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Two new species of *Domene* FAUVEL 1873 from Spain, with a new combination and a catalogue of the Iberian species of the genus (Coleoptera: Staphylinidae, Paederinae)

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Abstract: *Domene anichtchenkoi* sp.n. (Spain: Andalucía) and *Domene gallaeciana* sp.n. (Spain: Lugo) are described and illustrated. A new combination is proposed: *Domene subiasi* (OUTERLO 1977), comb. n. (ex *Lathrobium*). A catalogue of the Iberian species of the genus *Domene* is given.

Key words: Coleoptera, Staphylinidae, Paederinae, *Domene*, Palaearctic region, Iberian Peninsula, new species, new combination, catalogue.

Introduction

In the western Palaearctic region, the genus *Domene* FAUVEL previously included 29 species, which were assigned to the four subgenera *Domene* FAUVEL, *Lathromene* KOCH, *Spelaeomene* ESPANOL, and *Canariomene* OROMÍ & HERNÁNDEZ (COIFFAIT 1982, OROMÍ & HERNÁNDEZ 1986, and SMETANA 2004). Twelve species of the subgenera *Domene* and *Lathromene* were known to occur in the Iberian Peninsula (FELDMANN 2000, OUTERLO et al. 2000).

All the Iberian species have a subterranean habitat (soil, caves, microcaves) and corresponding morphological adaptations (reduction of wings, eyes, pigmentation). They all have restricted distribution areas and do not occur outside the Iberian Peninsula (with the exception of *D. gaudini* JEANNEL, which is distributed on both sides of the border between France and Spain in the Western Pyrenées).

Material, which was collected in northwestern Spain by J. and A. García, E. Carabajal and F. Rodríguez and in southern Spain by A. Anichtchenko, contained two unknown species of the genus *Domene*, which are here described.

Domene (s. str.) *anichtchenkoi* FELDMANN sp.n. (Figs. 1-7)

Holotype ♂: España, Sierra Nevada, 3 km NE de Trevelez, h= 1900-2000 m, 8.4.04, Anichtchenko A. leg. / **Holotypus** ♂ *Domene anichtchenkoi* sp. n. det. B. Feldmann 2005 (private collection Feldmann); **Paratype** ♀: same data as holotype (private collection Anichtchenko, Spain - Granada).

Description: Measurements (in mm) (holotype, paratype): total length (from apex of mandibles to hind margin of tergum VIII): ca. 6.5, 6.8; maximal head width: 0.88, 0.90; head length (from front margin of clypeus to neck): 1.08, 1.10; maximal

width of pronotum: 0.80, 0.85; length of pronotum: 1.13, 1.15; length of elytra (from apex of scutellum to elytral hind margin): 0.83, 0.85; maximal width of elytra: 0.88, 0.90.

Facies as in Fig. 1. Body of ferrugineous to light brown coloration.

Head (Fig. 2) with rounded outline, distinctly ($1.23 \times$, $1.22 \times$) longer than wide. Eyes reduced, composed of less than 20 ommatidia; puncturation distinct and relatively dense, sparser in central dorsal and frontal area, and denser in lateral areas of head, interstices in lateral areas narrower than diameter of punctures; microsculpture absent in central dorsal area, only in posterior and lateral areas with indistinct microsculpture.

Antenna approximately as long as forebody, all antennomeres longer than wide, antennomeres VIII-X scarcely longer than wide.

Pronotum (Fig. 2) much ($1.41 \times$, $1.35 \times$) longer than wide, widest at front angles, slightly tapering caudad; puncturation of pronotum distinctly finer than that of head and distinctly denser anteriorly than posteriorly; median line almost impunctate; surface with more brightness than head and elytra; microsculpture absent.

Elytra slightly broader and shorter than pronotum, nearly as long as wide; lateral margins of elytra almost parallel; puncturation coarse and rugose, coarser than that of head and pronotum; with indistinct microsculpture only in lateral areas.

Abdomen with distinct fine and dense puncturation and with fine and dense microsculpture composed of more or less transverse meshes; maximal width at segment VI.

Meso- and metatibiae/-tarsi relatively long and slender.

♂: in posterior area of sternum VIII with a pair of clusters of black modified setae, posterior margin of sternum VIII with relatively broad V-shaped incision (Fig. 3). Aedeagus as in Figs. 5 -7.

♀: posterior margin of sternum VIII as in Fig. 4.

