NEW SPECIES AND CHOROLOGICAL NOTES OF CLICK BEETLES FROM THE PALEARCTIC REGION, ESPECIALLY FROM THE MIDDLE EAST (COLEOPTERA, ELATERIDAE)

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Abstract: Thirty-four new species of click beetles belonging to the genera Lacon, Agriotes, Elathous (Orthathous), Dima, Reitterelater, Peripontius, Tolphorea, Porthmidius, Melanotus, Cardiophorus, Dicronychus and Craspedostethus are described from Israel, Jordan, Tadzhikistan, Turkey, Bulgaria, Greece, Lebanon, Croatia, Iran, Syria, Iraq and Oman. New chorological records for many species of the genera Lanelater, Agrypnus, Lacon, Hemicleus, Heteroderes, Neopristilophus, Prostemon, Agriotes, Nothodes, Reitterelater, Mulsanteus, Peripontius, Synaptus, Idotarmonides, Isidus, Melanotus, Cardiophorus, Dicronychus, Craspedostethus and Plastocerus, and photographs of the genitalia or the habitus of certain species are published for the first time. A Nearctic species, Heteroderes nicholsi Notman, is recorded from Israel.

Key words: Coleoptera, Elateridae, Lacon, Agriotes, Elathous, Athous (Orthathous), Dima, Reitterelater, Peripontius, Tolphorea, Porthmidius, Melanotus, Cardiophorus, Dicronychus, Craspedostethus, new species, new records, Palearctic Region.

Introduction

The aim of this paper is to present results of a study of several click beetles from different countries of the Palearctic Region and especially the Middle East, recently submitted by museums and colleagues.

We have recognized thirty-four undescribed species belonging to the genera Lacon, Agriotes, Elathous (Orthathous), Dima, Reitterelater, Peripontius, Tolphorea, Porthmidius, Melanotus, Cardiophorus, Dicronychus and Craspedostethus and at the same time new chorological records for many species belonging to the genera Lanelater, Agrypnus, Lacon, Hemicleus, Heteroderes, Neopristilophus, Prostemon, Agriotes, Nothodes, Reitterelater, Mulsanteus, Peripontius, Synaptus, Idotarmonides, Isidus, Melanotus, Cardiophorus, Dicronychus, Craspedostethus and Plastocerus increase our knowledge concerning their distribution. Photos of the genitalia or the habitus of certain uncommon or misidentified species, after examination of type-material, such as Lacon ganglbaueri (Schwarz), Cardiophorus reittee- ri Schwarz, C. aegypticus Candèze, Dicronychus extinctus (Erichson) are published for the first time. A nearctic species of the genus Heteroderes Latreille, H. nicholsi Notman, is recorded from Israel and a short explanation to understand the possible way of this introduction is given. The largest number of new species and new records come from Israel and will be useful for a future project concerning the fauna of this country.

The tribal placement of genera and species listed below follows Sánchez-Ruiz (1996).
Material and methods

Body measurements: Body length is measured along the midline from the anterior margin of the frons to the apex of the elytra; the width is measured across the broadest part of the entire beetle.

Pronotal measurements: The pronotal length is measured along the midline; the width at the broadest part, which is most usually at the hind angles.

Abbreviations: The names of institutions, museums and private collections containing the studied material are abbreviated as follows:

AM – Amman Museum Collection (A. Katbeh)
CAF – Angelini coll., Francavilla Fontana (Italy)
CBMU – Buse coll., J. Gutenberg Universität Mainz (Germany)
CCW – Cate coll., Wien (Austria)
CDZ – Dusanek coll., Zábřeh na Moravě, Kralove, (Czech Rep.)
CHCB – Houska coll., České Budějovice (Czech Rep.)
CLP – Lason coll., Białystok (Poland)
CMM – Malmusi coll., Modena (Italy)
CMHK – Mertlík coll., Hradec Kralove (Czech Rep.)
CMS – Museum Salzburg (Austria)
CMSZ – Murzov coll., Stara Zagora (Bulgaria)
COI – Orbach coll., Kiriya Tivon (Israel)
CPG – Platia coll., Gatteo (Italy)
CPT – Preiss coll., Tellington (United Kingdom)
CRG – Riese coll., Genoa (Italy)
CRK – Królik coll., Kluczbork, Poland
CSR – Saltini coll., Modena (Italy)
CSS – Samek coll., Skalice, (Czech Rep.)
CTM – Tesdeschi coll., Milano (Italy)
DEI – Müncheberg, Deutsches Entomologisches Institut (Dr. L. Zerche)
IRSNB – Institut Royal Sciences Naturelles Bruxelles (Dr. J. Constant)
MCNSG – Museo Civico di Storia Naturale, Genoa (Italy) (Dr. R. Poggi).
MNHU – Berlin, Museum für Naturkunde der Humboldt Universität (Dr. M. Uhlig).
NHMW – Naturhistorisches Museum, Wien (Dr. H. Schönmann)
TAU – Tel Aviv University coll. (Israel)(A. Freidberg; V. Chikutau-nov; V. Kravchenko, T. Pavlicek).

Results

Tribe Agrypnini Candèze, 1857

Lanelater wittmeri Chassain, 1983
Fig. 1, 61, 97.
MATERIAL EXAMINED. 1 specm. ♂ - Israel: Bet, 15.IX.1995, V. Chikutau-nov. (TAU).
NOTES: Described from Saudi Arabia. New to Israel. Aedeagus as in fig. 1 (length 3.18 mm).

Agrypnus omanensis Platia & Schimmel, 1997
DISTRIBUTION. Oman; UAE. New to Yemen.

Lacon ammanensis n. sp.
Fig. 42, 62, 98.

DIAGNOSIS. A species intermediate between L. drusa (Mar-seul) and L. graeca (Candèze), it can be separated by the moderately shining body, slender third articles of antennae and smaller sclerified pieces of bursa copulatrix.

DESCRIPTION. Female. Moderately shiny; entirely blackish with posterior angles of pronotum, center of scutellum, propleura, thorax, the wide lateral sides of abdomen, antennae and legs reddish; covered with declined, yellowish-whitish setae emerging from the punctures.

Head with the eyes narrower than anterior margin of pronotum; frons slightly impressed on vertex, more deeply at anterior part, margin moderately and regularly arcuate, directed downwards and covering completely the clypeal space, punctures umbilicate with variable intervals, short to contiguous.

Antennae short, just exceeding the middle of pronotum, serrated from third article on; second article small, subcylindrical, as long as wide; third slender, triangular, twice as long as wide and longer than the following; fourth-tenth strongly serrate; fourth a little longer than wide, fifth-tenth as long as wide; last longer than penultimate, elliptoidal.

Pronotum 1,1x longer than wide, widest at middle; strongly convex, abruptly sloping at sides and base, with a short, shallow mid-longitudinal furrow at basal slope; sides regularly and moderately arcuate, slightly sinuate at posterior angles, the latter short, rather obtuse, feebly diverging, not carinate; punctuation coarse and rather uniformly distributed; punctures round, umbilicate, approximately of the same size, with intervals very finely shagreened, on average equal to their own diameters.

Scutellum shield-shaped, moderately convex, coarsely punctured.

Elytra 2,1x longer than pronotum and as wide as it, rather depressed on the disc; sides subovaliform, widest at middle; striae strongly and deeply punctured; interstriae flat, with a central row of punctures.

Pronoto-sternal sutures deeply furrowed for their entire length.

Bursa copulatrix sclerified as in fig. 42.

Male unknown.

Size. Length 9,8 mm; width 2,87 mm.

ECOLOGICAL NOTE. Collected under stones in field.

ETYMOLOGY. The name is derived by the locality of origin of the species: Amman Governate.

Lacon carmelensis n. sp.
Fig. 2, 63, 99.
2 Paratypes ♂ ♂ - same data as Ht; Mt Carmel, Kibbutz Da-liyya., 5.IV.1999, leg. B. Orbach. (COI; CPG).

DIAGNOSIS. For the male genitalia the species is allied to L. candcezi (Desbrochers) but it is separated by the smaller size and the black colour.

DESCRIPTION. Male. Entirely black, moderately shiny, particularly on pronotum; antennae and legs ferrugineous; covered with black setae emerging from the punctures, mixed with rarer whithish setae.
Frons impressed from vertex to anterior margin, punctures broad, contiguous or with very short shagreened intervals. Antennae exceeding apicis of posterior angles of pronotum by one segment, serrated by third segment; second globular; third triangular, r longer than wide and longer than fourth; fourth-tenth triangular, as long as wide to a little longer; eleventh ellipsoidal and notably longer than tenth.

Pronotum 1,2x longer than wide, strongly convex on the disk, abruptly sloping at sides and base, with a short mid-longitudinal furrow in the basal declivity; sides subparallel for about its entire length, narrowed at the apical extremity and feebly sinuate before the apicis of posterior angles, the latter short, acute, directed downwards, not carinate; lateral border complete and apparent in dorsal view for almost all its length; punctures broad, deep, simple, on the disc with intervals on average equal to their diameters and shagreened.

Scutellum nitriiform, convex on the disc, slightly sinuate at sides. Elytra 2,2x longer than pronotum and 2,4x longer than wide; sides feebly arcuate with greatest width at middle; striae punctured, interstriae convex with rough and shagreened surface.

Pronoto-sternal sutures deeply furrowed for their entire length.

Aedeagus as in fig. 2 (length 1,46 mm).

Female. Body wider, with shorter and less serrate antennae; pronotal sides more arcuate.

Bursa copulatrix sclerified as in fig. 43a.

Size. Length 8-12 mm; width 2,2-2,8 mm (males); 10-13,5; 3-3,9 mm (females).

ETYMOLOGY. The species is dedicated to Dr. A. Freidberg, one of the entomologists of Tel Aviv University Museum.

Lacon delagrangei (Buysson, 1891)


DISTRIBUTION. Turkey, Syria. New to Lebanon and Israel.

