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**A new endogean species of *Domene* FAUVEL from a cave in Jaén,  
southern Spain  
(Coleoptera: Staphylinidae: Paederinae)**

V. ASSING

**Abstract:** *Domene (Domene) perezii* nov.sp. from a limestone cave in Jaén (southern Spain: Andalucía) is described, illustrated, and distinguished from geographically close congeners. The distribution of the *Domene* species known from southern Spain is mapped.

**Key words:** Coleoptera, Staphylinidae, Paederinae, *Domene*, Spain, taxonomy, new species, cave.

**Introduction**

In the West Palaearctic region, the Palaearctic genus *Domene* FAUVEL 1873 is currently represented by 39 valid species in four subgenera: *Canariomene* OROMÍ & HERNÁNDEZ 1986 (5 species from the Canary Islands), *Domene* (21 species; one of them to be synonymised), *Lathromene* KOCH 1938 (9 species mostly from the Iberian Peninsula), and *Spelaeomene* ESPAÑOL 1977 (4 species from Morocco) (ASSING 2007, 2010; FELDMANN & HERNANDO 2005; HERNANDO 2007; HERNANDO & BAENA 2006; REBOLEIRA et al. 2011; SMETANA 2004; VIVES 2010; ZERCHE 2008). In all, 18 species were previously known from the Iberian Peninsula. REBOLEIRA et al. (2011) reviewed and mapped 17 of them, illustrated and keyed the Iberian representatives of *Lathromene*, but did not account for *D. lencinai* VIVES 2010.

Among material of Staphylinidae recently collected in several caves in southern Spain and made available to me by Toni Pérez of the Grupo Espeleológico de Villacarrillo (G.E.V.), five specimens of an undescribed endogean *Domene* species were discovered. They had been collected with baited traps in Sima de la Fractura 2, a limestone cave to the southwest of Hornos, Jaén, in Andalucía.

## Material and methods

The material is deposited in the following collections:

cAss..... author's private collection

cFel ..... private collection Benedikt Feldmann, Münster

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). A digital camera (Nikon Coolpix 995) was used for the photographs.

Head length was measured from the anterior margin of the frons to the posterior margin of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra. The length of the median lobe of the aedeagus was measured from the apex of the ventral process to the base of the capsule. The parameral side of the aedeagus (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

