



Revision of the New World species of the genus *Dinotrema* (Hymenoptera: Braconidae: Alysiniinae)

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Abstract

The first comprehensive revision of the Nearctic and Neotropical species of the genus *Dinotrema* Foerster, 1863 is provided. Twenty-two species of this genus are redescribed and illustrated. The following new combinations are suggested: *D. floridensis* (Shenefelt, 1974), **comb. nov.**; *D. ephemera* (Viereck, 1917), **comb. nov.**; *D. foliformis* (Fischer, 1969), **comb. nov.**; *D. latitergum* (Fischer, 1969), **comb. nov.**; *D. lobidens* (Fischer 1969), **comb. nov.** and *D. longibasis* (Fischer 1969), **comb. nov.** *Dinotrema bucculatricis* (Fischer 1969) is synonymized with *D. angusticorne* (Fischer 1969), **syn. nov.** *Dinotrema sublatitergum* (**nom. nov.**) is new name for junior homonym *Dinotrema latitergum* (Fischer, 1975), not *D. latitergum* (Fischer, 1969). The key to all New World species of *Dinotrema* is compiled for the first time.

Key words. Parasitoid, Diptera, redescription, new combination, *Dinotrema*, Nearctic, Neotropical

Introduction

The subfamily Alysini is a monophyletic group characterised by apomorphic external morphological features such as exodont mandibles, the total loss of the occipital and prepectal carinae, and koinobiont specialisation on Diptera hosts (Wharton 2002). The monophyly has also been confirmed by molecular phylogenetic studies (Gimeno *et al.* 1997, Zaldivar *et al.* 2006). About 2000 species and 104 genera have been recorded worldwide within Alysini (Yu *et al.* 2012), which is now divided into two large and polymorphic tribes Alysini and Dacnini (Shenefelt 1974, Yu *et al.* 2012). Griffiths (1964, 1966a, 1966b, 1968a, 1968b, 1984) considered the tribe Dacnini as monophyletic. On the other hand, the tribe Alysini is perhaps paraphyletic and even polyphyletic group (Wharton 2002). Morphologically, these two tribes are mainly distinguished by the presence (Alysini) or absence (Dacnini) of the vein r-m (second radiomedial) on fore wings (Alysini has three submarginal (radiomedial) cells while Dacnini only two), and by the different numbers of the mandibular teeth, usually not more than three in Alysini and often four–seven in Dacnini.

With regard to host-parasitoid relationships, members of the tribe Alysini have a very wide range of hosts from 29 families of cyclorrhaphous Diptera, predominantly from the phytophagous, sarcophagous, necrophagous, and parasitoid fly families Agromyzidae, Anthomyiidae, Calliphoridae, Drosophilidae, Muscidae, Phoridae, Sarcophagidae, and Tephritidae. On the other hand, Dacnini have been only reared from 13 families of Diptera and mainly from leaf and stem miners of the families Agromyzidae, Chloropidae and Ephydriidae (Yu *et al.* 2012, Kostromina *et al.* 2016).

Despite the sufficient knowledge on this subfamily, its generic classification is imperfect and complicated with numerous established genera-groups. The *Aspilota* group of genera is rather well differentiated association inside of the tribe Alysini (van Achterberg 1988) and currently includes 17 genera (Peris-Felipo *et al.* 2014).

The genus *Dinotrema* Foerster, 1863 is the second largest genus of Alysini with approximately 430 described species from all zoogeographic regions excluding Antarctica (Peris-Felipo and Belokobylskij 2016a). Species of *Dinotrema* parasitise the larvae of Diptera predominantly belonging to the family Phoridae (van Achterberg 1988; Peris-Felipo and Belokobylskij 2016b).

The current status of the genus *Dinotrema* was established and justified by van Achterberg (1988), and the members of this genus differ from the most related *Aspilota* by the short paraclypeal fovea that are far distant from the inner margin of eyes. Fischer (1972) and Tobias (2003, 2004a, 2004b, 2006) suggested dividing *Dinotrema* species into some morphological groups characterized by extent and type of sculpture of the propodeum and presence/absence of the mesoscutal pit. These features were also used in the recent revisions of the Western Palaearctic (Peris-Felipo *et al.* 2014) and Afrotropical species (Peris-Felipo and Belokobylskij 2016a). Recently, *Dinotrema* with four new species was recorded in the Neotropical region for the first time and a key to the Nearctic and Neotropical *Dinotrema* species of this genus was published (Peris-Felipo and Belokobylskij, 2016b). However, since this publication other known species of *Aspilota*-group from the Nearctic region are revised and new combinations revealed.

The purpose of this study is to review all known New World (Nearctic and Neotropical regions) *Dinotrema* species. This review includes redescrptions of type material, photos of their characters, and the preparation of a new updated key to species.

Material and methods

For the terminology of the morphological features, sculpture and measurements, see Peris-Felipo *et al.* (2014); for wing venation nomenclature, see Peris-Felipo *et al.* (2014) and in parenthesis van Achterberg (1993). The morphological groups based on the propodeal sculpture of Peris-Felipo *et al.* (2014) were used for the preparation of the new key to the Nearctic and Neotropical *Dinotrema* species. Specimens were imaged using a Digital Keyence® VHX-2000 and Adobe Photoshop® imaging system. Types of the studied species are deposited in the collections of the Natural History Museum (London, U.K.; BMNH), Naturhistorisches Museum (Vienna, Austria; NHMW), Smithsonian Institution (Washington, U.S.A.; NMNH), and Zoological Institute of the Russian Academy of Sciences (St Petersburg, Russia; ZISP).

Taxonomic part

A total of 22 species of the genus *Dinotrema* from Nearctic and Neotropical regions are re-described and illustrated. After the revision of the type material of the *Aspilota*-group species deposited in the NMNH (Washington) the following taxa are transferred to *Dinotrema* from *Aspilota*: *D. floridensis* (Shenefelt, 1974), **comb. nov.**; *D. ephemera* (Viereck, 1917), **comb. nov.**; *D. foliformis* (Fischer, 1969), **comb. nov.**; *D. latitergum* (Fischer, 1969), **comb. nov.**; *D. lobidens* (Fischer 1969), **comb. nov.** and *D. longibasis* (Fischer 1969), **comb. nov.** *Dinotrema bucculatricis* (Fischer 1969) is synonymized with *D. angusticorne* (Fischer 1969) (**syn. nov.**). Original and new species combinations and publications of original species descriptions are listed in Table 1.

TABLE 1. List of new combinations presented in this paper, with their original combinations and publications.

New World species in original generic combination	New World species as nom.nov./comb. nov./ syn. nov.	Original publication
<i>Aspilota cubiceps</i> Fischer 1969	<i>Dinotrema floridensis</i> Shenefelt, 1974	Fischer, 1969a; Shenefelt, 1974
<i>Aspilota ephemera</i> Viereck, 1917	<i>Dinotrema ephemera</i> (Viereck, 1917)	Viereck, 1917
<i>Aspilota foliformis</i> Fischer, 1969	<i>Dinotrema foliformis</i> (Fischer, 1969)	Fischer, 1969a
<i>Aspilota latitergum</i> Fischer, 1969	<i>Dinotrema latitergum</i> (Fischer, 1969)	Fischer, 1969b
<i>Aspilota lobidens</i> Fischer, 1971	<i>Dinotrema lobidens</i> (Fischer, 1971)	Fischer, 1971
<i>Aspilota longibasis</i> Fischer, 1969	<i>Dinotrema longibasis</i> (Fischer, 1969)	Fischer 1969d
<i>Dinotrema bucculatricis</i> (Fischer 1969)	<i>Dinotrema angusticorne</i> (Fischer 1969)	Fischer, 1969c

The Palaearctic *Dinotrema latitergum* (Fischer, 1975) (described originally in *Aspilota*) is a junior homonym of the Nearctic *Dinotrema latitergum* (Fischer, 1969) and we propose the new name for junior homonym, *Dinotrema sublatitergum*, **nom. nov.**

Class Hexapoda Blainville, 1816

Order Hymenoptera Linnaeus, 1758

Suborder Apocrita Latreille, 1810

Superfamily Ichneumonoidea Latreille, 1802

Family Braconidae Nees, 1811

Subfamily Alysiinae Leach, 1815

Tribe Alysiini Leach, 1815

Genus *Dinotrema* Foerster, 1863

Diagnosis of the genus. Mandibles small, simple, tridentate. Paraclypeal fovea short, far not reaching edge of eyes. Mesoscutum with or without mesoscutal pit; notauli present only in anterior part of mesoscutum; precoxal sulcus always present; propodeum smooth or more common with different types of sculpture and sometimes with longitudinal or transverse carinae. In fore wing, radial (marginal) cell never shortened; vein cu₁ (2-SR) always present and usually distinctly sclerotized; veins recurrent (m-cu) and nervulus (cu-a) always postfurcal; brachial (first subdiscal) cell always closed postero-apically by brachial (CU1a) vein. Metasoma more or less distinctly compressed laterally. Ovipositor sheath usually not longer than metasoma.

Hosts. Dipteran larvae mainly from families Anthomyiidae, Phoridae and Platypezidae.

Dinotrema angusticorne (Fischer, 1969)

(Figs 1, 2)

Aspilota angusticornis Fischer 1969a: 102; Yu *et al.* 2012.

Dinotrema angusticorne: Peris-Felipo and Belokobylskij 2016b: 3.

Aspilota bucculatricis Fischer 1969c: 62; Shenefelt 1974: 968; Marsh 1979: 220; Yu *et al.* 2012 (**syn. nov.**).

Dinotrema bucculatricis: Peris-Felipo and Belokobylskij 2016b: 3.

Material examined. 1 male (paratype of *D. angusticorne*), "U.S.A., Cabin John, May. 1919, R.M. Fouts Collector" (NHMW); 1 female (paratype of *D. bucculatricis*), "U.S.A., Newfoundland, Squires, Mem., PK, 24.vii.1961, C.P. Alexander leg." (NHMW).

Redescription. Female. Body 1.6 mm; fore wing 1.8 mm; hind wing 1.1 mm.

Head. In dorsal view, 1.7 × as wide as median length, 1.5 × as wide as mesoscutum, smooth. Eye in lateral view 1.4 × as wide as temple medially. POL 1.4 × OD; OOL 3.2 × OD. Face 1.8 × as wide as high. Clypeus 3.0 × as wide as high. Paraclypeal fovea reaching halfway distance between clypeus and eye. Mandible 1.4 × as long as its maximum width, widened towards apex. Upper tooth rather wide, shorter than lower tooth; middle tooth longer than upper tooth, thin, pointed apically; lower tooth short, subrounded. Antenna more than 16-segmented (apical segments missing). First flagellar segment 3.3 × as long as its apical width. Second to third flagellar segments 2.5 × as long as their maximum width; fourth and fifth segments 2.1 times; sixth to 14th segments 1.7–1.9 × as long as their maximum width respectively.

Mesosoma. In lateral view 1.2 × as long as high. Mesoscutum (in dorsal view) 0.9 × as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit present, oval-elongate. Prescutellar depression (scutellar sulcus) with distinct median and without lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum mainly smooth with complete median longitudinal carinae and with short subtransverse carinae emerging from median carina, but far distant from propodeal edges. Propodeal spiracles very small, its diameter 0.2 × as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur 4.1 × as long as its maximum width.

Wings. Radial (marginal) cell 4.3 × as long as its maximum width. Vein r₂ (3-SR) 2.0 × as long as vein cu₁ (2-SR); vein r₃ (SR1) 2.7 × as long as vein r₂ (3-SR).

Metasoma. First tergite weakly widened towards apex, 2.0 × as long as its apical width, weakly striate in apical half. Ovipositor 1.1 × as long as first tergite, clearly shorter than metasoma, 0.7 × as long as hind femur.

Colour. Body, antenna, mandible, legs and pterostigma brown to dark brown. Wings hyaline.

Male. Body 1.3 mm; fore wing 1.6 mm; hind wing 1.1 mm. Antenna 20-segmented. First flagellar segment 3.8 × as long as its apical width. Radial (marginal) cell 3.9 × as long as its maximum width. Vein r₂ (3-SR) 2.5 × as long as vein cu₁ (2-SR); vein r₃ (SR1) 2.3 × as long as vein r₂ (3-SR). Hind femur 4.1 × as long as its maximum width. Otherwise similar to female.

Comparative diagnosis. This species is similar to *D. clayensis* (Fischer, 1969) and *D. latitergum* (Fischer, 1969). *Dinotrema angusticorne* differs from *D. clayensis* in having the eye in lateral view 1.4 × as wide as temple medially (1.1 × in *D. clayensis*), first metasomal tergite 2.0 × as long as its apical width (2.5 × in *D. clayensis*), radial (marginal) cell 4.3 × as long as its maximum width (3.8 × in *D. clayensis*), vein r₂ (3-SR) 2.0 × as long as

vein cu₁ (2-SR) ($2.7 \times$ in *D. clayensis*) and vein r₃ (SR1) $2.7 \times$ as long as vein r₂ (3-SR) (2.1 times \times in *D. clayensis*). This species also differs from *D. latitergum* in having the eye in lateral view $1.4 \times$ as wide as temple medially ($1.1 \times$ in *D. latitergum*), first flagellar segment $3.3 \times$ as long as its maximum width ($4.0 \times$ in *D. latitergum*), propodeum mainly smooth with complete median longitudinal carinae and with short subtransverse carinae emerging from median carina, but far distant from propodeal edges (sculptured with carinae reaching propodeal edges in *D. latitergum*), radial (marginal) cell $4.3 \times$ as long as its maximum width ($3.6 \times$ in *D. latitergum*), and vein r₃ (SR1) $2.7 \times$ as long as vein r₂ (3-SR) ($2.2 \times$ in *D. latitergum*).



FIGURE 1. *Dinotrema angusticorne* (Fischer, 1969) (female, paratype *D. bucculatricis*). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Mandible. **D.** Antenna. **E.** Face, sub-frontal view. **F.** Head, dorsal view.

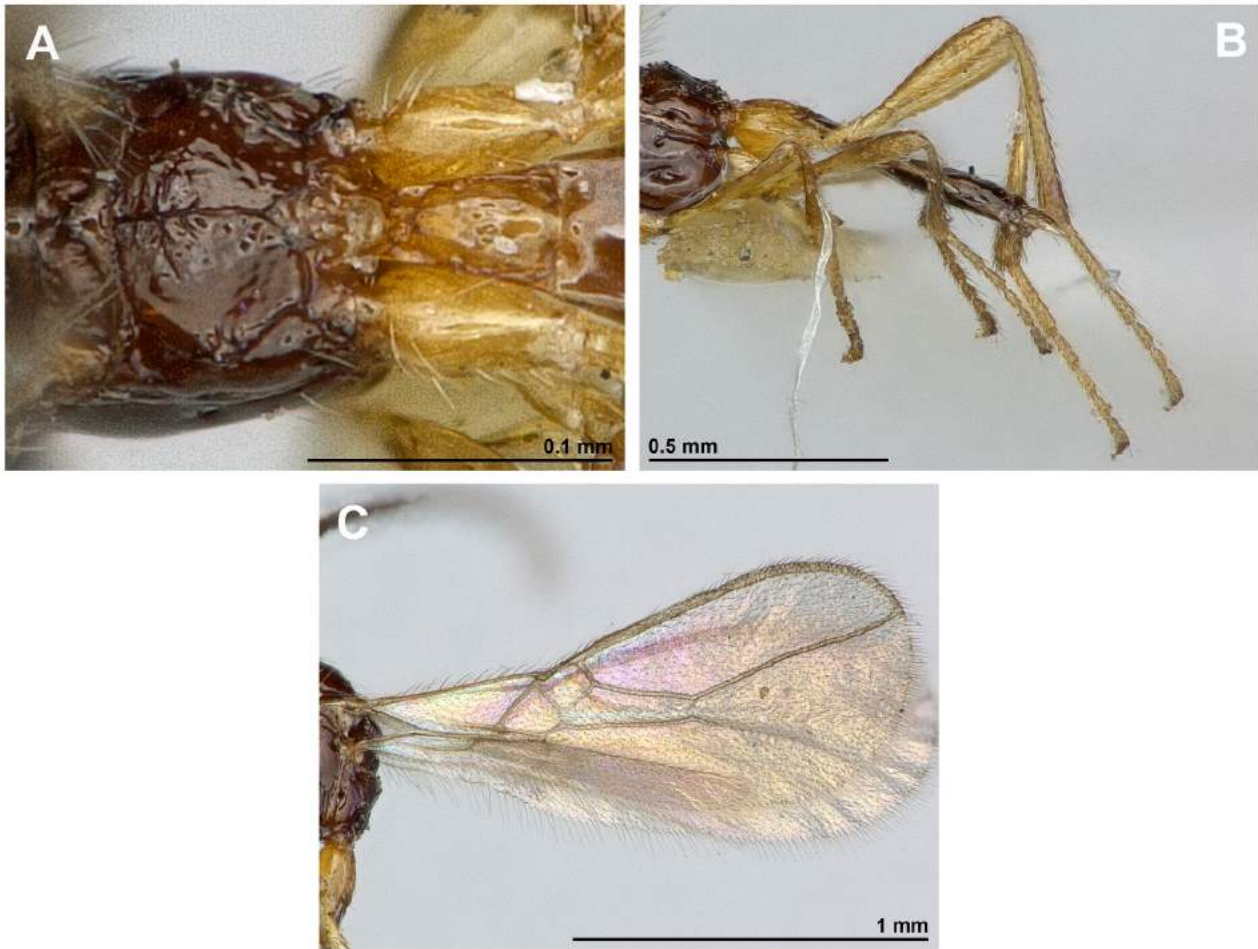


FIGURE 2. *Dinotrema angusticorne* (Fischer, 1969) (female, paratype *D. bucculatricis*). **A.** Mesonotum, dorsal view. **B.** Propodeum, dorsal view. **C.** Hind leg and metasoma, lateral view. **D.** First metasomal tergite, dorsal view. **E.** Fore wing.

***Dinotrema armillariae* (Fischer, 1969)**
(Figs 3, 4)

Aspilota armillariae Fischer 1969d: 194; Shenefelt 1974: 967; Marsh 1979: 220; Yu *et al.* 2012.
Dinotrema armillariae: Peris-Felipo and Belokobylskij 2016b: 3.

Material examined. 1 female (paratype), "U.S.A., Great Falls, Va., 25.ix.1913, ex fungus *Clitocybla*, R.C. Shannon Coll." (NHMW).

Redescription. Female. Body 1.6 mm; fore wing 2.0 mm; hind wing 1.1 mm.

