

INTERESTING RECORDS OF BEETLES FROM GREECE, WITH DESCRIPTION OF A NEW SPECIES (COLEOPTERA, ELATERIDAE AND PLASTOCERIDAE)

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Abstract: New records of four species of click beetles of the genera *Conoderus* Eschscholtz, 1829, *Danosoma* C.G. Thomson, 1859, *Harminius* Fairmaire, 1851 and *Odontoderus* Schwarz, 1894 are given, together with the description of a new *Cardiophorus* Eschscholtz, 1829 and new records of *Plastocerus angulosus* (Germar, 1845) (Plastoceridae), all from Greece.

Key words: Coleoptera, Elateridae, Plastoceridae, *Conoderus*, *Danosoma*, *Harminius*, *Odontoderus*, *Cardiophorus*, *Plastocerus*, new records, new species, Greece.

Citas interesantes de coleópteros de Grecia y descripción de una especie nueva (Coleoptera, Elateridae y Plastoceridae)

Resumen: Se aportan nuevas citas de cuatro especies de elateridos de los géneros *Conoderus* Eschscholtz, 1829, *Danosoma* C.G. Thomson, 1859, *Harminius* Fairmaire, 1851, *Odontoderus* Schwarz, 1894, junto con la descripción de un nuevo *Cardiophorus* Eschscholtz, 1829 y nuevas citas de *Plastocerus angulosus* (Germar, 1845) (Plastoceridae), todos de Grecia.

Palabras clave: Coleoptera, Elateridae, Plastoceridae, *Conoderus*, *Danosoma*, *Harminius*, *Odontoderus*, *Cardiophorus*, *Plastocerus*, citas nuevas, especie nueva, Grecia.

Taxonomía / Taxonomy: *Cardiophorus maleates* sp. nov.

Introduction

The aim of this study is to publish new records of click beetles, with the description of a new *Cardiophorus* Eschscholtz, 1829 from Greece. Particularly interesting is the presence of *Odontoderus spinicollis* Schwarz, 1894, till now known only for the typical specimens from Lebanon, and a discovery of a new *Cardiophorus* easily distinct from all the greek species for the colour patterns. Finally is confirmed the quickly spread of the neotropical species *Conoderus posticus* (Eschscholtz, 1822) from west to east.

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:

CKA, Kakiopoulos coll., Athens (Greece)

CPG, Platia coll., Gatteo (Italy).

The tribal placement of genera of Elateridae listed below follows Bouchard *et al.* (2011) except for the genus *Plastocerus* Schaum, 1852 included in the subfamily Aplastinae Stibick, 1979.

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

Taxonomy

Family ELATERIDAE

Tribe Oophorini Gistel, 1848

Conoderus posticus (Eschscholtz, 1822)

Fig. 10.

MATERIAL EXAMINED. 1 spcm. ♀ - Greece: Attica, Athens city, 25.XII.2011, G. Kakiopoulos. (CKA).

DISTRIBUTION. Neotropical Reg.; E : Portugal (Azores Is.) (Cate, 2007); Spain (Platia, 2010); Malta, Italy (Sardinia & Sicily) (Wurst and Mifsud, 2012), Italy (Campania & Lazio) (www.entomologiitaliani.net), Basilicata (Jarzabek-Müller pers. comm.); Madeira Is. and Greece (Crete) (Platia, 2013); Iran (Mardjanian *et al.*, 2013). **New to continental Greece.**

ECOLOGICAL NOTES. Collected on white wall of a house .

Tribe Agrypnini Candèze, 1857

Danosoma fasciata (Linnaeus, 1758)

MATERIAL EXAMINED. 2 spcm. (♂♀) - Greece: East Macedonia, Drama region, western Rhodopes mountains, near the Bulgarian border, 1100 m., 19.VI.1990, G. Kakiopoulos; Epirus, Ioannina region, central Pindos mountain, 1000 m, 7.VII.2009, G. Kakiopoulos. (CKA).

