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DESCRIPTION OF THREE NEW SPECIES OF CLICK BEETLES FROM THE PALEARCTIC REGION, WITH NEW DISTRIBUTIONAL RECORDS (COLEOPTERA, ELATERIDAE)

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Abstract: *Hypnoidus ibericus* **n. sp.** (Portugal, Spain), *Agriotes sirnakensis* **n. sp.** (south-eastern Turkey) and *Anostirus omogoensis* **n. sp.** (Shikoku, Japan) are described. New distributional records for *Anostirus gracilicollis* (Stierlin), *Denticollis linearis* (L.), *Ampedus rubellus* Gurjeva, *Cardiophorus ruficollis* (L.) are given. The genitalia of the male of *Cardiophorus kasnaki* Platia and that of the female of *C. acuminatus* Platia & Gudenzi, two species from Turkey, are figured.
Key words: Coleoptera, Elateridae, new species, new distributional records, Palearctic Region.

Descripción de tres especies nuevas de elatéridos de la Región Paleártica y nuevos datos de distribución (Coleoptera, Elateridae)
Resumen: Se describen *Hypnoidus ibericus* **n. sp.** (Portugal, España), *Agriotes sirnakensis* **n. sp.** (sureste de Turquía) y *Anostirus omogoensis* **n. sp.** (Shikoku, Japón). Se aportan nuevas citas para *Anostirus gracilicollis* (Stierlin), *Denticollis linearis* (L.), *Ampedus rubellus* Gurjeva y *Cardiophorus ruficollis* (L.). De *Cardiophorus kasnaki* Platia y *C. acuminatus* Platia & Gudenzi, dos especies de Turquía, se ilustra la genitalia del macho y de la hembra, respectivamente.
Palabras clave: Coleoptera, Elateridae, especies nuevas, nuevas citas, Región Paleártica.

Taxonomy / Taxonomía: *Hypnoidus ibericus* **sp.n.,** *Agriotes sirnakensis* **sp.n.** y *Anostirus omogoensis* **sp.n.**

Introduction

This paper reports a study of click-beetles from different countries of the Palearctic Region, recently submitted by colleagues.

The most important results are the identification of three undescribed species belonging to the genera *Hypnoidus* Dillwyn (Portugal and Spain), *Agriotes* Eschscholtz (Turkey), *Anostirus* Eschscholtz (Japan).

Particularly interesting and unexpected are a new *Hypnoidus* from Portugal and Spain and a new *Anostirus* from Japan. Any species of *Hypnoidus* were not known from Portugal while from N-NE Spain only *H. riparius* (F.) was known; in the same way the discovery of a new species of *Anostirus* from the Ehime Pref., in northwestern Shikoku, a japanese region entomologically well known, was rather surprising.

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 material studied are abbreviated as follows:

CAF: Angelini coll., Francavilla Fontana (Italy).
CDM: Diotti coll., Milan (Italy).
CMHK: Mertlik coll., Hradec Kralove (Czech Rep.).
CMM: Monzini coll., Milan (Italy).
CPG: Platia coll., Gatteo (Italy).
MSNB: Museum of Natural History, Brescia (Italy).

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

Results

Tribe HYPNOIDINI Schwarz, 1906

***Hypnoidus ibericus* n.sp.**
Fig. 1, 1a, 7, 12, 15, 16.

MATERIAL EXAMINED. Holotype ♂- **Portugal**: Sierra de Estrela, 9.VIII.1989, R. Sciaky (CPG). 4 Paratypes (2 ♂, 2♀) – same data as HT; 1 ♀- **Spain**: Sierra de Gredos, Laguna Grande, 2000 m, 7.VII.1985, B. Osella (CMM; CPG).

DIAGNOSIS. A species allied to *H. riparius* (F.), the only species of the genus known from N, NE of Spain, for the inpunctate elytral striae; it can be easily separated by the body colour without bronzed lustre and particularly for the shiny, not shagreened, surface of pronotum.

DESCRIPTION:

Male. Shiny; entirely blackish (the specimen from Spain is partially reddish and probably was collected as immature), antennae brownish, legs with femura darkened, tibiae and tarsi ferruginous; covered with short, moderate, recumbent, fulvous vestiture.

