NEW SPECIES, NEW RECORDS AND NOTES ON CLICK-BEETLES FROM GREECE (COLEOPTERA: ELATERIDAE)

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Abstract: Seven species of click-beetles belonging to the genera Dima Charpentier, Ampedus Dejean, Peripontius Gurjeva and Cardiophorus Eschscholtz, are described from Greece. The characteristics to separate the males and the pictures of genitalia of Dima fokidensis Schimmel & Platia, 2008 and Dima pannonensis Schimmel & Platia 2008, originally described on female specimens, are given. New records on five species into the genera Agriotes Eschscholtz, Cardiophorus Eschscholtz and Dicronychus Brullé are published.

Key words: Coleoptera, Elateridae, Dima, Agriotes, Ampedus, Peripontius, Cardiophorus, Dicronychus, new species, new records, Greece.

Introduction

The examination of material of click-beetles belonging to the genera Dima Charpentier, Ampedus Dejean, Peripontius Gurjeva and Cardiophorus Eschscholtz, from Greece (particularly from Peloponnesos, Lesbos, Samos and Creta Islands) received for study from the Natural History Museum of Erfurt (Germany) by the courtesy of the curator Mr. M. Hartmann, and from the private colleagues, in alphabetic order, J. Chassain (France), R. Królík (Poland), J. Mertlik (Czech Rep.), U. Schneppat (Switzerland), give me the opportunity to describe new species and to widen the distribution of other. Particularly interesting the discovery of three new species of the genus Dima. All the species of this genus are apterous and nocturnal and seem to have a high degree of speciation. Now their number from Greece amount to 24 species (Schimmel & Platia, 2008; Platia & Gudenzi, 2009; Platia, 2010, 2011, 2012), it is quadruplicated in the last four years by new researches with trapping systems and directly by night.

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 material studied is preserved in: CPG, Platia coll., Gatteo (Italy), CBU, Brúha coll., Ústí nad Labem, Czech Republic, CDZ, Dušánek coll., Zábřeh na Moravě, Kralove (Czech Republic), CKK, Królík coll., Kłuczbor (Poland), CMHK, Mertlik coll., Hradec Králové (Czech Republic), CZP, Zbuzek coll., Praha; NME, Naturkundemuseum Erfurt (Germany).

The tribal placement of genera listed below follows Bouchard et al. (2011). We used the following jobs that include original descriptions: Platia & Gudenzi (1999 and 2002).

Taxonomy

Tribe DIMINI Candèze, 1863

Dima schnitteri n. sp.

Fig. 1, 1a, 10, 10a, 16, 16a, 24, 24a, 29, 31, 31a.


Diagnosis. A large species near D. peloponnensis Schimmel & Platia, 2008, it can be separated for a little shorter antennae, coarser punctuation of pronotum, this with apices of posterior angles shorter, elytral striae less distinct, partially obsolete, different shape of the thorns of bursa copulatrix and aedeagus.

Description. Male. Moderately shiny; entirely brown-ferruginous with blackish shadings particularly on the disk of pronotum and at base of elytra; antennae and legs ferruginous; covered with dense, yellowish, partially erect on head, sides of pronotum and elytra, pubescence.
Frons impressed from vertex to the anterior margin, puncturation coarse, punctures umbilicate, contiguous.

Antennae exceeding by nearly four articles the apices of the posterior angles of pronotum; second article subconical, twice longer than wide, third conical, 1.9x longer than wide and just shorter than second; second and third, taken together, a little longer than fourth; fourth-fifth subtriangular more twice longer than wide, the following slenderer, on average 3x longer than wide; last longer than penultimate with subparallel sides narrowing to the apical third.

Pronotum 1.3x wider than long, widest behind the middle, moderately convex, in some specimens with a trace of a mid-longitudinal line or very narrow depression; sides arcuate from behind the middle gradually converging forward, sinuate before the posterior angles, the latter acuminate and divergent, directed downwards, carina running from base to the anterior margin and parallel to the lateral margin; punctuation uniformly distributed, punctures on the disk deep, simple or slightly umbilicate with very short, shiny intervals, just a little denser towards the sides.