DISTRIBUTION. E: AU BU BY CT CZ EN FI FR GE IT LA LT NR NT PL RO SK SL SP SV SZ UK YU A: ES FE GAN JA KZ MG TR WS XIN "North China" "Korea" (Cate, 2007). **New to Greece.**

ECOLOGICAL NOTES. Collected under barks of *Picea* sp. and *Pinus nigra*.

***Harminius gigas* (Reitter, 1890)**

MATERIAL EXAMINED. 4 spcm. ♀ - Greece: Pendalofos, 800 m, 31.VII.1985, P. Cavazzuti; Evritania, O. Kauki above Kerasohori vers. SE, 1160 m, 12.VI.1999-24.VI.2000, M. Giachino & D. Vailati; nom. Arta, O. Athamano, 1000 m, 7.VI.2004-29.V.2005, M. Giachino & D. Vailati. (CPG).

DISTRIBUTION. E: AL BH CR YU (Cate, 2007). **New to Greece.**

***Odontoderus spinicollis* Schwarz, 1894**

Schwarz, 1894: 149; Müller, 1923: 106; Binaghi, 1950: 7. Fig. 1, 1a, 4, 5, 7, 8, 11, 12.

MATERIAL EXAMINED. 3 spcm. (2 ♂, 1 ♀) - Greece: Attica, Gerania Mountain, 3,5 km SE from the top, 850 m, 18.IX.2005, G. Kakiopoulos, on *Pinus halepensis* twigs (♂); Peloponnesos, Arcadia, 3 km N of Kosmas vill., 1100 m, 8.X.2013, G. Kakiopoulos, on evergreen *Quercus* sp. twigs (♂); Peloponnesos, Arcadia, 6 km E of Langadia vill., 950 m, 8.IX.2001, under stone in roots of old deciduous *Quercus* sp. (CKA).

Aedeagus as in fig. 1, 1a (length 0,72 mm).

Size. ♂ Length 5 (original description)- 5,9 mm; width 1,5-1,6 mm.

Described on a male specimen. The female is shortly described.

Female. Very similar to the male but larger and antennae shorter not reaching the apices of posterior angles of pronotum.

Size. Length 8 mm; width 2,12 mm.

DISTRIBUTION. Described from Beirut, Lebanon. **New to Greece.**

NOTES. Very probably the rarity of the species of the genus *Odontoderus* Schwarz, 1894, *O. antigai* (Buysson, 1895) known from Spain, Italy and Croatia and *O. spinicollis* Schwarz, 1894 from Lebanon, is due to the late fly in september-october, a period where the activity of the entomologists is moderate; the larvae and the biology are unknown.

***Cardiophorus maleates* n. sp.**

Fig. 2, 2a, 6, 13.

MATERIAL EXAMINED. Holotype ♂ - Greece: Peloponnesos, Lakonia, 10 km S of Neapolis town, fossil forest region (Apolithomeno dasos), 80 m, 25.III.2013, G. Kakiopoulos. (CKA).

DIAGNOSIS. Species immediately separated from all the known greek species (Platia & Gudenzi, 2000) because of the body colour and male genitalia with median lobe as long as paramera.

DESCRIPTION. Male. Shiny; bicoloured; head, pronotum, scutellum and the great part of elytra black; fourth-sixth elytral interstriae yellowish from base to before the middle; fifth-sixth interstriae from the apical third to apex yellowish but

few apparent; first two antennal articles and legs yellow-ferruginous; covered with dense, yellowish, pubescence.

Head with eyes as wide as the anterior margin of pronotum, frons flat on vertex, convex at middle, feebly impressed before the anterior margin, this moderately thickened and regularly arcuate; punctures dense, approximately of the same size, with very short, shiny interstices.

Antennae reaching the apices of posterior angles of pronotum, feebly serrated from third article on, second article subcylindrical, 1,5x longer than wide, third conical, 2x longer than wide and 1,3x longer than second; second and third, taken together, 1,27x longer than fourth; fourth-tenth triangular, on average 2,4x longer than wide; last longer than penultimate, ellipsoidal, symmetrically constricted at apex.