Head with eyes a little narrower than anterior margin of pronotum; frons flat, anterior margin moderately thickened, regularly arcuate, at middle just protruding above clypeus; punctures deep, simple or vaguely umbilicate of variable diameters, intervals too very variable, smaller to much more larger than their own diameters, surface between the punctures shiny or very feebly shagreened.

Antennae short only a little surclassing the middle of pronotum, serrated from fourth artiche on; second segment subcylindrical, a little shorter than third, suconical, taken together 1.7x longer than fourth; fourth-tenth triangular, fourth-fifth just longer than wide, sixth-tenth as long as wide, last as long as penultimate, asymmetrically narrowing at apex.

Pronotum 1.2x wider than long, widest at middle and at apicis of posterior angles, convex, abruptly sloping at base with a vestige of mid-longitudinal depression at basal slope; sides arcuate, from middle regularly narrowing to apex, behind the middle more gradually narrowing and gently sinuate before the posterior angles, the latter acuminate, a little divergent, shortly carinate; lateral margin complete and all visible in a dorsal view; punctures very fine, simple and sparse on all the surface, with intervals irregular but always larger than their own diameters; surface between the interstices shiny.

Scutellum shield-shaped as long as wide, flat to moderately convex, sparsely punctured.

Elytra 2.4-2.5x longer than pronotum, convex, ovaliform, widest at middle; striae well marked and impunctate; interstriae flat, punctures sparse and very fine.

Aedeagus as in fig. 1, 1a (length 0.93 mm).

Female. Extremely similar to male.

Size. Length 5.7-6.1 mm; width 1.93-2.25 mm.

ETYMOLOGY. The name is derived from Spain and Portugal belonging to the Iberian Peninsula where the species was collected.

Tribe AGRIOTINI Champion, 1894

***Agriotes sirnakensis* n.sp.**
Fig. 2, 2a, 8, 18.

MATERIAL EXAMINED. Holotype ♂- **Turkey**: Sirnak prov., Idil, 800 m, 15.V.2011, P. Rapuzzi & G. Sama (CPG).

DIAGNOSIS. Species that can be compared to *A. granulosus* Platia & Schimmel, 1992 for the black piceous colour, moderately shiny body and rough surface of elytra, it is easily separated by the smaller size and particularly for the shape of pronotum with sides regularly narrowing from base to apex.

DESCRIPTION:

Male. Moderately shiny; entirely black piceous with antenna and legs ferrugineous; covered with moderate, recumbent, yellow fulvous vestiture.

Frons convex on vertex, flat at anterior margin, punctures coarse, contiguous or with shortest shiny intervals, more or less umbilicate. Antennae not reaching for about one articles the apicis of posterior angles of pronotum feebly serrated from fourth on; second article subcylindrical, third subconical, subequal in length, taken together 1.5x longer than fourth; fourth-tenth subtriangular, on average twice longer than wide, last a little longer than penultimate, subellipsoidal, moderately constricted at apex.

Pronotum as long as wide, widest at apicis of posterior angles, convex, abruptly sloping at sides, with narrow mid-longitudinal furrow from behind the middle to the basal slope; sides regularly narrowing from base to apex, posterior angles long, acuminate, not diverging, with moderate carina subparallel and well separated from the lateral margins; puncturation coarse, punctures on disk deep, umbilicate, with interstices variable, on average smaller than their own diameters, gradually denser towards the sides, contiguous at lateral extremities.

Scutellum shield-like, flat, moderately ridged at base, feebly sinuate at anterior half, densely punctured.

Elytra 2.65x longer than pronotum, as wide as it, convex; sides widest at middle than gradually narrowing to apicis; striae regularly marked, interstriae flat, densely punctured with roughly surface.

Aedeagus as in fig. 2, 2a (length 1.05 mm).

Female unknown.

Size. Length 9.35 mm; width 2.62 mm.

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

Tribe PROSTERNINI Gistel, 1856

***Anostirus omogoensis* n. sp.**
Fig. 3, 3a, 9, 10, 11, 13, 14, 17.

MATERIAL EXAMINED. Holotype ♂- **Japan**: Ehime Pref., Omogo Valley, Kumakogen town, 8.V.2005, T. Kurihara & T. Koseki (CPG).