Scutellum subcircular, wider than long, flat, ridged at base, finely punctured. Elytra 2.9x longer than pronotum and wider than it, moderately convex; sides widest behind the middle, subparallel in the first half; striae not always clearly defined and distinct; interspaces of variable size, deep, simple or slightly umbilicate, near the anterior margin, punctures coarse, slightly umbilicate, nearly contiguous.

Aedeagus as in fig. 1, 1a (length 3.1 mm). 

**Female.** Very similar to the male but with shorter antennae exceeding only by one articles the apices of posterior angles of pronotum.

Bursa copulatrix sclerified as in fig. 10, 10a.

**Size.** Length 13.7-17 mm; width 5.6-5.5 mm.

**ETYMOLOGY.** The species is dedicated to the collector Peer Schnitter, specialist of Coleoptera Carabidae.

**Dima arndti** n. sp.

Fig.2, 2a, 11, 17a, 25, 27, 32, 32a.

**MATERIAL EXAMINED.** Holotype ♂ - Greece: Peloponnese, Langaja Pass, 7.V.2007, E. Arndt & V. Neumann (NME); 2 Paratypes ♀♀ - same data as Ht. (NME, CPG).

**DIAGNOSIS.** Species closed to *D. parnomensis* Schimmel & Platia, 2008 it can be separated for the shorter antennae, the sides of pronotum strongly sinuate immediately before the posterior angles, these are longer and acuminated, paramera of aedeagus.

**DESCRIPTION.** Male. Moderately shiny; entirely brown-ferruginous with blackish undefined shadings on base of pronotum, base of elytra and scutellum; covered with dense, fine, recumbent on elytra, partially erect on head and posterior angles of pronotum, yellowish pubescence.

Frons impressed from the vertex to before the anterior margin, punctures of variable size, deep, simple or slightly umbilicate with very short, variable intervals. Antennae exceeding by three articles the apices of posterior angles of pronotum; second and third articles subconical, second just longer than second and 1.6x longer than wide; second and third, taken together, just longer than fourth; fourth-tenth subtriangular, on average twice longer than wide, last as long as penultimate, with subparallel sides, narrowing before the apex.

Pronotum 1.3x wider than long, widest behind the middle, very convex on the disk, gradually sloping at sides more abruptly at base; sides strongly arcuate, from behind the middle gradually converging forward, strongly sinuate immediately before the posterior angles, these very acuminate, not divergent at apex with a carina running parallel to the lateral margin reaching the anterior margin; punctuation moderate uniformly distributed, punctures on disk deep, simple with variable, shiny intervals, on average smaller than their own diameters, only a little denser towards the sides. Scutellum subpentagonal, flat, ridged and substraight at base, rounded at apex, finely punctured. Elytra 3x longer than pronotum and wider than it, convex; sides subparallel, just dilated behind the middle; striae well distinct for all its length indistinctly punctured; interspaces flat, densely punctured.

Aedeagus as in fig. 2, 2a (length 2.81 mm).

**Female.** Very simialt to the male but with shorter antennae, just reaching the apices of the posterior angles of pronotum. Bursa copulatrix sclerified as in fig. 11. **Size.** Length 11.8-12.8 mm; width 4.5-4.6.

**ECOLOGICAL NOTES.** The specimens were collected in *Abies cephalonica* forest.

**ETYMOLOGY.** The species is dedicated to one of the collectors, Erik Arndt, specialist of Coleoptera Carabidae.

**Dima neumanni** n. sp.

Fig. 3, 3a, 18, 26, 28, 33.


**DIAGNOSIS.** A species related to *D. raineri* Wurst, 1997 for the general shape and size it can be distinguished by the shorter antennae, conspicuously denser pubescence, semierect on head and pronotum, subparallel sides of elytra.

**DESCRIPTION.** Male. Moderately shiny; brown-ferruginous with head and pronotum darkened; covered with dense, semierect on head, pronotum, sides of elytra, yellowish pubescence.

Frons impressed from between the eyes to near the anterior margin, punctures coarse, slightly umbilicate, nearly contiguous. Antennae exceeding by about three articles the apices of the posterior angles of pronotum; second and third articles subconical, 1.6x longer than wide and subequal in length, taken together, 1.28x longer than fourth; fourth-tenth subtriangular, fourth-sixth about twice longer than wide, the following slenderer more twice longer than wide, last longer than penultimate, with subparallel sides narrowing to the apical third.