Pronotum as long as wide, widest at middle, regularly and strongly convex; sides from middle gradually narrowing to apex, more strongly narrowing to posterior angles, the latter short, truncate, not divergent, briefly carinate; lateral suture-like margin obsolete at anterior third; puncturation uniformly distributed, punctures approximately of the same size, simple, with very short, shiny, intervals.

Scutellum heart-shaped, as long as wide, moderately impressed, emarginate at middle of base, finely punctured.

Elytra 2,12x longer than pronotum and as wide as it at base, ovaliform, widest at middle; striae well marked and punctured, interstriae flat to slightly convex, densely and more finely punctured.

Claws simple.

Aedeagus as in fig. 2, 2a (length 1,17 mm).

Female unknown.

Size. Length 6,5 mm; width 2,15 mm.

ETYMOLOGY. The name is related to the ancient temple (Apollon maleates) which once existed near the locality of the insect as also the modern name of the cape on there (Cape Maleas).

***Plastocerus angulosus* (Germar, 1845)**

Fig. 3, 3a, 14.

MATERIAL EXAMINED. 2 specm. ♂ - Greece: Peloponnesos, Messenia, near Langada vill., 450 m, 5.VIII.1990, G. Kakiopoulos, on grass; NW Peloponnesos, Achaia, near Kato Lousi vill., 650 m, 10.VIII.2009, G. Kakiopoulos; several specm. (not collected): Peloponnesos, Arcadia, near Leonidion town, 8-9.VIII.1992, 0-600 m, G. Kakiopoulos, on various plants. Aedeagus as in fig. 3, 3a (length 1,31 mm).

DISTRIBUTION. Turkey (Cate, 2007); Israel (Platia, 2010); Syria; Greece (Samos Is.) (Platia & Nemeth, 2011). **New to continental Greece.**

