

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

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**Abstract:** Sixteen species belonging to the genera *Hypnoidus* Dillwyn, 1829 (northern India), *Poemnites* Buysson, 1894 (North Korea), *Athous* (*Orthathous*) Reitter, 1905 (Macedonia), *Ampedus* Dejean, 1833 (Greece, Turkey, Armenia, Iraq, Uzbekistan), *Melanotus* Eschscholtz, 1829 (Iran), *Cardiophorus* Eschscholtz, 1829 (Iran) and *Paracardiophorus* Schwarz, 1895 (Russia, Far East) are described. New geographic records or systematic notes are given for a further nine species belonging to the genera *Limonius* Eschscholtz, 1829, *Ampedus* Dejean, 1833, *Reitterelater* Platia & Cate, 1990, *Elater* Linnaeus, 1758, *Cardiophorus* Eschscholtz, 1829, *Paracardiophorus* Schwarz, 1895 and *Peripontius* Gurjeva, 1979.

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

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

**Resumen:** Se describen dieciséis especies nuevas de los géneros *Hypnoidus* Dillwyn, 1829 (India septentrional), *Poemnites* Buysson, 1894 (Corea del Norte), *Athous* (*Orthathous*) Reitter, 1905 (Macedonia), *Ampedus* Dejean, 1833 (Grecia, Turquía, Armenia, Irak, Uzbekistán), *Melanotus* Eschscholtz, 1829 (Irán), *Cardiophorus* Eschscholtz, 1829 (Irán), *Paracardiophorus* Schwarz, 1895 (Rusia, Lejano Oriente). Se aportan nuevas citas o notas sistemáticas en relación con otras nueve especies de los géneros *Limonius* Eschscholtz, 1829, *Ampedus* Dejean, 1833, *Reitterelater* Platia & Cate, 1990, *Elater* Linnaeus, 1758, *Cardiophorus* Eschscholtz, 1829, *Paracardiophorus* Schwarz, 1895 y *Peripontius* Gurjeva, 1979.

**Palabras clave:** Coleoptera, Elateridae, especies nuevas, nuevas citas, Región Paleártica.

**Taxonomy / Taxonomía:** *Ampedus arcadicus* n. sp., *Ampedus curdistanicus* n. sp., *Ampedus hajdajorum* n. sp., *Ampedus kroliki* n. sp., *Ampedus lucbaueri* n. sp., *Ampedus lundbergi* n. sp., *Ampedus mertliki* n. sp., *Ampedus szalokii* n. sp., *Ampedus tianshanensis* n. sp., *Athous* (*Orthathous*) *macedonicus* n. sp., *Cardiophorus hartmanni* n. sp., *Cardiophorus heinzi* n. sp., *Hypnoidus nadaii* n. sp., *Melanotus zagrosensis* n. sp., *Paracardiophorus prosvirovi* n. sp., *Poemnites coreanus* n. sp.

### Introduction

This paper reports the results of a study of several click beetles from different countries of the Palearctic Region, recently submitted by museums and colleagues. We have recognized sixteen undescribed species belonging to the genera *Hypnoidus* Dillwyn, 1829 (N India), *Poemnites* Buysson, 1894 (N Korea), *Athous* (*Orthathous*) Reitter, 1905 (Macedonia), *Ampedus* Dejean, 1833 (Greece, Turkey, Armenia, Iraq, Uzbekistan), *Melanotus* Eschscholtz, 1829 (Iran), *Cardiophorus* Eschscholtz, 1829 (Iran), *Paracardiophorus* Schwarz, 1895 (Russia, Far East).

New records of nine species of the genera *Limonius* Eschscholtz, 1829, *Ampedus* Dejean, 1833, *Reitterelater* Platia, & Cate, 1990, *Elater* Linnaeus, 1758, *Cardiophorus* Eschscholtz, 1829, *Paracardiophorus* Schwarz, 1895, *Peripontius* Gurjeva, 1979 are given.

### 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:

HNHM, Hungarian Natural History Museum, Budapest (Hungary) (Dr. O. Merkl).

NME (Naturkundemuseum Erfurt, Germany (M. Hartmann). CMHK, collection of J. Mertlik, Hradec Kralove (Czech Rep.).

CPG, collection of G. Platia, Gatteo (Italy).

CRG, collection of S. Riese, Genoa (Italy).

The subfamilial and tribal placement of genera listed below follows Bouchard *et al.* (2011). Some contributions to carry out this work have been: Dolin & Cate (2001, 2002, 2003), Gurjeva (1977, 1979), Ohira & Becker (1973) and Platia & Gudenzi (2002).

The abbreviations of countries, given by “distribution” follows Cate (2007).

### Results

#### Tribe Hypnoidini Schwarz, 1906

##### • *Hypnoidus nadaii* n. sp.

Fig. 1, 1a, 39.

**MATERIAL EXAMINED.** Holotype ♂ - India: Uttarakhand, Garwhal Himalayas, Kirti Glacier, m 4700, 2.IX.1997, L. Nádai. (HNHM). 2 Paratypes ♂ - same data as Ht; Garwhal Himalayas, Gangotri, m 3500, 2.VIII.1997, L. Nádai. (HNHM; CPG).

**DIAGNOSIS.** The new species can be compared to *H. nepalensis* Ohira & Becker, 1973 for the very fine and scarcely visible punctuation of pronotum but it is separated

for the posterior angles of pronotum more acute and clearly divergent at apex, with a very shallow carina and the presence of wings.

**DESCRIPTION.** Male. Shiny; head, pronotum and scutellum black-piceous, elytra blackish to partially dark-brown; antennae with first article ferruginous or partially dark - brown, second and third ferruginous at base, fourth and following blackish; legs yellow-ferruginous with more or less obscured femura; covered with fine and moderate yellow-fulvous pubescence.

Frons flat with the anterior margin moderately ridged and subarcuate, punctuation regular, punctures simple or slightly umbilicate, with surface of the intervals chagreened and these on average equal to two or three times its diameters.

Antennae not reaching for about two articles the apices of posterior angles of pronotum, strongly serrated from fourth article on; second article subcylindrical, 2.1-2.3x longer than wide, third subconical, just longer than second and as wide as it at the apex; second and third articles, taken together 2.1x longer than fourth; fourth-tenth triangular, fourth, fifth slenderer, just longer than wide, sixth-tenth as long as wide, last longer than penultimate, subellipsoidal conspicuously constricted before the apex.

Sides very arcuate.

Pronotum 1.23-1.25x wider than long, widest at middle or at the apices of the posterior angles, convex; sides arcuate very, widest behind the middle distinctly sinuate before the posterior angles, the latter long, acuminate, divergent, with a very shallow, nearly indistinct carina; lateral border complete and visible in a dorsal view; punctuation very moderate, fine and sparse on all the surface, few visible; punctures simple with intervals very variable from their diameter to 5-6 times their own diameters

Propleura with larger punctures near the sides, gradually finer inwards with variable intervals clearly chagreened.

Scutellum shield-shaped, quadrangular, flat or very slightly convex with very fine and sparse punctures.

Elytra 2.7x longer than pronotum and as wide as it at base, convex; sides ovaliform, widest at middle; striae well marked, not punctured; interstriae flat, with very fine and sparse punctures.

Metasternum more twice longer than the second abdominal segment.

Wings present.

Male genitalia as in fig. 1, 1a (length 0.9 mm).

**FEMALE** unknown.

**SIZE.** Length 5.6-6.3 mm; width 2.0-2.25 mm.

**ETYMOLOGY.** The species is dedicated to the collector of the type specimens, László Nádai, private coleopterist in Budapest, collector of Palaearctic Scarabaeoidea.

#### Tribe Prosternini Gistel, 1856

• *Poemnites coreanus* n. sp.

Fig. 2, 2a, 23, 38, 40.

**MATERIAL EXAMINED.** Holotype ♂ - North Korea: Hamgen South Prov., Sinpkho, 15.V.1990. (CPG).

**DIAGNOSIS.** A species allied for the colour and size to the European species *P. aeratus* (Mulsant & Guillebeau, 1856), it can be separated for the longer antennae.