DIAGNOSIS. A species immediately separated by the two known japanese species, *A. daimio* (Lewis, 1894) and *A. castaneus japonicus* Kishii & Ohira, 1956 for the colour patterns and the peculiar male genitalia .

DESCRIPTION:

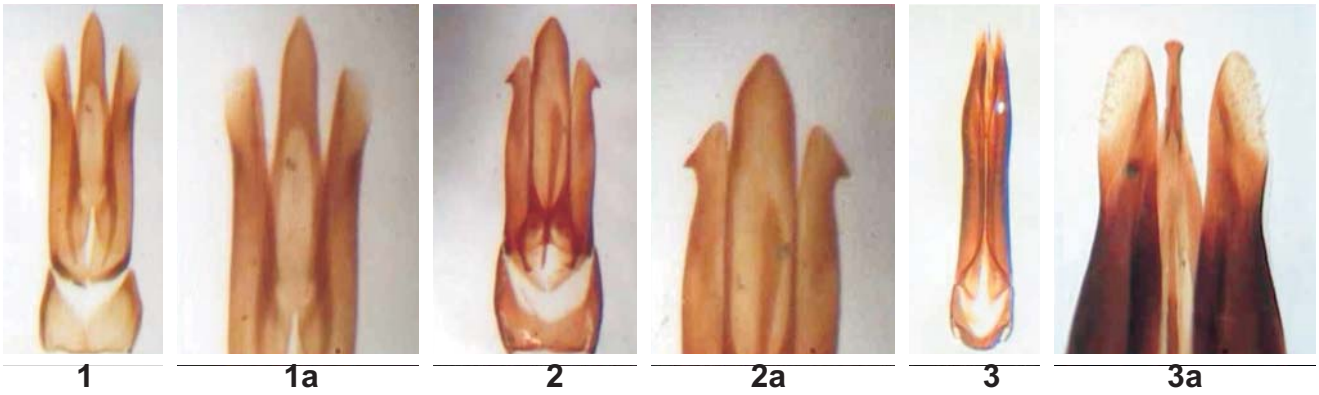
Male. Moderately shiny; entirely blackish, except for two small yellowish spots at base of third and fourth elytral intervals and, epipleura, lateral margin of elytra from base to behind the middle and penultimate elytral interval at middle, yellowish; antennae blackish, legs darkened, only with ferrugineous claws; covered with long, erect on head, pronotum, sides of body, yellow-fulvous vestiture, recumbent on elytra.

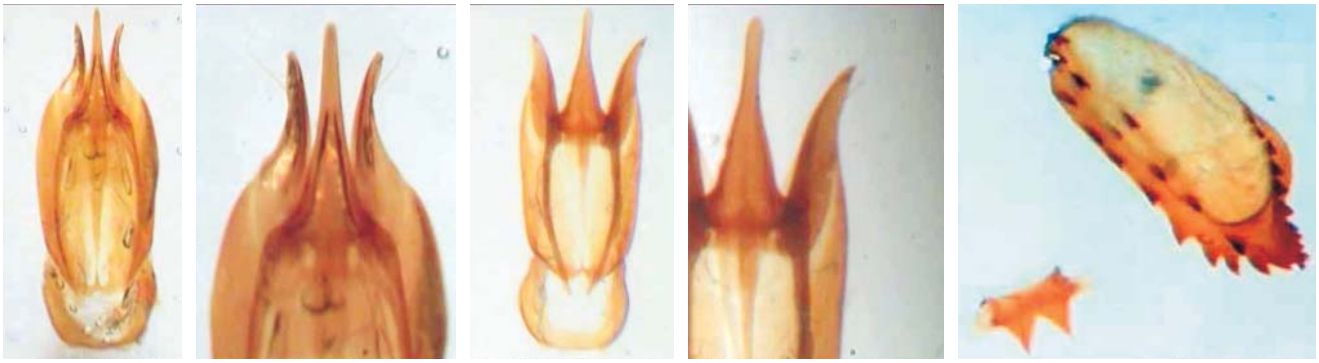
Head with eyes as wide as anterior margin of pronotum, frons flat, anterior margin obsolete at middle and conglutinated with clypeus; punctures deep, simple, very dense with shortest, clearly shagreened intervals.

