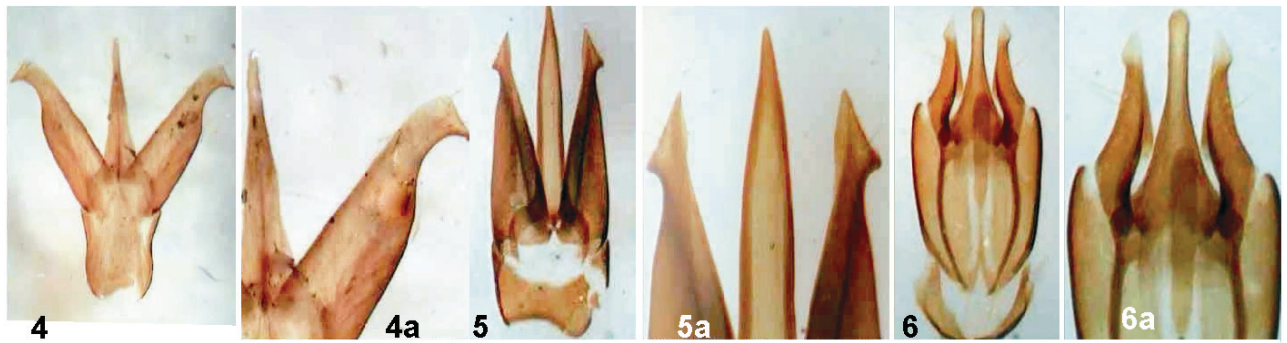
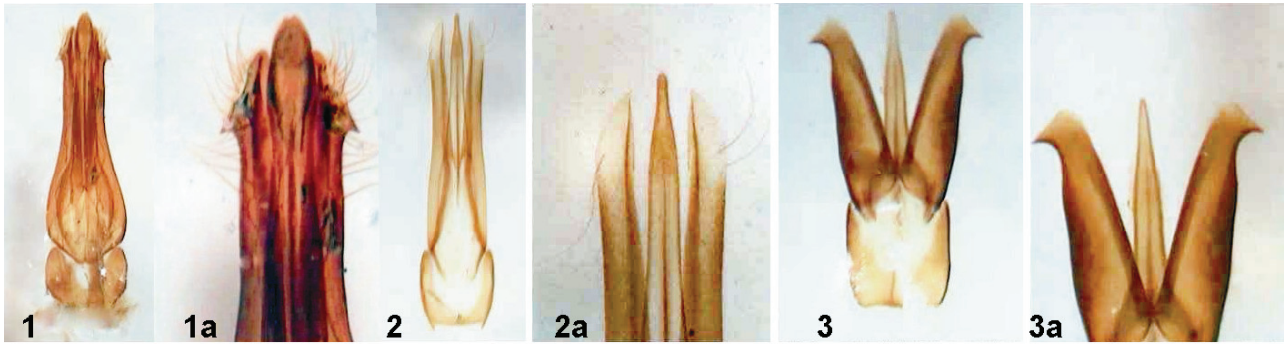
ETYMOLOGY. The name is derived from Bishapur, the ancient city of Iran not far from the species was caught.