Lacon modestus (Boisdouval, 1835)


DISTRIBUTION. Cosmopolitan species; described from Australia. In the Middle East known from Saudi Arabia, Oman, Qatar, UAE; Iran. New to Israel.

Hemicleus ferrantei Buysson, 1911


DISTRIBUTION. Egypt; Saudi Arabia; Jordan. New to Israel.

Tribe Oophorini Gistel, 1856

Heteroderes nicholsi Notman, 1922

Fig. 102.


NOTES: New to Israel and the old continent; described from Florida, the species is widely distributed in the southern states of the USA. Very probably it was imported in Israel with soil plants, and the collection of live specimens demonstrates that it has found favourable developmental conditions in Israel.
Aeoloides heydeni (Reitter, 1891)


DISTRIBUTION. S Pakistan; Central Asia; Iran. New to Israel.

Tribe Prosternini Gistel, 1856

Neopristilophus ungeletii (Fairmaire, 1859)

Fig. 6, 6a, 65.


NOTES: The species considered a junior synonym or a variety of N. insitivus (Germar, 1824) in the catalogues (Schenkling, 1927; Sánchez-Ruiz, 1996) was recently treated as a valid species in the catalogue of Palearctic Fauna (Cate, 2007), endemic from the Iberian Peninsula.

The examination of a long series of specimens gives us the opportunity to confirm that it is specifically distinct from N. insitivus (Germar) from Central and East Europe. N. ungeletii (Fairmaire) is distinguished by a shinier body because of lighter puncturation, particularly on the pronotum, by slightly longer and slenderer antennae and the male genitalia.

Male genitalia of the two species as in fig. 6, 6a (length 2.18 mm) and fig. 7, 7a (length 2.43 mm) (specimen from Lebanon).

Prosternon syriacum (Buyssson, 1891)


DISTRIBUTION. Syria; Turkey. New to Lebanon.

Tribe Agriotini Champion, 1894

Agriotes dolini n. sp.

Fig. 8, 8a, 44, 67, 68, 90, 103, 103a.


DIAGNOSIS. A species resembling A. kirghisicus Iablokoff-Khnzorian, but it can be separated by the lighter pronotal puncturation, not impressed scutellum, more developed wings and the aedeagus.

DESCRIPTION. Male. Moderately shiny; head and pronotum blackish, elytra dark brown with blackish shadings; antennae and legs lighter, yellow-ferruginous; covered with dense, declined, yellowish, vestiture.

Frons convex, flat at anterior margin, supranotellar carinae interrupted before the anterior margin; punctures coarse, deep, moderately umbilicate, with very short, shingy intervals.

Antennae short, not reaching apices of posterior angles of pronotum by about two articles, strongly serrated from fourth article on; second subcylindrical, third subconical, both subequal in length and very slightly longer than wide; taken together 1,3x longer than fourth; fourth-tenth triangular, just longer than wide (fourth) to as long as wide; last a little longer than the previous, nearly regularly ellipsoidal.

Pronotum slightly wider than long, globose, widest at middle, strongly convex and abruptly sloping at sides and base with a trace of mid-longitudinal depression at basal slope; sides strongly arcuate, from middle forwards conspicuously tapering, backwards sinuate to posterior angles, the latter long, acuminate, gently diverging with a fine carina subparallel to the lateral margins; punctuation rather uniformly distributed, on disc with punctures simple or slightly umbilicate with very short shiny intervals, gradually denser at sides, contiguous at lateral extremities.

Scutellum shield-shaped, ridged at base, round at apex, densely punctured.

Elytra 2,25x longer than pronotum and as wide as it, very convex after the middle; sides ovaliform, widest about at middle; striae well punctured, interstriae flat with rugose surface.

Wings just reaching the length of elytra.

Aedeagus as in fig. 8, 8a (length 1.06 mm).

Female. Very similar to male with a slightly shorter antennae.

Bursa copulatrix sclerified as in fig. 44.

Size. Length 8-9 mm; width 2.6-2.86 mm.

ETYMOLOGY. The species is dedicated to the memory of Prof. W. Dolin, one of the most important specialists on Elateridae from Central Asia.

Agriotes gurjevae n. sp.

Fig. 9, 69, 104.

MATERIAL EXAMINED. Holotype ♂ - Tadzhikistan: Kummel Pass, 3600 m, VI.1983, Cerny (CRG don. MCSNG).

DIAGNOSIS. Species allied to A. turkmensis Platta & Gudenzi, 1999 due to the same characters of male genitalia with simple paramera, but separated by the shape of the pronotum wider than long and by serrat and shorter antennae.

DESCRIPTION. Male. Moderately shiny; head and pronotum dark brown, scutellum and elytra lighter brown; antennae and legs ferruginous; covered with dense, recumbent, yellowish vestiture.

Frons convex on vertex, flat at anterior margin, supranotellar carinae interrupted before the anterior margin; punctures coarse, deep, moderately umbilicate, with very short, shingy intervals.

Antennae short, not reaching apices of posterior angles of pronotum by about two articles, strongly serrated from fourth article on; second subcylindrical, third subconical, both subequal in length and very slightly longer than wide; taken together 1,3x longer than fourth; fourth-tenth triangular, just longer than wide (fourth) to as long as wide; last a little longer than the previous, nearly regularly ellipsoidal.

Pronotum 1,18x wider than long, widest at anterior margin, supranotellar carinae interrupted before the anterior margin; punctures coarse, deep, moderately umbilicate, with very short, shingy intervals.

Frons convex, flat at anterior margin, supranotellar carinae not reaching anterior margin; punctures coarse, deep, simple or vague umbilicate, with very short shiny intervals.

Antennae nearly reaching the apices of posterior angles of pronotum, serrated from fourth article on; second article subcylindrical, more than twice as long as wide and a little longer than third, both taken together twice as long as fourth; fourth-tenth subtriangular, shortly pedunculate, less than twice as long as wide; last longer than penultimate, ellipsoidal, symmetrically constricted at apical third.
Scutellum shield-like, flat, densely punctured. Elytra 3x longer than pronotum and as wide as it, convex; sides subparallel for about two-thirds of its length, then gradually tapering to the apices, these rather acute and feebly divaricate; striae punctured, interstriae flat, with finer punctures. Male genitalia as in fig. 9 (length 1,68 mm). Female unknown.
Size. Length 9,9 mm; width 2,84 mm.

**ETYMOLOGY.** The species is dedicated to the memory of E. Gurjeva, one of the more important specialist of Elateridae and author of a revision of the palearctic species of the genus Agriotes Eschscholtz.

Agriotes brevis Candèze, 1863

**MATERIAL EXAMINED.** 1 specm ♂ - **Israel:** Mt Carmel, Kibutz Daliya, 5.1.V.1999, B. Orbach. (COI). DISTRIBUTION. Europe, Turkmenistan; Iran; Turkey. New to Israel.

Agriotes colonnelli Guglielmi & Platia, 1985

**MATERIAL EXAMINED.** 1 specm ♂ - **Israel:** Mt Hermon, Biq'at Mart, m 1430, 23.V.1997, E. & B. Orbach. (COI). DISTRIBUTION. Europe, Turkmenistan; Iran; Turkey. New to Israel.

Agriotes lineatus (Linnaeus, 1758)

**MATERIAL EXAMINED.** 1 specm ♂ - **Israel:** Mt Carmel, Kibutz Daliya, 5.1.V.1999, B. Orbach. (COI). DISTRIBUTION. Euroe; Turkey; Iran; Israel; Syria; Central Asia. New to Israel.

Agriotes nigricans Platia & Gudenzi, 1997

**MATERIAL EXAMINED.** 8 specm ♂ - **N Lebanon:** caza Jbayl, El Laqlouq, 1300-1400 m, A. Kairouz. (CSM). DISTRIBUTION. Europe; Turkey; Iran; Israel; Syria; Central Asia. New to Lebanon.

Agriotes proximus Schwarz, 1891


Agriotes turcicus Candèze, 1863

**MATERIAL EXAMINED.** 1 specm ♂ - **Israel:** Upper Galilee, Mt Kfir Nahal, HarAri, m 800-900, 2.VI.1995, E. Orbach. (COI). DISTRIBUTION. Bulgaria; Turkey. New to Israel.

**Tribe Dendrometrini Gistel, 1856**

Elathous bicolor n. sp.

Fig. 11, 71, 84, 106.

**MATERIAL EXAMINED.** Holotype ♂ - **Turkey:** Darende, Malatya, 1570 m, 28.VII.2008 (CPG).

**DIAGNOSIS.** Species immediately separated from all known Turkish species by the bicoloured body.

**DESCRIPTION.** Male. Shiny; bicoloured; head, pronotum, scutellum and underbody black piceous; elytra completely brown ferruginous; antennae and legs brown; covered with moderate, long, blackish vestiture, partially erect at sides of body.

Frons flat between the eyes, slightly impressed at middle before the anterior margin, the latter sublinear, moderately thickened, and protruding above the clypeus; punctures coarse, umbilicate, with very short shiny intervals. Antennae short, serrate from fourth article on, not reaching apicis of posterior angles of pronotum by about two articles; second article subcylinlindrical, third subconical, both subequal in length and about 1,6x longer than wide, taken together about twice as long as fourth; fourth-tenth triangular, less than twice as long as wide.

Pronotum as long as wide, widest at posterior angles, convex, with a trace of shallow, narrow, mid-longitudinal line at basal declivity; sides arccurate, gradually tapering forwards from middle, sinuate before the posterior angles, the latter diverging and truncate at apicis with a sharp, short carina directed medially; lateral margin sublinear, obliterated at anterior half; punctuation rather uniformly distributed; punctures on disc deep, simple, with intervals on average equal to or larger than their own diameters, gradually denser towards the sides, moderately umbilicate and nearly contiguous only at extremities.

Scutellum shield-like, moderately convex, densely punctured. Elytra 2,7x longer than pronotum and as wide as it; sides widest at middle; striae well-marked and punctured; third interstriae moderately convex at base; all others flat with finer and denser punctures.