**DESCRIPTION.** Male. Moderately shiny; entirely blackish-

bronzed with the last elytral interval and epipleurae reddish; base of the first antennal articles, apices of mandibles, palpi, articulations of the legs, tibiae and tarsi dark reddish, antennae from fourth articles and femura blackish; covered with dense, yellowish, pubescence. Head with the eyes just narrowed than the anterior margin of pronotum, frons flat, suprantennal carinae not reaching the anterior margin, punctuation coarse, punctures contiguous and umbilicate.

Antennae exceeding by about two articles the apices of posterior angles of pronotum, slightly serrated from the fourth segment on; second article subcylindrical and twice longer than wide, third subconical, 1.25x longer than second and 2.5x longer than wide; second and third, taken together, 1.29x longer than fourth; fourth-tenth triangular, on average 2.5x longer than wide, last longer than penultimate, subellipsoidal with subparallel sides gradually narrowing at apex.

Pronotum as long as wide, widest at the apices of the posterior angles, convex with a trace of a mid-longitudinal impressed line from just before the basal slope to the base; sides moderately and regularly arcuate, sinuate just before the posterior angles, the latter distinctly divergent, truncate at apex, with a very short and fine, just visible carina; lateral margin complete; punctuation uniformly distributed, punctures on the disk deep, simple, with very short, shiny intervals, gradually denser towards the sides, contiguous, sometimes confluent and slightly umbilicate at the extremities.

Scutellum shield-shaped, flat, straight at base, moderately rounded at apex, densely punctured.

Elytra 3x longer than pronotum and a little wider than it, convex; sides subparallel from base to just behind the middle then very gradually dilated and rounded at the apices; striae moderately punctured, interstriae flat, densely and finely punctured.

Prosternal process gradually bent behind the procoxal cavities, pointed at apex.

Male genitalia as in fig. 2, 2a (length 1.22 mm).

**FEMALE** unknown.

**SIZE.** Length 12.7 mm; width 3.43 mm.

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

#### Tribe Dendrometrini Gistel, 1848

• *Athous (Orthathous) macedonicus* n. sp.

Fig. 3, 3a, 24, 41.

**MATERIAL EXAMINED.** Holotype ♂ - Macedonia: Ohrid, 22-27.V.1969, Dr. P. Schurmann (CPG).

**DIAGNOSIS.** Among the species of the subgenus *Orthathous* Reitter, 1905 known from the former Yugoslavia (Platia, 2005), the new species can be compared to *A. (Orthathous) cavus* (Germar, 1817) but it is clearly separated by the less convex pronotum with lighter punctuation.

**DESCRIPTION.** Male. Head and pronotum greatly blackish with anterior angles of frons, angles and margins of pronotum dark ferruginous; elytra brown, lighter along the margins and the suture, with undefined blackish shadings; antennae dark ferruginous, legs lighter, ferruginous; covered with dense, declined, yellowish, pubescence.

Head with eyes just a little narrower than anterior margin of pronotum, frons deeply and triangularly impressed

from the middle to the anterior margin, this moderately thickened, at middle slightly prolonged to nearly touching the clypeus with the clypeal space in the middle extremely reduced; punctuation coarse regularly distributed with punctures umbilicate nearly contiguous.

Antennae exceeding by three articles the apices of posterior angles of pronotum; second article subcylindrical, just longer than wide, third conical, 2.1 longer than wide and 2x longer than second; second and third, taken together 1.2x longer than fourth; fourth-fifth subtriangular, 2.1x longer than wide, sixth-tenth slenderer, 2.7x longer than wide, last longer than penultimate, subellipsoidal, gradually constricted at the apical third.

Pronotum 1.1x longer than wide, widest behind the middle and at apices of posterior angles, moderately and regularly convex, sides subarcuate, from behind the middle very gradually and regularly narrowing forwards, backwards slightly sinuate before the posterior angles, the latter short, truncate, slightly divergent, not carinate, lateral margins complete and entirely visible in a dorsal view; punctuation moderate, regularly distributed, punctures deep, simple to slightly umbilicate, on the disk with very short, shiny interstices, more superficial and denser, nearly contiguous at the sides.

Scutellum narrower than the interelytral space, convex, not ridged at base, punctured.

Elytra 3.1x longer than pronotum and clearly wider than it, very convex; sides widest just behind the middle, subparallel from base to the middle, further moderately dilated and regularly tapering to the apices behind the middle; striae clearly and regularly marked; interstriae flat, regularly punctured with subrough surface.

Tarsi with fourth article longer than the half of the third and in a dorsal view only a little narrower than the previous. Male genitalia as in fig. 3, 3a (length 1.0 mm).

**FEMALE** unknown.

**SIZE.** Length 9.1 mm; width 2.5 mm.

**ETYMOLOGY.** The name is derived from Macedonia, the country where the species was collected.

• *Limonius poneli* Leseigneur & Mertlik, 2007

**MATERIAL EXAMINED.** 7 spcm. (♂♀) - Albania: without exact locality; Georgia: Dedoplis Tskaaro, 18.V.2015, P. Turek; Norio env., 22.V.2015, P. Turek (CPG; CSH).

**DISTRIBUTION.** France, Turkey, Czechia, Slovakia, Hungary, Poland, Romania, Slovenia, Serbia, Spain, Italy (Mertlik, 2008), Austria, Greece, (Platia, 2011); Germany (Rupp 2012) Switzerland (Chittaro & Blanc, 2012); Andorra (Zapata & Sánchez-Ruiz, 2012); Armenia (Prosvirov, 2013); Bosnia-Herzegovina, Bulgaria (Nemeth & Platia, 2014).  
New for Albania and Georgia.

### Tribe Ampedini Gistel, 1848

• *Ampedus arcadicus* n. sp.

Fig. 18, 18a, 25, 42.

**MATERIAL EXAMINED.** Holotype ♀ - Greece: Arkadia prov., 8 km SE of Vitina, m 1340, 7.VI.2007, R. Krolík (CPG).

**DIAGNOSIS.** A species well characterized by the deep mid-longitudinal furrow at the basal slope of pronotum it can be compared to *A. vandallitiae* Loshe, 1976 but can be separated

for the larger body, darker colour of elytra and coarser punctuation of pronotum.

**DESCRIPTION.** Female. Shiny; bicoloured; head, pronotum, scutellum and under body black; elytra entirely red with orange shades, antennae and legs brown; covered with dense, blackish, declined, pubescence.

Frons convex with punctuation coarse and punctures umbilicate with very short interstices.

Antennae not reaching for about 1.5 articles the apices of posterior angles of pronotum, serrated from fourth article on; second article subcylindrical, as long as wide, third subconical, 1.5x longer than second and 1.8x longer than wide, second and third, taken together, slightly longer than fourth; fourth-tenth triangular with the fourth slightly longer than following, these on average just longer than wide, last regularly ellipsoidal.

Pronotum 1.25x wider than long, widest at the apices of posterior angles, strongly convex with a mid-longitudinal furrow in the basal slope prolonged very superficially to the middle; sides from the middle to the posterior angles nearly parallel, forwards regularly and notably narrowing; posterior angles short, not divergent, with a short carina directed inside; punctuation uneven distributed, very fine and sparse in the basal slope, punctures on the disk simple or slightly umbilicate with shiny intervals on average equal to their own diameters, gradually denser, umbilicate and contiguous at the lateral extremities; two small, superficial, round depression are symmetrical present at the anterior third of the disk.

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

Elytra 3x longer than pronotum and as wide as it, convex, sides subparallel from base to the middle further very gradually tapering to the apices; striae well marked and regularly punctured, interstriae flat with finer punctures.

Bursa copulatrix sclerified as in fig. 18, 18a.

**MALE** unknown.

**SIZE.** Length 10.9 mm; width 3.25 mm.

**ETYMOLOGY.** The name is derived from Arkadia the region of provenance of the species.

• *Ampedus lucbaueri* n. sp.