Head. In dorsal view, $1.8 \times$ as wide as median length, $1.5 \times$ as wide as mesoscutum, smooth. Eye in lateral view $1.4 \times$ as wide as temple medially. POL $1.4 \times$ OD; OOL $2.8 \times$ OD. Face $1.7 \times$ as wide as high. Clypeus $2.7 \times$ as wide as high. Paraclypeal fovea reaching halfway distance between clypeus and eye. Mandible $1.3 \times$ as long as its maximum width, weakly widened towards apex. Upper tooth rather wide, about as long as lower tooth; middle tooth longer than upper tooth, pointed apically; lower tooth short, wide, subrounded. Antenna 21-segmented. First flagellar segment $4.0 \times$ as long as its apical width. Second and third flagellar segments $3.0 \times$ as long as their maximum width; fourth to eighth segments $2.7\text{--}2.8$ times; ninth to 12th segments 2.5 times; 13th and 14th segments 2.2 times; 15th to 17th segments 2.0 times; 18th segment 2.4 times, and 19th (apical) segment $2.8 \times$ as long as wide respectively.

Mesosoma. In lateral view $1.1 \times$ as long as high. Mesoscutum (in dorsal view) $0.9 \times$ as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit absent. Prescutellar depression

(scutellar sulcus) with distinct median and without lateral carinae. Precoxal sulcus present, weakly crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum completely smooth. Propodeal spiracles very small, its diameter $0.3 \times$ as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur $4.5 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $3.6 \times$ as long as its maximum width. Vein r2 (3-SR) $2.2 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.4 \times$ as long as vein r2 (3-SR).

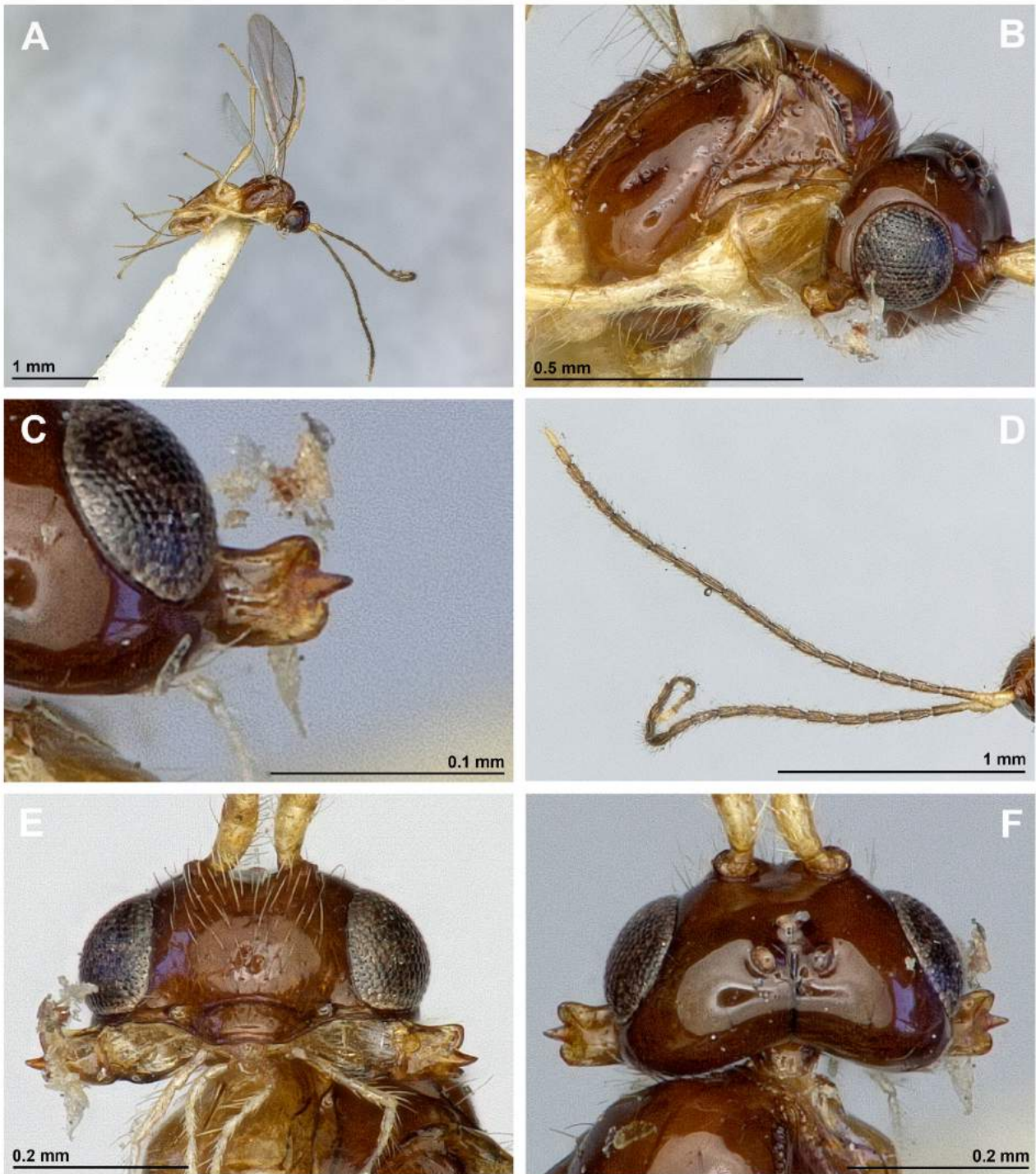


FIGURE 3. *Dinotrema armillariae* (Fischer, 1969) (female, paratype). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Antenna. **D.** Mandible. **E.** Face, frontal view. **F.** Head, dorsal view.

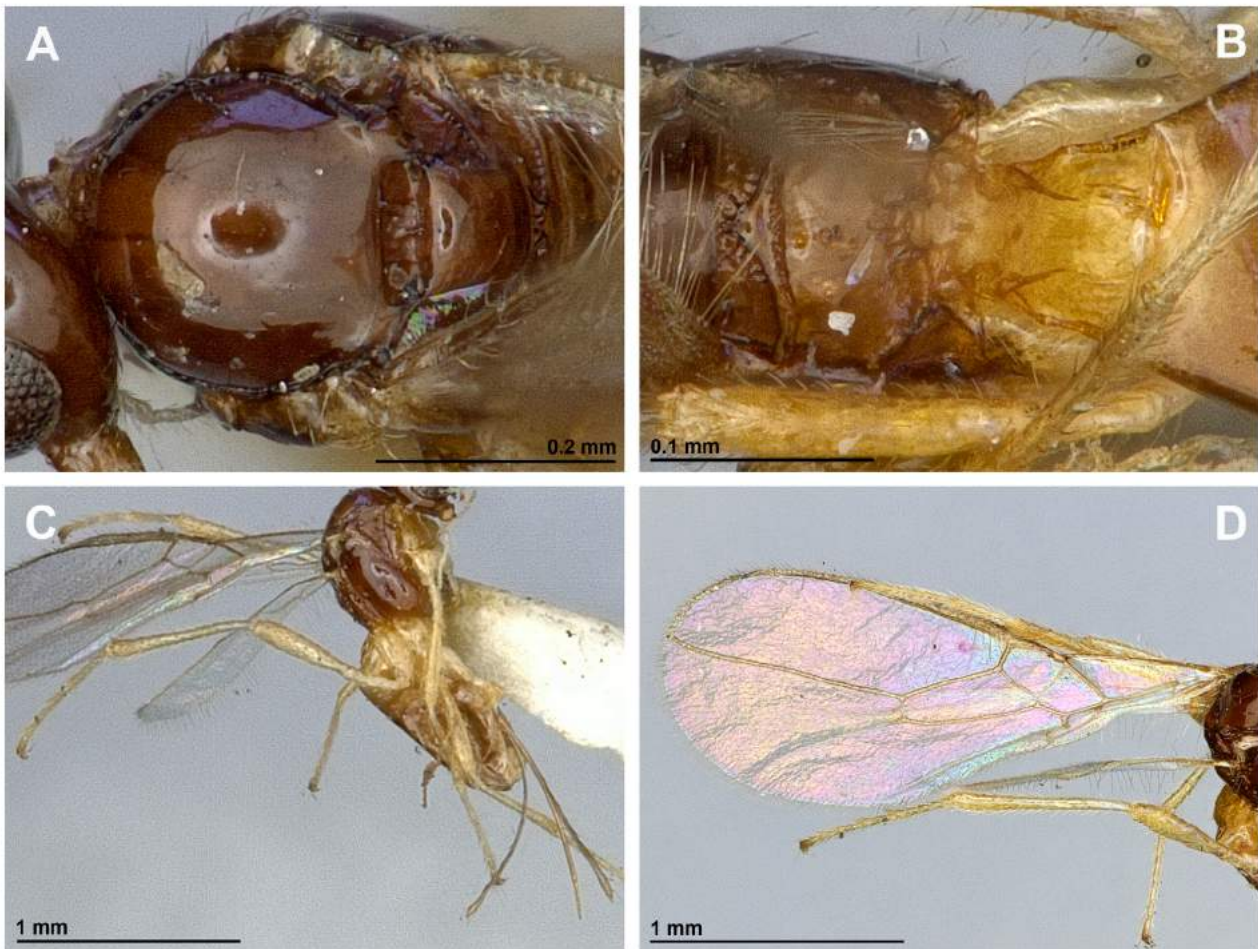


FIGURE 4. *Dinotrema armillariae* (Fischer, 1969) (female, paratype). **A.** Mesonotum, dorsal view. **B.** Propodeum and first metasomal tergite, dorsal view. **C.** Hind leg, metasoma and ovipositor, lateral view. **D.** Fore wing.

Metasoma. First tergite weakly widened towards apex, $0.8 \times$ as long as its apical width, smooth. Ovipositor $5.0 \times$ as long as first tergite, as long as metasoma, $2.1 \times$ as long as hind femur.

Colour. Head, mesosoma, mandible and pterostigma brown to dark brown. Metasoma light brown. Legs, scape, pedicel and apical flagellar segment yellow. Wings hyaline.

Male. Unknown.

Comparative diagnosis. This species is similar to *D. lobidens* (Fischer, 1971), but differs from it in having the first metasomal tergite $0.8 \times$ as long as its apical width ($2.0 \times$ in *D. lobidens*), eye in lateral view $3.8 \times$ as wide as temple medially ($2.0 \times$ in *D. lobidens*), mandible $1.3 \times$ as long as its maximum width (almost equal in *D. lobidens*), first flagellar segment $4.0 \times$ as long as its maximum width ($2.5 \times$ in *D. lobidens*), apical flagellar segments paler than middle segments (same colour in *D. lobidens*), and hind femur $4.5 \times$ as long as its maximum width ($4.0 \times$ in *D. lobidens*).

***Dinotrema caudatulum* (Fischer, 1969)**

(Figs 5, 6)

Aspilota caudatula Fischer 1969b: 247; Shenefelt 1974: 969; Marsh 1979: 220; Yu *et al.* 2012.

Dinotrema caudatulum: Peris-Felipo and Belokobylskij 2016b: 3.

Material examined. 1 female (paratype), "U.S.A., Thomasville, Ga., 12.iv.1932, No. 31945, ex *Laspeyresia caryana*, H. Spencer and L. Brown leg." (NHMW); 1 male (paratype), "U.S.A, Colo., 1547, Collection C.F. Baker" (NHMW).

Redescription. Female. Body 1.6 mm; fore wing 1.8 mm; hind wing 1.2 mm.

Head. In dorsal view, $1.9 \times$ as wide as median length, $1.5 \times$ as wide as mesoscutum, smooth. Eye in lateral view $1.1 \times$ as wide as temple medially. POL $1.1 \times$ OD; OOL $2.8 \times$ OD. Face $1.5 \times$ as wide as high. Clypeus $2.7 \times$ as wide as high. Paraclypeal fovea reaching halfway distance between clypeus and eye. Mandible as long as its maximum width, weakly widened towards apex. Upper tooth rather wide, longer than lower tooth; middle tooth shorter than upper tooth, small, pointed apically; lower tooth short, subrounded. Antenna 17-segmented. First flagellar segment $3.0 \times$ as long as its apical width. Second segments $1.7 \times$ as long as its maximum width; third to 14th segments $1.3\text{--}1.4$ times, and 15th (apical) segment $2.2 \times$ as long as wide respectively.

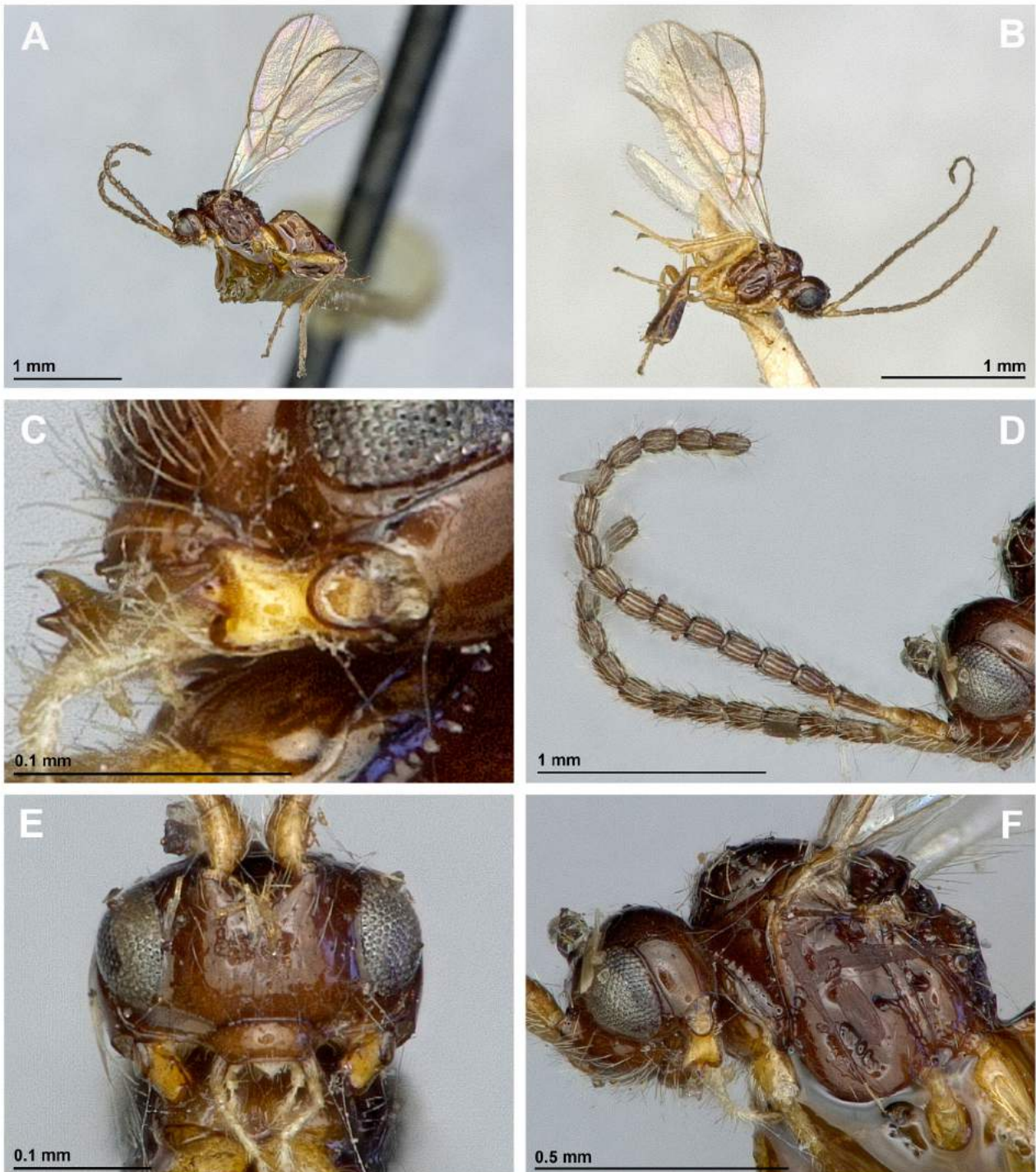


FIGURE 5. *Dinotrema caudatulum* (Fischer, 1969) (A, C–F—female, B—male, paratypes). A, B. Habitus, lateral view. C. Mandible. D. Antenna. E. Face, fronta view. F. Head and mesosoma, lateral view.

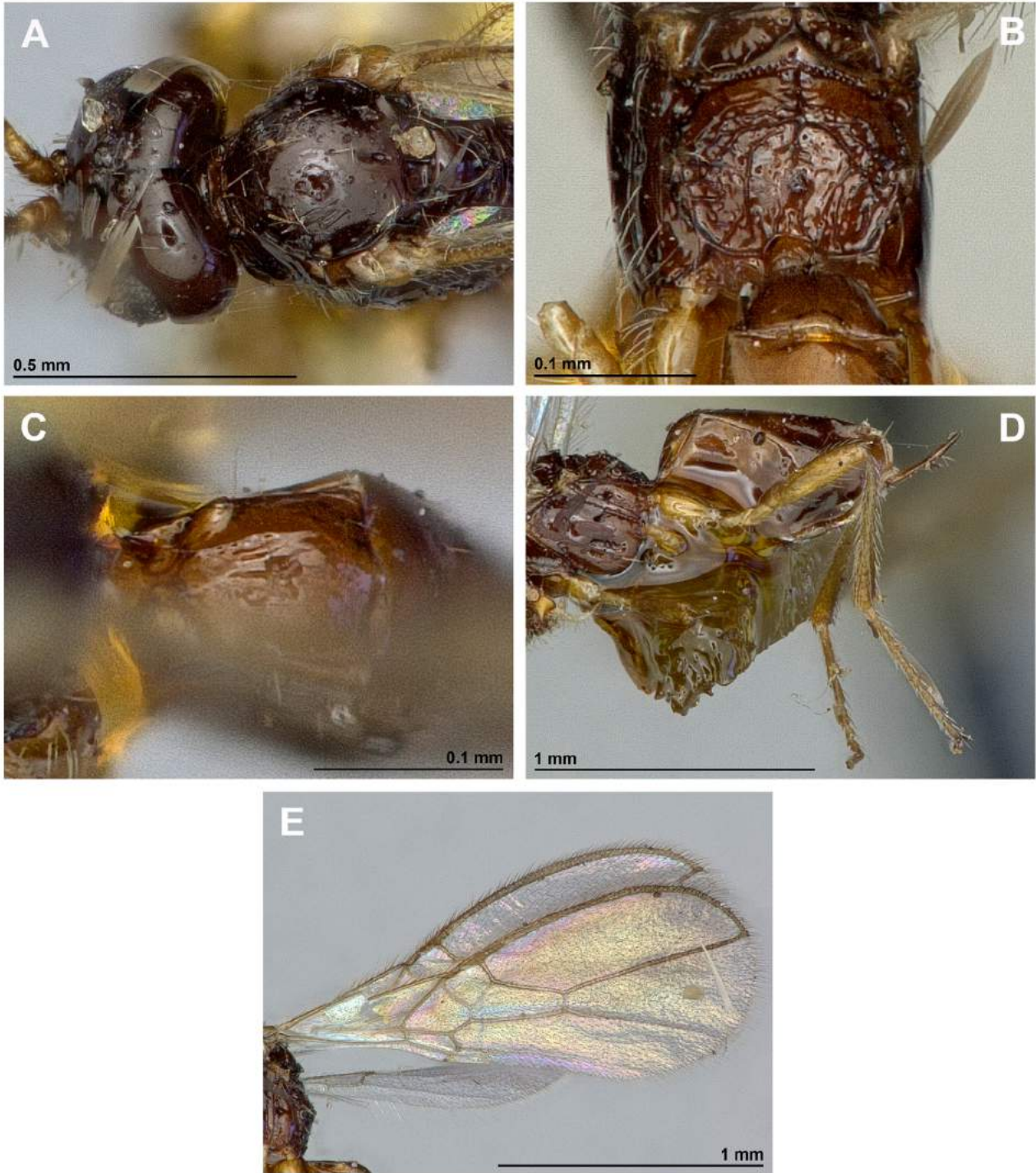


FIGURE 6. *Dinotrema caudatulum* (Fischer, 1969) (female, paratype). **A.** Head and mesonotum, dorsal view. **B.** Propodeum, dorsal view. **C.** First metasomal tergite, dorsal view. **D.** Hind leg, metasoma and ovipositor, lateral view. **E.** Fore and hind wings.