Male genitalia as in fig. 11 (length 1,5 mm). Female unknown.
Size. Length 12 mm; width 3,68 mm.

**ETYMOLOGY.** The name of the species refers to the characteristic bicoloured body.

Elathous murzovi n. sp.

Fig. 12, 72, 85, 107.

**MATERIAL EXAMINED.** Holotype ♂ - **Bulgaria:** Pastren vill., Staro Zagora, 23.VIII.2009, G. Murzov (CMSZ). 3 Paratypes ♂ - same data as Ht, 29.VIII., 2.IX., 4.IX.2009 (CMSZ; CPG).

**DIAGNOSIS.** First species of the genus recorded from Bulgaria. Comparable to E. syriacus Schwarz as to general shape, size and colour, but it is immediately separable by the straight and strongly thickened anterior margin of frons.

**DESCRIPTION.** Male. Moderately shiny; entirely yellow-ferruginous, sometimes with blackish shadings around scutellum and carinæ of posterior angles of pronotum; covered with long, dense yellowish vestiture, partially erect at sides of elytra and pronotum.

Frons flat to moderately impressed, anterior margin nearly straight, strongly thickened, clearly protruding above clypeus; punctures coarse, umbilicate, with very short intervals to contiguous.
Antennae not reaching apices of posterior angles of pronotum by about 1-1.5 articles, clearly serrated from fourth on; second subcylindrical, just longer than wide, third conical, twice as long as wide; second and third, taken together, longer than fourth; fourth-tenth triangular, shortly pedunculate, less than twice as long as wide; last a little longer than penultimate, nearly regularly ellipsoidal.

Pronotum as long as wide or just wider than long, widest at anterior angles, strongly convex, abruptly sloping at sides, nearly vertically at base; sides arcuate, gradually tapering from behind the middle to anterior angle; sinuate before the posterior angles, the latter clearly divergent and truncate at apices, with a sharp, distinct carina directed medially; lateral margin almost straight and complete; punctuation rather uniformly distributed; punctures on disc deep, simple or moderately umbilicate with very short, shiny intervals; gradually a little larger and denser towards the sides, contiguous or nearly so at the extremities.

Scutellum quadrangular, moderately convex, more or less sinuate at sides, punctured. Elytra 2.7x longer than pronotum and as wide as it; sides subparallel, widest at middle or just behind the middle; striae well-marked and deeply punctured; interstriae flat, more finely punctured.

Male genitalia as in fig. 12 (length 1.31 mm).

Female unknown.

Size. Length 8.6-9.5 mm; width 2.5-2.62 mm.

**ETYMOLOGY.** The species is dedicated to the collector G. Murzov, who kindly sent me the material for study.

*Athous (Orthathous) barclayi* n. sp.

Fig. 13, 73, 87, 108.


**DIAGNOSIS.** Species allied to *A. (Orthathous) stoimenovae* Platia, 2001, from Bulgaria by the general shape and size; it can be distinguished by the darker colour and shorter, just diverging posterior angles of pronotum.

**DESCRIPTION.** Male. Moderately shiny; entirely dark brown with antennae and legs brown ferruginous; covered with dense, recumbent, yellowish vestiture.

Frons slightly impressed from the middle forwards, anterior margin regularly arcuate, moderately thickened, protruding slightly above the clypeus; punctures coarse, strongly umbilicate, with very short intervals or contiguous. Antennae robust, exceeding apices of posterior angles of pronotum by about two articles; second article short, globous, as long as wide, third conical nearly twice as long as second; second and third, taken together, a little longer than fourth, fourth-tenth triangular, less than twice as long as wide; last a little longer than penultimate, nearly regularly ellipsoidal.

Pronotum as long as wide, widest at middle and posterior angles, regularly convex, with a trace of mid-lontitudinal, very narrow, smooth and shiny line from base to apex; sides slightly and regularly arcuate, slightly sinuate before the posterior angles, the latter short, truncate, diverging; punctuation rather uniformly distributed, on disc punctures deep, weakly umbilicate, with very short shiny intervals and becoming gradually denser, more superficial and clearly umbilicate towards the sides, contiguous at the extremities.

Scutellum smaller than the interelytral space, subrectangular, moderately convex, roughly punctured. Elytra 3x longer than pronotum and moderately wider than it; sides subparallel from base to middle, then gradually tapering to apices; striae well-marked, deeply punctured, interstriae flat, more finely punctured, with rough surface.

First three articles of tarsus gradually decreasing in length, fourth very small and in dorsal view narrower than the previous.

Male genitalia as in fig. 13 (length 1 mm).

Female unknown.

Size. Length 8.3 mm; width 2.3 mm.

**ETYMOLOGY.** The species is dedicated to Dr. M. V. L. Barclay, Head Curator of Coleoptera, British Museum of Natural History, London, Wetland Kerkini Project.

**TRAP SITE DESCRIPTION.** Sultanitsa Site. North = 41°19’02,1 East = 023°12’05,0 Altitude = 1485 metres a.s.l. Run from 28/04/2008 until the present. This trap is situated over the bog/seept that is the start of the Sultanitsa stream. This is an entirely homemade trap in the shape of a simple cone of blue material leading to a collecting bottle. It is placed immediately above the place where the bog turns into a stream and enters a beech forest. It faces down hill into the forest. The glide is the result of human endeavour, and the army used the site for an unknown purpose about 50 years ago.

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*Athous (Orthathous) kabalaki* n. sp.

Fig. 14, 74, 88, 109.

**MATERIAL EXAMINED.** Holotype ♀ - Turkey: Golpazari, 18-20.V.1996, D. Farbiak (CPG).

**DIAGNOSIS.** A species allied to *A. graecus* Platia, it can be separated by the flat frons, slightly impressed only at anterior margin, and particularly by the very elongate and wide elytra compared to pronotum.

**DESCRIPTION.** Male. Head, antennae, pronotum and scutellum black; elytra and legs lighter, dark brown with undefined black shadings; covered with moderate, yellowish, recumbent vestiture. Head with eyes just narrower than anterior margin of pronotum; frons flat, slightly impressed at anterior margin, the latter very fine at the middle and touching clypeus; punctures coarse, strongly umbilicate, with very short intervals to contiguous. Antennae exceeding apices of posterior angles of pronotum by about three articles; second article subcylindrical, just longer than wide; third conical, 1.5x longer than second; second and third, taken together, 1.28x longer than fourth; fourth-tenth subtriangular, more than twice as long as wide, gradually slenderer; last a little longer than penultimate, regularly ellipsoidal.

Pronotum quadrangular, as long as wide, widest at middle and at posterior angles, strongly convex, abruptly sloping at sides and nearly vertically at base; sides slightly and regularly arcuate, shortly sinuate at posterior angles, the latter short, moderately diverging; punctures coarse, on the disc umbilicate, with short intervals, gradually denser to the sides, contiguous or nearly so at lateral extremities.

Scutellum smaller than interelytral space, convex, roughly punctured. Elytra 3.6x longer than pronotum and a little wider than at the base, convex, sides subparallel for about two-thirds of its length, then gradually tapering to apic-
cis; striae well-marked and punctured; interstriae flat with rough surface and finer, denser punctures.

Second, third and fourth tarsal articles decreasing regularly in length.

Male genitalia as in fig. 14 (length 0,81 mm).
Size. Length 7,3 mm; width 1,84 mm.

ETYMOLOGY. The species is dedicated to our Turkish colleague M. Kabalak, a young specialist of Elateridae.

_Athous (Orthathous) libanensis n. sp._
Fig. 15, 86, 89, 110.

MATERIAL EXAMINED. Holotype ♂ - Lebanon: Ain Zhalta, Jabal el Jaidi, cédratia, 1750 m, V.1966, G. Fagel (IRSNB).

DIAGNOSIS. A species resembling _A. (s. str.) haemorrhoidalis_ (F.) for the general shape, colour and size, but it can be separated by the impressed frons, more convex scutellum, fourth tarsal article only partially absorbed by the third and thus included in the subgenus _Orthathous_ Reitter.

DESCRIPTION. Male. Moderately shiny; head and pronotum except for the apicis of posterior angles reddish; Scutellum and underbody black; elytra brown, reddish along the suture and at the lateral extremities, first two articles of antennae black (only these are present), legs dark brown with reddish articulations.

Head with eyes narrower than anterior margin of pronotum, frons deeply impressed from middle to the anterior margin, this moderately thickened, arcuate, directed downwards at center and slightly protruding above clypeus; punctures coarse, umbilicate, contiguous or confluent. Antennae mutilated, only first two articles present, second article subcylindrical, a little longer than wide.

Pronotum 1,06x longer than wide, widest at apicis of posterior angles, convex, with two symmetrical, shallow, undefined depressions in anterior third at the beginning of the lateral slopes; with a trace of a very narrow mid-longitudinal line before the basal declivity; sides very slightly and regularly arcuate (nearly subparallel), sinuate at the posterior angles, the latter divergent, rather acute, with apicis shortly pointed and directed upwards; punctures uniformly distributed, on disc deep, simple or very vaguely umbilicate, with very short intervals, towards the sides only a little denser, more or less contiguous at lateral extremities.

Scutellum rather globous, convex, punctured. Elytra 2,9x longer than pronotum and a little wider than it, convex, gradually sloping at sides; sides subparallel from base to the middle, then slightly dilated and gradually tapering at posterior third; striae deeply punctured, interstriae flat, punctured, with rough surface.

Fourth tarsal article much smaller and in dorsal view clearly narrower than the third but free for about half of its length.
Aedeagus as in fig. 15 (apex of left paramere damaged) (length 1,18 mm).
Female unknown.
Size. Length 12,8 mm; width 3,3 mm.

REMARKS. The presence of an Athous species in Lebanon is particularly interesting as no species of this genus were known south of Turkey.

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

_Athous (Orthathous) mauroi n. sp._
Fig. 16, 111.

MATERIAL EXAMINED. Holotype ♂ - Croatia: Sinj, Trij-Vukic, 27.V.2009, M. Malmusi (CPG).