Fig. 4, 4a, 26, 43.

**MATERIAL EXAMINED.** Holotype ♂ - SE Armenia: N Vardanidzor, 11 km N Meghri (38°58'40.73"N, 46°12'39.74"E), m 110, 11.VI.2014, Z. Lucbauer. (CPG).

**DIAGNOSIS.** A species of the *A. sanguinolentus*-group for the uneven punctuation of pronotum and the absence of a mid-longitudinal furrow at base, it is clearly separated by the elytral yellow-ochraceous colour.

**DESCRIPTION.** Male. Moderately shiny; bicoloured; head, pronotum, antennae except for the second and third reddish antennomeres, scutellum, under body, legs except for the reddish tarsi, black; elytra entirely yellow-ochraceous; covered with dense, yellow-fulvous pubescence.

Frons convex, punctuation broad with punctures of variable diameters, umbilicate, with shortest intervals or contiguous.

Antennae not reaching for about 1.5 articles the apices of posterior angles of pronotum, serrated from fourth article on; second article subcylindrical, as long as wide, third subconical 1.8x longer than second, second and third, taken

together 1.21x longer than fourth; fourth triangular 1.5x longer than wide, fifth-tenth triangular, on average 1.3x longer than wide, last longer than penultimate, subellipsoidal, asymmetrically constricted before the apex.

Pronotum 1.26x wider than long, widest at the apices of posterior angles, convex, only with a trace of a short and narrow mid-longitudinal depression on the basal slope; arcuate sides, from just behind the middle gradually and regularly narrowing to the anterior margin, nearly subparallel to the posterior angles, these short, not divergent, with a short carina directed inside; punctuation of variable density and size; punctures on the disk deep, simple with very shortest, shiny intervals, gradually denser and larger towards the sides becoming umbilicate with shortest intervals to contiguous, some subovate at the extremities.

Scutellum shield-shaped, longer than wide, flat, ridged at base, subsinuate at sides, punctured.

Elytra 3.1x longer than pronotum and as wide as it, convex, sides subparallel from base to before the middle then very gradually and regularly narrowing to the apices; striae regularly punctured, interstriae slightly convex, finely punctured.

Male genitalia as in fig. 4, 4a (length 1.37 mm).

**FEMALE** unknown.

**SIZE.** Length 11.6 mm; width 3.37 mm.

**ETYMOLOGY.** Dedicated to the colleague Zdenko Lucbauer, collector of the species that kindly sent me the specimen.

• *Ampedus lundbergi* n. sp.

Fig. 5, 5a, 27, 44.

**MATERIAL EXAMINED.** Holotype ♂ - Turkey: Muş, Buglan Geçidi, 7.VI.2002, S. Lundberg. (CPG).

**DIAGNOSIS.** A species easily separated from all the other for the shape of pronotum regularly and notably narrowing from behind the middle to the apices of posterior angles.

**DESCRIPTION.** Male. Moderately shiny; bicoloured; head, pronotum, scutellum, antennae and underbody black; elytra entirely red-orange; legs dark-brown with tarsi lighter dark ferruginous; covered with dense, partially erect on pronotum and sides of body, blackish pubescence.

Frons convex, punctuation coarse, with punctures strongly umbilicate with shortest intervals.

Antennae nearly reaching the apices of posterior angles of pronotum, serrated from fourth article on; second article small, as long as wide, third subtriangular, 1.55x longer than second and 1.35x longer than wide; second and third taken together, just longer than fourth; fourth triangular, 1.25x longer than wide, fifth-tenth triangular, on average as long as wide, last as long as penultimate, subellipsoidal, rounded at apex.

Pronotum 1.28x wider than long, widest behind the middle, moderately convex without any trace of mid-longitudinal depression; arcuate sides from behind the middle regularly narrowing to the anterior margin and backwards to the posterior angles, the latter short, converging at apex, with a short but sharp carina directed inside; punctuation uneven distributed, punctures on the disk deep, simple or very slightly umbilicate, with intervals variable, from larger to a little smaller than their own diameters, gradually denser, larger and clearly umbilicate towards the sides, with very shortest intervals or contiguous at the lateral extremities, rounded before the middle becoming subovate after the middle.

Scutellum shield-shaped, ridged at base, slightly pointed at apex, moderately convex and punctured.

Elytra 3.1x longer than pronotum and as wide as it, convex; sides subparallel from base to the middle then just dilated and widest at the middle, further gradually narrowing to the apices; striae superficially punctured, interstriae flat with very fine punctures.

Prosternal process gently emarginate before the apex.

Male genitalia as in fig. 5, 5a (length 1.43 mm).

**SIZE.** Length 11.2 mm; width 3.5 mm.

**ETYMOLOGY.** Dedicated to the colleague Stig Lundberg from Lulea, Sweden, collector of the species.

• *Ampedus curdistanicus* n. sp.

Fig. 6, 6a, 19, 19a, 28, 29, 45.

**MATERIAL EXAMINED.** Holotype ♂ - Iraq: Kurdistan, Rawanduz, 24.IV.1974, J. Macek, ex. V. Kuban coll. (CKB); 1 Paratype ♀ - same data as Ht (CPG).

**DIAGNOSIS.** A species that remembers *A. pomonae* (Stephens, 1830) for the dense and round punctuation of the sides of pronotum, it can be separated by the larger size and the general coarser punctuation of pronotum.

**DESCRIPTION.** Male. Bicolored; Head, antennae, scutellum, underbody black; legs dark-brown with lighter tarsi dark ferruginous; elytra entirely red-carmine; covered with dense, yellow-fulvous on head and pronotum, blackish on elytra, pubescence.

Head convex, coarse punctuation, punctures umbilicate, approximately of the same size, with very short, shiny intervals or contiguous.

Antennae nearly reaching the apices of posterior angles of pronotum, serrated from fourth article on; second article subcylindrical, as long as wide, third subconical, 1.8x longer than second and 1.8x longer than wide; second and third, taken together, just a little longer than fourth; fourth-tenth triangular; fourth a little longer than following and 1.2x longer than wide; fifth-ninth on average just longer than wide, tenth slenderer, last longer than penultimate, subellipsoidal. Pronotum 1.24x wider than long, widest at the apices of posterior angles, strongly convex with a very short and shallow mid-longitudinal depression on the basal slope; sides moderately arcuate, from middle forwards regularly narrowing, backwards subparallel and very slightly sinuate just before the posterior angles, the latter short, not divergent, sharply carinate, with a carina directed inside; punctures uneven distributed, rather variable in diameters, on the disk deep, slightly umbilicate with short and variable intervals, on average smaller than their own diameters; gradually denser and clearly umbilicate towards the sides, contiguous at the lateral extremities, round, some obovate and sometimes contiguous.

Scutellum shield-shaped, subrectangular, ridged at base, rounded at apex, flat densely punctured.

Elytra 2.8x longer than pronotum and as wide as it, convex; sides subparallel from base to the middle, further very gradually narrowing to the apices; striae regularly punctured, interstriae subconvex with very fine and sparse punctures.

Prosternal process notably and regularly bent immediately behind the procoxal cavities, asymmetrically emarginate before the apex.

Male genitalia as in fig. 6, 6a (length 1.56 mm).

**FEMALE.** Body smaller, but extremely similar to the male with antennae just shorter with second and third articles slenderer, taken together 1.3x longer than fourth.

Bursa copulatrix sclerified as in fig. 19, 19a.

**SIZE.** Length 10.9 mm (♀) - 12.0 mm (♂); width 3.3 mm (♀) - 3.7 mm (♂).

**ETYMOLOGY.** As it seems to be the first *Ampedus* recorded from the Iraqi Kurdistan the name is derived from the region.

• *Ampedus kroliki* n. sp.

Fig. 7, 7a, 30, 46.

**MATERIAL EXAMINED.** Holotype ♂ - Turkey: Hatay prov., Topakta vill. env., m 1170, 5-8.VIII.2006, R. Krolik (CPG).

**DIAGNOSIS.** A species too compared with *A. pomonae* (Stephens, 1830) for the same typology of punctuation of the pronotum, it can be separated for the longer antennae with the fourth article longer compared to the second and third taken together, for the apices of paramera in the genitalia.