Pronotum 1.23x wider than long, widest just behind the middle, moderately and regularly convex; sides arcuate, from behind the middle gradually converging forwards; strongly sinuate immediately before the posterior angles, the latter acuminate, divergent with a carina running parallel to the lateral margin and reaching the anterior margin; punctuation uniformly distributed, punctures on disk deep, simple with very short and shiny intervals, only just denser towards the sides. Scutellum subcircular, wider than long, straighth at base, punctured.
Elytra 3x longer than pronotum and a little wider than it, convex; sides subparallel for about the two third of its length, gradually narrowing at the apical third; striae well distinct, not punctured, interstriae flat, densely punctured. Aedeagus as in fig. 3, 3a (length 2.75 mm).

Female unknown.

Size. Length 12 mm; width 4.3 mm.

**ECOLOGICAL NOTES.** The specimens were collected in *Abies cephalonica* forest.

**ETYMOLOGY.** The species is dedicated to Volker Neumann, collector of Col. Carabidae.

**Dima fokidensis** Schimmel & Platia, 2008

*Fig. 4, 4a, 19, 34.*

MATERIAL EXAMINED. 89 ♂, 77 ♀ - Greece: Magnissia, Pilio Mts., Chania village env., 1263 m, 15.VI.2012, J. Mertlik (CDZ; CMHK; CPG; CZP).

DESCRIBED on three female specimens.

Male. Very similar to female, it differs for the longer antennae exceeding by about four articles the apices of posterior angles of pronotum with second and third articles, taken together as long as fourth.

Aedeagus as in fig. 4, 4a (2.87 mm).

Size. Length 10.5-14.5 mm - width 4-5 mm.

**Dima parnonensis** Schimmel & Platia, 2008

*Fig. 5, 5a, 20, 34.*


DESCRIBED on two female specimens. The male was collected together the female but was not disposable at the moment of description.

Male. Very similar to the female but with longer antennae exceeding by four articles the apices of posterior angles of pronotum, second and third articles, taken together, as long as fourth.

Aedeagus as in fig. 5, 5a (length 2.81 mm).

Size. Length 12.6 mm; width 4.68 mm.

**Tribe SYNAPTINI,** Gistel, 1856

**Peripontius lesionensis** n. sp.

*Fig. 6, 6a, 12, 21, 21a, 36, 36a.*


**DIAGNOSIS.** Very related to *P. omissus* (Buysson, 1889) for the general shape, colour and size, it can be separated for the subtrapezoidal shape of pronotum in the male, shorter elytra compared to pronotum, slenderer paramera in aedeagus, sclerites of bursa copulatrix.

**DESCRIPTION.** Male. Entirely ferruginous with undefined blackish shadings; covered with dense, yellow-fulvous pubescence.

Frons convex between the eyes, flat before the anterior margin, uniformly punctured, punctures coarse, slightly umbilicate, nearly or contiguous.

Antennae not reaching for about one article the apices of posterior angles of pronotum, serrated from fourth article on; second article subcylindrical, third subconical, subequal in length; second and third, taken together, 1.57x longer than fourth; fourth-tenth triangular, on average 1.6 longer than wide, last longer than penultimate, ellipsoidal, constricted at the apical third.

Pronotum 1.2x wider than long, widest at the apices of posterior angles, convex, abruptly sloping at sides and base, sides nearly regularly and gradually narrowing from base to the anterior margin, posterior angles acuminate, not divergent, with a short carina very near to the lateral margin in the first half; lateral margin complete; punctuation uniformly distributed, punctures coarse, on the disk slightly umbilicate, with very short, shiny intervals, gradually denser and clearly umbilicate towards the sides, contiguous at the lateral extremities. Scutellum shield-shaped nearly as long as wide, ridged at base, flat, punctured.

Elytra 3x longer than pronotum and as wide as it, convex; sides regularly narrowing from base to apices; striae regularly marked and punctured; intersriae flat with finer punctures. Aedeagus as in fig. 6, 6a (length 0.75 mm).