DIAGNOSIS. A species that can be compared with _A. serbiclus_ Reitter by size, colour and features of tarsal articles, it is separated by the slender body, longer antennae, more depressed pronotum and male genitalia.

DESCRIPTION. Male. Shiny; head and pronotum black except the apicis of anterior and posterior angles reddish; elytra brown with suture and extremities of sides reddish; antennae blackish with first articles reddish; legs brownish, reddish at the articulations; covered with moderate, yellow vestiture, partially erect at sides of elytra.

Frons with eyes a little narrower than anterior margin of pronotum, deeply impressed from middle to the anterior margin, this moderately thickened, smooth, shiny, at center feebly sinuate and directed downwards, slightly protruding above clypeus; punctures coarse, umbilicate, with very short intervals or contiguous.

Antennae exceeding apicis of posterior angles of pronotum by about 2,5 articles; second article subcylindrical, a little longer than wide, third conical, about twice as long as second and twice as long as wide with the same sculpture as the following; fourth-sixth subtriangular, more than twice as long as wide, slender, with nearly subparallel sides, last longer than penultimate, cylindrically constricted after the middle.

Pronotum 1,15x longer than wide, widest at middle and posterior angles; moderately but regularly convex, sides slightly and regularly arcuate, shorty sinuate before the posterior angles, the latter shorter, feebly divergent with apicis pointed and directed upwards; punctures uniformly distributed, on disc deep, simple or very vaguely umbilicate, with very short subshagreened intervals, becoming clearly umbilicate towards the sides and contiguous at lateral extremities.

Scutellum small, globular, notably narrower than the interelytral space, convex and coarsely punctured. Elytra 2,96x longer than pronotum and a little wider than it; rather depressed on the disc, sloping nearly vertically after the seventh intervals; sides subparallel for about the two-thirds of its length; striae well-marked and punctured; interstriae flat and densely punctured.

Fourth tarsal article longer than half of the third and, in dorsal view, slightly narrower than it.
Aedeagus as in fig. 16 (length 0,96 mm).
Female unknown.
Size. Length 8,1 mm; width 2,15 mm.

ETYMOLOGY. The species is dedicated to the collector Mauro Malmusi from Modena, who gave us this specimen for study.

_Nothodes parvulus_ (Panzer, 1799)
DISTRIBUTION. Europe, N Africa, Turkey, Syria. New to Lebanon.

_Dima riesei_ n. sp.
Fig. 17, 17a, 75, 91, 112.
**Material Examined.** Holotype ♀ - Greece: Kajmakcalan (Voras-Skiitenter), 1500-2000 m, 30.V.-6.VI.2004, Heinz (CRG don. MCSNG). 2 Paratypes ♀ - same data as Ht (CPG; CRG).

**Diagnosis.** The species resembles *D. lebenbaueri* Platia & Schimmel, but can be separated by the smaller body, flat frons, apicis of posterior angles of pronotum directed laterally, scutellum moderately concave at base and on the surface, subconvex elytral interstriae and aedeagus.

**Description.** Male. Moderately shiny; entirely ferruginous, darkened at base of pronotum, around scutellum and elytra, to blackish but ferruginous all around the body and along the elytral suture; antennae and legs ferruginous; covered with yellow-fulvous vestiture, long and partially erect on head and pronotum, particularly at sides and posterior angles, short, dense and declined on elytra.

Head with eyes a little narrower than anterior margin of pronotum; frons nearly flat, anterior margin obsolete, merged with clypeus, punctures coarse, variable in diameter, more or less clearly umbilicate with variable intervals on average much more shorter than their own diameters or contiguous. Antennae exceeding apicis of posterior angles of pronotum by about two articles; second and third articles conical, subequal in length, 1,3x longer than wider; taken together 1,2x longer than fourth; fourth-tenth triangular, twice as long as wide or longer; last longer than the previous, subellipsoidal, rather pointed at extremity.

Pronotum 1,4x wider than long and widest at middle; moderately and regularly convex, gradually sloping at sides, more abruptly so at base; sides strongly arcuate, tapering forwards and backwards equally suddenly and shortly sinuate at posterior angles, the latter rather acute, strongly divergent with a carina running parallel to the lateral margins and reaching the anterior margin of pronotum; punctuation rather uniformly distributed; on disc punctures deep, simple to very coarse with punctures umbilicate, contiguous or nearly so.

Antennae reaching and just exceeding the apicis of posterior angles of pronotum; second and third articles conical, subequal in length and 1,5x longer than wide; taken together 1,4x longer than fourth; fourth-tenth triangular, pedunculate, about twice as long as wide; last a little longer than the previous.

Elytra 3x longer than pronotum and clearly wider than prothorax; convex, only a little depressed along the suture, ovaliform, wider than long, heart-shaped but with rounded apex, moderately emarginate at middle of base; posterolateral extremities.

Scutellum nearly horizontal, in lateral view at a higher level than elytra, a little wider than long, heart-shaped but with rounded apex, moderately emarginate at middle of base, concave at middle, densely and coarsely punctured.

Elytra 3x longer than pronotum and clearly wider than it; convex, only a little depressed along the suture, ovaliform, widest at middle; striae regular, superficia! indistinctly punctured; interstriae subconvex with densely punctured rough surface.

Size. Length 14,5 mm; width 5,68 mm. Falcula of bursa copulatrix sclerified as in fig. 45. Male unknown.

**Etymology.** The name is derived from the particular scutellum of the species, which is nearly horizontal and at a higher level than the base of elytra.

**Tribe Ampedini Gistel, 1856**

*Ambedus lasoni* n. sp.

Fig. 18, 18a, 46, 46a, 77, 77a, 114, 114a.

**Material Examined.** Holotype ♀ - Turkey: Kirkclareli, Yildiz Daglari, 5 km NE of Yenice (41°45'N, 27°41'E), 720 m, 30.V.2008, A. Lason (CLP). 3 Paratypes ♀ - same data as Ht; 3 km NE of Yenice pass, 735 m, 22-23.V.2008, R. Krolik (CPG; CRK).

**Diagnosis.** A species resembling *A. pomonae* (Stephens) but separable by the less dense punctures on sides of pronotum, the subtriangular third article of antennae and the aedeagus.

**Description.** Male. Shiny; bicoloured; head, pronotum, scutellum and underbody black; elytra red-orange with a trace.
ECOLOGICAL NOTES: collected by swiping in oak forest (Quercus sp.).

ETYMOLOGY. Dedicated to the collector A. Lason, who sent us the material for study.

Reitterelater elongatus n. sp.
Fig. 19, 78, 115.

MATERIAL EXAMINED. Holotype ♂ - Iran: Golestan, 20 km S Gorgan city (36°43'N, 54°35'E), 700 m, 10.V.2009, A. Klimenko (CRG don. MCSNG).

DIAGNOSIS. The species is comparable to R. bouyonii (Chassain, 1992), but can be separated by the longer antennae, elongate elytra as compared with length of pronotum and prosternal process abruptly bent behind the procoxale cavities.

DESCRIPTION. Male. Moderately shiny; nearly entirely blackish; antennae, legs and underbody totally reddish like anterior part of frons, apicis of posterior angles of pronotum, central part of scutellum; covered with moderate, brownish, partially erect vestiture.

Frons convex on vertex, flat at anterior margin, punctures coarse, simple or vaguely umbilicate, with very short or contiguous intervals. Antennae exceeding apicis of posterior angles of pronotum by about one article; second article subcylindrical, 1,25x longer than wide; third subconical, 1,25x longer than second; second and third, taken together, as long as fourth; fourth-tenth triangular, on average 1,8x longer than wide; last as long as penultimate, regularly ellipsoidal.

Pronotum 1,21x wider than long, widest at apicis of posterior angles; convex, with a trace of mid-longitudinal depression at basal declivity; sides from middle forwards rather suddenly tapering to apex, backwards nearly subparallel to posterior angles, the latter short, subtruncate at apex, convergent at extremities, with an elevated and short carina directed inwards; punctures on disc approximately of the same diameter, slightly umbilicate with intervals on average equal to or a little shorter than their own diameter, towards the sides becoming denser and clearly umbilicate, rounded or slightly ovate at the extremities with very short intervals or contiguous.

Scutellum shield-shaped, flat, punctured. Elytra 2,9x longer than pronotum and as wide as it; moderately convex; sides subparallel in the first half, then very gradually tapering to apicis; striae punctured; interstriae subconvex with finer punctures.

Aedeagus as in fig. 18, 18a (length 1,31 mm):
Female. Body a little larger, shorter antennae not reaching the apicis of posterior angles of pronotum, third article only subconical and with sculptured as the second, deeper mid-longitudinal depression at basal slope of pronotum.

Bursa copulatrix sclerified as in fig. 46, 46a.
Size. Length 9,6 (Ht)-10,7 (Pt) mm – width 2,87 (Ht) – 3,25 (Pt) mm.

Tribe Elaterini Leach, 1815

Peripontius galilaeus n. sp.
Fig. 20, 116.


DIAGNOSIS. The new species is separated from the other unicoloured and ferrugineous species of Peripontius from the same region by perfectly parallel sides of pronotum and fourth tarsal article excavated only in the first half.

DESCRIPTION. Male. Entirely ferrugineous, covered with dense, yellow-golden pubescence.
ETYMOLOGY. The name is derived from the region in which the species lives, Galilee.

*Peripontius maritimus* n. sp.

*Fig. 21, 117.*


4 Paratypes ♂ - same data as Ht; Haifa Bay, Ir Ganim, 13.IV. 1994, B. Orbach. (COI; CPG).

**DIAGNOSIS.** Very allied to *P. dentatus* Platia & Schimmel, 1991 because of male genitalia with toothed apices of paramera, but can be separated by longer antennae, parallel sides of pronotum and fourth tarsal article only feebly excavated.