Mesosoma. In lateral view $1.3 \times$ as long as high. Mesoscutum (in dorsal view) as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit present, oval. Prescutellar depression (scutellar sulcus) with distinct median and without lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum sculptured, without complete median longitudinal carinae. Propodeal spiracles small, its diameter $0.3 \times$ as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur $3.5 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $3.7 \times$ as long as its maximum width. Vein r2 (3-SR) $2.2 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.7 \times$ as long as vein r2 (3-SR).

Metasoma. First tergite weakly widened towards apex, $1.5 \times$ as long as its apical width, smooth. Ovipositor $1.1 \times$ as long as first tergite, clearly shorter than metasoma, about as long as hind femur.

Colour. Body, antenna, and pterostigma brown to dark brown. Mandible and legs light brown. Wings hyaline.

Male. Body 1.6 mm; fore wing 1.8 mm; hind wing 1.4 mm. Antenna 21-segmented. First flagellar segment $2.9 \times$ as long as its apical width. Second and 19th segments $2.2\text{--}2.4 \times$ as long as their maximum width. Hind femur $3.6 \times$ as long as its maximum width. Otherwise similar to female.

Comparative diagnosis. This species is similar to *D. communis* (Fischer, 1969), but differs from it in having the hind femur $3.5 \times$ as long as its maximum width ($3.9 \times$ in *D. communis*), first metasomal tergite $1.5 \times$ as long as its apical width ($1.8 \times$ in *D. communis*), mandible as long as its maximum width ($1.3 \times$ in *D. communis*), clypeus $2.7 \times$ as wide as high ($2.1 \times$ in *D. communis*), mesoscutal pit oval (elongate in *D. communis*), and prescutellar depression (scutellar sulcus) without lateral carinae (with lateral carinae in *D. communis*).

***Dinotrema clayensis* (Fischer, 1969)**

(Figs 7, 8)

Aspilota clayensis Fischer 1969a: 103; Shenefelt 1974: 969; Marsh 1979: 220; Yu *et al.* 2012.

Dinotrema clayensis: Peris-Felipo and Belokobylskij 2016b: 3.

Material examined. 1 female (paratype), "U.S.A., Gold Head Branch, St. Pk., Clay Co., Fla., 19.i.1957, F.W. Mead, sta. 41" (NHMW).

Redescription. Female. Body 1.9 mm; fore wing 2.1 mm; hind wing 1.2 mm.

Head. In dorsal view, $1.7 \times$ as wide as median length, $1.6 \times$ as wide as mesoscutum, smooth. Eye in lateral view $1.1 \times$ as wide as temple medially. POL $1.1 \times$ OD; OOL $3.8 \times$ OD. Face $1.9 \times$ as wide as high. Clypeus $2.5 \times$ as wide as high. Paraclypeal fovea reaching halfway distance between clypeus and eye. Mandible $1.3 \times$ as long as its maximum width, widened towards apex. Upper tooth rather wide, longer than lower tooth; middle tooth small, shorter than upper tooth, pointed apically; lower tooth short, subrounded. Antenna more than 12-segmented (apical segments missing). First flagellar segment $3.2 \times$ as long as its apical width. Second segments $2.2 \times$ as long as its maximum width; third to tenth segments $2.0 \times$ as long as their maximum width respectively.

Mesosoma. In lateral view $1.2 \times$ as long as high. Mesoscutum (in dorsal view) as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit present, oval-elongate. Prescutellar depression (scutellar sulcus) with distinct median and without lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum mainly smooth, with complete median longitudinal carinae and with short subtransverse carinae emerging from median carina far distant from propodeal edges. Propodeal spiracles small, its diameter $0.2 \times$ as wide as distance from spiracle to anterior margin of propodeum. Hind leg missing.

Wings. Radial (marginal) cell $3.8 \times$ as long as its maximum width. Vein r2 (3-SR) $2.7 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.1 \times$ as long as vein r2 (3-SR).

Metasoma. First tergite weakly widened towards apex, $2.5 \times$ as long as its apical width, smooth. Ovipositor $1.6 \times$ as long as first tergite, shorter than metasoma.

Colour. Body, legs and pterostigma light brown to brown. Wings hyaline.

Male. Unknown.

Comparative diagnosis. This species is similar to *D. angusticorne* (Fischer, 1969); differences between both species are shown after the redescription of the latter species.

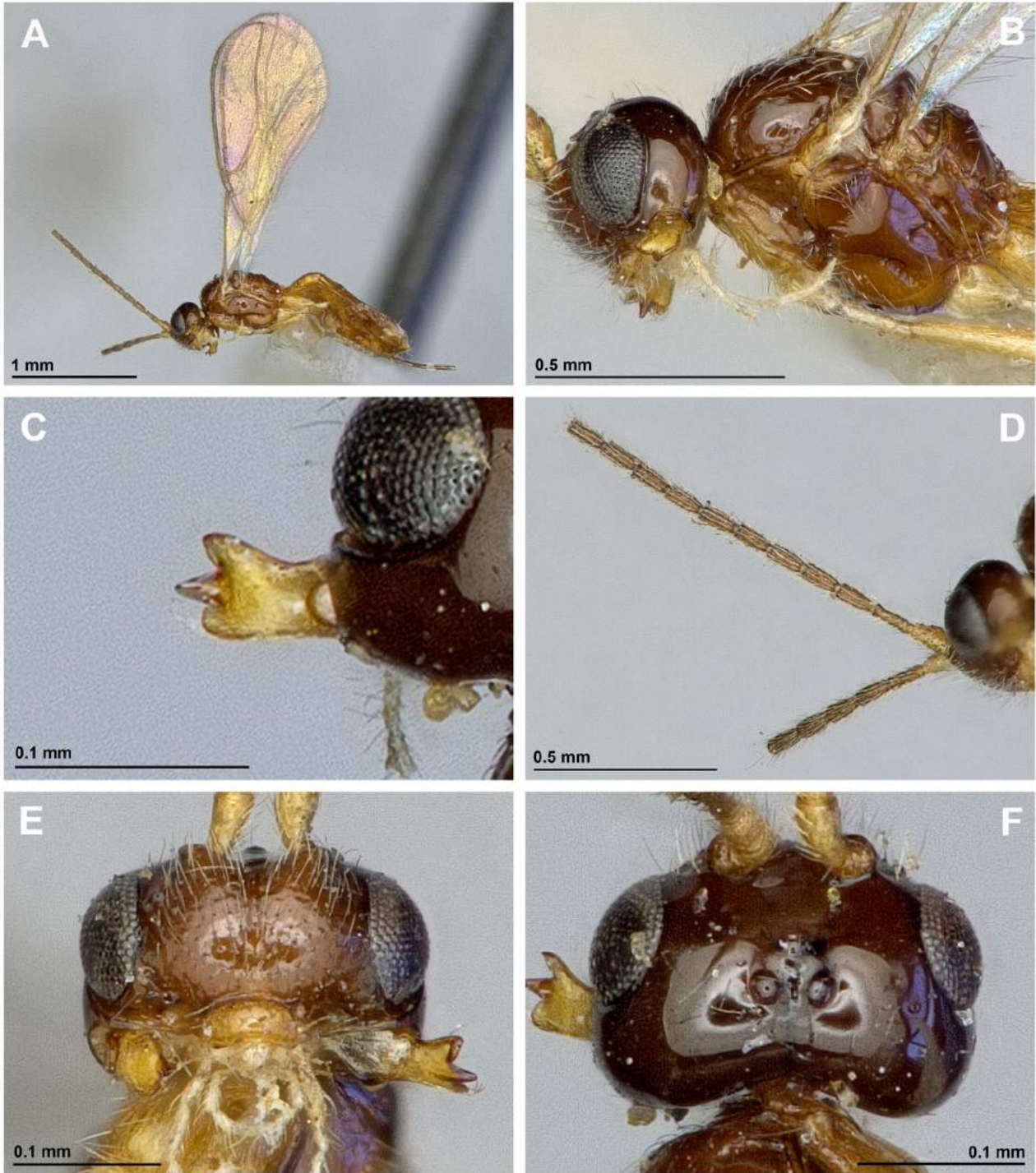


FIGURE 7. *Dinotrema clayensis* (Fischer, 1969) (female, paratype). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Mandible. **D.** Antenna. **E.** Face, frontal view. **F.** Head, dorsal view.

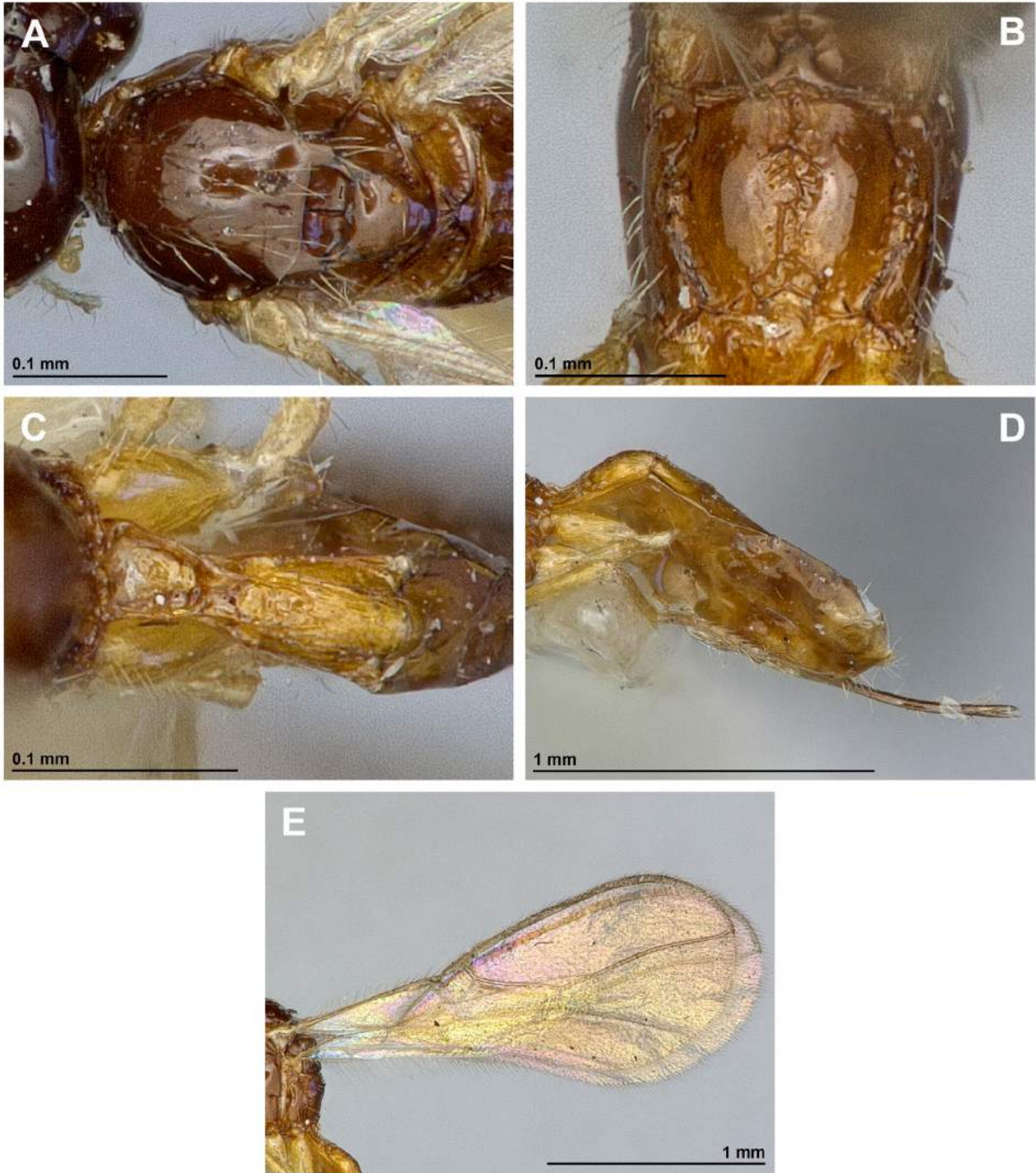


FIGURE 8. *Dinotrema clayensis* (Fischer, 1969) (female, paratype). **A.** Mesonotum, dorsal view. **B.** Propodeum, dorsal view. **C.** First metasomal tergite, dorsal view. **D.** Hind leg, metasoma and ovipositor, lateral view. **E.** Fore and hind wings.

***Dinotrema communis* (Fischer, 1969)**
(Figs 9, 10)

Aspilota communis Fischer 1969b: 250; Shenefelt 1974: 969; Marsh 1979: 220; Yu *et al.* 2012.
Dinotrema communis: Peris-Felipo and Belokobylskij 2016b: 3.

Material examined. 1 male (paratype), "U.S.A., Beverly Mass., Gip Moth Lab., 57050, 18.viii.1911, ex *Porhetria dispar*" (NHMW).

Redescription. Male. Body 2.2 mm; fore wing 2.3 mm; hind wing 1.7 mm.



FIGURE 9. *Dinotrema communis* (Fischer, 1969) (male, paratype). A. Habitus, lateral view. B. Head and mesosoma, lateral view. C. Mandible. D. Antenna. E. Face, frontal view. F. Head and mesonotum, dorsal view.

Head. In dorsal view, $1.8 \times$ as wide as median length, $1.3 \times$ as wide as mesoscutum, smooth. Eye in lateral view $1.5 \times$ as wide as temple medially. POL $1.7 \times$ OD; OOL $3.1 \times$ OD. Face $1.5 \times$ as wide as high. Clypeus $2.1 \times$ as wide as high. Paraclypeal fovea reaching halfway distance between clypeus and eye. Mandible $1.3 \times$ as long as

its maximum width, weakly widened towards apex. Upper tooth rather wide, as long as lower tooth; middle tooth shorter than upper tooth, small, pointed apically; lower tooth short, subrounded. Antenna 22-segmented. First flagellar segment $3.0 \times$ as long as its apical width. Second to seventh segments $2.0\text{--}2.1 \times$ as long as its maximum width; eighth to 18th segments $1.8 \times$ as long as their maximum width; 19th segment 1.6 times, and 20th (apical) segment $2.5 \times$ as long as wide respectively.

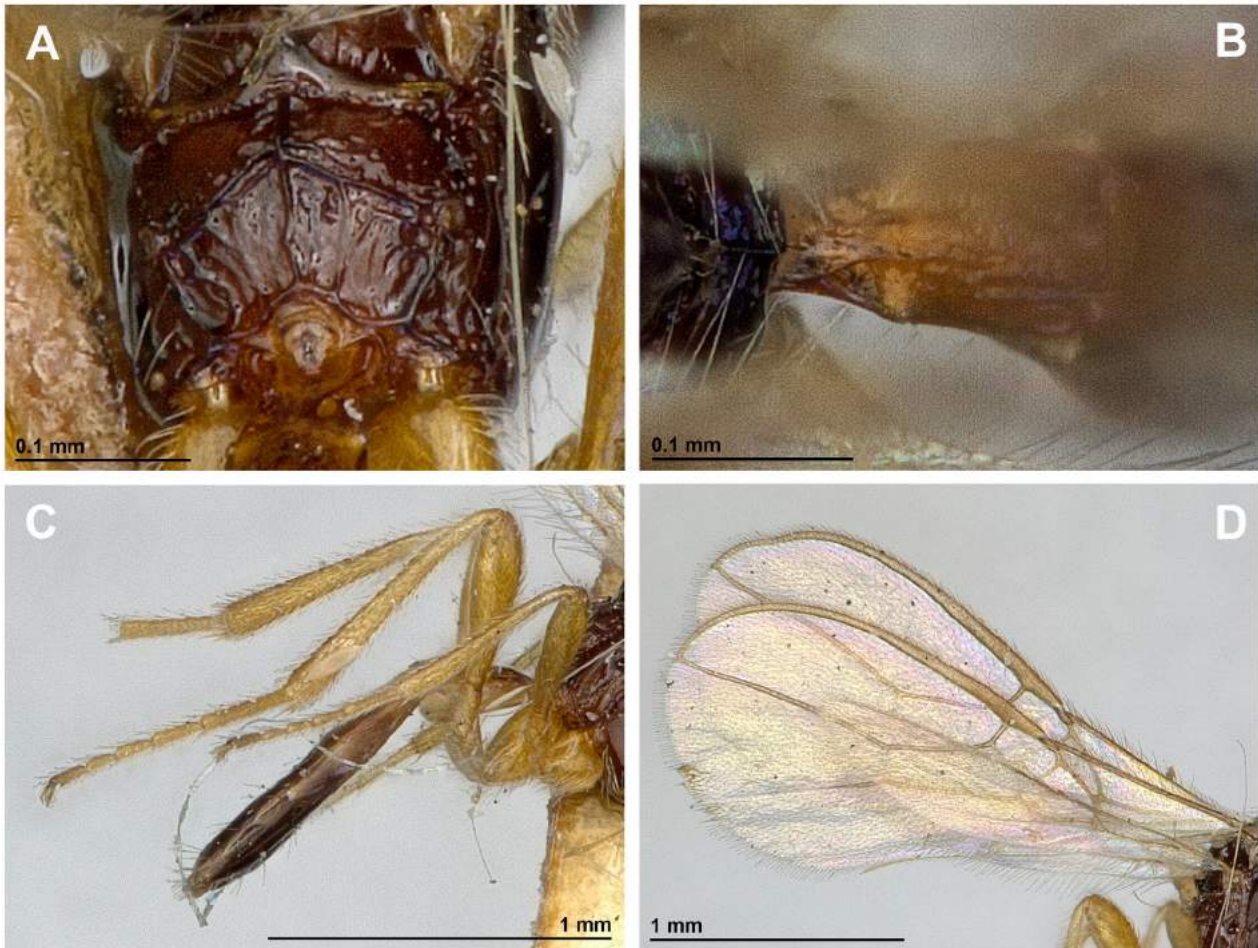


FIGURE 10. *Dinotrema communis* (Fischer, 1969) (male, paratype). **A.** Propodeum, dorsal view. **B.** First metasomal tergite, dorsal view. **C.** Hind leg and metasoma, lateral view. **D.** Fore and hind wings.

