Dinotrema vitobiasi sp. nov., a new Spanish species of the genus *Dinotrema* Foerster, 1862 (Hymenoptera: Braconidae) with only basomedially sculptured propodeum

Dinotrema vitobiasi sp. nov., новый испанский вид рода Dinotrema Foerster, 1862 (Hymenoptera: Braconidae) с только базомедиально скульптированным проподеумом

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A new species of *Dinotrema* with only basomedially sculptured propodeum, *Dinotrema vitobiasi* **sp. nov.**, is described from Spain. A comparison of this new species with its three morphologically most similar species, *D. vituperatum* (Fischer, 1974), *D. latifemur* (Fischer, 1975) and *D. carinatum* (Tobias, 1962), is provided.

Описывается из Испании *Dinotrema vitobiasi* **sp. nov.**, принадлежащий к группе с только базомедиально скульптированным проподеумом. Дается его сравнение с тремя наиболее близкими видами: *D. vituperatum* (Fischer, 1974), *D. latifemur* (Fischer, 1975) и *D. carina-tum* (Tobias, 1962).

Key words: parasitoids, taxonomy, Spain, Hymenoptera, Braconidae, Alysiinae, *Dinotrema*, new species

Ключевые слова: паразитоиды, таксономия, Испания, Hymenoptera, Braconidae, Alysiinae, *Dinotrema*, новый вид

INTRODUCTION

Dinotrema Foerster, 1862 (Alysiinae) is one of the largest and taxonomically problematic braconid genera. This genus comprises more than 100 described species in the Palaearctic Region, with most of them occurring in Western Europe (Fischer, 1972; Achterberg, 1988; Tobias, 2003, 2004a, b, 2006; Munk et al., 2013; Peris-Felipo et al., 2013; Peris-Felipo & Belokobylskij, 2013). However, various Palaearctic species, especially from southern regions, remain still undescribed. Here we describe a morphologically distinctive Spanish species of *Dinotrema*, *Dinotrema vitobiasi* **sp. nov.**, which belongs to the morphological group characterized by having the propodeum only basomedially sculptured.

The specimens for this study were collected using Malaise traps in the Natural Park of Carrascal de La Font Roja. This park is located in the north of the Alicante Province of Spain, which comprises 2298 ha with its highest point at 1356 m, and known for being one of the least disturbed natural areas by humans. The north side of the Park mountains with upper subhumid ombroclimate has annual rainfall between 600–1000 mm, and the south it side with dry ombroclimate shows annual rainfall between 350-600 mm. High average temperatures registered throughout the year (15–20 °C) and low level of rains characterize this Park as dry and thermomediterranean (Peris-Felipo & Jiménez-Peydró, 2011).

For terminology of the morphological features and sculpture, measurements and wing venation nomenclature, see Fischer (1973). The following abbreviations are used in the paper: POL – postocellar line; OOL – ocular-ocellar line; OD – maximum diameter of lateral ocellus. The types of described species are deposited in the Entomological Collection at the University of Valencia, Spain (ENV).

TAXONOMIC PART

Order HYMENOPTERA

Family **BRACONIDAE**

Subfamily ALYSIINAE

Genus Dinotrema Foerster, 1862

Dinotrema vitobiasi

Peris-Felipo et Belokobylskij, **sp. nov.** (Figs 1–12)

Holotype. Female; **Spain**, Alicante Prov., Alcoi, Natural Park of Carrascal de La Font Roja, 13 April 2006, F.J. Peris-Felipo leg. (ENV).

Paratype. Female; same data as for holotype, but 28 May 2007 (ENV).

Description. Female. Body length 1.65– 1.70 mm; fore wing length 2.30 mm.

Head. In dorsal view, 1.6 times wider than median length, 1.60–1.65 times wider than mesoscutum, smooth, with rounded temples behind eye. Eye (lateral view) 1.45 times higher than wide and as wide as temple. POL 2.5 times OD; OOL 2.85 times OD. Face 1.85 times wider than high; inner margins of eyes subparallel. Clypeus 2.5 times wider than high, slightly curved ventrally. Paraclypeal fovea reaching middle of distance between clypeus and eye. Mandible widened towards apex, 1.05 times longer than its maximum width. Upper tooth longer than middle tooth. Middle tooth wide basally and narrowed towards apex, rounded apically. Lower tooth short, wider than upper tooth, rounded apically. Antenna thick, 18-segmented. Scape 2.0 times longer than pedicel. First flagellar segment 2.3 times longer than its apical width, 1.15 times longer than second flagellar segment; latter segment 1.8 times longer than its maximum width. Third to tenth flagellar segments 1.6 times and eleventh to thirteenth flagellar segments 1.3 times longer than their width, fourteenth segment twice long than its width.