Bibliography

- AKHTER, A.M., A. DRUMONT, A.S. RIZVI & Z. AHMED 2012. Contribution to the knowledge of Agrypninae (Coleoptera Elateridae) with description of new species and new records from Pakistan. *Zootaxa*, **3223**: 40-54.
- BOUCHARD P., Y. BOUSQUET, A.E. DAVIES, M.A. ALONSO-ZARAZAGA, J.F. LAWRENCE, C.H.C. LYAL, A.F. NEWTON, C.A.M. REID, M. SCHMITT, S.A. ŚLIPŃSKI & A.B.T. SMITH 2011. Family-group names in Coleoptera (Insecta). *ZooKeys*, **88**: 1-972.
- CATE, P.C., 2007. Family Elateridae, Pp. 89-209. - In: Löbl, I. & A. Smetana (eds.). *Catalogue of Palaearctic Coleoptera vol. 4. Elateroidea-Derontoidea-Bostrichoidea-Limexyloidea-Cleroidea- Cucujoidea*. - Apollo Books, Stenstrup, 935 pp.
- CATE, P. C., G. PLATIA & R. SCHIMMEL 2002. New species and records of click beetles (Coleoptera: Elateridae) from Iran, with a checklist of known species. *Folia Heyrovskyana*, **10**(1): 25-68.
- CHITTARO, Y. & M. BLANC 2012. Annotated checklist of the Cerophytidae, Elateridae, Eucnemidae and Throscidae (Coleoptera) of Switzerland. *Bulletin de la Société Entomologique Suisse*, **85**: 91-114.
- KOVACS, T. & O. MERKL 2013. Beetles from Albania, Macedonia and Montenegro, with new country records (Coleoptera). *Folia Historico Naturalia Musei Matraensis*, **37**: 89-92.
- MARDJANIAN, M. & A. AVETISYAN 2013. A list of species of the genus *Agriotes* Eschscholtz, 1829 (Coleoptera Elateridae, Elaterinae) preserved in the Institut of Zoology of Armenia. *Biological Journal of Armenia*, **2**(65): 56-60.
- MERKL, O. & J. MERTLIK 2005. Distributional notes and a checklist of click beetles (Coleoptera: Elateridae) from Hungary. *Folia Entomologica Hungarica, Rovartani Kozlemenyei*, **66**: 63-80.
- MERTLIK, J., 2009. The species of the subfamily Negastrinae (Coleoptera: Elateridae) Czeck and Slovak Republics. *Elateridarium* **3**: 41-136.
- MERTLIK, J. & G. PLATIA 2008. Catalogue of the families Cebrenidae, Elateridae, Lissomidae and Eucnemidae from Turkey. *Elateridarium*: 1-40 www.elateridae.com
- PLATIA, G. 2010. New species and chorological notes of click beetles from Palearctic Region, especially from the Middle East (Coleoptera Elateridae). *Boletin de la Sociedad Entomologica Aragonesa*, **46**: 23-49.
- PLATIA, G. 2011. New species and new records of click beetles from the Palearctic region (Coleoptera Elateridae). *Boletin de la Sociedad Entomologica Aragonesa (S.E.A.)*, **48**: 47-60.
- PLATIA, G. 2013. Click-Beetels collected in Iran by the expeditions of the Naturkundemuseum Erfurt with description of two new species (Insecta: Coleoptera: Elateridae). *Vernate*, **32**: 391-402.
- PLATIA, G. & I. GUDENZI 2002. Revisione dei *Cardiophorus* della Turchia. II. Le specie unicolori (Coleoptera Elateridae). *Bollettino della Società entomologica italiana*, Genova, **134**(1): 27-55.
- PROSVIROV, A.S. & V.Y. SAVITSKY 2011. On the significance of genital characters in supraspecific systematics of elaterid subfamily Agrypninae (Coleoptera Elateridae). *Entomological Review*, **91**(6): 755-772.
- SCHIMMEL, R., G. PLATIA & D. TARNAWSKI 2009. Two new species of the genus *Mulsanteus* Gozis from Turkey (Insecta: Coleoptera: Elateridae). *Genus*, Wroclaw, **20**(2): 249-255.

► **Fig. 1-10.** Male genitalia in dorsal view. **1, 1a.** *Compsolacon mertliki* n. sp.; **2, 2a.** *Anostirus osellai* n. sp.; **3, 3a.** *Athous (Orthathous) talyshensis* n. sp.; **4, 4a.** *Athous (Orthathous) ussuricus* n.sp.; **5, 5a.** *Ampedus margaritae* n. sp.; **6, 6a.** *Cardiophorus marocanus* n. sp.; **7, 7a.** *Cardiophorus yozgatensis* n. sp.; **8, 8a.** *Melanotus cappadocius* n. sp.; **9, 9a.** *Melanotus anomalus* n. sp.; **10, 10a.** *Melanotus bishapurensis* n. sp.

► **Fig. 11-13.** Sclerites of bursa copulatrix. **11, 11a.** *Chastanus rosti* (Schwarz); **12, 12a.** *Reitterelater elongatus* Platia; **13, 13a, 13b.** *Dicronychus bulgaricus* n. sp.