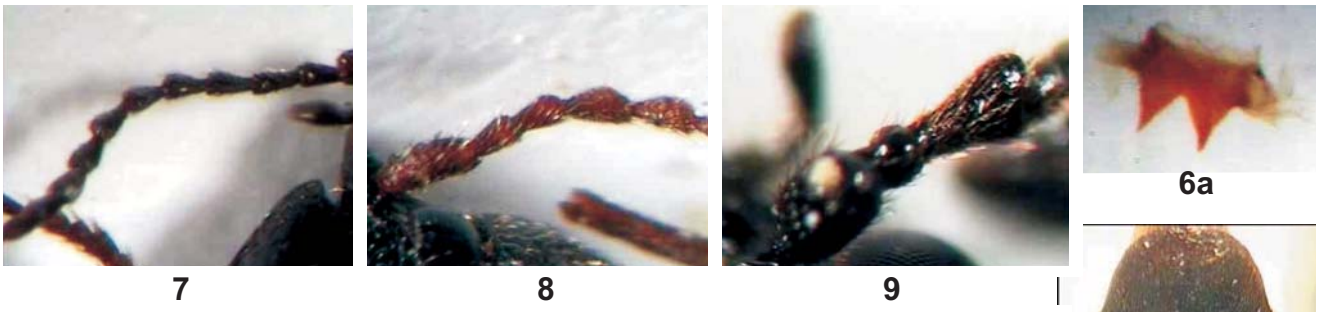
Antennae mutilated, left antenna with first article; right antennae only with first three articles regularly developed, second subcylindrical, very small, as long as wide, third triangular, 1,6x longer than wide; fourth-eighth articles deformed.

Pronotum as long as wide, widest at apicis of posterior angles, moderately and regularly convex, with a trace of a short carinate longitudinal line at middle; sides arcuate, from middle towards apex gradually and regularly narrowing, behind subparallel and abruptly sinuate at posterior angles, the latter divergent, truncate, without carina; lateral margins completely visible in a dorsal view forming a narrow, subhorizontal channel; puncturation very dense and nearly regularly distributed on all the surface; punctures deep, simple, with interstices equal to smaller than their own diameters on the disk, only a little denser towards the sides, interstices shagreeneed giving to the surface a dull appearance.

Scutellum shield-shaped, feebly impressed at middle, densely punctured.