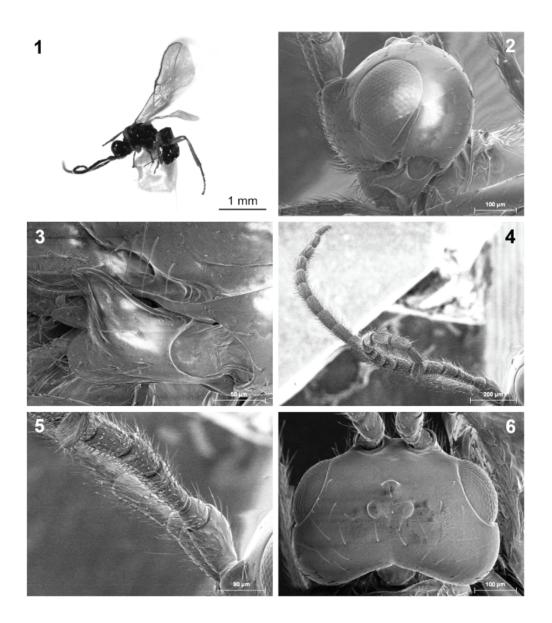
Mesosoma. In lateral view, 1.15 times longer than high. Mesoscutum as long as maximum width. Notauli mainly absent. Mesoscutal pit present and oval. Prescutellar depression smooth, with lateral carinae. Sternaulus (precoxal suture) present, not reaching anterior and posterior parts of mesopleuron. Posterior mesopleural furrow crenulate. Propodeum smooth, with median longitudinal carina continued from its anterior to posterior margins, with emerging carinae in apical half far not reaching propodeal edges. Propodeal spiracles relatively small.

Legs. Hind femur 3.9 times longer than wide. Hind tibia weakly widened towards apex, 9.2 times longer than its maximum subapical width, 1.15 times longer than hind tarsus. First segment of hind tarsus 1.45 times longer than second segment.

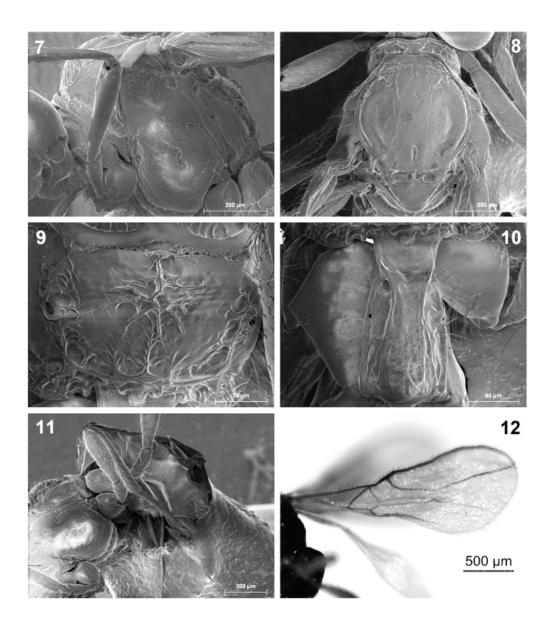
Wings. Length of fore wing 2.8 times its maximum width. Vein r1 present. Radial cell reaching to apex of wing, 4.30-4.35 times longer than its maximum width. Nervulus weakly postfurcal. Brachial cell closed, short, widened apically, 3.0 times longer than its maximum width. Hind wing 6.0 times longer than its maximum width.

Metasoma. Distinctly compressed. First tergite weakly widened towards apex, 2.0 times longer than its apical width, finely striated in apical half. Ovipositor 1.5 times longer than first tergite, shorter than metasoma, 1.2 times longer than hind femur.

Colour. Body and legs brown to dark brown. Wings hyaline. Pterostigma brown.



Figs 1–6. *Dinotrema vitobiasi* **sp. nov.,** female. 1, habitus, lateral view; 2, head, lateral view; 3, mandible; 4, antenna; 5, basal segments of antenna; 6, head, dorsal view.



Figs 7–12. Dinotrema vitobiasi sp. nov., female. 7, mesosoma, lateral view; 8, mesonotum, dorsal view; 9, propodeum, dorsal view; 10, first metasomal tergite; 11, metasoma and ovipositor, lateral view; 12, fore wing.

Male. Unknown.