**DESCRIPTION.** Male. Bicolored; head, antennae, scutellum, underbody black; legs dark-brown with lighter tarsi dark ferruginous; elytra entirely red-carmine; covered with dense, blackish pubescence.

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, 1.5x longer than second and 1.6x longer than wide, second and third, taken together, as long as the fourth; fourth-tenth triangular, fourth longer than following, 1.5x longer than wide, fifth-ninth as long as wide or just longer, tenth a little longer than wide, last longer than penultimate, ellipsoidal, symmetrically constricted at apical third.

Pronotum 1.23x wider than long, widest at the apices of the posterior angles, convex, with a very short and shallow mid-longitudinal depression on the basal slope; arcuate sides, from middle forwards regularly narrowing, backwards slightly sinuate before the posterior angles, the latter short, converging at apex with a sharp carina directed inside; punctuation uneven distributed, punctures on the disk deep, simple or slightly umbilicate with variable and shiny intervals on average equal to a little smaller than their own diameters, gradually denser, larger and clearly umbilicate towards the sides, at the lateral extremities nearly or contiguous strongly umbilicate.

Scutellum shield-shaped, longer than wide, ridged at base, flat, sinuate at middle of sides, rounded at apex, densely punctured.

Elytra 2.9x longer than pronotum and as wide as it, convex, sides subparallel in the first half, further very gradually narrowing to the apices; striae regularly punctured, interstriae flat finely punctured.

Prosternal process moderately and regularly bent immediately behind the procoxal cavities, asymmetrically slightly emarginated before the apex.

Male genitalia as in fig. 7, 7a (length 1.34 mm).

**FEMALE** unknown.

**SIZE.** Length 11.2 mm; width 3.4 mm.

**ETYMOLOGY.** Dedicated to the collector, the colleague R. Krolik from Kluczbork, Poland.

• *Ampedus hajdajorum* n. sp.

Fig. 8, 8a, 31, 47.

**MATERIAL EXAMINED.** Holotype ♂ - Turkey, Muş prov., Buglan Geç., m 1850, 22-24.VI.2002, E. & P. Hajdaj (CMHK).

**DIAGNOSIS.** A species comparable to *A. pomonae* (Stephens, 1830) it can be separated by the more convex pronotum with lighter punctuation at sides and very fine and pointed apices of paramera of aedeagus.

**DESCRIPTION.** Male. Shiny; bicoloured; antennae, head, pronotum, scutellum and black underbody; elytra entirely dark red except for the apical extremities blackish; legs dark brown; covered with dense, blackish, declined pubescence.

Frons convex with coarse, uniform punctuation, punctures umbilicate with very short interstices or contiguous.

Antennae not reaching for about two articles the apices of posterior angles of pronotum, serrated from fourth article on; second article subcylindrical 1.4x longer than wide, third subconical 1.4x longer than second and 1.6 longer than wide; second and third, taken together, 1.3x longer than fourth; fourth-tenth triangular on average 1.3x longer than wide, last subellipsoidal symmetrically constricted before the apex.

Pronotum 1.25x wider than long, widest at the apices of the posterior angles, strongly convex with a very short and superficial mid-longitudinal depression at the end of the basal slope; sides from the middle nearly parallel to the posterior angles, forwards notably and regularly narrowing; posterior angles pointed, not divergent, with a sharp and short carina directed inside; punctuation uneven distributed, very fine and sparse at the base, on the disk punctures deep, simple or slightly umbilicate with intervals shiny, variable, on average equal or a little smaller than their own diameters, gradually denser towards the sides, umbilicate, contiguous, someone subovate and confluent at the lateral extremities.

Scutellum shield-shaped, ridged at base, finely punctured and longitudinal subcarinate at the apex.

Elytra 2.8x longer than pronotum and as wide as it, convex; sides subparallel from base to behind the middle further gradually narrowing to the apices; striae regularly marked and punctured, interstriae flat with finer punctuation.

Male genitalia as in fig. 8, 8a (length 1.37 mm).

**FEMALE** unknown.

**SIZE.** Length 10.3 mm; width 3.2 mm.

**ETYMOLOGY.** Dedicated to the collectors E. & P. Hajdaj.

• *Ampedus mertliki* n. sp.

Fig. 9, 9a, 32, 48.

**MATERIAL EXAMINED.** Holotype ♂ - Turkey: vil. Trabzon, Maçka env., Sidiran, 8.VI.1998, J. Mertlik (CMHK).

**DIAGNOSIS.** A species of the *sanguinolentus*-group for the typology of pronotal punctuation, it can be compared to *A. anatolicus* Platia & Gudenzi, 2002 for the third subtriangular article of antennae, but is separated for the longer antennae and the robust body.

**DESCRIPTION.** MALE. Shiny; bicoloured; antennae, head, pronotum, scutellum and underbody black; elytra entirely red with orange shades; covered with dense, blackish pubescence.

Frons convex, punctuation uniformly distributed, punctures umbilicate with very short shiny intervals.

Antennae exceeding by about one article the apices of posterior angles of pronotum, serrated from fourth article on;

second article subcylindrical just longer than wide, third subtriangular 1.57x longer than second and 1.37x longer than wide; second and third, taken together, 1.26x longer than fourth; fourth-tenth triangular, fourth 1.5x longer than wide, fifth-eighth 1.25x longer than wide, ninth-tenth slenderer, last subellipsoidal.

Pronotum 1.29x wider than long, widest at the apices of the posterior angles, convex, sides subparallel from middle to the posterior angles, gradually narrowing forwards; posterior angles rather acute, not divergent with a fine but sharp carina directed inside; punctuation uneven distributed, finer at the basal slope; punctures on the disk deep, simple, with shiny intervals on average equal to their own diameters, gradually denser towards the sides, more or less clearly umbilicate, somewhat subovate, with very short intervals or contiguous.

Scutellum shield-shaped ridged at base, flat, densely punctured with a vestige of mid-longitudinal carina.

Elytra 3x longer than pronotum and as wide as it, convex, sides from base to the apices very gradually and nearly regularly narrowing; striae well marked and punctured, interstriae flat and with finer punctuation.

Male genitalia as in fig. 9, 9a (length 1.32 mm).

**FEMALE** unknown.

**SIZE.** Length 11.2 mm; width 3.43 mm.

**ETYMOLOGY.** The species is dedicated to the friend and colleague J. Mertlik, re-known specialist of the family Elateridae.

• *Ampedus szalokii* n. sp.

Fig. 20, 20a, 33, 38, 49.

**MATERIAL EXAMINED.** Holotype ♀ - Turkey: Artvin Prov., Cankurtaran, m 700, 1-3.VII.1996, D. Szalóki leg. (HNHM).

**DIAGNOSIS.** A species of the *A. pomorum* group of species for the colour of elytra and the moderate punctuation of pronotum it can be separated essentially by the third article of antennae nearly as long as the fourth and the cuneiform apex of prosternal process not emarginated before the apex.

**DESCRIPTION.** Female. Bicoloured; head, scutellum, underbody black; antennae except for the second and third segments reddish, dark brown; legs dark-brown with lighter, ferruginous, tarsi; elytra entirely reddish brown; covered with dense, blackish pubescence.

Frons convex, punctuation coarse, punctures umbilicate with very short, shiny intervals.

Antennae not reaching for about two articles the apices of the posterior angles of pronotum, serrated from the fourth article on; second article subcylindrical, 1.25x longer than wide, third subconical twice longer than second, 2.4x longer than wide and nearly as long as the fourth; second and third, taken together, 1.4x longer than fourth; fourth triangular, 1.37x longer than wide, fifth-eighth nearly as long as wide, ninth-tenth slenderer, last longer than penultimate, subellipsoidal, slightly constricted before the apex.