### *Domene (Domene) perezii* nov.sp. (Figs 1-14, Map 1)

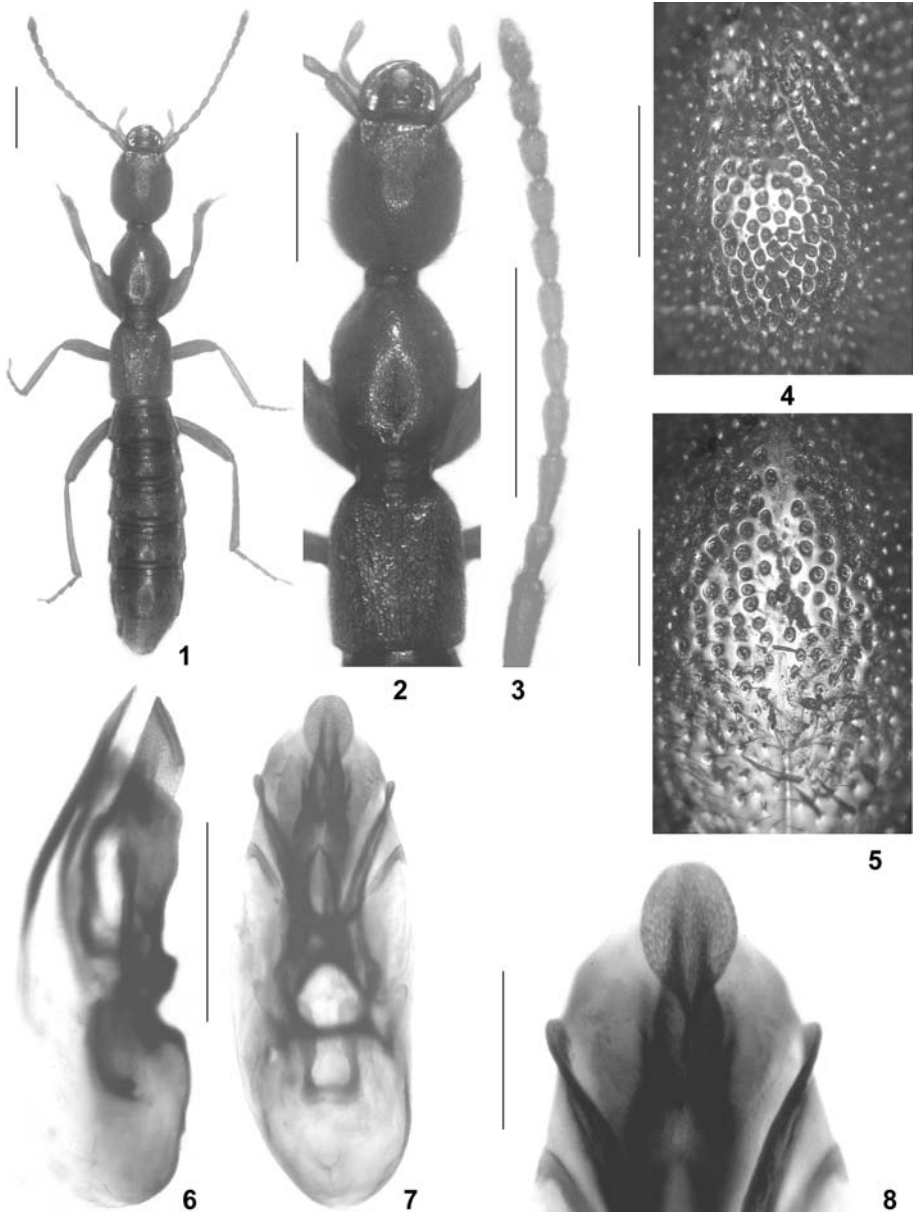
**Type material:** Holotype ♂: "Spain - Jaén, SW Hornos, Sima de la Fractura 2, 38°11'N, 2°47'W, 965 m, limestone cave, traps, 10.VIII.2012, leg. G.E.V. / Holotypus ♂ *Domene perezii* sp.n. det. V. Assing 2012 (cAss). Paratypes: 2 ♂♂, 2 sex? [damaged, abdominal apex missing]: same data as holotype (cAss, cFel).

**Etymology:** The species is gratefully dedicated to Toni Pérez, a member of G.E.V., who sorted the trap-collected cave material and who made the type specimens available to me.

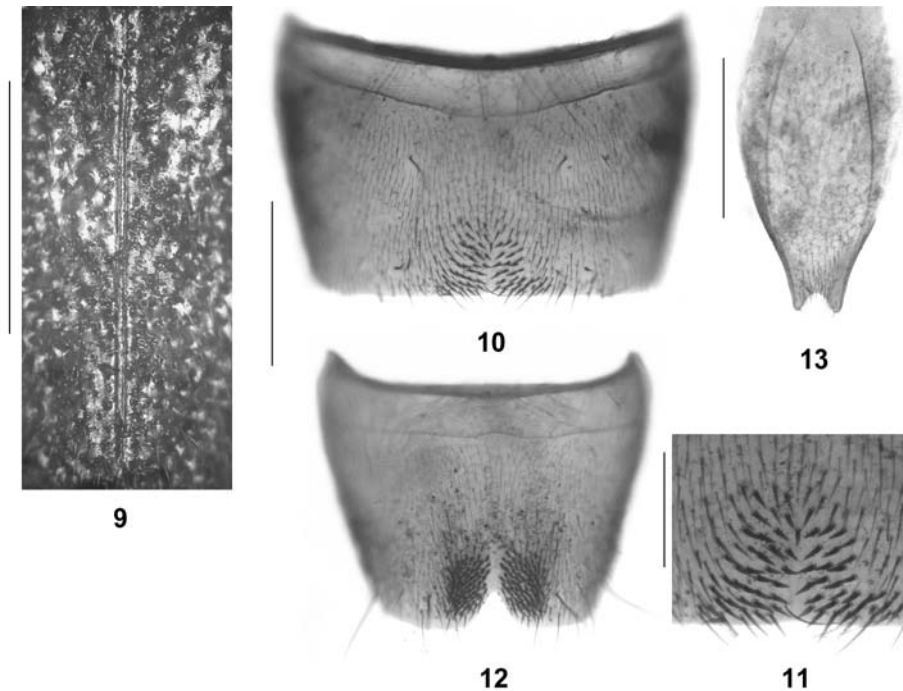
**Description:** Body length: 8.5-9.0 mm; length of forebody: 4.4-4.5 mm. Habitus as in Fig. 1. Coloration: whole body dark-reddish.