**DESCRIPTION.** Male. Entirely ferruginous, covered with fine yellow-fulvous pubescence.

Frons convex with strong, deep, simple punctures, with very short to contiguous intervals. Antennae not reaching apices of posterior angles of pronotum by about one segment; second and third segment subcylindrical with the second just shorter than third, together very much longer than fourth; fourth longer than following; fourth-tenth triangular, longer than wide; eleventh elliptoidal.

Pronotum just wider than long, regularly convex, with a vestige of smooth, median longitudinal line from the posterior half to basal declivity; sides gradually and regularly narrowing from base to apex; posterior angles acuminate, not diverging, with carina prolonged for about one-third of the pronotum; lateral border complete and arcuate in the first half; punctures broad, deep, slightly umbilicate, with very short intervals on the disk, denser and contiguous at sides.

Scutellum shield-shaped, flat, finely punctured. Elytra 2,7 times longer than pronotum and 2,3 times longer than wide; sides very gradually but regularly narrowing from base to apex; striae well-marked and punctured; interstriae flat, with rough surface.

Fourth tarsal segment excavate, as long as wide; claws pectinate.

Aedeagus as in fig. 21 (length 0,87 mm).

Female unknown.

**ETYMOLOGY**. The name is derived from the fact that the species lives near the sea.

*Peripontius dentatus* Platia & Schimmel, 1991


**DISTRIBUTION.** Greece (Rhodes); Turkey. New to Israel.

*Peripontius omissus* (Buysson, 1889)


**DISTRIBUTION.** Turkey; Syria. New to Greece, Lebanon and Israel.

*Tolphorea bodenheimeri* n. sp.

*Fig. 22, 47, 118, 118a.*


**DIAGNOSIS.** Species comparable with *T. pallida* Platia from Turkey, it can be separated by the darker colour, shorter antennae and coarser punctuation of pronotum.

**DESCRIPTION.** Male. Moderately shiny; entirely ferruginous; covered with dense, yellowish, recumbent vestiture.

Frons convex, punctures deep, simple, with very short intervals. Antennae not reaching apices of posterior angles of pronotum, serrated from the fourth article on; second and third subcylindrical, subequal in length, taken together longer than fourth; fourth-tenth triangular, just longer than wide, last longer than penultimate, elliptoidal symmetrically narrowed at apex.

Pronotum as long as wide, widest at anterior third and apices of posterior angles, convex, especially in anterior third, gradually sloping at base; sides feebly dilated in anterior third, then subparallel and slightly sinuate at posterior angles, the latter rather acute, slightly divergent, carinate; punctures uniformly distributed, deep, simple or very vaguely umbilicate, with very short interstices.

Scutellum shield-shaped, flat, finely punctured. Elytra (damaged, only the first half of the left elytra is present) about 2x longer than pronotum and as wide as it, deeply punctured; interstriae moderately convex, sparsely punctured.

Aedeagus as in fig. 22 (length 0,62 mm).

Female unknown.

**ETYMOLOGY**. The name is derived from the fact that the species lives near the sea.

*Peripontius maritimus* Platia & Schimmel, 1991

**MATERIAL EXAMINED.** ♂ - Israel: Nahal Kziv, 13.IV.1994, B. Orbach. (COI; CPG; CSM; TAU).

**DISTRIBUTION.** Greece (Rhodes); Turkey. New to Israel.
**Porthmidius drymogenes** n. sp.

Male genitalia as in fig. 23, 23a (length 1,06).

Female. Shorter antennae reaching or just exceeding the apicis of posterior angles of pronotum; elytral sides slightly dilated after the middle.

Copulatrix bursa sclerified as in fig. 48.

Size. Length 6,4-7,5 mm; width 2,0-2,3 mm.

**ETYMOLOGY.** We have kept the original name given in litteris by our colleague C. Wurst.

**Tribe Pomachiliini Candèze, 1859**

*Idotarmonides anatolicus* (Candèze, 1882)

**MATERIAL EXAMINED.** 3 specm. - *Israel*: Mt Hermon, m 1400, 8.VII.1975, 10.VIII.1975, A. Freidberg. (TAU).

**DISTRIBUTION.** Caucasian Region; Turkey. New to Israel.

**Tribe Physorhinini Candèze, 1859**

*Melanotus busei* n. sp.

Fig. 25, 25a, 49, 79, 79a, 120.

**ETYMOLOGY.** Dedicated to the collector, the biologist Prof. F. S. Bodenheimer.

**Synaptus filiformis** (Fabricius, 1781)

**MATERIAL EXAMINED.** 2 specm. - *Lebanon*: Chouf, Barouk dist. m 1100, 4.7.VI.1999, G. Sama. (CPG).

**DISTRIBUTION.** Europe, Caucasus, Turkey, Syria, Iran, Kazakhstan. New to Lebanon and Tadzhikistan.

**Tribe Physorhinini Candèze, 1859**

*Idotarmonides anatolicus* (Candèze, 1882)

**MATERIAL EXAMINED.** 3 specm. - *Israel*: Mt Hermon, m 1400, 8.VII.1975, 10.VIII.1975, A. Freidberg. (TAU).

**DISTRIBUTION.** Caucasian Region; Turkey. New to Israel.

**Isidus letourneuxi** Pic, 1902

Fig. 24.


**NOTES.** Aedeagus as in fig. 24 (length 1,06).

**DISTRIBUTION.** Egypt; Turkey. New to Israel.

**Tribe Physorhinini Candèze, 1859**

*Melanotus busei* n. sp.

Fig. 25, 25a, 49, 79, 79a, 120.

**ETYMOLOGY.** We have kept the original name given in litteris by our colleague C. Wurst.

**Tribe Pomachiliini Candèze, 1859**

*Idotarmonides anatolicus* (Candèze, 1882)


**DIAGNOSIS.** A large species near *M. brignolii* Guglielmi & Platia from Greece and Turkey, it can be separated by the longer antennae with second and third articles, taken together, clearly shorter than fourth, coarser punctuation of head and pronotum and the aedeagus.

**DESCRIPTION.** Male. Moderately shiny; entirely dark brown with undefined ferruginous shadings; antennae and legs ferruginous; covered with moderate, yellow-fulvous vestiture.

**Melanotus busei** n. sp.

**ETYMOLOGY.** Collected on plants of *Aristolochia maurorum* L.

**ECOLOGICAL NOTES.** Plants on plants of *Aristolochia maurorum* L.

**ETYMOLOGY.** We have kept the original name given in litteris by our colleague C. Wurst.

**Tribe Pomachiliini Candèze, 1859**

*Idotarmonides anatolicus* (Candèze, 1882)


**NOTES.** Aedeagus as in fig. 24 (length 1,06).

**DISTRIBUTION.** Egypt; Turkey. New to Israel.

**Tribe Physorhinini Candèze, 1859**

*Idotarmonides anatolicus* (Candèze, 1882)


**NOTES.** Aedeagus as in fig. 24 (length 1,06).

**DISTRIBUTION.** Egypt; Turkey. New to Israel.

**Tribe Physorhinini Candèze, 1859**

*Idotarmonides anatolicus* (Candèze, 1882)


**NOTES.** Aedeagus as in fig. 24 (length 1,06).

**DISTRIBUTION.** Egypt; Turkey. New to Israel.

**Tribe Physorhinini Candèze, 1859**

*Idotarmonides anatolicus* (Candèze, 1882)


**NOTES.** Aedeagus as in fig. 24 (length 1,06).

**DISTRIBUTION.** Egypt; Turkey. New to Israel.

**Tribe Physorhinini Candèze, 1859**

*Idotarmonides anatolicus* (Candèze, 1882)


**NOTES.** Aedeagus as in fig. 24 (length 1,06).

**DISTRIBUTION.** Egypt; Turkey. New to Israel.
carina very near and running parallel to the lateral margins prolonged to the first third of pronotum; punctuation coarse, punctures on the disc deep, more or less clearly umbilicate, with very short, shiny intervals, on average very much smaller than their own diameters, gradually denser to sides, contiguous at lateral extremities.

Scutellum shield-shaped, flat or slightly convex, strongly punctured. Elytra 2.7-2.9x longer than pronotum and as wide as it; rather depressed on the disc; sides subparallel from base to middle or very gradually tapering from base to apicis, striae deeply and strongly punctured; interstriae flat with denser and finer punctures.

Aedeagus as in fig. 25, 25a (length 2.18 mm).
Size. Length 13-16 mm; width 4.1-4.6 mm.
Female. Similar to male but with a little shorter antennae not or just reaching the apicis of posterior angles of pronotum with second and third articles, taken together as long as fourth.

Bursa copulatrix elongated and sclerified as in fig. 49.

ETYMOLOGY. The species is dedicated to the collector Dr. J. Buse of the J. Gutenberg University of Mainz, Germany, who has been studying the saproxylic coleopterological fauna of Israel and Middle-East for some years.

Melanotus chikatunovi n. sp.
Fig. 26, 80, 80a, 121.


DIAGNOSIS. Species resembling M. fulvus Reitter as to general shape and colour, but it is separated for the larger and elongate body, longer antennae with the last article more or less constricted at apex and simulating in some specimens a twelve article and the aedeagus.

DESCRIPTION. Male. Body entirely yellow-ferruginous; covered with dense and long yellow fulvous vestiture, partially erect at sides of elytra.
Frons flat to feebly convex with anterior margin sublinear; punctures strong, umbilicate, with very short to contiguous interstices. Antennae exceeding apicis of posterior angles of pronotum by about 2-2.5 articles; second and third articles globose, subequal, taken together notably shorter than fourth; fourth-tenth serrated, triangular, longer than wide; last with subparallel sides narrowed at apical third, simulating in some specimens a twelfth article.

Pronotum just wider than long, widest at apices of posterior angles, regularly and moderately convex on disc, with a trace of a mid-longitudinal impunctate line before or at basal declivity; sides moderately arcuate, sinuate before the posterior angles, the later short, truncate, not diverging, with a feeble carina very near to the lateral margins and directed inside; puncturation uniformly distributed; punctures slightly umbilicate or simple, on the disc with variable interstices, on average equal to their own diameter.