**Female.** Very similar to the male but with shorter antennae, more parallel sides of pronotum and of elytra.

Bursa copulatrix sclerified as in fig. 12.

Size. Length 6.80- 6.85 mm; width 1.93-2.06 mm.

**ETYMOLOGY.** The name is derived from the Island of Lesbo where the species was collected.

**Tribe AGRIOTINI** Laporte, 1840

**Agriotes laevicarinatus** Platia & Gudenzi, 1999

*Fig. 7, 7a, 37.*


In the original description of the species was not published the picture of the male genitalia.

Aedeagus as in fig. 7, 7a (length 1.43 mm).

**DISTRIBUTION.** Greece (Cate, 2007).

**Tribe AMPEDINI** Gistel, 1848

**Ampedus bergeri** n. sp.

*Fig. 8, 8a, 22, 30, 38.*


**DIAGNOSIS.** Species belonging to *A. sanguinolentus* group for the system of pronotal puncturation, it can be separated by the third subtriangular antennal article with a shagreened, dull surface and sides of pronotum nearly regularly narrowing from base to apex.

**DESCRIPTION.** Male. Bicoloured; head, pronotum, scutellum, underbody, black-piceous; elytra nearly entirely red only with the apical extremity darkened; legs blackish with yellow-ferruginous claws; covered with dense, blackish pubescence. Frons convex, punctation uniformly distributed, punctures umbilicate, nearly contiguous.

Antennae reaching the apices of posterior angles of pronotum; second article very short, as long as wide, third subtriangular with dull surface, twice longer than second and 1.3x longer than wide, second and third, taken together, 1.2x longer than...
fourth; fourth-tenth triangular, on average just longer than wide, last longer than penultimate, ellipsoidal, constricted at the apical third

Pronotum 1.2x wider than long, widest at the apices of posterior angles, convex, with a very shallow mid-longitudinal depression on the basal slope, sides nearly regularly and gradually converging from base to apex, posterior angles not divergent, with a short and raised carina directed inside; punctuation moderate uneven distributed, punctures on the disk deep, simple or slightly umbilicate with intervals on average equal to their own diameters, gradually larger and clearly umbilicate towards the sides, with very short intervals or nearly contiguous at the lateral extremities.

Scutellum shield-shaped, moderately convex, ridged at base, distinctly punctured.

Elytra 2.9x longer than pronotum and as wide as it, convex; distinctly punctured.

Scutellum shield-shaped, moderately convex, ridged at base, sparsely punctured.

Elytra 2.8x longer than pronotum and as wide as it, moderate-serrate from fourth article on; second article subcylindrical, 1.75x longer than wide; third-tenth triangular, on average 2.5x longer than wide.

Pronotum just wider than long, widest at middle, very and posteriorially gradually narrowing, posterior angles shortly carinate; lateral margin complete and regularly curved; punctuation uniformly distributed, punctures on the disk deep, simple, of two sizes regularly mixed with very shiny intervals on average equal to larger than their own diameters.

Antennae reaching the apices of posterior angles of pronotum, moderately serrated from fourth article on; second article subcylindrical, 1.75x longer than wide; third-tenth triangular, on average 2.5x longer than wide.

Elytra 2.34x longer than pronotum and as wide as it, convex; sides ovaliform, widest at middle; striae regularly marked and punctured, interstriae flat, densely punctured.

Aedeagus as in fig. 9, 9a (length 1.25 mm).

**Female**

**Size.** Length 10.9 mm; width 3.1 mm.

**ETYMOLOGY.** The species is dedicated to the collector P. Berger, well-known specialist of Coleoptera Cerambycidae.

**Ampedus chassaini** n. sp.

Fig. 9, 9a, 23, 39.


**DIAGNOSIS.** Species that could be compared with *A. pomonae* (Stephens, 1830) for the general shape and colour, it can be distinguished by the sides of pronotum nearly regularly converging from base to apex with less dense and subovate punctures at the lateral extremities.

**DESCRIPTION.** Male. Bicoloured; head, pronotum, scutellum black-piceous, elytra entirely red-orange, antennae blackish; legs brownish with ligher tarsi; covered with dense, erect on sides of pronotum and elytra, blackish pubescence.