Pronotum 1.22x wider than long, widest at the apices of the posterior angles, moderately convex without any trace of mid-longitudinal depression; sides from middle notably and regularly narrowing forwards, nearly parallel backwards to the posterior angles, the latter short, truncate, not divergent, with a short and sharp carina directed inside; punctuation uneven distributed; punctures on the disk deep, simple or

slightly umbilicate with intervals shiny and on average equal or larger than their own diameters, denser only at the lateral extremities where are clearly umbilicate but with very short intervals, very small with larger intervals on the basal slope.

Scutellum shield shaped, ridged at base, slightly sinuate at sides, flat and regularly punctured.

Elytra 2.9x longer than pronotum and as wide as it, sides subparallel from base to the middle, further very gradually narrowing to the apices: striae well marked and distinctly punctured, interstriae flat and more finely punctured.

Prosternal process abruptly bent immediately behind the procoxal cavities, cuneiform, not emarginate before the apex. Bursa copulatrix sclerified as in the fig. 20, 20a.

**MALE** unknown.

**SIZE.** Length 9.7 mm; width 2.8 mm.

**ETYMOLOGY.** This species is dedicated to the collector of the type specimen, Dezső Szalóki, private coleopterist in Budapest.

• *Ampedus tianshanensis* n. sp.

Fig. 10, 10a, 34, 50.

**MATERIAL EXAMINED.** Holotype ♂- Uzbekistan: W Tian Shan, Ak Task valley, 1.VI.2007, V. Gurko (CRG).

**DIAGNOSIS.** A species comparable with *A. lateritius* Dolin & Protzenko, 1965 from Kirghizstan for the same colour of elytra it can be separated for the pronotum more convex, abruptly sloping at base and for the coarser punctuation particularly at the sides.

**DESCRIPTION.** Male. Bicoloured; head, antennae, scutellum, underbody black; legs dark-brown with lighter, ferruginous, tarsi; elytra entirely orange with the striae punctures black; covered with dense and long pubescence, blackish on head and pronotum, fulvous on elytra.

Frons convex, punctuation coarse, punctures of variable diameters, strongly umbilicate with variable intervals, very short or contiguous.

Antennae reaching the apices of posterior angles of pronotum, serrated from fourth article on; second article subcylindrical, as long as wide, third subtriangular, 1.5 longer than second and 1.3x longer than wide, second and third, taken together, as long as the fourth; fourth-tenth triangular, on average 1.3x longer than wide, last longer than penultimate, subellipsoidal.

Pronotum 1.3x wider than long, widest at the apices of the posterior angles, convex, without trace of mid-longitudinal depression; sides arcuate, from middle notably and regularly narrowing forwards, backwards subparallel to the posterior angles, the latter short, not divergent with a sharp carina directed inside; punctuation uneven distributed; punctures on the disk simple or slightly umbilicate with intervals variable equal or inferior to their own diameters, gradually denser, larger and strongly umbilicate towards the sides, contiguous or confluent at the lateral extremities.

Elytra 3.2x longer than pronotum and as wide as it, from base to nearly the middle subparallel, further very slightly dilated and after the middle gradually narrowing to the apices; striae well marked and punctured, interstriae flat with very fine and sparse punctures.

Prosternal process notably and regularly bent immediately behind the procoxal cavities, asymmetrically emarginate before the apex.

Male genitalia as in fig. 10, 10a (length 1.31 mm).

**FEMALE** unknown.

**SIZE.** Length 10.6 mm; width 3.0 mm.

**ETYMOLOGY.** The name is derived from the Tian Shan mountains.

• *Ampedus margaritae* Platia, 2014

**MATERIAL EXAMINED.** 1 spcm. ♂ - Georgia: Dedoplist Takaaro (41°26'44.04"N, 46°48'15"E), 18.V.2015, P. Turek. (CPG).

Described from Armenia. New species for Georgia.

• *Ampedus quercicola* (Buysson, 1887)

**MATERIAL EXAMINED.** 2 spcm. ♀ - Georgia: Norio env., 22.V.2015, P. Turek; Dedoplist Takaaro (41°26'44.04"N, 46°48'15"E), 18.V.2015, P. Turek. (CPG; CSH).

**Distribution.** AB AU BE CZ DE FR GB GE HU IT RO SK SP ST SZ N: TU (Cate, 2007); Albania (Pedroni & Platia, 2010). New species for Georgia.

• *Reitterelater dubius* Platia & Cate, 1990

**MATERIAL EXAMINED.** 1 spcm. ♂ - Romania: Carasona, Caras-Severin, m 480, VI.2015, C. Busi. (CPG).

**DISTRIBUTION.** AU CZ FR GE GR HU IT SK SL SV UK, TR (Cate, 2007); Spain, (Recalde & Sánchez-Ruiz, 2006), Israel (Platia 2010), Syria (Platia & Nemeth, 2011), Poland (Platia, 2015). New to Romania.

### Tribe Elaterini Leach, 1815

• *Elater splendens* Gurjeva, 1974

Fig. 11, 11a, 35.

**MATERIAL EXAMINED.** 1 spcm. ♂ - Iran: Mazandaran Prov., Alborz Mt., Chalus, 6.VI.2015, J. Dalihod. (CRG).

Male genitalia as in fig. 11, 11a (length 2.06 mm).

**DISTRIBUTION.** Azerbaijan (Cate, 2007). New species for Iran.

### Tribe Melanotini Candèze, 1859

• *Melanotus zagrosensis* n. sp.

Fig. 12, 12a, 36, 51.

**MATERIAL EXAMINED.** Holotype ♂ - Iran: Fars Prov., Zagros Mts., 2 km W of Sangar, m 2194, 25-26.V.2015, J. Dalihod (CPG).

**DIAGNOSIS.** A species immediately separated from all the known species from Iran for the larger body and the stout shape of paramera in male genitalia. (Cate, Platia & Schimmel, 2002).

**DESCRIPTION.** Male. Moderately shiny; entirely dark brown with palpi, antennae and legs ferruginous; covered with dense, long, partially erect at sides of body, yellowish pubescence.

Frons flat between the eyes, just impressed before the anterior margin, the latter regularly arcuate, moderately thickened and subhorizontally projected above the clypeus; punctuation coarse, punctures strong umbilicate, with shortest intervals to contiguous.

Antennae reaching the apices of the posterior angles of pronotum, strongly serrated from fourth article on; second article small, subcylindrical, as long as wide, third subconical, 1.6x longer than second; second and third, taken together, a

little shorter than fourth; fourth-tenth triangular, gradually slenderer from fourth to the following, on average 1.6x longer than wide, last as long as penultimate, symmetrically constricted at the apex.

Pronotum 1.2x wider than long, widest at the apices of posterior angles, convex, with a trace of a very shallow mid-longitudinal depression on the basal slope; sides arcuate from just behind the middle more strongly and regularly narrowing to the anterior margin, more gradually backwards, slightly sinuate before the posterior angles, the latter truncate, not divergent, with a fine carina very near and subparallel to the lateral margin, this complete; punctuation uneven distributed, punctures on the disk deep, simple or slightly umbilicate with intervals equal to a little larger than their own diameters, gradually denser and larger towards the sides, clearly umbilicate, subovate and sometimes confluent at the lateral extremities.

Scutellum shield-shaped, longer than wide, flat, ridged at base, rounded at apex, punctured.

Elytra 3.1x longer than pronotum and as wide as it, convex; sides subparallel from the base to the middle then very gradually narrowing to the apices; striae well marked and punctured; interstriae flat with finer punctures.

Prosternal process immediately and regularly bent behind the procoxal cavities, very slightly emarginate at apex.

Male genitalia as in fig. 12, 12a (1.62 mm).

**FEMALE** unknown.

**SIZE.** Length 15,3 mm; width 4,1 mm.

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

### Tribe Cardiophorini Candèze, 1859

• *Cardiophorus heinzi* n. sp.

Fig. 13, 13a, 52.

**MATERIAL EXAMINED.** Holotype ♂ - Iran: Char Mahal – e-Baktiari, Kuhrang env., m 2500-2750, 28.IV.2014, W. Heinz. (NME).