E t y m o l o g y : This species is dedicated to Alexandre Anichtchenko, Granada (Spain), who discovered the new species and to whom the senior author is grateful for the generous gift of the holotype.

C o m p a r a t i v e n o t e s : Based on the separated lateral lobes of the aedeagus and a pair of clusters of black setae of the male sternum VIII (see KOCH 1938b, COIFFAIT 1982), the new species is attributed to the subgenus *Domene*.

From *D. cavicola* COIFFAIT, the geographically closest congener, the new species is separated by the more slender shape of the head and by the morphology of the aedeagus (see COIFFAIT 1954). From *D. fuelscheri* BORDONI, the second congener from southern Spain, the new species is easily distinguished by the more slender shape of the head, the distinctly sparser puncturation of the forebody and by the morphology of the aedeagus (see BORDONI 1977). From all other species of *Domene* occurring in the Iberian Peninsula, *D. anichtchenkoi* n. sp. is especially distinguished by the morphology of the aedeagus. For illustrations of the genitalia of the Iberian congeners see BORDONI (1977), COIFFAIT (1954, 1982), FELDMANN (2000), OUTERELO et al. (2000), SALGADO & OUTERELO (1991), and WUNDERLE (1992). *Domene hispanica* OUTERELO, of which only females have become known, has a broader and more rounded shape of the head and relatively shorter elytra (OUTERELO 1995).

Distribution and bionomics: The reduced eyes, wings, and pigmentation, as well as the altitude of the type locality suggest that *D. anichtchenkoi* is endemic to the Sierra Nevada in southern Spain. It was collected under big stones at an altitude of 1900-2000 m (ANICHTCHENKO pers. comm.)

***Domene (Lathromene) gallaeciana* FELDMANN & HERNANDO sp. n. (Figs. 8-14)**

Holotype ♂ [right antenna, left femur and all tibia and tarsi are missing]: Cova do Rei Cintolo, Supena, Argomoso, LUGO, 27.9.99, J. Garcia leg. / **Holotypus** ♂ *Domene gallaeciana* sp. n. det. B. Feldmann & C. Hernando 2004 (Museu de Ciències Naturals de la Ciutadella, Barcelona).

Description: Measurements of the holotype (in mm): total length (from apex of mandibles to hind margin of tergum VIII; abdomen extended): ca. 5.7; maximal head width: 0.76; head length (from front margin of clypeus to neck): 0.88; maximal width of pronotum: 0.68; length of pronotum: 0.93; length of elytra (from apex of scutellum to elytral hind margin): 0.57; maximal width of elytrae: 0.60.

Facies as in Fig. 8. Body of light brown coloration.

Head (Fig. 9) with rounded outline, slightly longer than wide (1.16 ×). Eyes completely reduced, without ommatidia; puncturation fine, sparse in central dorsal and frontal area, and denser in lateral areas of head, interstices in lateral areas partly narrower than diameter of punctures; microsculpture absent in central dorsal area, only in posterior and lateral areas with indistinct microsculpture.

Antenna longer than forebody, all antennomeres longer than wide, antennomeres VIII-X scarcely longer than wide.

Pronotum (Fig. 9) 1.37 times as long as wide, widest at front angles, distinctly tapering caudad (pronotum width at anterior angles/width at posterior angles: 1.94); puncturation of pronotum distinctly finer than that of head and distinctly denser anteriorly than posteriorly; median line almost impunctate, in basal half with fine, but distinct furrow; with bright surface, microsculpture absent.

Elytra narrower and shorter than pronotum, nearly as long as their combined width; lateral margins of elytra weakly diverging towards posterior angles; puncturation very coarse and granulose, much coarser than that of head and pronotum, distinctly sparser near suture; microsculpture absent.

Abdomen with very fine and dense puncturation and with very fine and dense microsculpture composed of more or less rounded meshes; puncturation barely noticeable due to pronounced microsculpture; maximal width at segment VII.

Meso- and metatibiae relatively long and slender (remainder of the legs missing).

♂: in posterior median area of sternum VIII slightly impressed with small area with black modified setae, posterior margin of sternum VIII with deep U-shaped incision (Fig. 10). Aedeagus as in Figs. 11-14.

Etymology: The name is derived from Galicia, the name of the province where the type locality is situated.