Aedeagus as in fig. 26 (length 2.18 mm).
Female unknown.

SIZE. Length 12.5-13 mm; width 3.5-3.6 mm.

ETYMOLOGY. The species is dedicated to V. Chikatunov, one of the entomologists of the staff of Tel Aviv Museum University, who caught much of the material we have studied in this paper.

Melanotus kravchenkoi n. sp.
Fig. 27, 81, 122.


DIAGNOSIS. Very similar to M. chikatunovi n. sp. as to general shape and antennae, it can be separated by the darker colour, more elevated carina of posterior angles of pronotum, shorter elytra as compared to pronotum and aedeagus.

DESCRIPTION. Male. Moderately shiny; entirely dark ferruginous, sometimes with ill-defined blackish shadings; covered with dense, thin yellowish vestiture, partially erect at sides of body.

Frons flat to feebly convex with anterior margin sublinear; punctures strong, umbilicate, with very short to contiguous interstices. Antennae exceeding apicis of posterior angles of pronotum by about two articles; second and third articles globose, subequal, taken together notably shorter than fourth; fourth-tenth serrated, triangular, conspicuously longer than wide; last longer than penultimate with subparallel sides and asymmetrically constricted at apical third.

Pronotum 1.1x wider than long, widest at apices of posterior angles; convex, with a shallow mid-longitudinal depression at basal slope; sides moderately arcuate, sinuate before the posterior angles, the later short, truncate, not diverging, with a distinct elevated carina running subparallel to the lateral margins; puncturation rather uniformly distributed; punctures deep, simple or slightly umbilicate, on the disc with variable interstices, on average a little smaller than their own diameter, denser at sides where they can be contiguous.

Scutellum shield-shaped, flat to moderately concave, punctured. Elytra 2.6-2.7x longer than pronotum and as wide as it; sides tapering very gradually but regularly from base to apicis; striae well-marked and coarsely punctured; interstriae flat, densely and finely punctured.

Aedeagus as in fig. 26 (length 2.18 mm).
Female unknown.

SIZE. Length 11-12 mm; width 3.3-3.4 mm.

ETYMOLOGY. The species is dedicated to V. Kravchenko, one of the entomologists of the staff of Tel Aviv Museum University, who caught much of the material we have studied in this paper.

Melanotus orbachorum n. sp.
Fig. 28, 50, 82, 123, 123a


DIAGNOSIS. Similar to M. crassicolis (Erichson) but with a more robust body, coarser and strongly umbilicate pronotal puncturation, longer antennae with second and third segments, taken together, shorter than fourth.

DESCRIPTION. Male. Entirely blackish with ferrugineous shadings; antennae and legs ferrugineous; covered with fine but not dense pubescence, partially erect on head and pronotum.

Frons flat, with anterior margin subcarinate, directed downwards and just protruding above elyseepus; punctures broad, clearly umbilicate, contiguous. Antennae exceeding apicis of posterior angles of pronotum by about two segments; second segment subcylindrical, as long as wide; third subcylindrical, less than twice as long as second, together shorter than fourth; fourth-tenth triangular, longer than wide; eleventh elliptoidal, narrowed at apex.

Pronotum 1,3 times wider than long, moderately convex with a vestige of a mid-longitudinal carina at the basal declivity; sides strongly arcuate with lateral margin entire and nearly completely visible in dorsal view; sides arcuate with greatest width at middle or just behind it, strongly narrowed towards apex, sinuate before posterior angles, the latter feebly divergent, with a short carina running parallel to lateral border; punctures broad, superficial, strongly umbilicate, on the disc with very short intervals, at sides contiguous.

Scutellum tongue-shaped, flat or feebly concave. Elytra 3x longer than pronotum and as wide as it at base, convex; sides subparallel in the first half, then regularly tapering to the apices; striae deeply punctured, well-marked; interstriae flat, finely punctured.

Aedeagus as in fig. 28, 29a (length 2 mm).

Female. Smaller body, identical colour, shorter antennae not reaching the apices of posterior angles of pronotum; second and third antennal articles, taken together as long as fourth, pronotum less convex.

Scutellum shield-shaped, flat, densely punctured. Elytra 3x longer than pronotum and as wide as it at base, convex; sides subparallel in the first half, then regularly tapering to the apices; striae deeply punctured, well-marked; interstriae flat, finely punctured.

Aedeagus as in fig. 28, 29a (length 2 mm).

Bursa copulatrix as in fig. 51.

Size. Length 13 mm; width 3,8 mm (HT); length 11 mm; width 3,5 mm (Pt).

ETYMOLOGY. The species is dedicated to the entomologist T. Pavlicek, member of the staff of Tel Aviv Museum, who collected one of the specimens of this species.

Melanotus crassicolis (Erichson, 1841)


DISTRIBUTION. Europe; Turkey. New to Lebanon.
**Melanotus dichrous** (Erichson, 1841)


**Distribution.** South Europe, Turkey. It has been previously recorded from “Palestine”. New to Israel.

**Melanotus fulvus** Reitter, 1891

**Material Examined.** 2 specm. ♂ - Israel: Dead Sea Area, near Ne’ot haKiklär, 5-11.V.2006, E. Orbach (COI).

**Distribution.** Turkmenistan; Iran; Iraq. New to Israel.

**Tribe Cardiophorini Candèze, 1860**

**Cardiophorus angelinii** n. sp.

Fig. 52, 125.

**Material Examined.** Holotype ♂ - Turkey: Kastamonu prov., Ilgaz, Ilgazdagi Geç., 1700 m, 19.VI.2009, F. Angelini (CPG).

**Diagnosis.** Among the bicoloured species from Turkey it can be compared with *C. antiquus* Erichson, for the same colour pattern, but can be separated by the orange colour less bright, the pronotum widest at middle and the different shape of the sclerotized parts of the bursa copulatrix.

**Description.** Female. Shiny; bicoloured; head, anterior third of pronotum, scutellum, elytra, proternum, anterior third of propleura, thorax and abdomen black piceous; remaining part of pronotum and propleura orange; antennae blackish, legs ferruginous; covered with fine, recumbent, yellow fulvous vestiture.

Frons convex on vertex, slightly impressed at anterior margin, the latter moderately thickened, smooth, shiny, regularly arcuate; punctures deep, of variable diameter, regularly mixed with very short, shiny intervals. Antennae short, not reaching apicis of posterior angles of pronotum by about two articles; second article subcylindrical, slender, nearly twice as long as wide; third and fourth twice as long as wide and subequal in length, fifth-tenth a little shorter; last as long as penultimate, subellipsoidal, symmetrically constricted before the apex.

Pronotum as long as wide, widest at middle, convex; sides regularly arcuate, slightly sinuate from middle to base; posterior angles short, feebly divergent; lateral suture fine, gently arcuate, obsolete at anterior third; punctures approximately of the same size, on disc deep, simple, with variable, shiny intervals on average smaller than their own diameter, at sides only a little denser.

Scutellum heart-shaped, as long as wide, slightly depressed at middle, finely punctured. Elytra 2,35x longer than pronotum and as wide as it; moderately convex; sides suboval, widest at middle; striae punctured; interstriae flat, densely and more finely punctured.

Claws simple.

Male genitalia as in fig. 30 (length 0,82 mm).

Size. Length 5,4 mm; width 1,59 mm.

**Etymology.** The name is derived from the characteristic double black spots resembling eyes at sides of pronotum and at propleura.

**Cardiophorus bioculatus** n. sp.

Fig. 30, 94, 126.

**Material Examined.** Holotype ♂ - S Iran: Kohkiloye-va-Biyerahmad Prov., Yasui Area, 10 km SE Sepidar, 5-6.V.2007, A. Klimenko (CRG don. MCSNG).

**Diagnosis.** Species immediately separated by all the known bicoloured Iranian species by its distinct colour pattern and especially by the black spot at center of propleura.

**Description.** Male. Shiny, bicoloured; head, scutellum elytra, proternum, thorax and abdomen black piceous; pronotum orange with central, black, rhombic spot departing from the anterior margin to the middle of the disc, two symmetrical small and round black spots at sides above the lateral suture, not visible in dorsal view; two other symmetrical, small, oblong black spots at centre of the orange propleura; antennae black with the first two articles orange, legs orange; covered with dense, recumbent, yellow-fulvous vestiture.

Frons convex on vertex, flat forwards, anterior margin regularly arcuate and moderately ridged; punctures deep, simple, with very short intervals. Antennae exceeding apicis of posterior angles of pronotum by about two articles; second article subcylindrical, slender, nearly twice as long as wide; third and fourth twice as long as wide and subequal in length, fifth-tenth a little shorter; last as long as penultimate, subellipsoidal, symmetrically constricted before the apex.

Pronotum as long as wide, widest at the middle, convex; sides regularly arcuate, slightly sinuate from middle to base; posterior angles short, feebly divergent; lateral suture fine, gently arcuate, obsolete at anterior third; punctures approximately of the same size, on disc deep, simple, with variable, shiny intervals on average smaller than their own diameter, at sides only a little denser.

Scutellum heart-shaped, as long as wide, slightly depressed at middle, finely punctured. Elytra 2,35x longer than pronotum and as wide as it; moderately convex; sides suboval, widest at middle; striae punctured; interstriae flat, densely and more finely punctured.

Claws simple.

Male genitalia as in fig. 30 (length 0,82 mm).

Size. Length 5,4 mm; width 1,59 mm.

**Etymology.** The name is derived from the characteristic double black spots resembling eyes at sides of pronotum and at propleura.

**Cardiophorus intercivitates** n. sp.

Fig. 31, 31a, 53, 127a.

**Cardiophorus kurdistanicus**

**ETYMOLOGY.** The name is derived from Kurdistan, the region in which Mosul, the town where the species was collected, is located.

**Cardiophorus negevensis** n. sp.


**DIAGNOSIS.** Allied to *C. intercivitates* n. sp. as to general shape, size and colour, it can be separated by the first two reddish articles of antenna and by the median piece of the bursa copulatrix much smaller than the symmetrical plates.