**DIAGNOSIS.** A species very easily separated from all the known from Iran for the the slender and elongate body, long antennae and male genitalia with spatulated apex of aedeagus.

**DESCRIPTION.** Male. Moderately shiny; entirely brown - ferruginous with antennae and legs lighter, yellow-ferruginous; covered with dense, short, yellowish pubescence.

Head with the eyes as wide as the anterior margin of pronotum, frons flat, just impressed near the anterior margin, this moderately thickened, regularly arcuate and a little protruding above the clypeus; punctuation coarse with punctures contiguous, more or less umbilicate giving to the surface a substrate appearance.

Antennae exceeding by about 2.5 articles the apices of the posterior angles of pronotum, slightly serrated from the third article on; second article subconical, twice longer than wide, third conical, just longer than second, second and third, taken together just longer than fourth; fourth-tenth subtriangular, on average about 3x longer than wide, last as long as the penultimate, with subparallel sides, pointed at apex.

Pronotum as long as wide, widest at the middle, moderately convex with a trace of mid-longitudinal, narrow impressed line in the basal slope, sides just regularly arcuate nearly subparallel, posterior angles short, truncate not

divergent briefly carinate; lateral suture-like margin fine and obsolete at the anterior third; punctuation uniformly distributed, punctures on the disk, deep, slightly umbilicate, with very shortest intervals gradually denser towards the sides and contiguous at the lateral extremities.

Scutellum heart-shaped, as long as wide, longitudinally and centrally impressed, very finely punctured.

Elytra 2.8x longer than pronotum and a little widest than it, convex; sides subparallel from the base to the middle then very gradually narrowing to the apices striae well marked and punctured; interstriae slightly convex very finely punctured.

Claws simple.

**FEMALE** unknown.

Male genitalia as in fig. 13, 13a (length 1.2 mm).

**SIZE.** Length 8.1 mm; width 2.25 mm.

**FEMALE** unknown.

**ETYMOLOGY.** The species is dedicated to the collector Walter Heinz, specialist of Carabini.

• *Cardiophorus hartmanni* n. sp.

Fig. 21, 21a, 53.

**MATERIAL EXAMINED.** Holotype ♀ - Iran: Kordestan, Pass betw. Baneh u Saqez (Gardeneh-Khan Tunnel), m 2000-2150, 13-14.IV.2014, W. Heinz. (NME). 1 Paratype ♀- same data as Ht (CPG).

**DIAGNOSIS.** A species allied to *C. rotundicollis* Frivaldszky of Greece and Turkey for the general shape, size and colour, it can be separated by the antennae more serrated from third article, the larger and denser punctuation of pronotum and particularly for the different shape of the bursa copulatrix sclerites.

**DESCRIPTION.** Female. Not shiny; entirely blackish with moderate bluish-bronzed reflexions; antennae black, part of mandibles, palpi, articulations of legs, part of tibiae and tarsi and extremity of last abdominal segment reddish; covered with dense, fine, yellowish pubescence.

Head with eyes a little narrower than the anterior margin of pronotum, frons flat, slightly impressed before the anterior margin, this subarcuate and moderately thickened; punctuation coarse, punctures slightly umbilicate, contiguous or with shortest intervals giving to surface a rough appearance.

Antennae not reaching for about two articles the apices of posterior angles of pronotum slightly serrated from third article on; second article subcylindrical, 1.5x longer than wide, third-tenth triangular, on average 1.6x longer than wide, last longer than penultimate, subellipsoidal asymmetrically constricted before the apex.

Pronotum 1.23x wider than long, widest at middle, strongly convex; sides arcuate from the middle to the base regularly and more strongly narrowing; posterior angles short, truncate, briefly carinate; punctuation uniformly distributed, punctures more or less clearly umbilicate with very shortest intervals, only a little denser towards the sides.

Scutellum heart-shaped, as long as wide, slightly impressed medianly, finely punctured.

Elytra 2.5x longer than pronotum and as wide as it, convex, ovaliform, sides regularly arcuate widest at middle; striae moderately punctured; interstriae subconvex, densely punctured with rough surface.

Claws simple.

Bursa copulatrix sclerified as in fig. 21, 21a.

**MALE** unknown.

**SIZE.** Length 7.8-8.3 mm; width 2.5-2.65 mm.

**ETYMOLOGY.** The species is dedicated to Matthias Hartmann, curator of the Erfurt Museum that sent me the material for study.

• *Cardiophorus klimenkoi* Platia, 2008

Fig. 14, 14a, 54.

**MATERIAL EXAMINED.** 2 spcm. ♂ ♀- Iran: Fars Province, Kuhha-ye-Zagros, Sepidan, m 2800, 16.IV.2009, T. Hacz (♂); Esfahan, pass ca. 55 km SW Semirom (b. Sadat-Abad), 26. IV.2014, W. Heinz (♀). (CPG).

Described on a female specimen from Kuhgiluyeh & Boyerahmad Province.

**MALE.** Extremely similar to the female only with just longer antennae.

Male genitalia as in fig. 14, 14a (length 1.25 mm).

**SIZE.** Length 8.1-8.2 mm; width 2.6-2.8 mm.

• *Cardiophorus pinguis* Lewis, 1894

Fig. 15, 15a, 55.

**MATERIAL EXAMINED.** 1 spcm. ♂- Russia: Sakhalin, Mt. Tshehou, 26.V.1990. (CPG).

Male genitalia as in fig. 15, 15a (length 1.21 mm).

**DISTRIBUTION.** Japan, "Korea" "NE China" (Cate, 2007). New to Russia.

• *Paracardiophorus curtulus* (Motschulsky, 1860)

**MATERIAL EXAMINED.** 1 spcm. ♂ - China: Fendou, Dongning County, Heilongjiang, 8-12.VII.2009, Li Jingke. (CPG).

**DISTRIBUTION.** Far East Russia (Platia, 2010). New to China.

• *Paracardiophorus erythrurus* (Candèze, 1882)

Fig. 16, 16a, 22, 22a, 56, 57.

**MATERIAL EXAMINED.** 2 spcm. ♂ ♀ - North Korea: Hamgen South Prov., Sinpkho, 15.V.1990. (CPG).

Male genitalia as in fig. 16, 16a (length 1.18 mm).

Bursa copulatrix sclerified as in the fig. 22, 22a.

**DISTRIBUTION.** Far East Russia, Mongolia, NE China, Sichuan (Cate, 2007). New to North Korea.

• *Paracardiophorus prosvirovi* n. sp.

Fig. 17, 17a, 58.

**MATERIAL EXAMINED.** Holotype ♂ - Russia: Ussuri Region, Archipovka, 17.VII.1989, S. Becvar. (CPG).

**DIAGNOSIS.** A species easily separated from the known species of the region for the colour of the body with moderate cyanescent reflexions and pronotal shape.

**DESCRIPTION.** Male. Moderately shiny; entirely black with moderate cyanescent reflexions; antennae black, legs blackish with reddish articulations; covered with very short, few apparent, yellowish pubescence.

Antennae not reaching for about two articles the apices of posterior angles of pronotum, slightly serrate from third article on; second article subcylindrical, nearly twice longer than wide, third subtriangular, 1.5x longer than second and as long as fourth and following, on average twice longer than wide; last as long as penultimate, subellipsoidal, symmetrically constricted at apex.

Pronotum as long as wide, widest just behind the middle, strongly convex; sides arcuate, from behind the middle gradually and regularly narrowing to the anterior margin, backwards regularly narrowing to the posterior angles, the latter short, truncate, not divergent; lateral margin complete, substraight, departing from the apices of the angles, visible in the first third in a dorsal view; punctuation uniformly distributed, many punctures very fine, deep, simple, with intervals on average just a little smaller than their diameters, are more or less regularly, mixed with sparse a little larger punctures.

Scutellum heart-shaped, as long as wide, longitudinally and centrally slightly impressed, at center of base deeply and narrowly emarginate, very finely punctured.