Comparative notes: Based on the fused lateral lobes of the aedeagus and a cluster (not pair) of black setae of the male sternum VIII (see KOCH 1938 b, COIFFAIT 1982), the new species is attributed to the subgenus *Lathromene* KOCH 1938. In this

subgenus, the phylogenetically closest congeners are *D. scopaeella* FAUVEL 1873 and *D. subiasi* (OUTERELO 1977), based on the shape (asymmetric outline of the aedeagus, structure of the dorsal lamella) and the well-defined inner structures of the aedeagus; for illustrations of the male primary sexual characters of the related species see COIFFAIT (1982) and OUTERELO (1977). External characters were found to be less conclusive for assessing phylogenetic relationships, particularly because many of them are highly modified as a result of adaptation to a subterranean habitat; for more details see FELDMANN (2000).

From all other species of *Domene* occurring in the Iberian Peninsula, *D. gallaeciana* n. sp. is especially distinguished by the morphology of the aedeagus. For illustrations of the genitalia see COIFFAIT (1982), SALGADO & OUTERELO (1991), WUNDERLE (1992), FELDMANN (2000), OUTERELO et al. (2000). *Domene hispanica* OUTERELO has a coarser puncturation of the forebody and a sparser granulose puncturation of the elytra. From *D. scopaeella* and *D. subiasi*, the new species is easily separated by its distinctly longer antennae and legs (as can be inferred from the longer femur in the holotype of *D. gallaeciana*), the more rounded shape of the head, and the distinctly finer puncturation of the forebody.

Distribution and bionomics: The holotype was collected in a cave with a pitfall trap, which was placed far away from the entrance area. The "Cova do Rei Cintolo" has several kilometers of galleries (GARCÍA pers. comm.). As can be inferred from the complete reduction of eyes and wings and the reduced pigmentation, *D. gallaeciana* is a cave-dwelling species and probably endemic to the cave system of the "Cova do Rei Cintolo".

***Domene (Lathromene) subiasi* (OUTERELO 1977), comb. n.**

Lathrobium subiasi OUTERELO 1977: 28 ff.

Type examined: Holotype ♂: "Vegas de Casia (Cáceres-540 m), 19-3-76, Rec.: L. S. Subias [underside: musgos y tierra solze (?) y entre rocas] / Holotipo *Lathrobium subiasi* R. Outereolo det. 1976 / *Domene (Lathromene) subiasi* (OUTERELO 1977) det. B. Feldmann 2001 (Facultad de Biología de la Universidad Complutense, Madrid)

Comments: Based on the shape of the habitus (pronotum, hind tarsi) and especially on the morphology of the aedeagus (KOCH 1938 b and COIFFAIT 1982), there is no doubt that this species belongs to the genus *Domene*, subgenus *Lathromene* KOCH. The morphology of the aedeagus suggests that *D. subiasi* is most closely related to *D. scopaeella* FAUVEL and *D. gallaeciana* sp. n.

Catalogue of the *Domene* species of the Iberian Peninsula

Because of the description of new species and taxonomic changes there are some alterations in comparison to the catalogue given by FELDMANN (2000). At present, 15 species of the genus *Domene* are known from the Iberian Peninsula.

Species	Distribution
subgenus <i>Domene</i>	
<i>anichtchenkoi</i> sp. n.	Spain: Andalucía: Sierra de Nevada
<i>cavicola</i> COIFFAIT 1954	Spain: Andalucía: Sierra de Cazorla: Cueva Navilla
<i>danieli</i> KOCH 1938	Spain: País Vasco: Álava: Izarra
<i>fuelscheri</i> BORDONI 1977	Spain: Andalucía: Sierra de Ronda
<i>gaudini</i> JEANNEL 1938	France, Spain: Western Pyrenées
<i>hetzeli</i> FELDMANN 2000	Spain: Asturias: Picos de Europa
<i>zerchei</i> WUNDERLE 1992	Spain: Asturias: Picos de Europa: Covadonga
subgenus <i>Lathromene</i> KOCH 1938	
<i>bergidi</i> SALGADO & OUTERELO 1991	Spain: Castilla y León: Carucedo; Galicia: Peña Rubia
<i>cantabrica</i> COIFFAIT 1973	Spain: Castilla y León : Puerto de Pajares
<i>caurelensis</i> OUTERELO, GAMARRA & SALGADO 2000 = <i>carrillorum</i> HERNANDO 2001	Spain: Galicia: Mercurín do Caurel: Cova do Eixe
<i>gallaeciana</i> , sp. n.	Spain: Galicia: Argomoso: Cova do Rei Cintolo
<i>gridelliana</i> FAGEL 1967 = <i>punctatissima</i> (GRIDELLI 1927)	Spain: Asturias; Galicia
<i>hispanica</i> OUTERELO 1985	Spain: Castilla y León: Peña de Francia
<i>scopaeella</i> FAUVEL 1873	N-Portugal: Serra do Geréz; Spain: Galicia
<i>subiasi</i> (OUTERELO 1977), comb.n.	Spain: Extremadura: Cáceres: Vegas de Casia