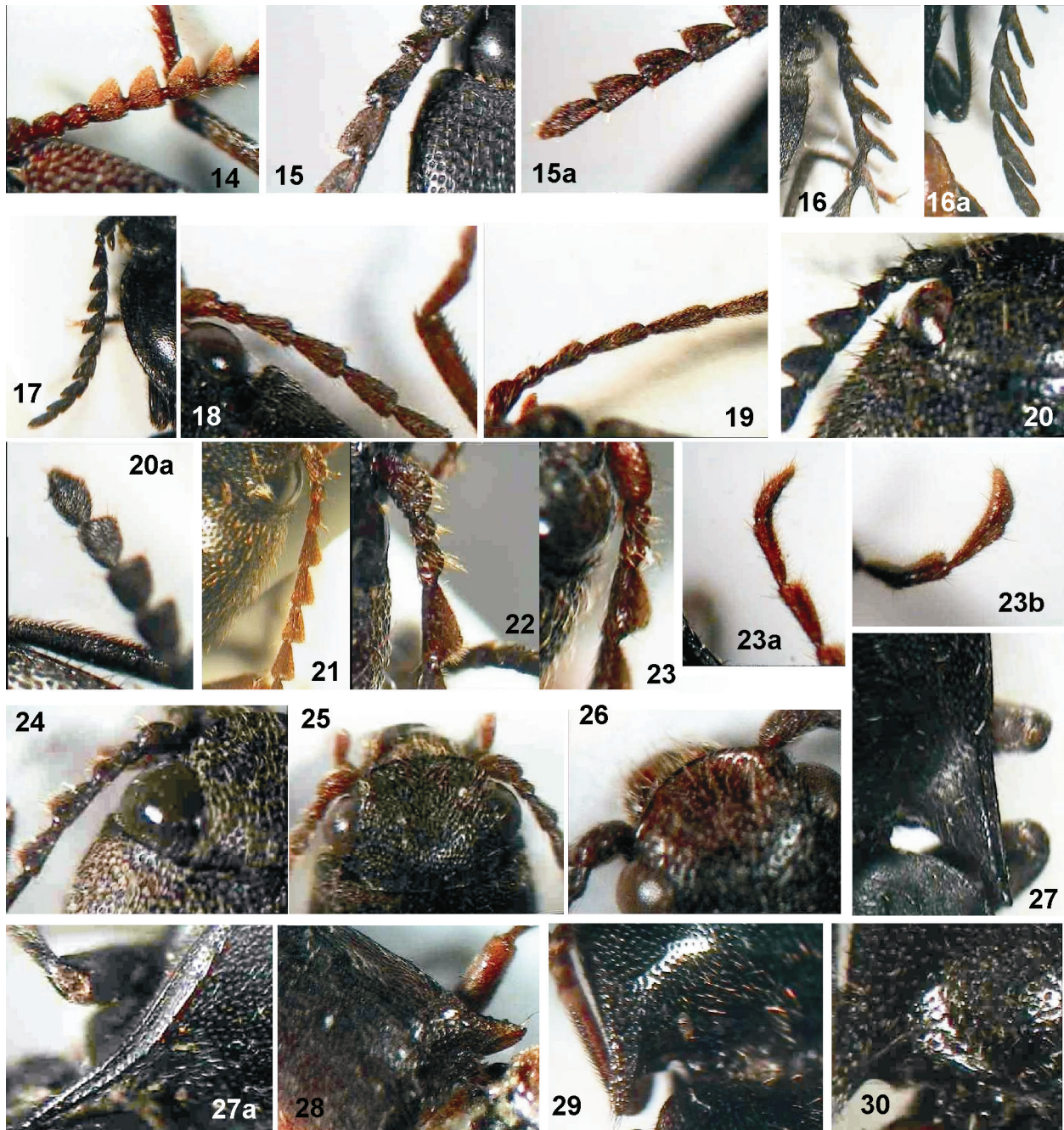


Fig. 14-24. Antennae, total or first and last articles. 14. *Compsolacon mertliki* n. sp.; 15, 15a. *Lanelater palmirensis* n. sp.; 16, 16a. *Anostirus osellai* n. sp. (♂); 17. *Anostirus osellai* n. sp. (♀); 18. *Athous (Orthathous) talyshensis* n. sp.; 19. *Athous (Orthathous) ussuricus* n. sp.; 20, 20a. *Ampedus margaritae* n. sp.; 21. *Reitterelater elongatus* Platia; 22. *Melanotus cappadocius* n. sp.; 23, 23a, 23b. *Melanotus anomalus* n. sp.; 24. *Melanotus bishapurensis* n. sp. **Fig. 25-26.** Frons. 25. *Athous (Orthathous) talyshensis* n. sp.; 26. *Athous (Orthathous) ussuricus* n. sp.. **Fig. 27-30.** Posterior angles of pronotum. 27, 27a. *Lanelater palmirensis* n. sp.; 28. *Athous (Orthathous) ussuricus* n. sp.; 29. *Reitterelater elongatus* Platia; 30. *Ampedus margaritae* n. sp.