Diagnosis. This new species resembles Palaearctic D. vituperatum (Fischer, 1974), D. latifemur (Fischer, 1975) and D. carinatum (Tobias, 1962). D. vitobiasi differs from D. vituperatum in having the first flagellar segment 2.3 times longer than wide (3.6 times in D. vituperatum), middle flagellar segments 1.3-1.6 times longer than wide (2.5 times in D. vituperatum), posterior mesopleural furrow crenulate (smooth in D. vituperatum), lower tooth of mandible wider than upper tooth (upper tooth wider than lower tooth in *D. vituperatum*), and propodeum with longitudinal median carina and emerging laterally carinae (only with longitudinal median carina and without emerging laterally carinae in *D. vituperatum*). The new species differs from *D. latifemur* in having the mandible 1.05 times longer than wide (1.5 times in D. latifemur), middle flagellar segments 1.3-1.6 times longer than wide (2.0 times in *D. latifemur*), and hind femur 3.9 times longer than its maximum width (3.2 times in *D. latifemur*). Finally, *D*. vitobiasi differs from D. carinatum in having the mandible 1.05 times longer than wide (2.0 times in *D* carinatum), first flagellar segment 2.3 times longer than wide (4.5 times in D. carinatum), middle flagellar segments 1.3–1.6 times longer than wide (2.5 times in D. carinatum), hind femur 3.9 times longer than its maximum width (4.5 times in D. carinatum), and propodeum with longitudinal median carina and emerging laterally carinae (only with longitudinal median carina in *D. carinatum*).

Etymology. Named in honor of the late Professor Vladimir Ivanovich Tobias, prominent Russian hymenopterist, for his great contribution to the study of the World Braconidae.

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REFERENCES

- Achterberg C. van. 1988. The genera of the Aspilota-group and some descriptions of fungicolous Alysiini from the Netherlands (Hymenoptera: Braconidae: Alysiinae). Zoologische Verhandelingen, 247: 1–88.
- Fischer M. 1972. Erste Gliederung der palaearktischen Aspilota-Arten (Hymenoptera, Braconidae, Alysiinae). Polskie Pismo Entomology, 42(2): 323–459.
- Fischer M. 1973. Das Tierreich. Hymenoptera, Braconidae, Opiinae (Palärktische Region). Berlin: Walter der Gryter. 620 p.
- Munk T., Peris-Felipo F.J. & Jiménez-Peydró R. 2013. New western Palaearctic Dinotrema species with mesoscutal pit and only medially sculptured propodeum (Hymenoptera, Braconidae, Alysiinae). Zookeys, 260: 61–76.
- Peris-Felipo F.J. & Belokobylskij S.A. 2013. Dinotrema jimenezi sp. nov., a new species of the genus Dinotrema Foerster of the group with only basomedially sculptured propodeum from Spain (Hymenoptera, Braconidae, Alysiinae). Biologia, in press.
- Peris-Felipo F.J., Belokobylskij S.A. & Jiménez-Peydró R. 2013. New Spanish *Dinotrema* species with propodeal areola or mainly sculptured propodeum (Hymenoptera, Braconidae, Alysiinae). *Zookeys*, 297: 43–70.
- Peris-Felipo F.J. & Jiménez-Peydró R. 2011. The diversity of Cerambycidae in the protected Mediterranean landscape of the Natural Park of Carrascal de La Font Roja, Spain. Bulletin of Insectology, 64(1): 87–92.
- Tobias V.I. 2003. Species of the genus *Dinotre*ma Foerster, 1862 (Hymenoptera, Braconidae, Alysiinae) without prescutellar pit and with smooth or only medially sculptured propodeum from Russia and adjacent territories. *Entomologicheskoe Obozrenie*, **82**(1): 138–156.

- **Tobias V.I.** 2004a. Species of the genus *Dinotrema* Foerster (Hymenoptera, Braconidae, Alysiinae) without prescutellar pit, with a widely sculptured propodeum and short mandibles from Russia and neighboring territories. *Entomologicheskoe Obozrenie*, **83**(2): 468–486.
- Tobias V.I. 2004b. Two new species of the braconid genus *Dinotrema* Foerster (Hymenop-

tera, Braconidae, Alysiinae) without prescutellar pit. *Entomologicheskoe Obozrenie*, **83**(3): 679–683.

- Tobias V.I. 2006. Palaearctic species of the genus Dinotrema Foerster (Hymenoptera, Braconidae, Alysiinae) with prescutellar pit and long ovipositor. Entomologicheskoe Obozrenie, 85(2): 395–413.
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