Acknowledgements

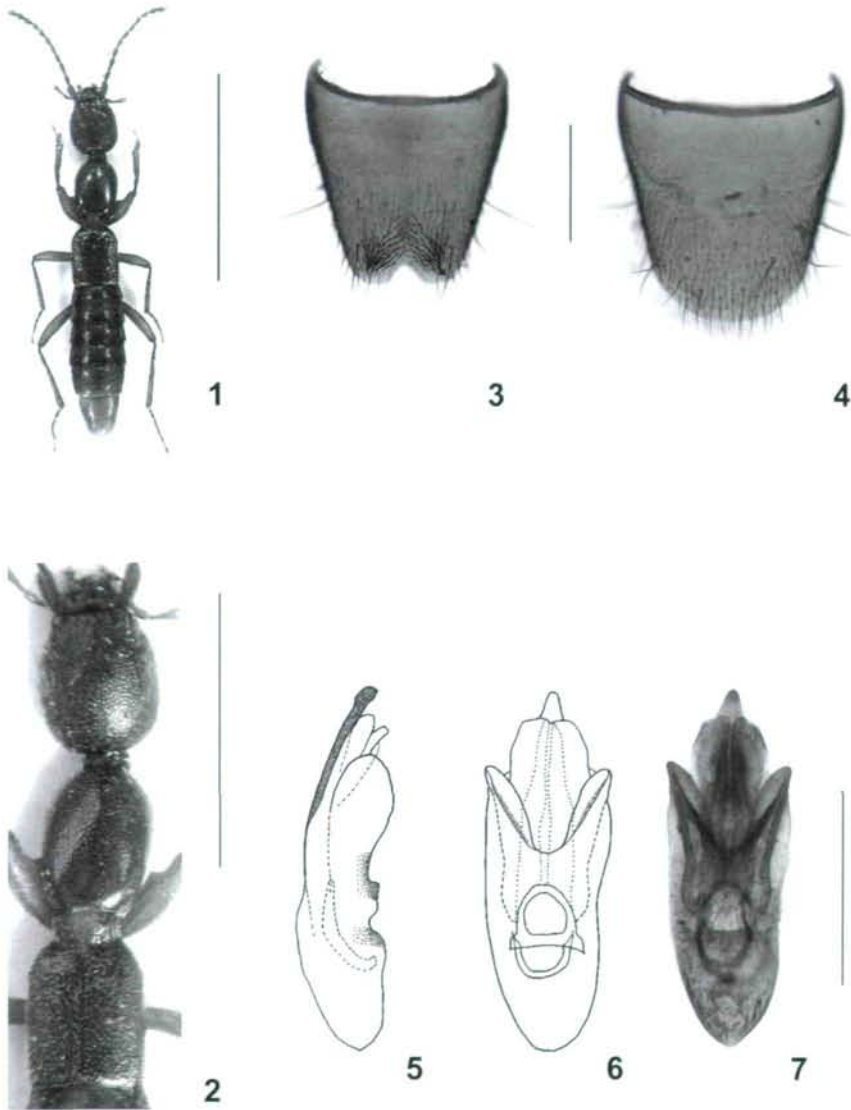
We thank J. and A. García, E. Carabajal and F. Rodríguez for sending us their cave staphylinid material and A. Anichtchenko for his staphylinid material which included the new species. Through the kindness of R. Outerelo (Madrid), the senior author was able to examine the holotype of *Lathrobium subiasi*. V. Assing (Hannover) and H. Terlutter (Billerbeck) critically proof-read the manuscript.