Head (Fig. 2) of elliptic shape, approximately 1.2 times as long as broad; posterior angles completely obsolete, broadly rounded; neck 1/3 as wide as head; dorsal surface with very dense and moderately coarse punctation; interstices without microsculpture and reduced to narrow ridges, even in median dorsal portion much narrower than diameter of punctures (Fig. 4). Eyes almost flat, barely visible from above, composed of approximately 20 ommatidia, and with pigmentation. Antennae (Fig. 3) approximately 2.8 mm long, slender; all antennomeres much longer than broad. Maxillary palpus very slender; preapical joint more than 3 times as long as broad.

Pronotum (Fig. 2) 1.30-1.35 times as long as broad, nearly as broad as head, widest anteriorly and distinctly tapering posteriorly; punctation in anterior and lateral portions dense, similar to that of head, somewhat sparser and less coarse in posterior median portion (Fig. 5); narrow rudiment of impunctate midline present only in posterior half; interstices without microsculpture and glossy.



**Figs 1-8:** *Domene perezi* nov.sp.: (1) habitus; (2) forebody; (3) antenna; (4) median dorsal portion of head; (5) median dorsal portion of pronotum; (6-7) median lobe of aedeagus in lateral and in ventral view; (8) apical portion of aedeagus in ventral view. Scale bars: 1-3: 1.0 mm; 6-7: 0.5 mm; 4-5, 8: 0.2 mm.



**Figs 9-13:** *Domene perezi* nov.sp.: (9) sutural portion of elytra; (10) male sternite VII; (11) postero-medial portion of male sternite VII; (12) male sternite VIII; (13) male sternite IX. Scale bars: 9-10, 12-13: 0.5 mm; 11: 0.2 mm.

Elytra (Fig. 2) 0.75-0.80 times as long as pronotum and slender, only slightly broader than elytra; humeral angles practically obsolete; near apex of scutellum with rather weak elevations on either side of suture; punctation relatively coarse and dense, but weakly defined and somewhat irregular (Fig. 9); in lateral portion (lateral view!) with somewhat indistinct, anteriorly and posteriorly reduced additional line above margins. Hind wings completely reduced. Legs long and slender; metatibia approximately 1.6 mm, metatarsus approximately 1.2 mm long.

Abdomen approximately 1.05 times as broad as elytra, widest at segment VI; tergites IV-VI with shallow anterior impressions, these impressions with moderately pronounced microreticulation; punctation fine and dense; interstices with fine microsculpture; posterior margin of tergite VII without palisade fringe; posterior margin of tergite VIII strongly convex or obtusely pointed in the middle.

♂: sternite VII with shallow median impression of triangular shape posteriorly, this impression with cluster of modified, short and stout black setae (Figs 10-11); sternite VIII transverse, posteriorly with distinct impression, on either side of the middle of this impression with a cluster of numerous modified, short and stout black setae, posterior incision relatively small and V-shaped (Fig. 12); sternite IX bifid apically (Fig. 13); aedeagus approximately 1.3 mm long, with deeply and broadly excised ventral process and with sclerotised apical structure of distinctive shape (Figs 6-8).