Mesosoma. In lateral view $1.1 \times$ as long as high. Mesoscutum (in dorsal view) about as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit present, elongate. Prescutellar depression (scutellar sulcus) with distinct median and lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum sculptured, with complete median longitudinal carinae. Propodeal spiracles very small, its diameter $0.3 \times$ as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur $3.9 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $3.6 \times$ as long as its maximum width. Vein r2 (3-SR) $2.1 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.1 \times$ as long as vein r2 (3-SR).

Metasoma. First tergite weakly widened towards apex, $1.8 \times$ as long as its apical width, weakly striate in apical half.

Colour. Body, legs and pterostigma light brown to brown. Wings hyaline.

Female. Unknown.

Comparative diagnosis. This species is similar to *Dinotrema caudatum* (Fischer, 1969); differences between both species are shown after the redescription of the last species.

Dinotrema disstriae (Fischer, 1969)

(Figs 11, 12)

Aspilota disstriae Fischer 1969a: 105; Shenefelt 1974: 971; Marsh 1979: 220; Yu *et al.* 2012.

Dinotrema disstriae: Peris-Felipo and Belokobylskij 2016b: 3.

Material examined. 1 female (paratype), "U.S.A., Springfield, Vt., 12.vii.1940, ex *M. disstria*, N.E.F. For. Ins. Lab. 131-205-40-6" (NHMW).

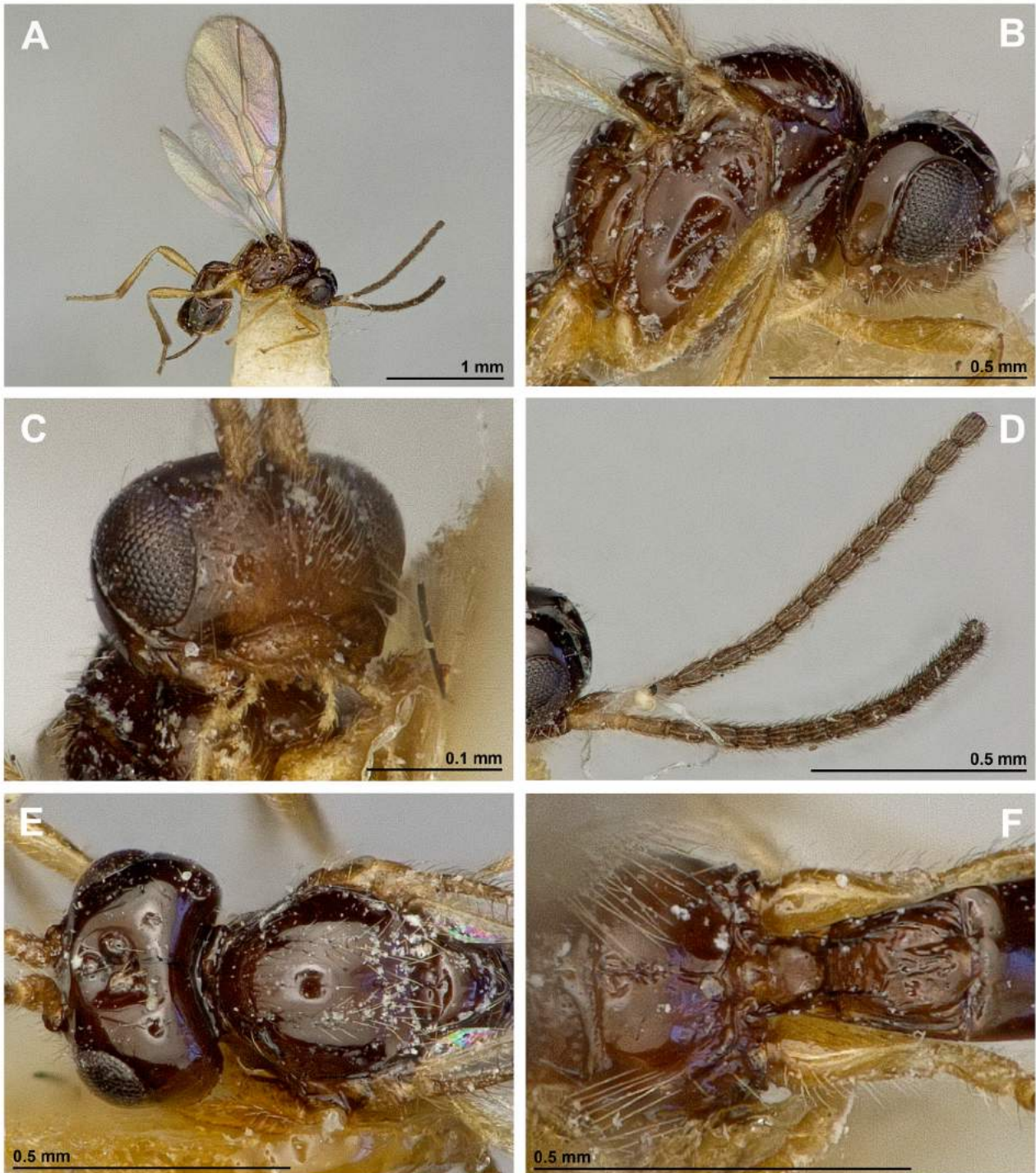


FIGURE 11. *Dinotrema disstriae* (Fischer, 1969) (female, paratype). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Face, subfrontal view. **D.** Antenna. **E.** Head and mesonotum, dorsal view. **F.** Propodeum and first metasomal tergite, dorsal view.

Redescription. Female. Body 1.4 mm; fore wing 2.0 mm; hind wing 1.3 mm.

Head. In dorsal view, $1.8 \times$ as wide as median length, $1.3 \times$ as wide as mesoscutum, smooth. Eye in lateral view $1.3 \times$ as wide as temple medially. POL $1.1 \times$ OD; OOL $3.3 \times$ OD. Face $1.5 \times$ as wide as high. Clypeus $3.0 \times$ as wide as high. Paraclypeal fovea reaching halfway distance between clypeus and eye. Mandible $1.7 \times$ as long as its maximum width, weakly widened towards apex. Upper tooth rather wide, longer than lower tooth; middle tooth long, pointed apically; lower tooth, subrounded. Antenna more than 14-segmented (apical segments missing). First flagellar segment $2.2 \times$ as long as its apical width. Second and third segments 1.8 – $1.9 \times$ as long as its maximum width; fourth to 12th segments 1.5 – $1.6 \times$ as long as their maximum width respectively.

Mesosoma. In lateral view $1.1 \times$ as long as high. Mesoscutum (in dorsal view) as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit present, oval-elongate. Prescutellar depression (scutellar sulcus) with distinct median and without lateral carinae. Precoxal sulcus present, weakly crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum mainly smooth with complete median longitudinal carinae and with short subtransverse carinae emerging from median carina and far distant from propodeal edges. Propodeal spiracles small, its diameter $0.2 \times$ as wide as distance from spiracle to anterior margin of propodeum.



FIGURE 12. *Dinotrema disstriae* (Fischer, 1969) (female, paratype). **A.** Hind leg, metasoma and ovipositor, lateral view. **B.** Fore and hind wings.

Leg. Hind femur $4.3 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $3.8 \times$ as long as its maximum width. Vein r2 (3-SR) $2.3 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.3 \times$ as long as vein r2 (3-SR).

Metasoma. First tergite widened towards apex, $1.8 \times$ as long as its apical width, weakly striate in apical half. Ovipositor $1.3 \times$ as long as first tergite, shorter than metasoma, $1.1 \times$ as long as hind femur.

Colour. Body and antenna dark brown. Legs and pterostigma brown. Wings hyaline.

Male. Unknown.

Comparative diagnosis. This species is similar to *D. pauperum* (Fischer, 1969), but differs from it in having the face $1.5 \times$ as wide as high ($2.2 \times$ in *D. pauperum*), mandible $1.7 \times$ as long as its maximum width ($1.2 \times$ in *D. pauperum*), the first flagellar segment $2.2 \times$ as long as its maximum width ($3.2 \times$ in *D. pauperum*), and hind femur $4.3 \times$ as long as its maximum width ($3.8 \times$ in *D. pauperum*).

***Dinotrema ephemera* (Viereck, 1917), comb. nov.**

(Figs 13, 14)

Aspilota ephemera Viereck 1917: 213; Muesebeck and Walkey 1951: 151; Shenefelt 1974: 972; Marsh 1979: 221; Yu *et al.* 2012.

Material examined. 1 male (holotype), "U.S.A., New Haven, Ct., 23.vi.1904, H.L. Viereck" (NMNH).

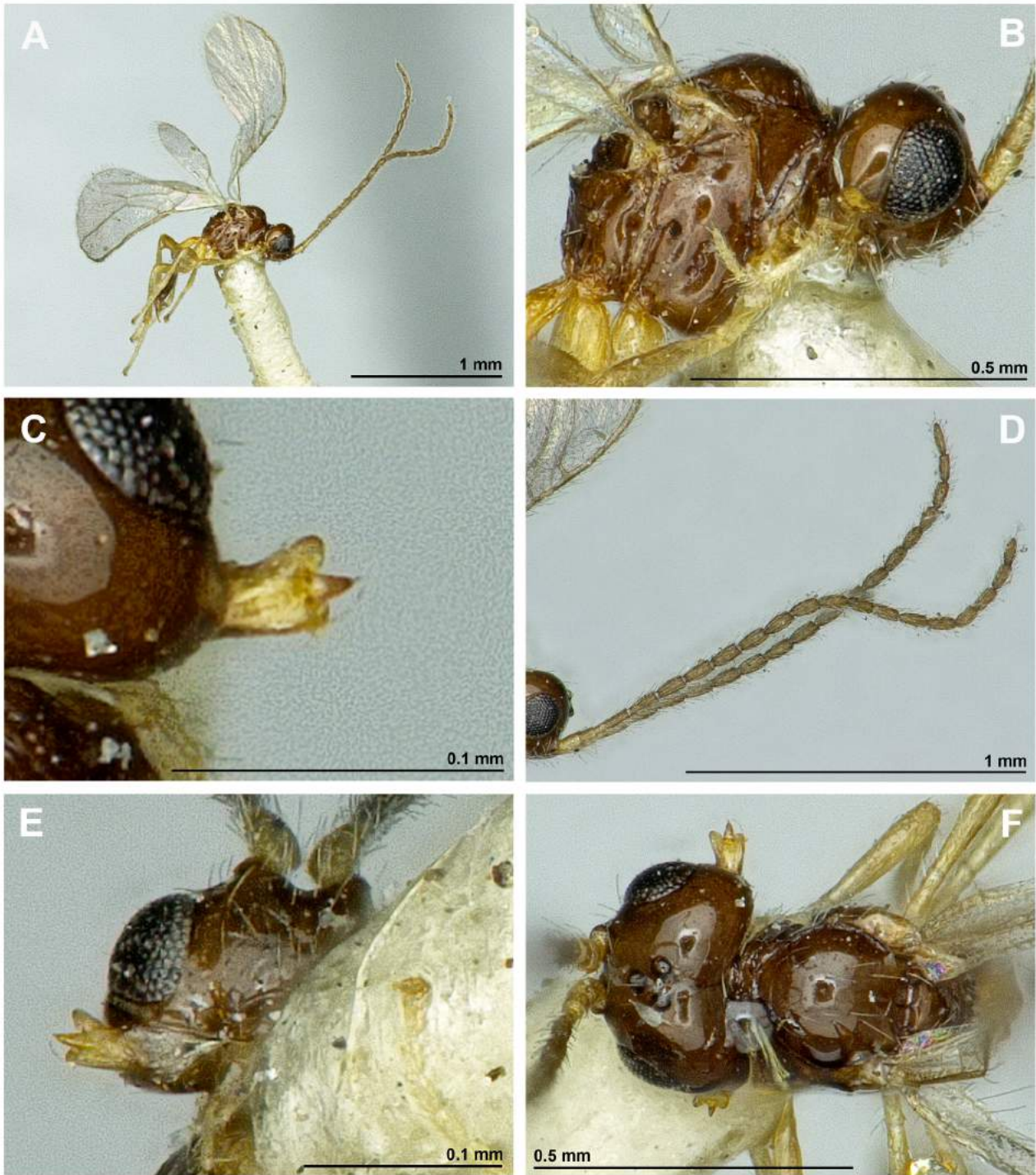


FIGURE 13. *Dinotrema ephemera* (Viereck, 1917) (male, holotype). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Mandible. **D.** Antenna. **E.** Face, frontal view. **F.** Head and mesonotum, dorsal view.

Redescription. Male. Body 1.2 mm; fore wing 1.4 mm; hind wing 0.9 mm.

Head. In dorsal view, $2.0 \times$ as wide as median length, $1.6 \times$ as wide as mesoscutum, smooth. Eye in lateral view as wide as temple medially. POL $0.9 \times$ OD; OOL $2.4 \times$ OD. Face $2.3 \times$ as wide as high. Clypeus $2.5 \times$ as wide as high. Paraclypeal fovea short, not reaching halfway distance between clypeus and eye. Mandible $1.3 \times$ as long as its maximum width, widened towards apex. Upper tooth rather wide, longer than lower tooth; middle tooth long, pointed apically; lower tooth, subrounded. Antenna 19-segmented. First flagellar segment $3.3 \times$ as long as its apical

width. Second flagellar segment 2.6 times; third to 16th segments $2.1 \times$ as long as their maximum width, and 17th (apical) segment $3.6 \times$ as long as wide respectively.

Mesosoma. In lateral view $1.1 \times$ as long as high. Mesoscutum (in dorsal view) about as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit absent. Prescutellar depression (scutellar sulcus) with distinct median and without lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum mainly smooth with complete median longitudinal carinae and with short subtransverse carinae emerging from median carina and far distant from propodeal edges. Propodeal spiracles small, its diameter $0.3 \times$ as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur $4.5 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $3.6 \times$ as long as its maximum width. Vein r2 (3-SR) $2.4 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.2 \times$ as long as vein r2 (3-SR).

Metasoma. First tergite widened towards apex, $2.1 \times$ as long as its apical width, smooth.

Colour. Body brown. First metasomal tergite, mandible, antenna, legs and pterostigma yellowish brown. Wings hyaline.

Female. Unknown.

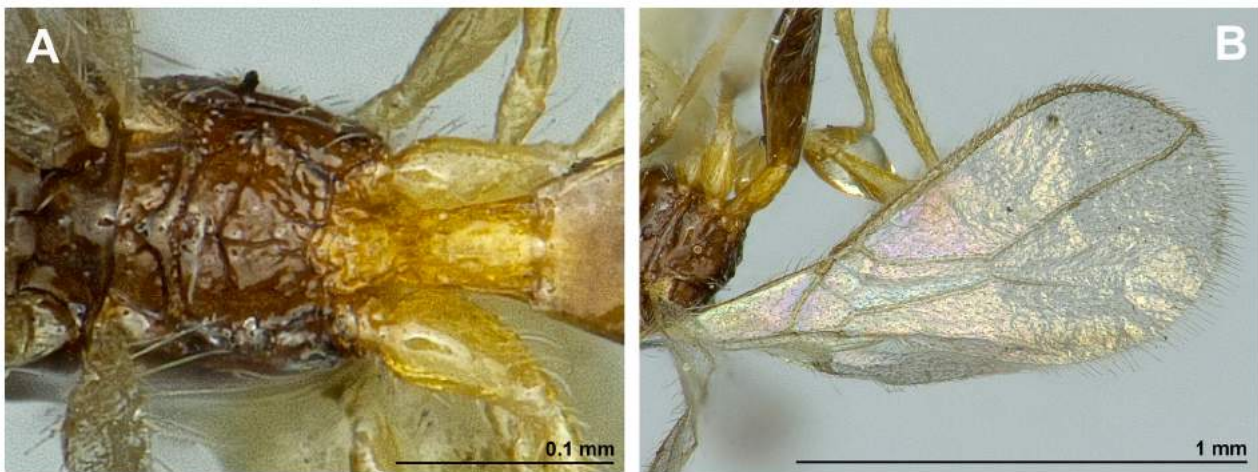


FIGURE 14. *Dinotrema ephemera* (Viereck, 1917) (male, holotype). **A.** Propodeum and first metasomal tergite, dorsal view. **B.** Fore wing.

Comparative diagnosis. This species is similar to *D. saileri* (Fischer, 1969) and *D. teutoniaense* Peris-Felipo, 2016. *Dinotrema ephemera* differs from *D. saileri* having the propodeum mainly or widely smooth and with complete median longitudinal carina (completely sculptured in *D. saileri*), face $2.3 \times$ as wide as high ($1.9 \times$ in *D. saileri*), clypeus $2.5 \times$ as wide as high ($3.3 \times$ in *D. saileri*), mandible $1.3 \times$ as long as its maximum width ($1.0 \times$ in *D. saileri*), precoxal sulcus not reaching anterior and posterior margins of mesopleuron (reaching anterior margin in *D. saileri*), diameter of propodeal spiracle $0.3 \times$ as wide as distance from spiracle to anterior margin of propodeum ($0.6 \times$ in *D. saileri*), hind femur $4.5 \times$ as long as its maximum width ($4.1 \times$ in *D. saileri*), and the first metasomal tergite $2.1 \times$ as long as its apical width ($1.5 \times$ in *D. saileri*). Finally, this species differs from *D. teutoniaense* having the eye in lateral view as wide as temple medially ($1.5 \times$ in *D. teutoniaense*), face $2.3 \times$ as wide as high ($1.2 \times$ in *D. teutoniaense*), clypeus $2.5 \times$ as wide as high ($3.1 \times$ in *D. teutoniaense*), mandible $1.3 \times$ as long as its maximum width ($2.0 \times$ in *D. teutoniaense*), the first flagellar segment $3.3 \times$ as long as its maximum width ($5.5 \times$ in *D. teutoniaense*), hind femur $4.5 \times$ as long as its maximum width ($5.0 \times$ in *D. teutoniaense*), and the first metasomal tergite $2.1 \times$ as long as its apical width ($2.8 \times$ in *D. teutoniaense*).

***Dinotrema floridensis* (Shenefelt, 1974), comb. nov.**

(Figs 15, 16)

Aspilota cubiceps Fischer 1969a: 92 (junior homonym of *A. cubiceps* Bischoff, 1932).

Aspilota floridensis Shenefelt 1974: 972 (emendation); Marsh 1979: 221; Yu *et al.* 2012.

Material examined. 1 female (holotype), "U.S.A., Florida, Gainesville, vii.1953, C.N. Patton Coll., Cat. No. 10699b" (NMNH).

Redescription. Female. Body 2.1 mm; fore wing 1.4 mm; hind wing 0.9 mm.