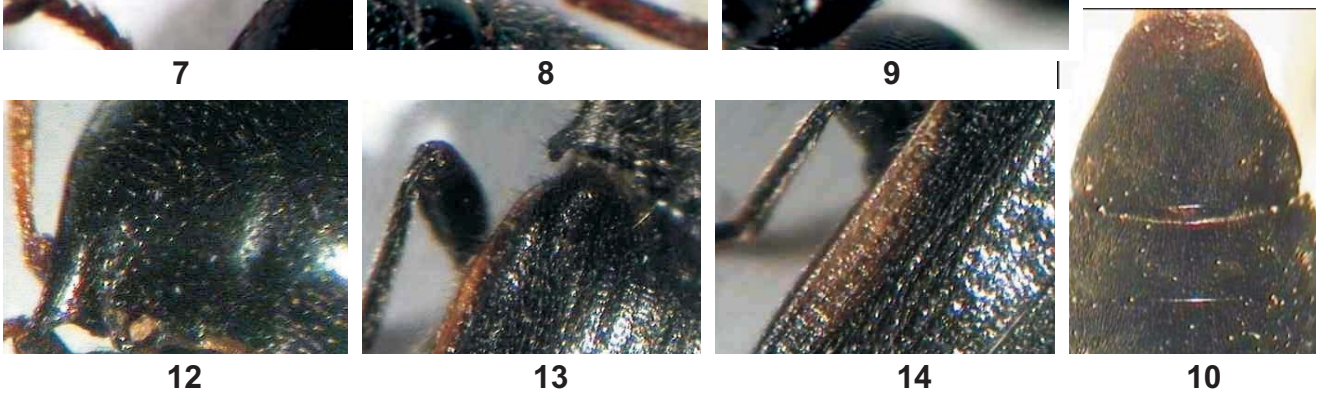


Fig. 1-5a. Male genitalia in dorsal view. **1, 1a.** *Hypnoidus ibericus* n.sp.; **2, 2a.** *Agriotes sirnakensis* n.sp.; **3, 3a.** *Anostirus omogoensis* n.sp.; **4, 4a.** *Cardiophorus kasnaki* Platia; **5, 5a.** *Cardiophorus acuminatus* Platia & Gudenzi. **Fig. 6, 6a.** Sclerites of bursa copulatrix. *Cardiophorus acuminatus* Platia & Gudenzi. **Fig. 7-9.** Antennae. **7.** *Hypnoidus ibericus* n.sp.; **8.** *Agriotes sirnakensis* n.sp.; **9.** *Anostirus omogoensis* n.sp. **Fig. 10.** Last visible abdominal sternite. **10.** *Anostirus omogoensis* n. sp. **Fig. 11-13.** Outline of pronotum. **11.** *Anostirus omogoensis* n.sp.; **12.** *Hypnoidus ibericus* n.sp. ; **13.** *Anostirus omogoensis* n.sp. **Fig. 14.** Outline of elytra, partial. *Anostirus omogoensis* n. sp. **Fig. 15-18.** Adults: total or partial view. **15-16.** *Hypnoidus ibericus* n.sp. (♂♀); **17.** *Anostirus omogoensis* n.sp.; **18.** *Agriotes sirnakensis* n.sp.

Elytra 2.9x longer than pronotum, as wide as it, moderately convex; sides gradually and regularly narrowing from base to apicis, striae regularly marked, interstriae flat with dense and finer punctures.

Last visible abdominal sternite (fig. 10) sinuate at sides.

Aedeagus as in fig. 3, 3a (length 1.3 mm).

Female unknown.

Size. Length 11 mm; width 3 mm.

ECOLOGICAL NOTES. Collected on flower of *Ace* sp.

ETYMOLOGY. The name is derived from the Omogo valley in the Ehime prefecture where the species was collected.

Anostirus gracilicollis (Stierlin, 1896)
MATERIAL EXAMINED. 1 ♂- **Greece**: Meteora, 2.V.2007, M. Sarovec (CMHK).
DISTRIBUTION. Austria, Czech Republic, France, Germany, Hungary, Italy, Liechtenstein, Poland, Romania, Slovakia, Slovenia, Switzerland, Ukraine, Turkey (Cate, 2007). Albania (Pedroni & Platia, 2010). Croatia (Platia, 2011). **New to Greece.**

Tribe DENDROMETRINI Gistel, 1856

Denticollis linearis Linnaeus, 1758
MATERIAL EXAMINED. 2 ♂ - **Italy**: Campania, Acerno, pendici Mt Cervialto (SA), 26.V.2011, L. Diotti (CDM). NOTES: New to the italian regions Campania and the more southern records for Italy.

Tribe AMPEDINI Gistel, 1856

Ampedus rubellus Gurjeva, 1977
MATERIAL EXAMINED. 1 ♀ - **Armenia:** Megri, 600 m, 21.V. 2004, M. Antonini (CPG).
DISTRIBUTION. Azerbaijan, Georgia, Russia: South European Territory (Cate, 2007). **New to Armenia.**

Tribe CARDIOPHORINI Candèze, 1859

Cardiophorus kasnaki Platia 2011
Fig. 4, 4a.
MATERIAL EXAMINED. 1 ♂ - **Turkey:** Egirdir, Yukangökdere, Kasnak forest, 19.VII.2007, N. Jansson & M. Avci, window trap 23. (CPG).
NOTES: Described on a female specimen, the male is identical to female, only with less arcuate sides of pronotum. Aedeagus as in the fig. 4, 4a (length 1.18 mm).

Cardiophorus acuminatus Platia & Gudenzi, 2002
Fig. 5, 5a, 6, 6a.
MATERIAL EXAMINED. 2 ♂♀ - **Turkey:** Aydin prov., Nazilli, 3.V.2008, R. Rober (CPG).
NOTES: Described on a male specimen, the female is identical to male only with a little shorter antennae. Aedeagus as in fig.5, 5a (length 1.03 mm). Bursa copulatrix sclerified as in fig. 6. 6a.

Cardiophorus ruficollis (Linnaeus, 1758)
MATERIAL EXAMINED. 1 ♀ - **Italy**: Lombardy, Vezza d'Oglio, Comignano, 1400 m, 24.IV.2011, M. Grottolo (MSNB).
NOTES: Known from the northern italian regions is new to the Lombardy region.

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