**Comparative notes:** Based on the morphology of the aedeagus (broad and

apically deeply excised ventral process), *D. perezii* belongs to the subgenus *Domene*. Five *Domene* species, all of them attributed to nominate subgenus, were previously known from southern Spain. The new species is distinguished from all of them by the shape of the aedeagus, particularly of the apical sclerotised structure. In addition, it is separated from them as follows:

from *D. cavicola* COIFFAIT 1954 (Sierra de Cazorla) by much larger body size (*D. cavicola*: 5.5 mm), darker coloration, larger eyes with pigmentation, longer and more slender legs, the shape and chaetotaxy of the male sternite VIII (*D. cavicola*: smaller posterior excision; clusters of setae of different shape and in different position), and by the apically bifid male sternite IX;

from *D. fuelscheri* BORDONI 1977 (Sierra de Ronda, Sierra de Ubrique) by larger body size (*D. fuelscheri*: 6-7 mm), the more oblong, less densely and coarsely punctate, and less matt head, the slightly larger eyes, the distinctly longer and more slender antennae with more slender antennomeres, the somewhat more slender, less densely and less coarsely punctate pronotum, the less coarse punctuation of the elytra, the much more slender legs (particularly meso- and metatarsi), as well as by the shape and chaetotaxy of the male sternite VIII (*D. fuelscheri*: posterior excision narrower; clusters of modified setae in different position);

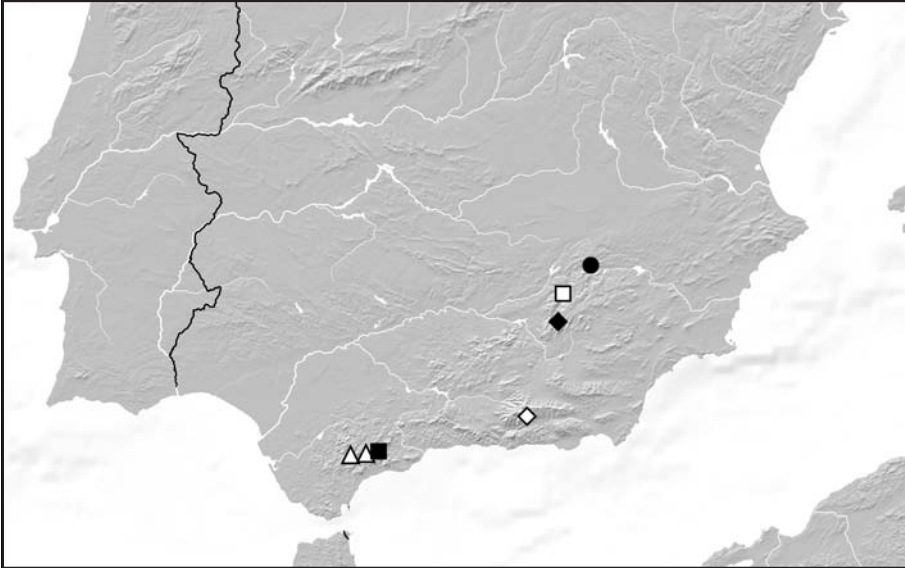
from *D. gevia* HERNANDO & BAENA 2006 (Sierra de las Nieves) by slightly larger size (*D. gevia*: approximately 8 mm), the much more slender head, the more slender and posteriorly more distinctly tapering pronotum, longer elytra, the presence of modified setae on the male sternite VII, and by the shape and position of the clusters of modified setae on the male sternite VIII;

from *D. anichtchenkoi* FELDMANN 2005 (Sierra Nevada) by larger body size (*D. anichtchenkoi*: approximately 7 mm), larger eyes with more ommatidia, more slender antennomeres, the posteriorly more distinctly tapering, less glossy, and more coarsely punctate pronotum, the longer and more slender elytra, the presence of modified setae on the male sternite VII (absent in *D. anichtchenkoi*), by the shape and chaetotaxy of the male sternite VIII (*D. anichtchenkoi*: less transverse and with less pronounced clusters of modified setae in different position), and by the the posteriorly distinctly bifid male sternite IX (*D. anichtchenkoi*: posterior margin of this sternite very weakly concave);