Zusammenfassung

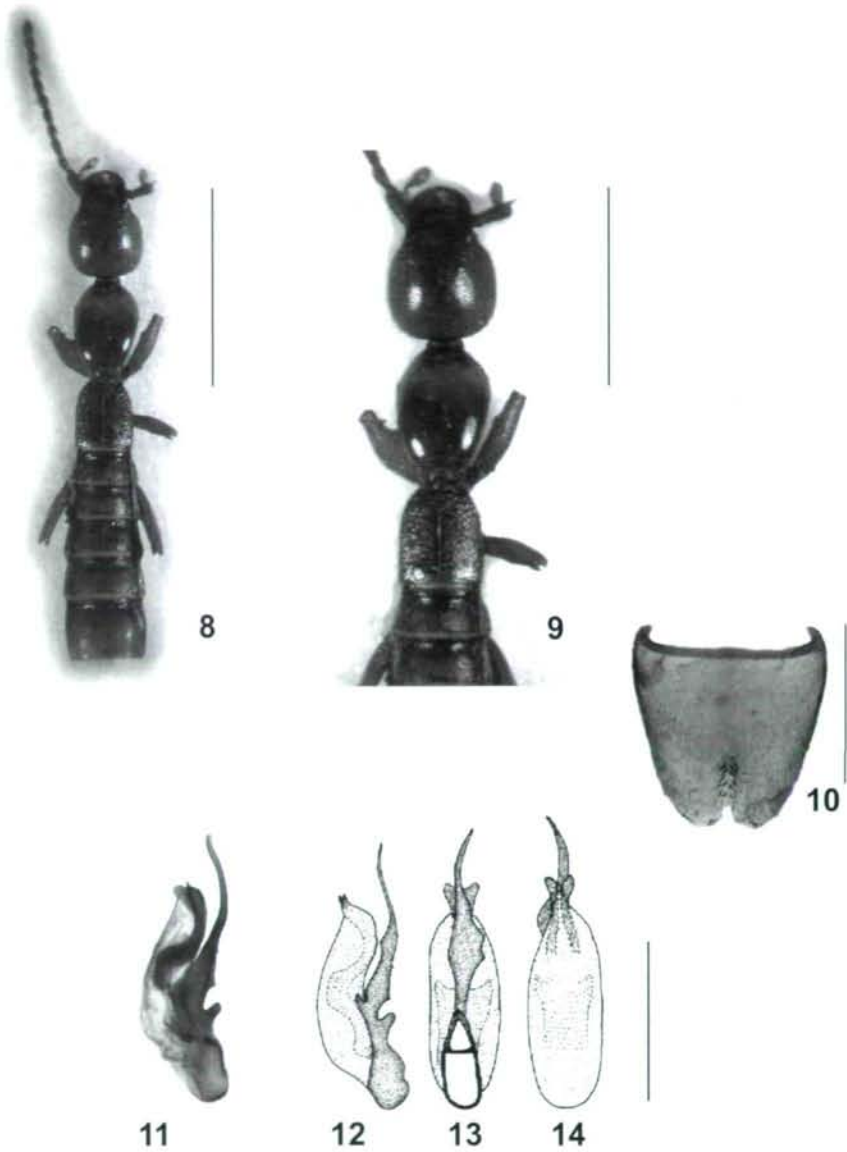
Domene anichtchenkoi sp.n. (Spanien: Andalusien) und *Domene gallaeciana* sp.n. (Spanien: Lugo) werden beschrieben und abgebildet. Eine Neukombination wird vorgeschlagen: *Domene subiasi* (OUTERELO 1977), comb. n. (ex *Lathrobium*). Ein Katalog der iberischen Arten der Gattung *Domene* wird erstellt.

References

- BORDONI A. (1977): Studi sui Paederinae. I. Appunti sui *Domene* FAUVEL della Penisola Iberica e descrizione di due nuove specie Mediterranee (Col. Staphylinidae). 37. contributo alla conoscenza degli Staphylinidae. — *Nouv. Rev. Entomol.* 7 (2): 145-151.
- COIFFAIT H. (1954): Un nouveau *Domene* cavernicole du Sud de l'Espagne, indice paléogéographique. — *Notes Biospéol.* 9: 17-20.



Figs. 1-7: *Domene anichtchenkoi* sp. n.: facies (holotype) (1); forebody (holotype) (2); ♂ sternite VIII (3); ♀ sternite VIII (4); aedeagus in lateral view (5); aedeagus in ventral view (6, 7). Scale bars: 1: 4.0 mm; 2: 2.0 mm; 3-7: 0.5 mm.



Figs. 8-14: *Domene gallaeciana* sp. n. (holotype): facies (8); forebody (9); ♂ sternite VIII (10); aedeagus in lateral view (11, 12); aedeagus in ventral view (13); aedeagus in dorsal view (14). Scale bars: 8: 2.2 mm; 9: 1.4 mm; 10-14 : 0.45 mm.

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