Elytra 2.22x longer than pronotum and as wide as it, convex; sides moderately arcuate, widest before the middle then very gradually narrowing to the apices; striae well marked and regularly punctured; interstriae subconvex, densely and very finely punctured.

Male genitalia as in fig. 17, 17a (length 1.17 mm).

**SIZE.** Length 7.5 mm; width 2.5 mm.

**ETYMOLOGY.** The species is dedicated to the colleague Alexander Prosvirov, russian specialist of elaterids.

### Tribe Synaptini Gistel, 1856

#### ● *Peripontius crassus* (Buysson, 1906)

**MATERIAL EXAMINED.** 1 spcm. ♀ - Iraq; Dahuk nr. Aqrah, 2.V.1981, R. Linnavuori. (CPG).

**DISTRIBUTION.** Turkey, Iran (Cate, 2007). New species for Iraq.

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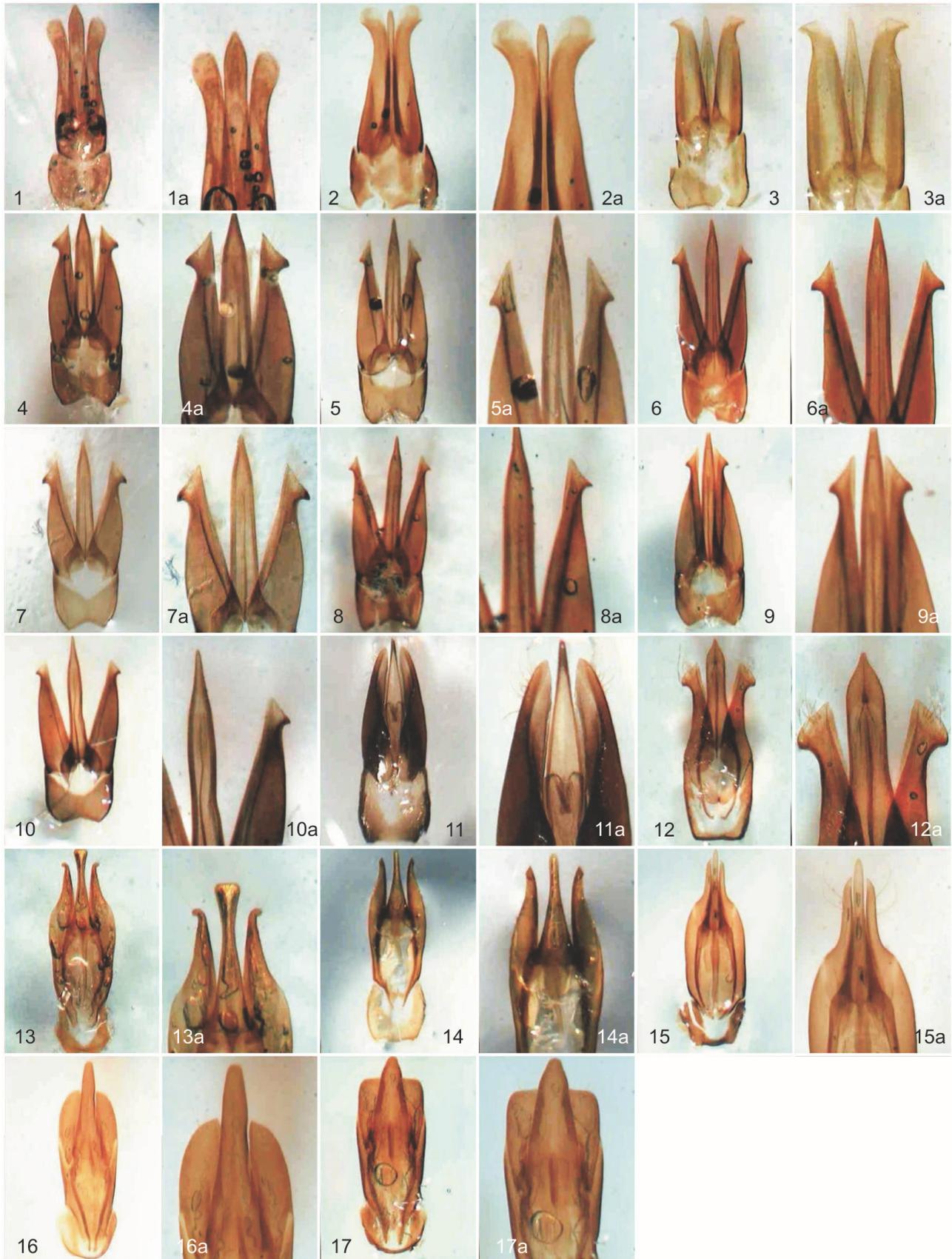
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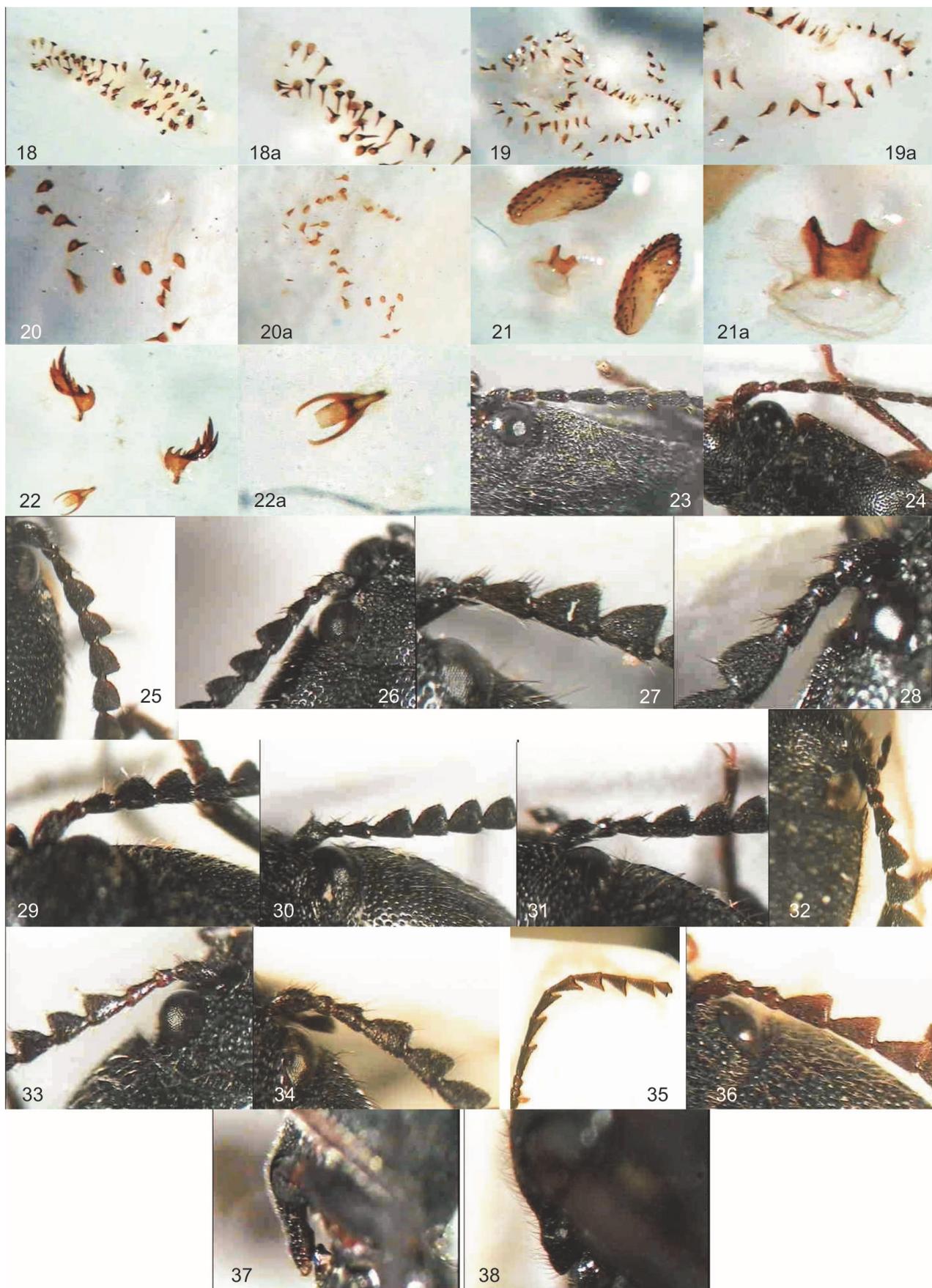
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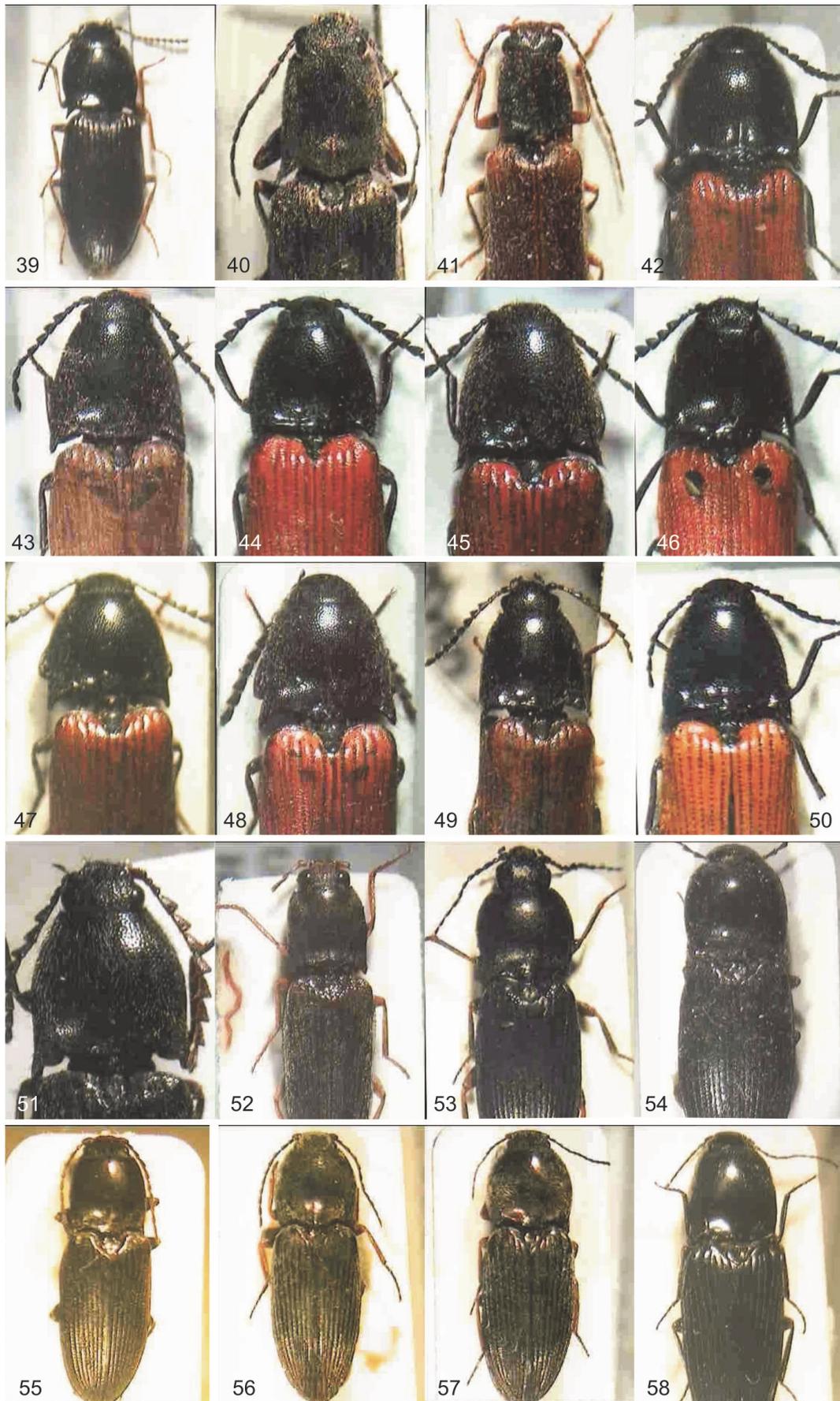
(\* ) Available [www.sea-entomologia.org](http://www.sea-entomologia.org)