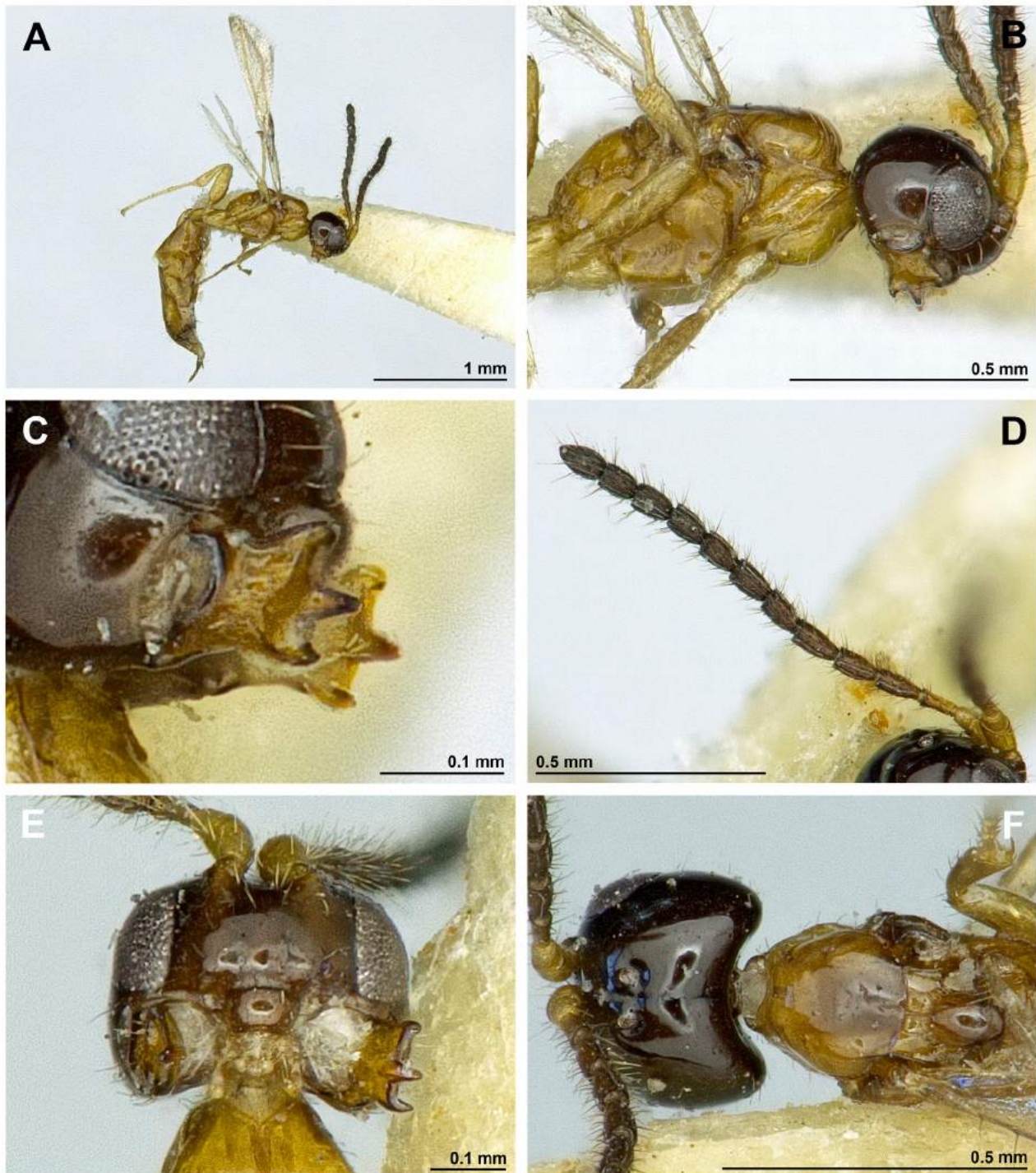


FIGURE 15. *Dinotrema floridensis* (Shenefelt, 1974) (female, holotype of *Dinotrema cubiceps* Fischer, 1969). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Mandible. **D.** Antenna. **E.** Face, frontal view. **F.** Head and mesonotum, dorsal view.

Head. In dorsal view, $1.2 \times$ as wide as median length, $1.6 \times$ as wide as mesoscutum, smooth. Eye in lateral view $0.8 \times$ as wide as temple medially. POL $1.3 \times$ OD; OOL $3.1 \times$ OD. Face $1.8 \times$ as wide as high. Clypeus $2.8 \times$

as wide as high. Paraclypeal fovea short, not reaching halfway distance between clypeus and eye. Mandible as long as its maximum width, widened towards apex. Upper tooth rather wide, longer than lower tooth; middle tooth long, pointed apically; lower tooth, subrounded. Antenna 13-segmented. First and second flagellar segments $2.1 \times$ as long as its apical width; third to ninth segments $1.8 \times$ as long as its maximum width; tenth segment $1.4 \times$ as long as its maximum width, and 11th (apical) segment $1.8 \times$ as long as wide respectively.

Mesosoma. In lateral view $1.6 \times$ as long as high. Mesoscutum (in dorsal view) about as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit absent. Prescutellar depression (scutellar sulcus) with distinct median and without lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum completely smooth. Propodeal spiracles large, its diameter $0.6 \times$ as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur $2.5 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $5.4 \times$ as long as its maximum width. Vein r2 (3-SR) $1.4 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $6.5 \times$ as long as vein r2 (3-SR).



FIGURE 16. *Dinotrema floridensis* (Shenefelt, 1974) (female, holotype of *Dinotrema cubiceps* Fischer, 1969). **A.** Propodeum and first metasomal tergite, dorsal view. **B.** Hind leg and metasoma, lateral view. **C.** Fore wing.

Metasoma. First tergite weakly widened towards apex, $2.6 \times$ as long as its apical width, smooth. Ovipositor $0.7 \times$ as long as first tergite, shorter than metasoma, $0.7 \times$ as long as hind femur.

Colour. Head and antenna dark brown. Body, legs and pterostigma light brown to yellowish brown. Wings hyaline. Male. Unknown.

Comparative diagnosis. This species is similar to *D. armillariae* (Fischer, 1969) and *D. lobidens* (Fischer, 1971), but differs from them in having the mesosoma in lateral view $1.6 \times$ as long as high ($1.0\text{--}1.1 \times$ in *D. armillariae* and *D. lobidens*), eye in lateral view $0.8 \times$ as wide as temple medially ($1.4 \times$ in *D. armillariae* and 2.0

× in *D. lobidens*), head in dorsal view 1.2 × as wide as median length (1.7–1.8 × in *D. armillariae* and *D. lobidens*), clypeus 1.8 × as wide as high (2.7 × in *D. armillariae* and 3.1 × in *D. lobidens*), hind femur 2.5 × as long as its maximum width (4.5 × in *D. armillariae* and 4.0 × in *D. lobidens*), first metasomal tergite 2.6 × as long as its apical width (0.8–0.9 × in *D. armillariae* and *D. lobidens*), propodeal spiracles rather large, its diameter 0.6 × as wide as distance from spiracle to anterior margin of propodeum (small in *D. armillariae* and *D. lobidens*, 0.3 and 0.2 × respectively).

***Dinotrema foliformis* (Fischer, 1969), comb. nov.**

(Figs 17, 18)

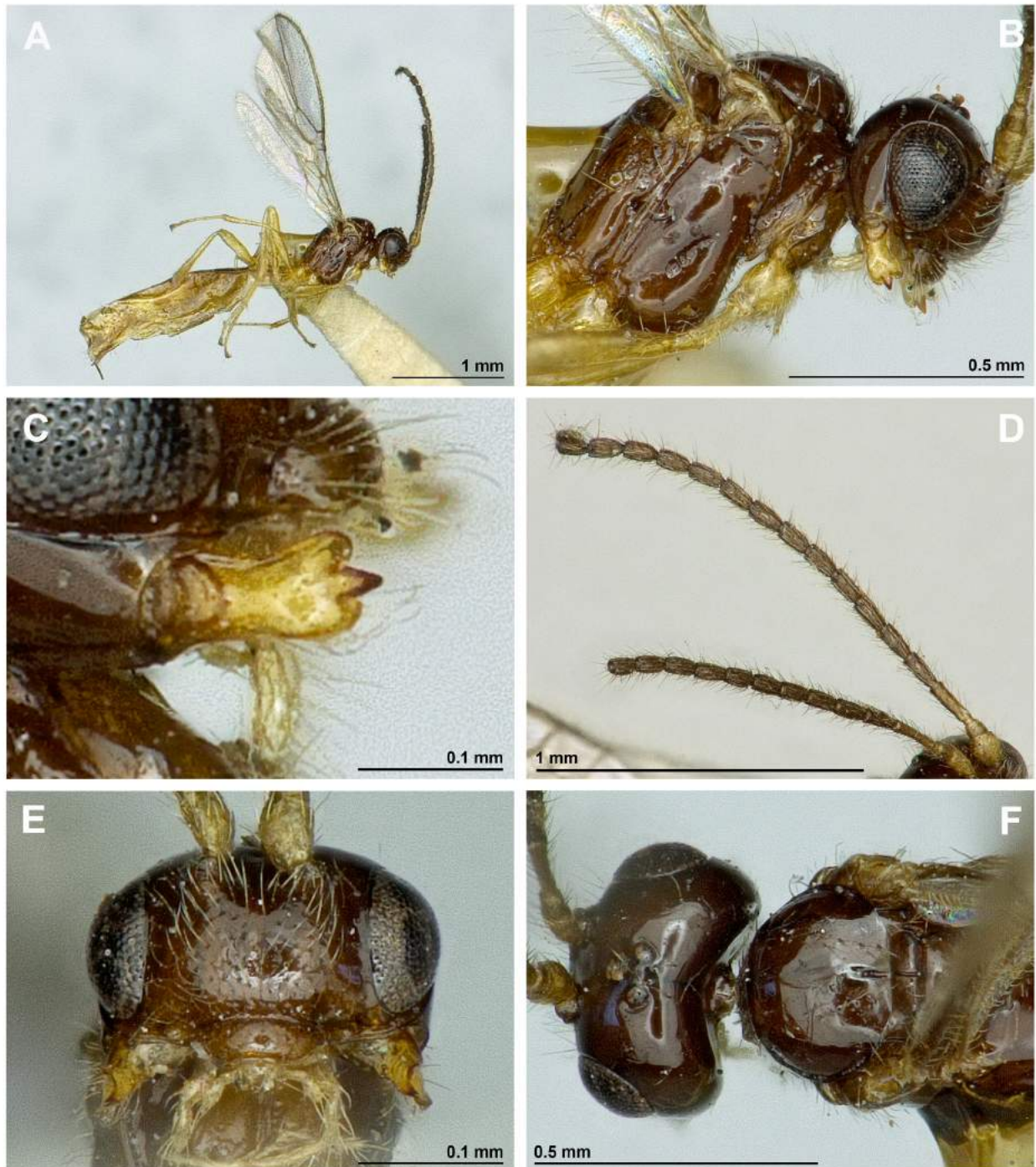


FIGURE 17. *Dinotrema foliformis* (Fischer, 1969) (female, holotype). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Mandible. **D.** Antenna. **E.** Face, frontal view. **F.** Head and mesonotum, dorsal view.

Material examined. 1 female (holotype), "U.S.A., Langdale, Chambers, Co., Alab., H.H. Smith Coll." (NMNH).

Redescription. Female. Body 2.6 mm; fore wing 2.0 mm; hind wing 1.5 mm.

Head. In dorsal view, $2.0 \times$ as wide as median length, $1.4 \times$ as wide as mesoscutum, smooth. Eye in lateral view $1.9 \times$ as wide as temple medially. POL $1.1 \times$ OD; OOL $3.3 \times$ OD. Face $1.7 \times$ as wide as high. Clypeus $3.5 \times$ as wide as high. Paraclypeal fovea reaching halfway distance between clypeus and eye. Mandible $1.5 \times$ as long as its maximum width, widened towards apex. Upper tooth wide, shorter than lower tooth; middle tooth short, pointed apically; lower tooth, subrounded. Antenna 17-segmented. First flagellar segment $3.5 \times$ as long as its apical width. Second and third segments $2.2 \times$ as long as their maximum width; fourth to 14th segments $1.8\text{--}2.0 \times$ as long as their maximum width, and 15th (apical) segment $2.6 \times$ as long as wide respectively.



FIGURE 18. *Dinotrema foliformis* (Fischer, 1969) (female, holotype). **A.** Propodeum, dorsal view. **B.** First metasomal tergite, dorsal view. **C.** Hind leg, metasoma and ovipositor, lateral view. **D.** Fore wing.

Mesosoma. In lateral view $1.1 \times$ as long as high. Mesoscutum (in dorsal view) $0.9 \times$ as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit present, elongate. Prescutellar depression (scutellar sulcus) with distinct median and without lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum mainly smooth with complete median longitudinal carinae and with very short subtransverse carinae emerging from median carina, and far distant from propodeal edges. Propodeal spiracles small, its diameter $0.3 \times$ as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur $4.2 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $4.2 \times$ as long as its maximum width. Vein r2 (3-SR) $2.2 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.5 \times$ as long as vein r2 (3-SR).

Metasoma. First tergite not widened towards apex, $3.9 \times$ as long as its apical width, smooth. Ovipositor $0.8 \times$ as long as first tergite, shorter than metasoma, $0.9 \times$ as long as hind femur.

Colour. Head, mesosoma and antenna dark brown. Mandible, metasoma, legs and pterostigma brown. Wings hyaline.

Male. Unknown.

Comparative diagnosis. This species is similar to *D. teutoniaense* Peris-Felipo, 2016, but differs from it in having the eye in lateral view $1.9 \times$ as wide as temple medially ($1.5 \times$ in *D. teutoniaense*), face $1.7 \times$ as wide as high ($1.2 \times$ in *D. teutoniaense*), mandible $1.5 \times$ as long as its maximum width ($2.0 \times$ in *D. teutoniaense*), first flagellar segment $3.5 \times$ as long as its maximum width ($5.5 \times$ in *D. teutoniaense*), hind femur $4.2 \times$ as long as its maximum width ($5.0 \times$ in *D. teutoniaense*), and the first metasomal tergite $3.9 \times$ as long as its apical width ($2.8 \times$ in *D. teutoniaense*).

***Dinotrema latitergum* (Fischer, 1969), comb. nov.**

(Figs 19, 20)

Aspilota latitergum Fischer 1969b: 252; Shenefelt 1974: 975; Marsh 1979: 221; Yu *et al.* 2012.

Material examined. 1 female (holotype), "U.S.A., Cabin John, Md., Spring.1917, R.M. Fouts (NMNH)"; 1 female (paratype), same locality as holotype, but "Spring.1912" (NHMW).

Redescription. Female. Body 2.1 mm; fore wing 2.2 mm; hind wing 1.5 mm.

Head. In dorsal view, $2.0 \times$ as wide as median length, $1.4 \times$ as wide as mesoscutum, smooth. Eye in lateral view $1.1 \times$ as wide as temple medially. POL $1.6 \times$ OD; OOL $4.4 \times$ OD. Face $1.5 \times$ as wide as high. Clypeus $3.0 \times$ as wide as high. Paraclypeal fovea reaching halfway distance between clypeus and eye. Mandible $1.3 \times$ as long as its maximum width, widened towards apex. Upper tooth wide, longer than lower tooth; middle tooth long, pointed apically; lower tooth, subrounded. Antenna completely missing. [According to original description by Fischer (1969b) first flagellar segment $4.0 \times$ as long as its maximum width].

Mesosoma. In lateral view $1.2 \times$ as long as high. Mesoscutum (in dorsal view) $0.9 \times$ as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit present, oval. Prescutellar depression (scutellar sulcus) with distinct median and without lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow weakly crenulated. Propodeum completely sculptured, without complete median longitudinal carinae. Propodeal spiracles small, its diameter $0.2 \times$ as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur $4.3 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $3.6 \times$ as long as its maximum width. Vein r2 (3-SR) $2.1 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.2 \times$ as long as vein r2 (3-SR).

Metasoma. First tergite widened towards apex, $1.8 \times$ as long as its apical width, striated. Ovipositor $1.2 \times$ as long as first tergite, shorter than metasoma, about as long as hind femur.

Colour. Body dark brown. Mandible, legs, scape, pedicel and pterostigma yellowish brown. Wings hyaline.

Variation. Body 1.9–2.1 mm. Otherwise similar to holotype.

Male. Unknown.

Comparative diagnosis. This species is similar to *D. stenostigma* (Provancher, 1886), but differs from it in having the first metasomal tergite $1.8 \times$ as long as its apical width ($2.3 \times$ in *D. stenostigma*), face $1.5 \times$ as wide as high ($1.9 \times$ in *D. stenostigma*), upper tooth strongly widened (weakly widened in *D. stenostigma*), and vein r3 (SR1) $2.2 \times$ as long as vein r2 (3-SR) ($2.6 \times$ in *D. stenostigma*).

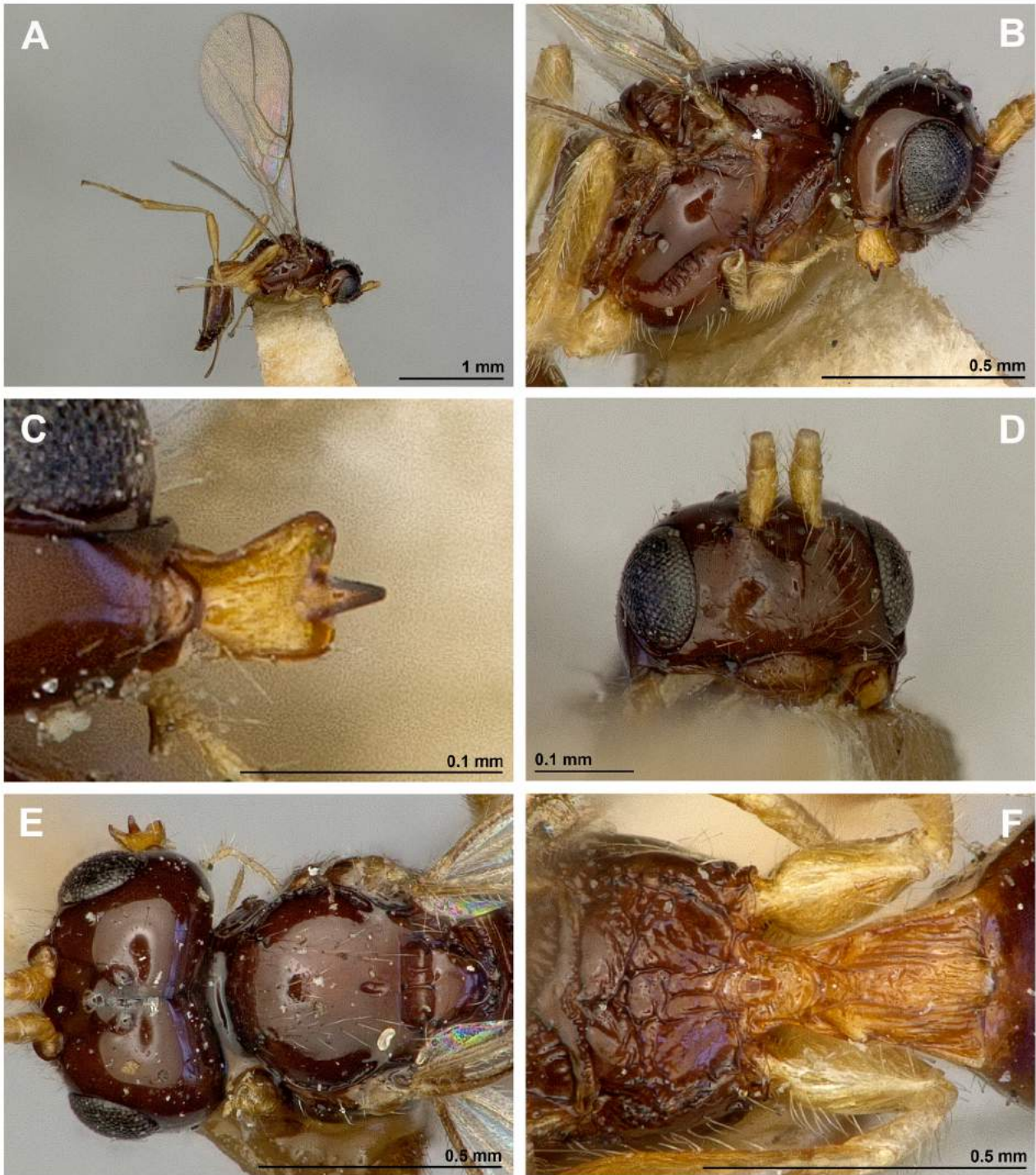


FIGURE 19. *Dinotrema latitergum* Fischer, 1969) (female, holotype). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Mandible. **D.** Face, frontal view. **E.** Head and mesonotum, dorsal view. **F.** Propodeum and first metasomal tergite, dorsal view.