**DESCRIPTION.** Female. Entirely blackish with bronze reflexions; antennae black except for the first two articles reddish; legs yellow-ferruginous; covered with fine, yellow-fulvous pubescence.

Frons convex, slightly impressed near the anterior margin, with fine and very dense punctures. Antennae reaching apices of posterior angles of pronotum; second segment subconical, shorter than third; third-tenth subtriangular, longer than wide.

Pronotum as long as wide, strongly and regularly convex; sides very arcuate, tapering gradually from middle forwards, more abruptly posteriorly, submarginate behind the posterior angles, the latter short, truncate, gently diverging, briefly carinate; punctures rather uniformly distributed, approximately of the same size; on disc deep, with interstices on average equal to or smaller than their own diameter.

Scutellum heart-shaped, as long as wide, emarginate at center of base, flat, finely punctured. Elytra 2,3x longer than pronotum and as wide as it; rather depressed on disc, sides subparallel for about two-thirds of its length, then gradually tapering to the apices; striae well-marked and deeply punctured; interstriae subconvex, finely punctured.

Claws simple.

Aedeagus basally damaged, only the apical part is present as in fig. 32.

Female unknown.

Size. Length 5,5 mm; width 1,68 mm.

**DIAGNOSIS.** A species resembling *C. tenellus* Reiche as to general shape and colour, it can be separated by the normally smaller size, longer antennae and particularly by the genitalia.

**DESCRIPTION.** Female. Shiny; entirely black to blackish with antennae black and legs of variable colour, entirely yellowish or with darkened tarsi or more or less entirely darkened; covered with yellowish, short and recumbent vestiture, more apparent on elytra.

Frons convex on vertex, flat or slightly depressed at anterior margin, the latter moderately thickened and more or less regularly arcuate; punctures deep, simple, with very short intervals. Antennae reaching and exceeding apices of posterior angles of pronotum by about one article; second article subcylindrical, longer than wide; third and following conical, slender, more than twice as long as wide, last as long as penultimate, subellipsoidal.

Pronotum as wide as long, widest at middle, strongly and regularly convex, abruptly sloping at sides and base; sides very arcuate, tapering gradually from middle forwards, more abruptly posteriorly, submarginate before the posterior angles, the latter short, truncate, gently diverging, briefly carinate; punctures rather uniformly distributed, approximately of the same size; on disc deep, with interstices on average equal to or smaller than their own diameter.

Scutellum heart-shaped, as long as wide, deeply emarginate at center of base, flat, finely punctured. Elytra 2,3x longer than pronotum, moderately convex; sides widest just behind the middle; striae punctured, interstriae flat with denser and finer punctures.

Claws simple.

Sclerified plates of bursa copulatrix as in fig. 53.

Male. Very similar to female, with longer antennae exceeding apices of posterior angles of pronotum by about two articles.

Size. Length 5,0-6,7 mm; width 1,8-2,03 mm.

**ETYMOLOGY.** The name is derived from the Latin “civitas” (state) for the presence of the species in the two states, Israel and Jordan.

**Cardiophorus kurdistanicus** n. sp.

**MATERIAL EXAMINED.** Holotype ♂ - Iraq: “Mesopotamia”, Mosul, without any data (CCW).

**DIAGNOSIS.** A small species immediately separated from all known species of the region by the colour pattern.

**DESCRIPTION.** Male. Moderately shiny; bicoloured; head, antennae from third article onwards, pronotum, underbody black; first two articles of antennae, apices of posterior angles of pronotum, scutellum, elytra, legs and genital process brown ferruginous; covered with yellowish, recumbent vestiture.

Antennae exceeding apices of posterior angles of pronotum by about one article, feebly serrated from third article on; second article subcylindrical, 1,8x longer than wide; third conical, 1,6x longer than second and less than twice as long as wide; taken together 1,4x longer than fourth; fourth-tenth subtriangular, twice as long as wide and slender; last as long as penultimate, subellipsoidal.

Pronotum just longer than wide, widest just behind the middle; regularly convex; sides arcuate, tapering from behind the middle forwards and backwards, very slightly sinuate before the posterior angles, the latter short, truncate, not divergent; punctuation very fine and uniformly distributed, punctures approximately of the same size, deep, simple, with very short shiny intervals.

Scutellum heart-shaped, small, deep-set into the interelytral space, as long as wide, pointed at apex, deeply emarginate at middle of base, impressed and densely punctured. Elytra 2,3x longer than pronotum and as wide as it; rather depressed on disc, sides subparallel for about two-thirds of its length, then gradually tapering to the apices; striae well-marked and deeply punctured; interstriae subconvex, finely punctured.

Claws simple.

Aedeagus basally damaged, only the apical part is present as in fig. 32.

Female unknown.

Size. Length 5,5 mm; width 1,68 mm.

**DESCRIPTION.** Male. Very similar to female, with longer antennae exceeding apices of posterior angles of pronotum by about two articles.

**ETYMOLOGY.** The name is derived from the Latin “civitas” (state) for the presence of the species in the two states, Israel and Jordan.
ETYMOLOGY. The name is derived by the Negev region, where the species was found.

Cardiophorus sacratoides n. sp.

Fig. 34, 34a, 55, 130.


DIAGNOSIS. In the general colour pattern the species is allied to C. sacratus Erichson, but the median spot of pronotum is limited to the posterior half; as to the features of the bursa copulatrix it is allied to C. bellus Platia & Gudenzi from Turkey but in this species only a single, small black spot is present on the disc of pronotum.

DESCRIPTION. Female. Bicoloured pronotum, red with three black spots, one larger in the middle departing from anterior margin to behind the middle; two symmetrical subcircular spots at sides in the anterior third reaching propleurae; proternum and inner half of propleura partially or totally black. Scutellum and elytra black; antennae brown, legs with femura darker than tibia and tarsi ferruginous; covered with fine yellow pubescence.

Frons flat on vertex, slightly impressed at anterior margin; punctures nearly contiguous. Antennae exceeding apices of posterior angles of pronotum and as wide as it at base; convex, ovaliform; sides widest at middle, very arcuate; striae regularly punctuated, interstriae flat, finely and densely punctured, seventh interstria carinate at base.

Wings absent.

Size. Male genitalia as in fig. 35, 35a (length 1.21 mm).

Female unknown.

Size. Length 7.5-7.7 mm; width 2.75-2.81 mm.

ETYMOLOGY. The name is dedicated to the collector, Herbert Schmid, Vienna.

Cardiophorus aegyptiacus Candèze, 1860

Fig. 36, 36a, 56, 132, 132a.


NOTES: Aedeagus as in fig. 36, 36a (length 0.95 mm).

Copulatrix bursa sclerified as in fig. 56.

Size. Length 5.8-7.5 mm; width 1.56-2 mm; ♀ length 6 mm; width 1.65 mm.

DISTRIBUTION. Egypt. New to Israel.

Cardiophorus gerhardi Platia & Gudenzi, 2007

MATERIAL EXAMINED. 1 specm.: Israel: Qeren Naftali (33°05'N, 35°34'E), 474 m, 23.V.2008, G. Wagner (CZH).

DISTRIBUTION. Syria. New to Israel.

Cardiophorus insignis Desbrochers des Loges, 1875

Fig. 133.

**Cardiophorus kindermannii** Candèze, 1860

**Material Examined.** 1 Specimen: **NW Jordan**: SW Jarash, Alhuma, 12.IV.2009 (CHCB)

**Distribution:** Lebanon, Syria, Turkey. New to Jordan.

**Cardiophorus miniaticollis** Candèze, 1860

**Material Examined.** 1 Specimen: **Jordan**: Harta, 14 km N Irbid Abila (Quwayliba) arch. Site (32°40'N, 35°52'E), 943 m, 10.IV.2008, G. Sama; Harta, 14 km N Irbid, Abila (Quwayliba) arch. Site (32°40'N, 35°52'E), 943 m, 10.IV.2008, G. Sama; Harta, 14 km N Irbid, Abila (Quwayliba) arch. Site (32°40'N, 35°52'E), 943 m, 10.IV.2008, G. Sama. (CMM; CPG; CSM).

**Distribution:** Europe, Turkey; Central Asia; N Africa. New to Syria, Lebanon, Jordan.

**Dicronychus laevimaculatus** n. sp.

**Material Examined.** Holotype ♂ - Lebanon: Tanuf, 630 m, 11-13.X.2006, Ströhle (CPG).

**Diagnosis.** Species resembling *D. exstinctus* (Erichson) as to general shape and colour, but it can be separated by the pronotum widest at middle, larger punctures of pronotum, claws more feebly dilated in the first half and male genitalia.

**Description.** Male. Head, pronotum and scutellum dark brown; elytra blackish with two undefined, indistinct, yellowish spots from base to humera and epipleura; antennae and legs yellowish; covered with dense, yellowish, recumbent vestiture.

Frons moderately convex on the vertex, flat at anterior margin, the latter slightly thickened and regularly curved; punctuation double, finer, denser punctures are irregularly mixed with sparser, larger punctures. Antennae not reaching apices of posterior angles of pronotum by about one article, very slightly serrate from third article on; second article subcylindrical, more than twice as long as wide; third-tenth subtriangular, approximately of the same length and about 3x longer than wide; last as long as the previous, ellipsoidal, narrowed at apical third.

Pronotum as long as wide, widest at middle; strongly convex, abruptly sloping at sides and base; sides regularly arcuate, feebly sinuate before the posterior angles, the latter short, truncate, slightly divergent; punctuation double, very fine punctures are mixed more or less regularly with clearly larger punctures, interspaces between the larger punctures on average equal to their own diameters.

Scutellum heart-shaped, as long as wide, emarginate at center of base, feebly impressed, finely punctured. Elytra 2,18x longer than pronotum and as wide as it; moderately convex on disc; sides subparallel in the first half, then clearly tapering to apicis; striae well-marked and punctured; interstriae flat with rough surface.