► **Fig. 31-36.** Elytra. 31. *Compsolacon mertliki* n. sp.; 32. *Anostirus osellai* n. sp. (♂); 33. *Anostirus osellai* n. sp. (♀); 34. *Anostirus haemapterus* (Illiger) (♂); 35. *Anostirus haemapterus* (Illiger) (♀); 36. *Reitterelater elongatus* Platia. **Fig. 37.** Scutellum and prescutellar tubercle. *Lanelater palmirensis* n. sp. **Fig. 38-39.** Prosternal process in lateral view. 38. *Reitterelater elongatus* Platia; 39. *Melanotus cappadocius* n. sp. **Fig. 40-41.** Prosternum in dorsal and lateral view. 40-41. *Lanelater palmirensis* n. sp. **Fig. 42- 56.** Habitus, total or partial. 42. *Compsolacon mertliki* n. sp.; 43. *Lanelater palmirensis* n. sp.; 44. *Anostirus osellai* n. sp. (♂); 45. *Anostirus osellai* n. sp. (♀); 46. *Chastanus rosti* (Schwarz) (♀); 47. *Reitterelater elongatus* Platia (♀); 48. *Ampedus margaritae* n. sp.; 49. *Athous (Orthathous) talyshensis* n. sp.; 50. *Athous (Orthathous) ussuricus* n. sp.; 51. *Cardiophorus maroccanus* n. sp.; 52. *Cardiophorus yozgatensis* n. sp.; 53. *Dicronychus bulgaricus* n. sp.; 54. *Melanotus cappadocius* n. sp.; 55. *Melanotus anomalus* n. sp.; 56. *Melanotus bishapurensis* n. sp.



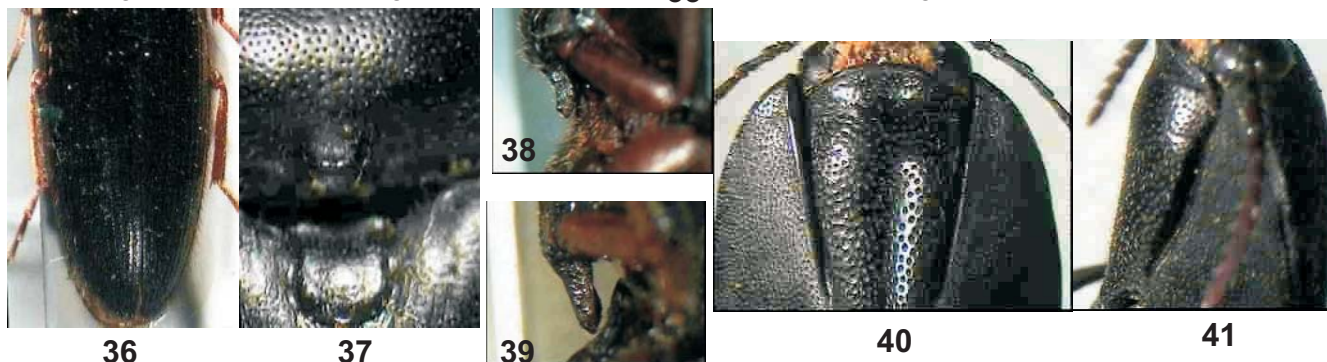
31

32

33

34

35



36

37

38

39

40

41



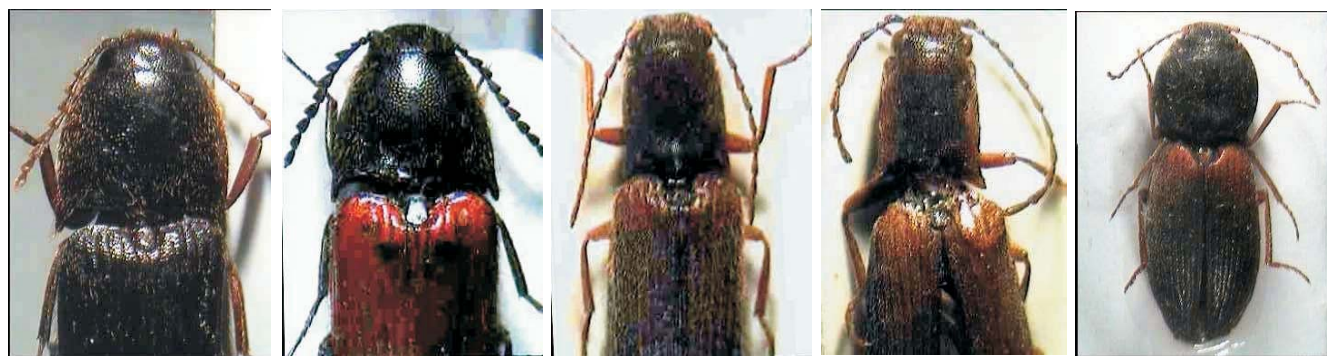
42

43

44

45

46



47

48

49

50

51



52

53

54

55

56