FIGURE 20. *Dinotrema latitergum* (Fischer, 1969) (female, holotype). **A.** Hind leg, metasoma and ovipositor, lateral view. **B.** Fore wing.

***Dinotrema lobidens* (Fischer, 1971), comb. nov.**

(Figs 21, 22)

Aspilota lobidens Fischer 1971: 97; Shenefelt 1974: 975; Marsh 1979: 221; Yu *et al.* 2012.

Material examined. 1 female (holotype), "U.S.A., Marion Co., Fla., 16.xii.1929, Florida Fruit Trap Surv., A.M. Towles" (NMNH).

Redescription. Female. Body 1.7 mm; fore wing 1.8 mm; hind wing 1.2 mm.

Head. In dorsal view, $1.7 \times$ as wide as median length, $1.3 \times$ as wide as mesoscutum, smooth. Eye in lateral view $2.0 \times$ as wide as temple medially. POL $1.4 \times$ OD; OOL $3.2 \times$ OD. Face $2.1 \times$ as wide as high. Clypeus $3.1 \times$ as wide as high. Paraclypeal fovea short, not reaching halfway distance between clypeus and eye. Mandible as long as its maximum width, widened towards apex. Upper tooth wide, shorter than lower tooth; middle tooth pointed apically; lower tooth longer than upper tooth, subrounded. Antenna 20-segmented. First to seventh flagellar segments $2.5 \times$ as long as their apical width; eighth to 16th segments $2.2 \times$; 17th segments $2.0 \times$; and 18th (apical) segment $2.8 \times$ as long as maximum width respectively.

Mesosoma. In lateral view as long as high. Mesoscutum (in dorsal view) $0.8 \times$ as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit absent. Prescutellar depression (scutellar sulcus) with distinct median and without lateral carinae. Precoxal sulcus present, weakly crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum completely smooth. Propodeal spiracles small, its diameter $0.2 \times$ as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur $4.0 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $3.8 \times$ as long as its maximum width. Vein r2 (3-SR) $1.8 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.5 \times$ as long as vein r2 (3-SR).

Metasoma. First tergite not widened towards apex, $0.9 \times$ as long as its apical width, smooth. Ovipositor $2.5 \times$ as long as first tergite, weakly shorter than metasoma, $2.0 \times$ as long as hind femur.

Colour. Body, antenna, mandible and ovipositor brown to dark brown. Mesosoma, metasoma and legs yellow. Wings hyaline.

Male. Unknown.

Comparative diagnosis. This species is similar to *D. armillariae* (Fischer, 1969); differences between both species are shown after the redescription of the latter species.



FIGURE 21. *Dinotrema lobidens* (Fischer, 1971) (female, holotype). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Mandible. **D.** Antenna. **E.** Face, frontal view. **F.** Head and mesonotum, dorsal view.

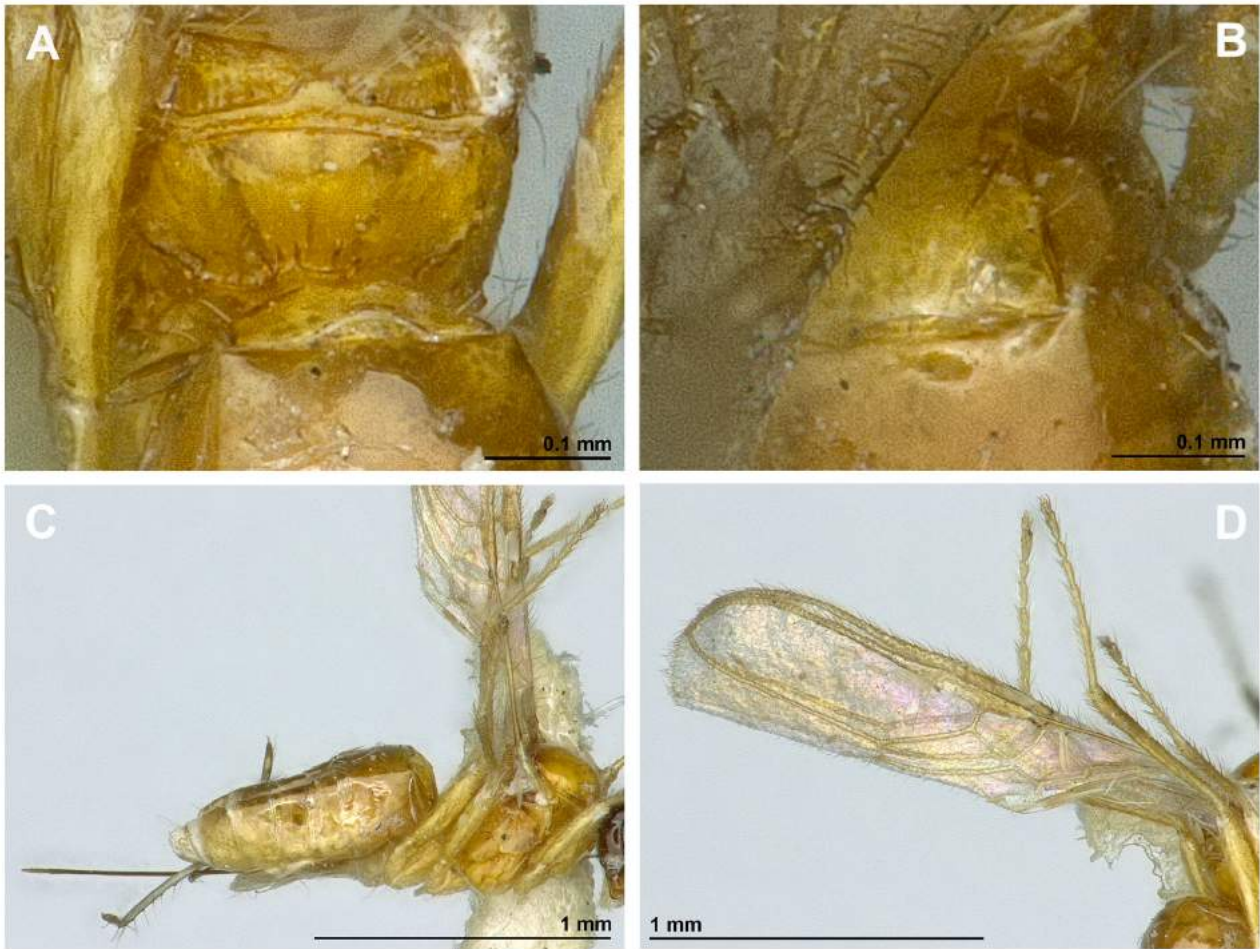


FIGURE 22. *Dinotrema lobidens* (Fischer, 1971) (female, holotype). **A.** Propodeum, dorsal view. **B.** First metasomal tergite, dorsal view. **C.** Hind leg, metasoma and ovipositor, lateral view. **D.** Fore wing.

***Dinotrema longibasis* (Fischer, 1969), comb. nov.**
(Figs 23, 24)

Aspilota longibasis Fischer 1969d: 201; Shenefelt 1974: 975; Marsh 1979: 221; Yu *et al.* 2012.

Material examined. 1 male (holotype), "U.S.A., Cabin John, Md., v. 1917, R.M. Fouts Collector" (NMNH).

Redescription. Male. Body 1.6 mm; fore wing 2.4 mm; hind wing 1.5 mm.

Head. In dorsal view, $1.8 \times$ as wide as median length, $1.4 \times$ as wide as mesoscutum, smooth. Eye in lateral view $1.3 \times$ as wide as temple medially. POL $1.0 \times$ OD; OOL $2.5 \times$ OD. Face $2.6 \times$ as wide as high. Clypeus $2.6 \times$ as wide as high. Paraclypeal fovea reaching halfway distance between clypeus and eye. Mandible $1.3 \times$ as long as its maximum width, widened towards apex. Upper tooth wide, as long as lower tooth; middle tooth pointed apically; lower tooth subrounded. Antenna 23-segmented. First flagellar segment $3.0 \times$ as long as its apical width. Second to eighth segments $2.4 \times$ as long as their maximum width; ninth to 14th segments $2.3 \times$; 15th and 17th segments $2.1 \times$; 18th to 20th segments $2.3 \times$, and 21st (apical) segment $2.7 \times$ as long as its maximum width respectively.

Mesosoma. In lateral view $1.2 \times$ as long as high. Mesoscutum (in dorsal view) $0.8 \times$ as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit absent. Prescutellar depression (scutellar sulcus) with distinct median and without lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum sculptured, with

complete median longitudinal carinae and with subtransverse carinae emerging from median carina reaching propodeal edges. Propodeal spiracles small, its diameter $0.2 \times$ as wide as distance from spiracle to anterior margin of propodeum.

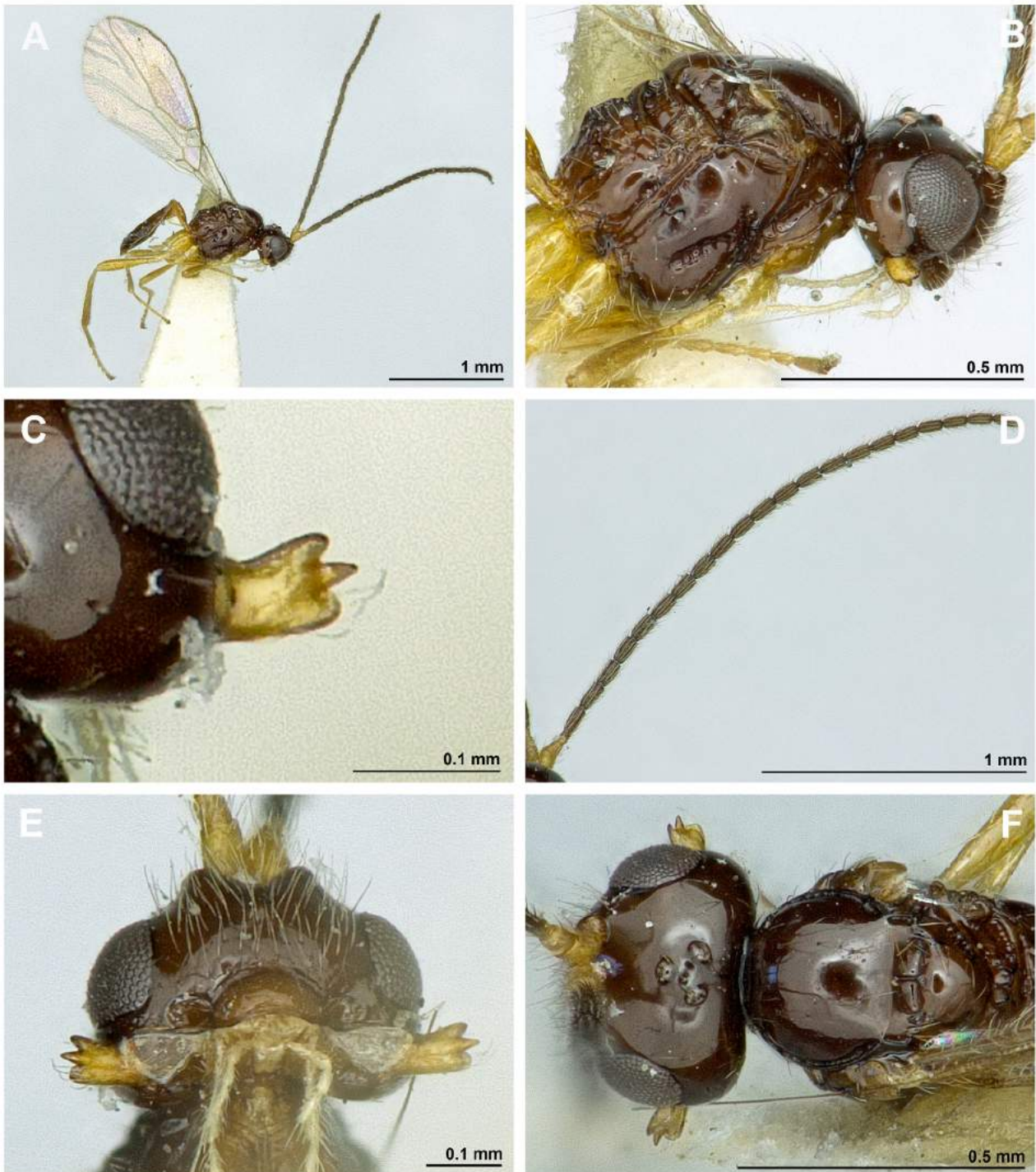


FIGURE 23. *Dinotrema longibasis* (Fischer, 1969) (male, holotype). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Mandible. **D.** Antenna. **E.** Face, frontal view. **F.** Head and mesonotum, dorsal view.

Leg. Hind femur $4.4 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $4.0 \times$ as long as its maximum width. Vein r2 (3-SR) $2.8 \times$ as long as vein cuqul (2-SR); vein r3 (SR1) $2.3 \times$ as long as vein r2 (3-SR).

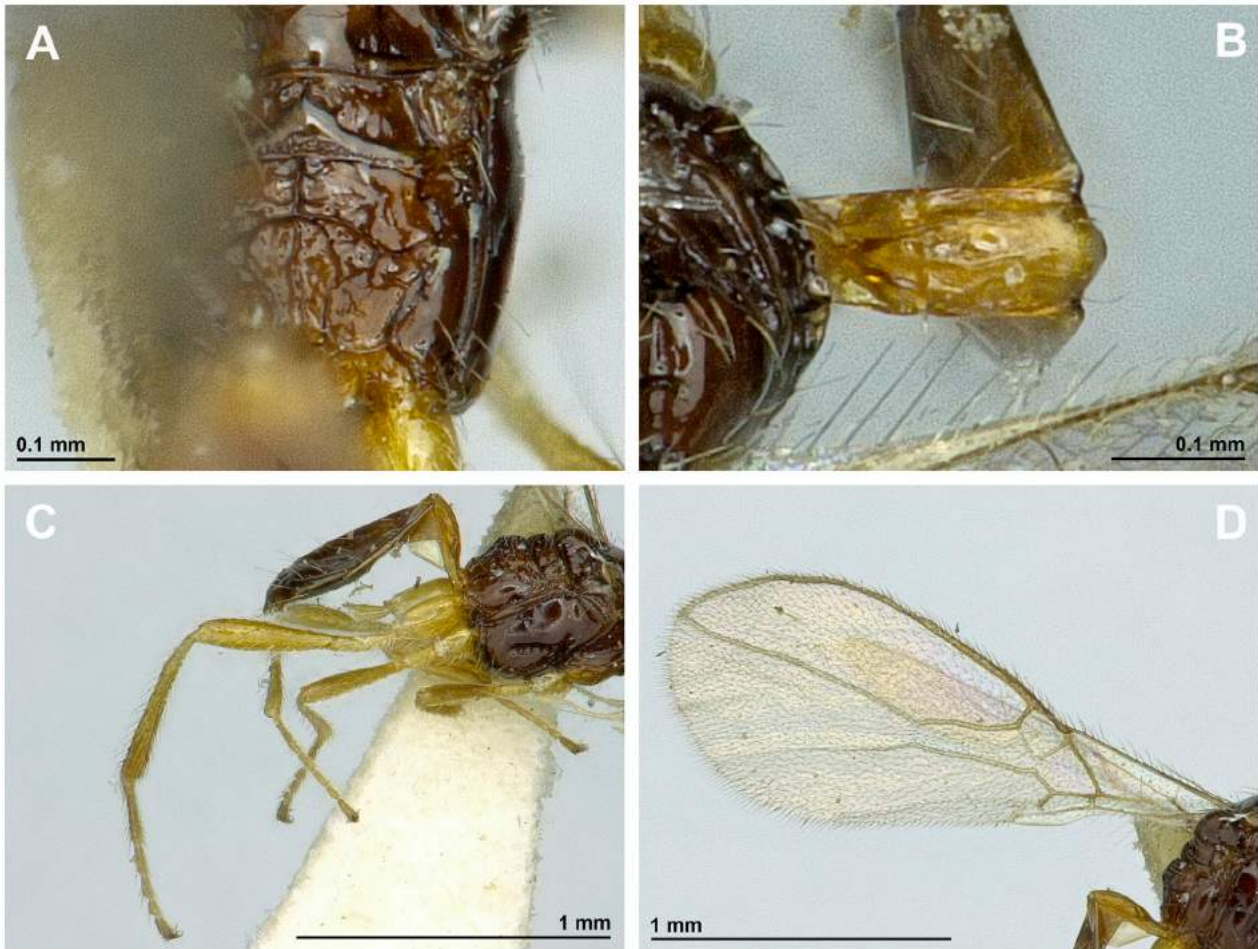


FIGURE 24. *Dinotrema longibasis* (Fischer, 1969) (male, holotype). **A.** Propodeum, dorsal view. **B.** First metasomal tergite, dorsal view. **C.** Hind leg, metasoma and ovipositor, lateral view. **D.** Fore and hind wings.

Metasoma. First tergite not widened towards apex, $2.5 \times$ as long as its apical width, smooth.

Colour. Body and antenna brown to dark brown. Mandible, scape, pedicel and legs yellowish brown. Wings hyaline.

Female. Unknown.

Comparative diagnosis. This species is similar to *D. saileri* (Fischer, 1969), but differs from it in having the face $2.6 \times$ as wide as high ($1.9 \times$ in *D. saileri*), the first metasomal tergite $2.5 \times$ as long as its apical width ($1.5 \times$ in *D. saileri*), precoxal sulcus not reaching anterior margin of mesopleuron (reaching anterior margin in *D. saileri*), posterior mesopleural furrow completely smooth (completely crenulated in *D. saileri*), diameter of propodeal spiracle $0.2 \times$ as wide as distance from spiracle to anterior margin of propodeum ($0.6 \times$ in *D. saileri*), mandible $1.3 \times$ as long as its maximum width ($1.0 \times$ in *D. saileri*), paraclypeal fovea reaching halfway distance between clypeus and eye (not reaching halfway in *D. saileri*), and eye in lateral view $1.3 \times$ as wide as temple medially ($1.0 \times$ in *D. saileri*).