**Fig. 1-17.** Male genitalia in dorsal view. **1, 1a.** *Hypnoidus nadaii* n. sp.; **2, 2a.** *Poemnites coreanus* n. sp.; **3, 3a.** *Athous (Orthathous) macedonicus* n. sp.; **4, 4a.** *Ampedus lucbaueri* n. sp.; **5, 5a.** *Ampedus lundbergi* n. sp.; **6, 6a.** *Ampedus curdistanicus* n. sp.; **7, 7a.** *Ampedus kroliki* n. sp.; **8, 8a.** *Ampedus hajdajorum* n. sp.; **9, 9a.** *Ampedus mertliki* n. sp.; **10, 10a.** *Ampedus tianshanensis* n. sp.; **11, 11a.** *Elater splendens* Gurjeva; **12, 12a.** *Melanotus zagrosensis* n. sp.; **13, 13a.** *Cardiophorus heinzi* n. sp.; **14, 14a.** *Cardiophorus klimenкои* Platia; **15, 15a.** *Cardiophorus pinguis* Lewis; **16, 16a.** *Paracardiophorus erythrurus* (Candèze); **17, 17a.** *Paracardiophorus prosvirovi* n. sp.



**Fig. 18-22.** Sclerites of bursa copulatrix. **18, 18a.** *Ampedus arcadicus* n. sp.; **19, 19a.** *Ampedus curdistanicus* n. sp.; **20, 20a.** *Ampedus szalokii* n. sp.; **21, 21a.** *Cardiophorus hartmanni* n. sp.; **22, 22a.** *Paracardiophorus erythrurus* (Candèze). **Fig. 23-36.** First or total articles of antennae. **23.** *Poemnites coreanus* n. sp.; **24.** *Athous (Orthathous) macedonicus* n. sp.; **25.** *Ampedus arcadicus* n. sp. ♀; **26.** *Ampedus lucbaueri* n. sp.; **27.** *Ampedus lundbergi* n. sp.; **28-29.** *Ampedus curdistanicus* n. sp. (♂♀); **30.** *Ampedus kroliki* n. sp.; **31.** *Ampedus hajdajorum* n. sp.; **32.** *Ampedus mertliki* n. sp.; **33.** *Ampedus szalokii* n. sp. ♀; **34.** *Ampedus tianshanensis* n. sp.; **35.** *Elater splendens* Gurjeva; **36.** *Melanotus zagrosensis* n. sp. **Fig. 37-38.** Prosternal process in lateral view. **37.** *Poemnites coreanus* n. sp.; **38.** *Ampedus szalokii* n. sp.



**Fig. 39- 58.** Habitus in partial or total view. 39. *Hypnoidus nadai* n. sp.; 40. *Poemnites coreanus* n. sp.; 41. *Athous* (*Orthathous*) *macedonicus* n. sp.; 42. *Ampedus arcadicus* n. sp.; 43. *Ampedus lucbaueri* n. sp.; 44. *Ampedus lundbergi* n. sp.; 45. *Ampedus curdistanicus* n. sp.; 46. *Ampedus kroliki* n. sp.; 47. *Ampedus hajdajorum* n. sp.; 48. *Ampedus mertliki* n. sp.; 49. *Ampedus szalokii* n. sp.; 50. *Ampedus tianshanensis* n. sp.; 51. *Melanotus zagrosensis* n. sp.; 52. *Cardiophorus heinzi* n. sp.; 53. *Cardiophorus hartmanni* n. sp.; 54. *Cardiophorus klimenkoi* Platia; 55. *Cardiophorus pinguis* Lewis; 56-57. *Paracardiophorus erythrurus* (Candèze) (♂♀); 58. *Paracardiophorus prosvirovi* n. sp.