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

Antennae reaching the apices of posterior angles of pronotum, serrated from fourth article on; second article subcylindrical just longer than wide, third subconical, 1.55x longer than second; second and third, taken together, just longer than fourth; fourth-tenth triangular, on average 1.5x longer than wide, last longer than penultimate, subellipsoidal.

Pronotum 1.14x wider than long, widest at middle, very arcuate, from middle anteriad and posterioriad equally narrowing, posterior angles shortly carinate; lateral margin complete and regularly curved; punctuation uniformly distributed, punctures on the disk deep, simple, of two sizes regularly mixed with very shiny intervals on average equal to larger than their own diameters, towards the sides just denser.

Scutellum heart-shaped, as long as wide, pointed at apex, deeply emarginate at middle of base, flat, very finely punctured.

Elytra 2.34x longer than pronotum and as wide as it, convex; sides ovaliform, widest at middle; striae well marked and punctured; interstriae subconvex, very densely punctured.

Last visible abdominal sternite with a preapical shallow depression.

Claws simple.

Bursa copulatrix sclerified as in fig. 14, 14a, 14b, 40a.

**Size.** Length 7.0 mm; width 2.18 mm.

**Male** unknown.

**ETYMOLOGY.** The species is dedicated to the collector Ulrich E. Schneppt, of the Bündner Naturmuseum / Amt für Kultur of Chur (Switzerland).

**Cardiophorus schneppati** n. sp.

Fig. 14, 14a, 14b, 40, 40a.


**DIAGNOSIS.** Species very closed to *C. foveiventris* Schwarz, 1900 for the general shape, colour and depression on the last abdominal sternite, it can be separate for the less dense punctuation of pronotum and characters of bursa copulatrix. 

**DESCRIPTION.** Female. Entirely black with moderate bronzed lustre; legs reddish; covered with dense, short, yellowish pubescence.

Frons convex between the eyes, flat before the anterior margin, punctures fine, of variable size and intervals on average smaller than their own diameters.

Antennae reaching the apices of posterior angles of pronotum, moderately serrated from fourth article on; second article subcylindrical, 1.75x longer than wide; third-tenth triangular, on average 2.5x longer than wide.

Pronotum just wider than long, widest at middle, very and regularly convex; sides very arcuate, from middle anteriad and posterioriad equally narrowing, posterior angles shortly carinate; lateral margin complete and regularly curved; punctuation uniformly distributed, punctures on the disk deep, simple, of two sizes regularly mixed with very shiny intervals on average equal to larger than their own diameters, towards the sides just denser.

Scutellum shield-shaped, with a trace of mid-longitudinal carina, ridged at base, sparsely punctured.

Elytra 2.8x longer than pronotum and as wide as it, moderately convex; sides very gradually and regularly narrowing from base to the apices; striae regularly marked and punctured, interstriae flat, densely punctured.

Aedeagus as in fig. 9, 9a (length 1.25 mm).

**Female** unknown.

**Size.** Length 10.9 mm; width 3.1 mm.

**ETYMOLOGY.** The species is dedicated to the collector Jacques Chassain, well-known specialist of Coleoptera Elateridae, that sent me many interesting material.

Tribe CARDIOPHORINI Candèze, 1859

**Cardiophorus agilis** Platia & Gudenzi, 2002


**DISSIBUTION.** Turkey (Cate, 2007). **New to Greece.**
Cardiophorus foveiventris Schwarz, 1900
Figs. 15, 15a, 15b, 41
MATERIAL EXAMINED. 3 ♀ - Greece: Creta Is., 1 km S Ali-chambos, Chania Pref., 400 m, 17.V.2011, R. Królik; Omalos env., Chania Pref., 1049 m, 16.V.2011, R. Krolik. (CKK; CPG).
DISTRIBUTION. Species known till now from several localities of continental Greece. (Cate, 2007). New to Creta Island.

Dicronychus senaci (Desbrochers, 1870)
DISTRIBUTION. Turkey (Cate, 2007). New to Greece.

Dicronychus variatus (Desbrochers, 1875)
DISTRIBUTION. Syria; Turkey (Cate, 2007). New to Greece.

Bibliography