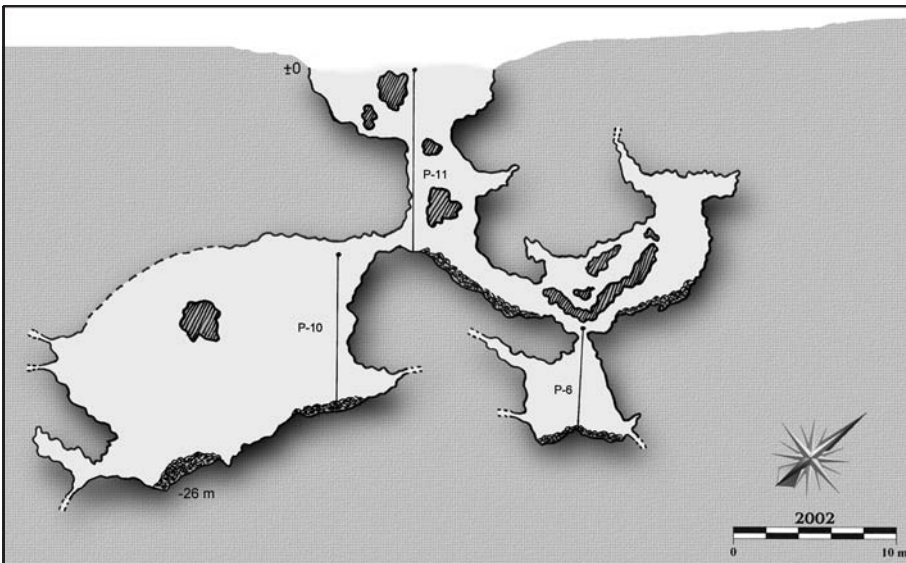
from the similarly large *D. lencinai* VIVES 2010 (Albacete: Cueva del Farallón) by the more oblong head, longer legs, more slender antennae, and probably also by the presence of modified setae on the male sternite VII (modifications not mentioned in the original description).

For illustrations of the compared species see BORDONI (1977), COIFFAIT (1954), FELDMANN & HERNANDO (2005), HERNANDO & BAENA (2006), and VIVES (2010). Note that VIVES (2010) does not figure the male secondary sexual characters and that he provides only a very rough sketch of the aedeagus of *D. lencinai*.

**Distribution and natural history:** The type locality, Sima de la Fractura 2, is a limestone cave situated to the southwest of Hornos (Andalucía: Jaén), between the type localities of *D. cavicola* and *D. lencinai* (Map 1), at an altitude of 965 m. The specimens were collected with traps placed at the bottom of the cave at a depth of approximately 25 m (Fig. 14) and baited with chloral hydrate and beer. They were exposed in the cave for one month. The circumstances of collection, the elongated body appendages, as well as the adaptive reductions of eye size, pigmentation, wings, and of the palisade fringe at the posterior margin of the abdominal tergite VIII suggest that *D. perezii* is a truly endogean species.



**Map 1:** Distribution of the *Domene* species known from southern Spain: *D. fuelscheri* (triangles), *D. gevia* (filled square), *D. anichtchenkoi* (open diamond), *D. cavicola* (filled diamond), *D. perezi* (open square), and *D. lencinai* (circle).



**Fig. 14:** Cross-section of topology of Sima de la Fractura 2. The traps were placed in the bottom chamber (P-10; lower left). Source: G.E.V.

## Acknowledgements

My thanks are extended particularly to Toni Pérez and other members of the Grupo Espeleológico de Villacarrillo (G.E.V.) for placing and maintaining the traps in the Sima de la Fractura 2, for sorting the material, for the generous gift of the Staphylinidae from their cave samples, and for the permission to use the illustration of the cave in cross-section. Toni Pérez assisted with the coordinates of various caves and provided additional data on the type locality and the circumstances of collection of *D. perezi*. Benedikt Feldmann (Münster) critically reviewed and proof-read the manuscript.

## Zusammenfassung

*Domene (Domene) perezi* nov.sp., entdeckt in einer Karsthöhle in Jaén (Südspanien: Andalusien), wird beschrieben, abgebildet und von anderen südspanischen *Domene*-Arten unterschieden. Die Verbreitung von *Domene*-Arten in Südspanien wird anhand einer Verbreitungskarte illustriert.

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