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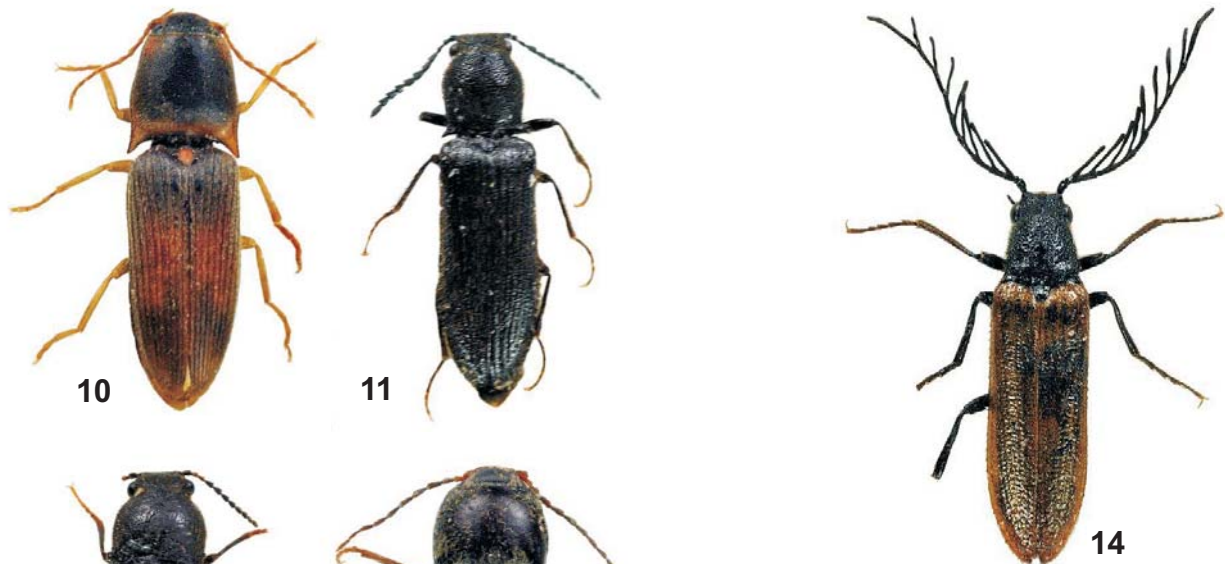
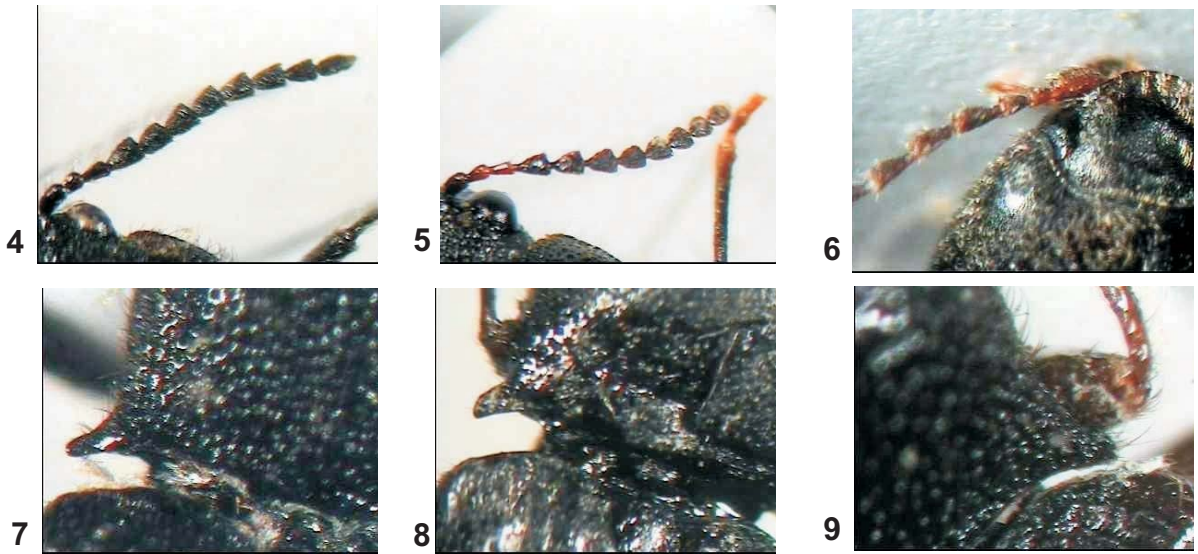
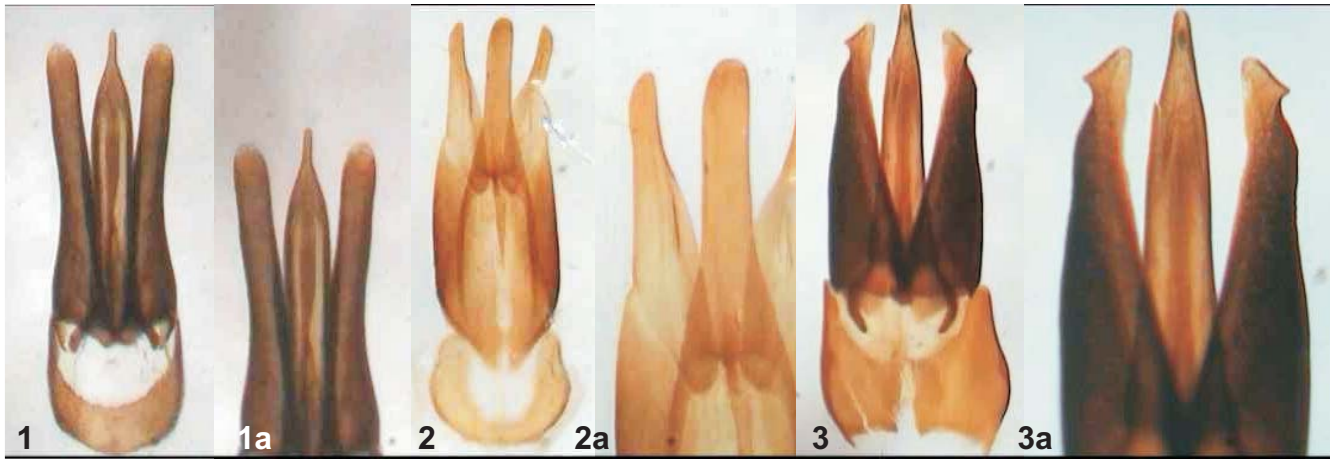