***Dinotrema multiareolatum* Peris-Felipo, 2016**

(Figs 25, 26)

Dinotrema multiareolatum Peris-Felipo in Peris-Felipo and Belokobylskij 2016b: 4.

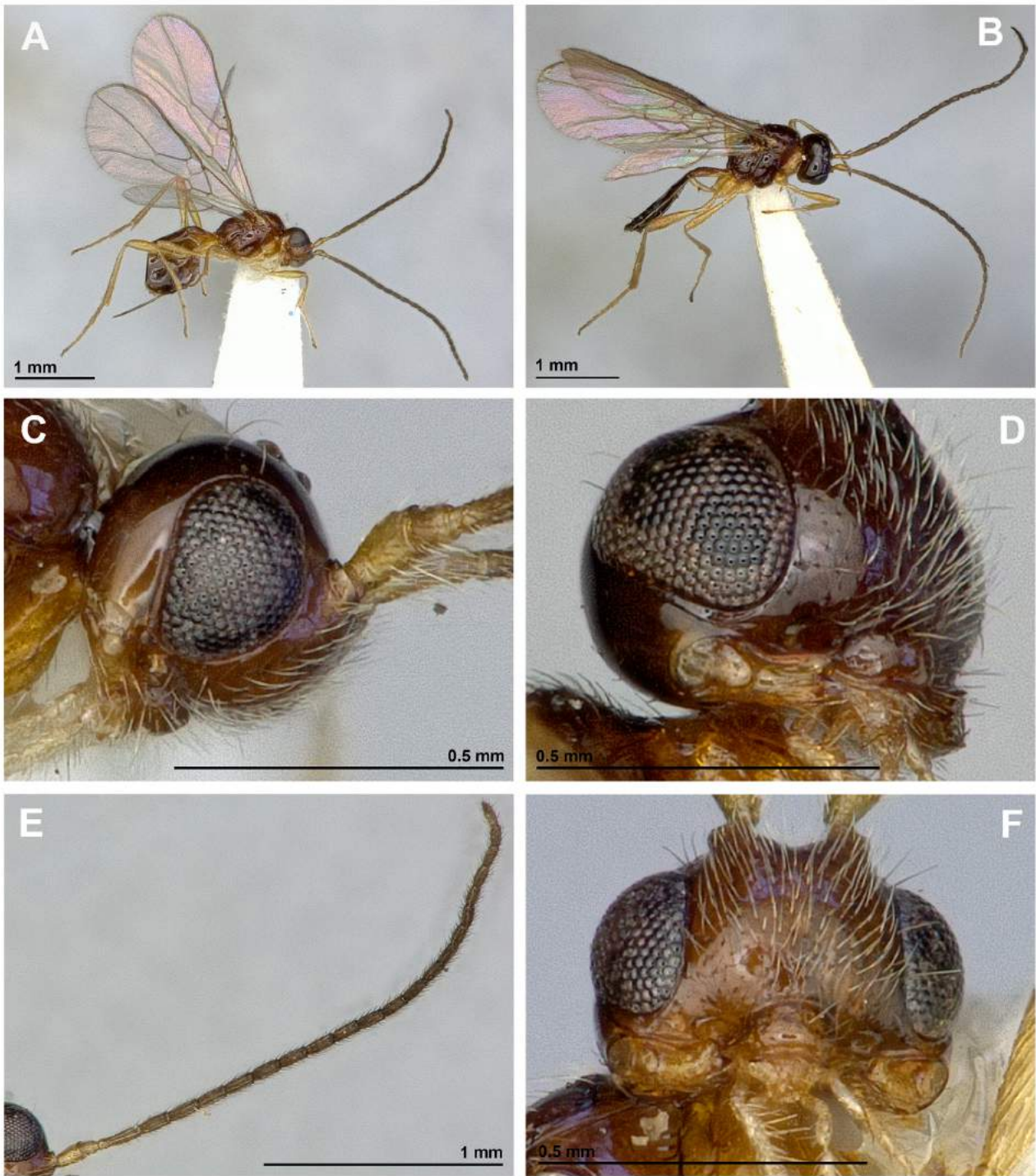


FIGURE 25. *Dinotrema multiareolatum* Peris Felipe 2016 (A, C–F—female, holotype; B—male, paratype). **A, B.** Habitus, lateral view. **C.** Head, lateral view. **D.** Mandible. **E.** Antenna. **F.** Face, frontal view.

Material examined. 1 female (holotype), Brazil, Nova Teutonia, 27°11'B 52°23'L, 28.v.1937 (F. Plaumann leg.) [B.M. 1937–656] (BMNH); 23 females (paratypes), same label as holotype, but viii.1935, 16.ix.1935, x.1935, xi.1935, 8.iii.1936, ii.1937, 28.v.1937, 12.vi.1937, 14.vi.1937, 15.vi.1937, 16.vi.1937, 10.vii.1937, 26.vii.1937 [B.M. 1937–656], 16.viii.1938 [B.M. 1938–682], 7.x.1938 [B.M. 1938–312]; 6 males (paratypes), same label as holotype, but 4.vi.1937, 11.vi.1937, 4.viii.1937, 13.iv.1938 [B.M. 1938–682] (BMNH, ZISP); 1 female (paratype), Argentina, Mis., Iguazu Nat. Park., c. 140 m, 8–11.iv.1974, Malaise trap (C. & M. Vardy) [B.M. 1974–204] (BMNH).

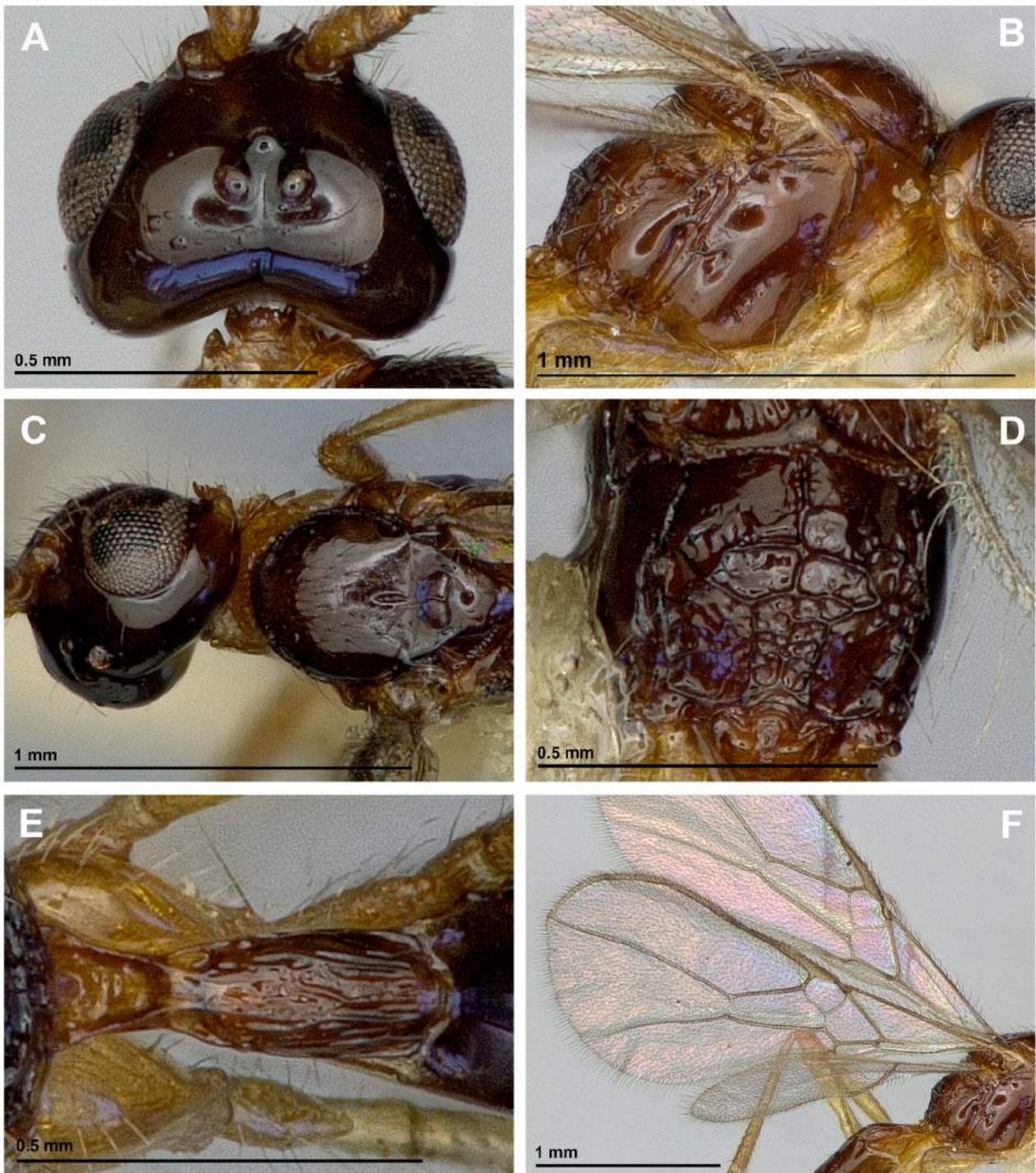


FIGURE 26. *Dinotrema multiareolatum* Peris Felipe 2016 (female, holotype). **A.** Head, dorsal view. **B.** Mesosoma, lateral view. **C.** Head, lateral view and mesonotum, dorsal view. **D.** Propodeum, dorsal view. **E.** First metasomal tergite. **F.** Fore and hind wings.

Description. See Peris-Felipo and Belokobylskij (2016b).

Comparative diagnosis. This species is similar to *D. sylvaticae* (Fischer, 1969), but differs from it in having the mandible $1.7 \times$ as long as its maximum width ($1.2 \times$ in *D. sylvaticae*), posterior mesopleural furrow smooth (completely crenulated in *D. sylvaticae*), hind femur $4.4 \times$ as long as its maximum width ($3.6 \times$ in *D. sylvaticae*), and the first metasomal tergite $3.1 \times$ as long as its apical width ($2.0 \times$ in *D. sylvaticae*).

***Dinotrema pauperum* (Fischer, 1969)**

(Figs 27, 28)

Aspilota paupera Fischer 1969a: 110; Shenefelt 1974: 978; Marsh 1979: 221; Yu *et al.* 2012.

Dinotrema pauperum: Peris-Felipo and Belokobylskij 2016b: 3.

Material examined. 1 female (paratype), "U.S.A., Washington DC., 23.vii.1912, bred from mushroom 12.viii.1912, C.H. Popenoe Collector" (NHMW); 1 female (paratype), "U.S.A., Arlington, Va., Ashmead Collection" (NHMW).

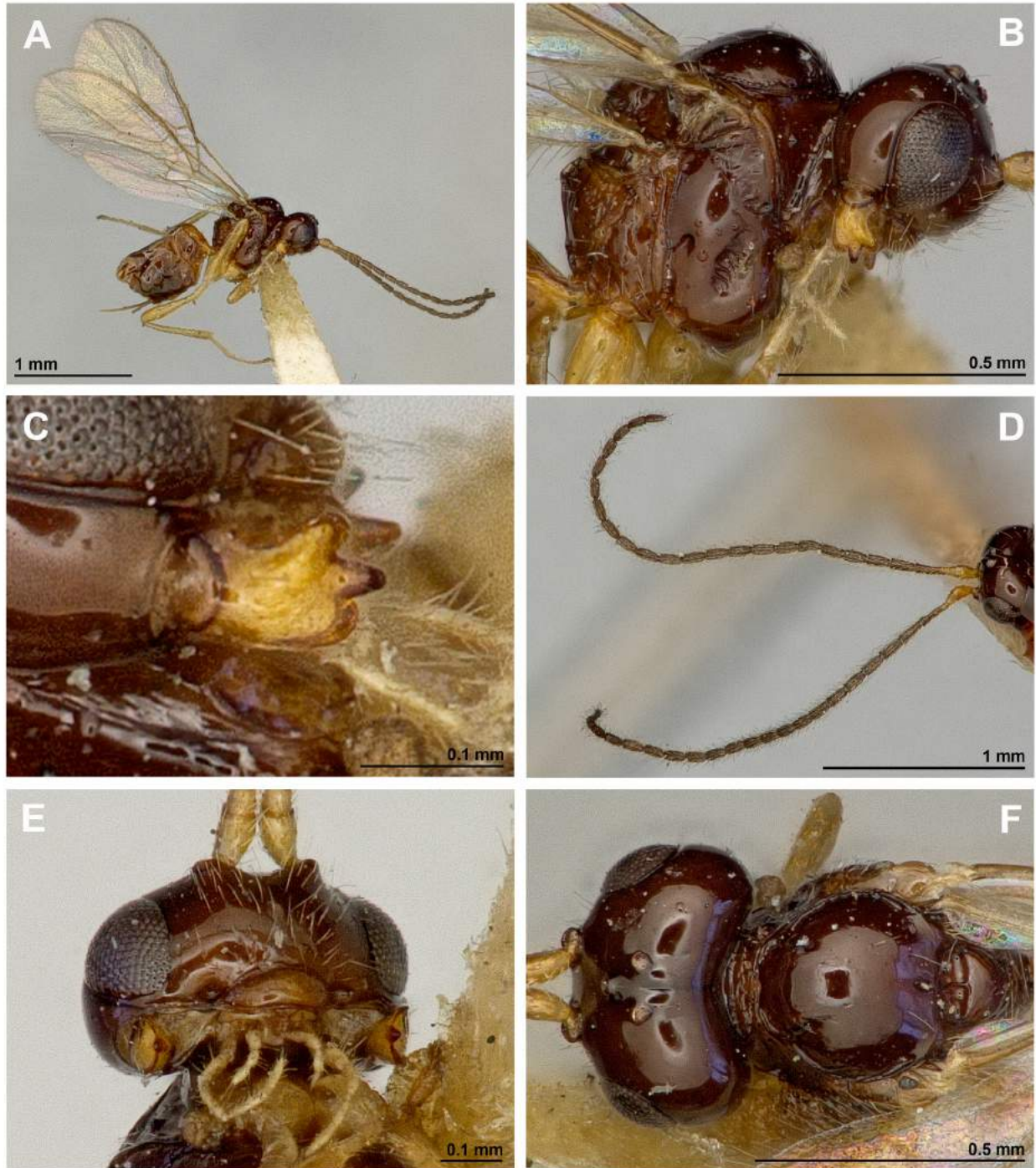


FIGURE 27. *Dinotrema pauperum* (Fischer, 1969) (female, paratype). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Mandible. **D.** Antenna. **E.** Face, frontal view. **F.** Head and mesonotum, dorsal view.

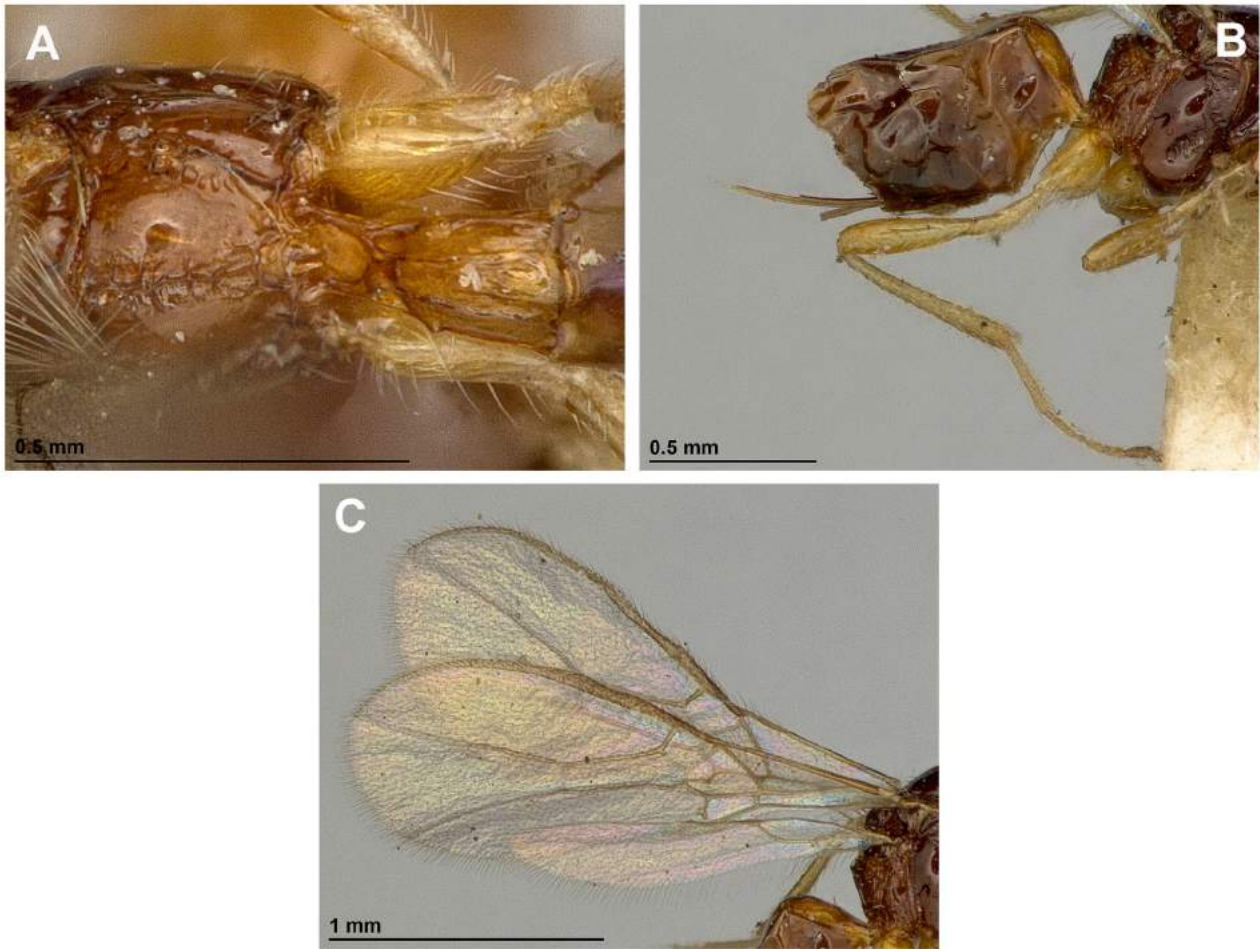


FIGURE 28. *Dinotrema pauperum* (Fischer, 1969) (female, paratype). **A.** Propodeum, dorsal view. **B.** Hind leg, metasoma and ovipositor, lateral view. **C.** Fore and hind wings.

Redescription. Female. Body 1.8 mm; fore wing 2.0 mm; hind wing 1.4 mm.