Claws moderately dilated in the first half. Aedeagus as in fig. 38, 38a (length 0,96 mm). Size. Length 6,5 mm; width 2 mm.

Female unknown.

**Etymology.** The name of the species is derived by the indistinct maculae at base of elytra.

**Cardiophorus vestigialis** Erichson, 1840


**Distribution:** Europe, Turkey; Central Asia; N Africa. New to Syria, Lebanon, Jordan.
Dicronychus brancuccii Platia & Schimmel, 1997
DISTRIBUTION. Oman; Saudi Arabia; Qatar; Kuwait. New to Jordan.

Dicronychus extinctus (Erichson, 1840)
Fig. 39, 136.
NOTES. Aedeagus as in fig. 39 (length 1,12 mm).
DISTRIBUTION. Iraq. New to Syria.

Dicronychus fusivittatus Platia & Gudenzi, 1999
Fig. 58, 137.
MATERIAL EXAMINED. 2 specm. ♂ ♀ - Syria : Halabiyyeh (35°41'N, 39°49'E), 160 m, 17-18.VI.1998, P. Kabatek; Tell Sheikh Hamad (35°38'N, 40°44'E), 277m, P. Kabatek (CCW; CPG).
DESCRIBED from male specimens.
FEMALE. Body larger, antennae shorter, not reaching apicis of posterior angles of pronotum by more than two articles, pronotum very convex, widest at anterior third.
Bursa copulatrix with sclerified plates as in fig. 58.
Size. Length 7,5 mm; width 2,25 mm.
DISTRIBUTION. Iraq; S Iran. New to Syria.

Dicronychus syriacus n. sp.
Fig. 40, 40a, 59, 59a, 138a.
DIAGNOSIS. A species allied to D. brancuccii Platia & Schimmel as to the similarities in the sclerified plates of bursa copulatrix, it can be easily separated by a series of morphological features such as longer antennae in the male, dilated sides at anterior third of pronotum and absence of the v-shaped lines at base of prosternum.
DESCRIPTION. Female. Head and pronotum dark ferruginous, scutellum yellowish at center, black all around its perimeter; elytra yellowish, darkened on the disc for about the first four intervals towards the sides; sides ovaliform, widest at middle, striae well-marked and deeply punctured; interstriae flat, densely punctured.
Aedeagus as in fig. 40, 40a (length 1,06 mm).
Size. ♂ ength 6,2- 7,8 mm; width 1,93- 2,18 mm; ♀ length 7- 8 mm; width 2,1-2,5 mm.
ETYMOLOGY. The name is derived from Syria, the country of origin of the species.

Craspedostethus incundus n. sp.
Fig. 41, 60, 139.
DIAGNOSIS. The new species is immediately separated from other species of this region by the bicolorous body.
DESCRIPTION. Male. Head, pronotum and central area of elytral disc behind the scutellum to the preapical area brown-ferrugineous; antennae, base, sides and apical area of elytra and legs yellowish; covered with yellow-golden vestiture.
Aedeagus as in fig. 40, 40a (length 1,06 mm).
Size. ♂ ength 6,2- 7,8 mm; width 1,93- 2,18 mm; ♀ length 7- 8 mm; width 2,1-2,5 mm.
ETYMOLOGY. The name is derived from Syria, the country of origin of the species.
Scutellum heart-shaped, flat, as long as wide, smooth or with a few indistinct punctures. Elytra 2.4x longer than pronotum and 2x longer than wide, suboval, convex on the disk; striae well-marked with coarse punctures; interstriae flat to subconvex with finer punctures.

Claws simple.

Aedeagus as in fig. 41 (length 0.72 mm).

Female. Very similar to male, with larger body and slightly shorter antennae.

Bursa copulatrix with sclerotised plates as in fig. 60.

Size. Length 3.6-5.8 mm; width 1.2-2 mm.

**ETYMOLOGY.** The name refers to the fine shape of the species.

*Crasedostethus linnavuorii* Platia & Gudenzi, 1999

**MATERIAL EXAMINED.** 1 specm. ♂ - **Israel**: Wadi Qelt, 23. VII. 2002, V. Kravchenko & V. Chikatunov. (TAU).

**DISTRIBUTION.** Israel; Turkey. New to Israel.

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**Bibliography**


Fig. 1-14. Male genitalia in dorsal view. 1. Lanelater wittmeri Chassain; 2. Lacon carmelensis n. sp.; 3, 3a. Lacon freidbergi n. sp.; 4, 4a. Lacon candesci (Desbrochers); 5, 5a. Lacon ganglbaueri (Schwarz); 6, 6a. Neopristilophus gorgeletii (Fairmaire); 7, 7a. Neopristilophus institus (Gemar); 8, 8a. Agriotes dolini n. sp.; 9. Agriotes gurjevae n. sp.; 10. Agriotes nigricans Platia & Gadenzi; 11. Elathous bicolor n. sp.; 12. Elathous murzovi n. sp.; 13. Athous (Orthathous) barclayi n. sp.; 14. Athous (Orthathous) kabalaki n. sp.
Fig. 61-83. First articles of antennae. 61. Lanelater wittmeri Chassain, ♂. 62. Lacon ammanensis n. sp. ♀. 63. Lacon carmelensis n. sp. ♂. 64. Lacon freidbergii n. sp. ♂. 65. Neopristilophus gougeletii (Fairmaire) ♀. 66. Neopristilophus insititus (Germar) ♀. 67-68. Agriotes dolini n. sp. ♀. 69. Agriotes gurjevae n. sp. ♀. 70. Agriotes nigricans Platia & Gudenzi, ♀. 71. Elathous bicolor n. sp. ♀. 72. Elathous murzovi n. sp. ♂. 73. Athous (Orthathous) barclayi n. sp. ♂. 74. Athous (Orthathous) kabalaki n. sp. ♂. 75. Dima riesei n. sp. ♂. 76. Dima scutellaris n. sp. ♂. 77, 77a. Ampedus lasoni n. sp. ♀. 78. Reitterelater elongatus n. sp. ♂. 79, 79a. Melanotus busei n. sp. ♀. 80, 80a. Melanotus chikatunovi n. sp. ♂. 81. Melanotus kravchenkoi n. sp. ♂. 82. Melanotus orbachorum n. sp. ♂. 83, 83a. Melanotus pavliceki n. sp. ♀.
Fig. 84-86. Frons. 84. *Elathous bicolor* n. sp.; 85. *Elathous murzovi* n. sp.; 86. *Athous (Orthathous) libanensis* n. sp. Fig. 87-89. Articles of tarsi. 87. *Athous (Orthathous) barclayi* n. sp.; 88. *Athous (Orthathous) kabalaki* n. sp.; 89. *Athous (Orthathous) libanensis* n. sp. Fig. 90-93. Apex of posterior angle of pronotum. 90. *Agriotes dolini* n. sp.; 91. *Dima riesei* n. sp. ♀; 92. *Dima scutellaris* n. sp.; 93. *Cardiophorus schmidti* n. sp. Fig. 94. Pleura and side of pronotum to show the black spots. 94. *Cardiophorus biozulatus* n. sp. Fig. 95-96. Scutellum in lateral and dorsal view. 95-96. *Dima scutellaris* n. sp. ♂. Fig. 97-105. Habitus in partial or total view. 97. *Lanelater wittmeri* Chassain, ♀; 98. *Lacon ammanensis* n. sp. ♀; 99. *Lacon carmelensis* n. sp. ♂; 100, 100a. *Lacon freidbergi* n. sp. ♀♂; 101. *Lacon candzei* (Desbrochers), m; 102. *Heteroderes nicholsi* Notman, ♂♂; 103, 103a. *Agriotes dolini* n. sp. ♀♀; 104. *Agriotes gurjevae* n. sp. ♂; 105. *Agriotes nigricans* Platia & Gudenz, ♂.
Fig. 106-123. Habitus in partial or total view. 106. Elathous bicolor n. sp. ♂; 107. Elathous murzovi n. sp. ♂; 108. Athous (Orthathous) barclayi n. sp. ♂; 109. Athous (Orthathous) kabalaki n. sp. ♂; 110. Athous (Orthathous) libanensis n. sp. ♂; 111. Athous (Orthathous) mauroi n. sp. ♂; 112. Dima riesei n. sp. ♂; 113. Dima scutellaris n. sp. ♂; 114, 114a. Ampedus lanoni n. sp. ♀; 115. Retterelater elongatus n. sp. ♂; 116. Peripontius guliaceus n. sp. ♂; 117. Peripontius maritimus n. sp. ♂; 118, 118a. Tophsorea bodenheimeri n. sp. ♀; 119, 119a. Porthmidius drymogenes n. sp. ♀; 120. Melanotus busei n. sp. ♂; 121. Melanotus chikatunovi n. sp. ♂; 122. Melanotus kravchenkoi n. sp. ♂; 123. Melanotus orbachorum n. sp. ♂.
Fig. 123-139. Habitus in partial or total view.; 123a. Melanotus orbachorum n. sp. ♀; 124, 124a. Melanotus pavliceki n. sp. ♂; 125. Cardiophorus angelini n. sp. ♂; 126. Cardiophorus bioculatus n. sp., ♀; 127, 127a. Cardiophorus intercivitates n. sp., ♀♂; 128. Cardiophorus kurdistanicus n. sp. ♀; 129. Cardiophorus negevensis n. sp., ♀; 130. Cardiophorus sacratoides n. sp. ♂; 131. Cardiophorus schmidi n. sp. ♂; 132, 132a. Cardiophorus aegyptiacus n. sp., ♀♂; 133. Cardiophorus insignis Desbrochers, ♀; 134. Cardiophorus reitteri Schwarz, ♂; 135. Dicronychus laevimaculatus n. sp. ♂; 136. Dicronychus extinctus (Erichson), ♂; 137. Dicronychus fusivittatus Platia & Gudenzi, ♀; 138, 138a. Dicronychus syrianus n. sp. ♀♂; 139. Craspedostethus jucundus n. sp., ♀.