Fig. 1-3. Male genitalia in dorsal view. 1, 1a. *Odontoderus spinicollis* Schwarz. 2, 2a. *Cardiophorus maleatus* n. sp. 3, 3a. *Plastocerus angulosus* (Germar). **Fig. 4-6.** Antennae in toto or first articles. 4. *Odontoderus spinicollis* Schwarz, ♂. 5. *Odontoderus spinicollis* Schwarz, ♀. 6. *Cardiophorus maleatus* n. sp. **Fig. 7-9.** Apex of posterior angles of pronotum. 7. *Odontoderus spinicollis* Schwarz, ♂. 8. *Odontoderus spinicollis* Schwarz, ♀. 9. *Odontoderus antigai* (Buysson), ♂. **Fig. 10-14.** Habitus. 10. *Conoderus posticus* (Eschscholtz), ♀, 7,5 mm. 11. *Odontoderus spinicollis* Schwarz, ♂, 5,9 mm. 12. *Odontoderus spinicollis* Schwarz, ♀, 8 mm. 13. *Cardiophorus maleatus* n. sp., ♂, 6,5 mm. 14. *Plastocerus angulosus* (Germar), ♂, 10,4 mm.

Bibliography

- BINAGHI, G. 1950. Sull'*Odontocerus antigae* Buyss. Nuove catture e nuovi caratteri diagnostici (Col. Elateridae). *Memorie del Museo Civico di Storia Naturale di Verona*, **2**: 7-10.
- BOUCHARD P., Y. BOUSQUET, A.E. DAVIES, M.A. ALONSO-ZARAZAGA, J.F. LAWRENCE, C.H.C. LYAL, A.F. NEWTON, C.A.M. REID, M. SCHMITT, S.A. ŚLIPŃSKI & A.B.T. SMITH 2011. Family-group names in Coleoptera (Insecta). *ZooKeys*, **88**: 1-972.
- CATE P.C. 2007. Family Elateridae, Plastoceridae, pp. 89-209, in Löbl I. & Smetana A. (ed.): Catalogue of Palaearctic Coleoptera, Vol. 4. Elateroidea – Derontoidea -Bostrichoidea - Limexyloidea-Cleroidea-Cucujoidea. *Stenstrup: Apollo Books*, 935 pp.
- MARDJANIAN, M. A., CH. GOBARI, DJ. NOZARI & J. CHAYE 2013. Materials to fauna of click-beetles (Coleoptera, Elateridae) of Golestan Province (Iran). *Biological Journal of Armenia*, **4**(65): 130-132.
- MÜLLER J. 1923. Ueber *Odontoderus* und *Diadochus*. *Wiener Entomologische Zeitung*, **40**: 106-107.
- PLATIA G. 2010. Descriptions of fourteen new species of click beetles from the Palearctic Region, with chorological notes. *Quaderno di Studi e Notizie di Storia Naturale della Romagna*, **30**: 103-130.
- PLATIA G. 2013. New species and new records of click beetles from the Palearctic region (Coleoptera, Elateridae). *Boletín de la Sociedad Entomológica Aragonesa*, **53**: 121-124.
- PLATIA G. & I. GUDENZI 2000. Contributo alla conoscenza dei *Cardiophorus* della Grecia. *Bollettino della Società entomologica Italiana, Genova*, **132**(2): 135-155.
- SCHWARZ O. 1894. Neue Elateriden. *Deutsche Entomologische Zeitschrift*, 1894, **38**(1): 145-150.
- WURST C. & D. MIFSUD, 2012. Click beetles from the Maltese Islands (Coleoptera, Elateridae). *Bulletin of the Entomological Society of Malta*, **5**: 97-103.