Head. In dorsal view, $2.0 \times$ as wide as median length, $1.5 \times$ as wide as mesoscutum, smooth. Eye in lateral view $1.2 \times$ as wide as temple medially. POL $1.6 \times$ OD; OOL $2.9 \times$ OD. Face $2.2 \times$ as wide as high. Clypeus $3.3 \times$ as wide as high. Paraclypeal fovea short, not reaching halfway distance between clypeus and eye. Mandible $1.2 \times$ as long as its maximum width, weakly widened towards apex. Upper tooth wide, shorter than lower tooth; middle tooth pointed apically; lower tooth subrounded. Antenna 24-segmented. First flagellar segment $3.2 \times$ as long as its apical width. Second segment $2.6 \times$ as long as its maximum width; third to 21st segments $2.1\text{--}2.2 \times$, and 22nd (apical) segment $3.0 \times$ as long as its maximum width respectively.

Mesosoma. In lateral view as long as high. Mesoscutum (in dorsal view) about as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit present, oval. Prescutellar depression (scutellar sulcus) with distinct median and without lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum smooth with complete median longitudinal carinae and with very short subtransverse carinae emerging from median carina, but situated very far from propodeal edges. Propodeal spiracles small, its diameter $0.3 \times$ as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur $3.8 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $4.0 \times$ as long as its maximum width. Vein r2 (3-SR) $3.3 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.2 \times$ as long as vein r2 (3-SR).

Metasoma. First tergite almost not widened towards apex, $2.0 \times$ as long as its apical width, smooth. Ovipositor $1.4 \times$ as long as first tergite, shorter than metasoma, $1.2 \times$ as long as hind femur.

Colour. Body and antenna brown to dark brown. Mandible and legs yellowish brown. Wings hyaline.

Variation. First flagellar segment 3.2–3.3 × as long as its apical width. Hind femur 3.8–3.9 × as long as its maximum width.

Male. Unknown.

Comparative diagnosis. This species is similar to *D. distriiae* (Fischer, 1969); differences between both species are shown after the redescription of the latter species.

***Dinotrema plaumanni* Peris-Felipo, 2016**

(Figs 29, 30)

Dinotrema plaumanni Peris-Felipo in Peris-Felipo and Belokobylskij 2016b: 7.

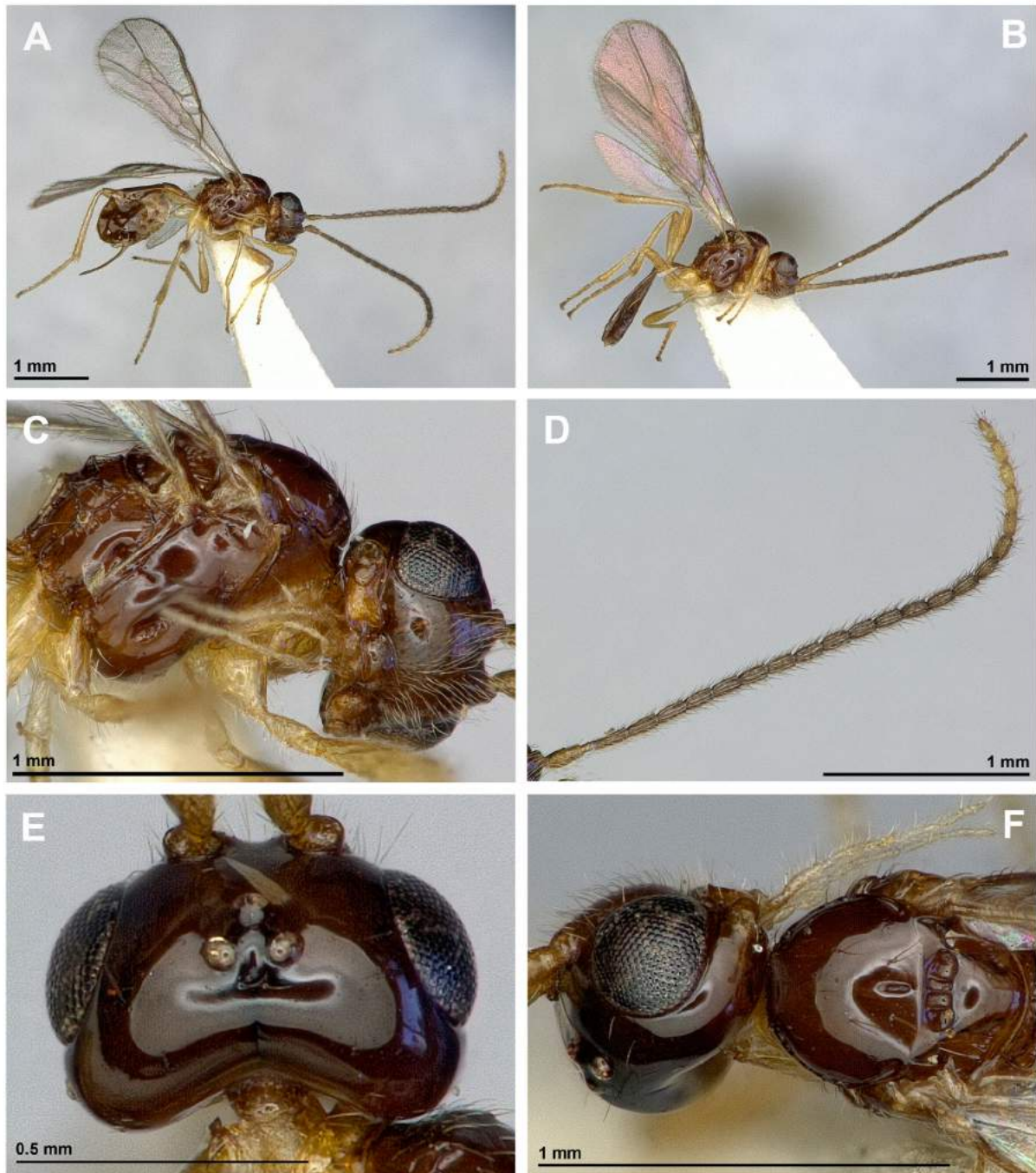


FIGURE 29. *Dinotrema plaumanni* Peris Felipo 2016 (A, C–F—female, holotype; B—male, paratype). A, B. Habitus, lateral view. C. Face, mandible and mesosoma in lateral view. D. Antenna. E. Head, dorsal view. F. Head, lateral view and mesonotum, dorsal view.



FIGURE 30. *Dinotrema plaumanni* Peris Felipo 2016 (female, holotype). **A.** Propodeum, dorsal view. **B.** First metasomal tergite. **C.** Metasoma, hind leg and ovipositor, lateral view. **D.** Fore and hind wings.

Material examined. 1 female (holotype), Brazil, Nova Teutonia, 27°11'B 52°23'L, 14.vi.1937 (F. Plaumann leg.) [B.M. 1937–656] (BMNH). 1 female, 1 male (paratypes), same locality as holotype, but 28.viii.1937 and 3.iv.1938 [B.M. 1938–682] (BMNH).

Description. See Peris-Felipo and Belokobylskij (2016b).

Comparative diagnosis. This species is similar to *D. subbidentatum* Peris-Felipo 2016, but differs in having the three teeth of mandible visible in lateral view (only two teeth visible in *D. subbidentatum*), mandible $1.3 \times$ as long as its maximum width ($1.7 \times$ in *D. subbidentatum*), apical flagellar segments paler than middle segments (same colour in *D. subbidentatum*), first flagellar segment $3.5 \times$ as long as its maximum width ($2.5\text{--}3.0 \times$ in *D. subbidentatum*), eye in lateral view $1.8 \times$ as wide as temple medially ($1.3 \times$ in *D. subbidentatum*), and the first metasomal tergite $3.0 \times$ as long as its apical width ($1.4 \times$ in *D. subbidentatum*).

Dinotrema saileri (Fischer, 1969)

(Figs 31, 32)

Aspilota saileri Fischer 1969d: 203; Shenefelt 1974: 980; Marsh 1979: 221; Yu *et al.* 2012.

Dinotrema saileri: Peris-Felipo and Belokobylskij 2016b: 3.

Material examined. 1 female (paratype), "U.S.A., Cabin John, Md., Spring.1917, R.M. Fouts" (NHMW).

Redescription. Female. Body 2.3 mm; fore wing 2.5 mm; hind wing 1.8 mm.

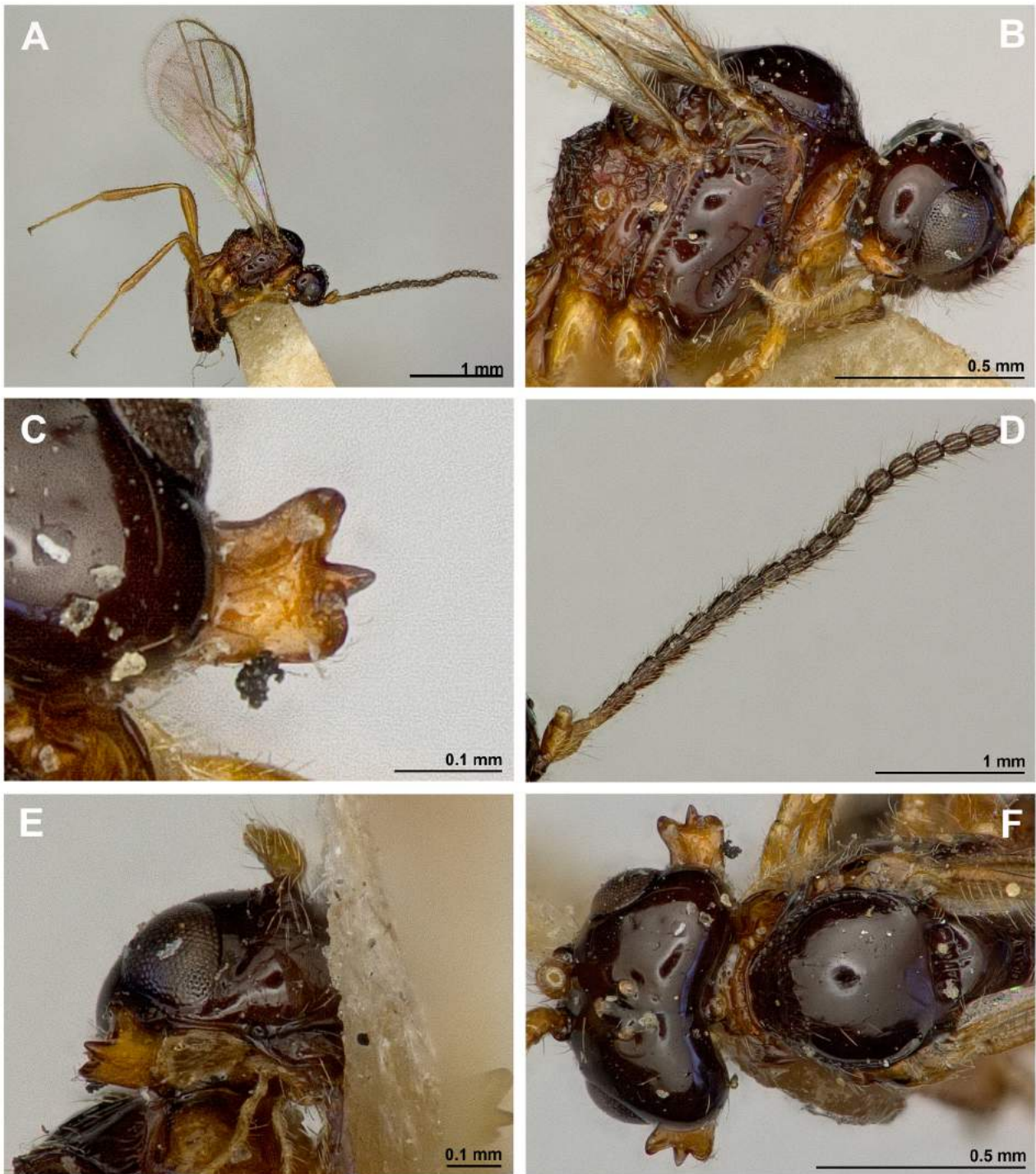


FIGURE 31. *Dinotrema saileri* (Fischer, 1969) (female, paratype). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Mandible. **D.** Antenna. **E.** Face, frontal view. **F.** Head and mesonotum, dorsal view.

Head. In dorsal view, $1.9 \times$ as wide as median length, $1.5 \times$ as wide as mesoscutum, smooth. Eye in lateral view as wide as temple medially. POL $1.3 \times$ OD; OOL $3.3 \times$ OD. Face $1.9 \times$ as wide as high. Clypeus $3.3 \times$ as wide as high. Paraclypeal fovea very short, not reaching halfway distance between clypeus and eye. Mandible as long as its maximum width, widened towards apex. Upper tooth wide, longer than lower tooth; middle tooth pointed apically; lower tooth subrounded. Antenna 18-segmented. First flagellar segment $3.0 \times$ as long as its apical width. Second segment $1.7 \times$ as long as its maximum width; third to 14th segments $1.3\text{--}1.4 \times$; 15th segment $1.5 \times$, and 16th (apical) segment $1.8 \times$ as long as its maximum width respectively.

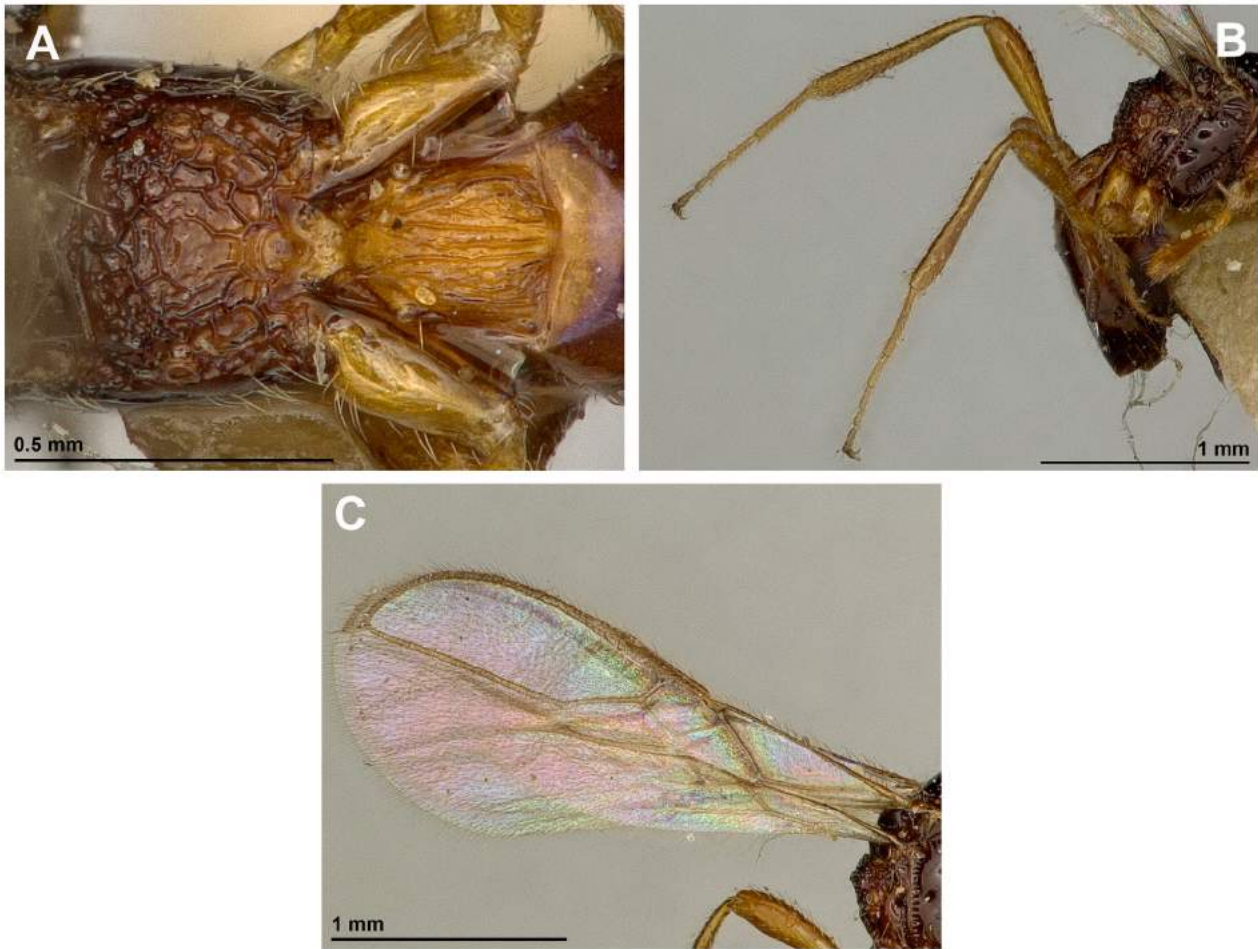


FIGURE 32. *Dinotrema saileri* (Fischer, 1969) (female, paratype). **A.** Propodeum and first metasomal tergite, dorsal view. **B.** Hind leg, metasoma and ovipositor, lateral view. **C.** Fore and hind wings.

Mesosoma. In lateral view $1.1 \times$ as long as high. Mesoscutum (in dorsal view) $1.1 \times$ as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit absent. Prescutellar depression (scutellar sulcus) with distinct median and with lateral carinae. Precoxal sulcus present, crenulated, reaching anterior margin of mesopleuron. Posterior mesopleural furrow completely crenulated. Propodeum completely sculptured, without median longitudinal carinae. Propodeal spiracles large, its diameter $0.6 \times$ as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur $4.1 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $3.7 \times$ as long as its maximum width. Vein r2 (3-SR) $1.7 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.8 \times$ as long as vein r2 (3-SR).

Metasoma. First tergite widened towards apex, $1.5 \times$ as long as its apical width, completely striated. Ovipositor $1.2 \times$ as long as first tergite, shorter than metasoma, $0.7 \times$ as long as hind femur.

Colour. Body and antenna brown to dark brown. Wings hyaline.

Male. Unknown.

Comparative diagnosis. This species is similar to *D. longibasis* (Fischer, 1969); differences between both species are shown after the redescription of the latter species.

Dinotrema shannoni (Fischer, 1969)
(Figs 33, 34)



FIGURE 33. *Dinotrema shannoni* (Fischer, 1969) (female, paratype). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Mandible. **D.** Antenna. **E.** Face, frontal view. **F.** Head and mesonotum, dorsal view.

Aspilota shannoni Fischer 1969c: 69; Shenefelt 1974: 980; Marsh 1979: 221; Yu *et al.* 2012.

Dinotrema shannoni: Peris-Felipo and Belokobylskij 2016b: 3.

Material examined. 1 female (paratype), "U.S.A., Glen Echo, Md., 5.vi.1921, R.M. Fouts collector, f 84" (NHMW).

Redescription. Female. Body 2.3 mm; fore wing 2.6 mm; hind wing 1.8 mm.

Head. In dorsal view, $2.0 \times$ as wide as median length, $1.5 \times$ as wide as mesoscutum, smooth. Eye in lateral

view $1.3 \times$ as wide as temple medially. POL $1.2 \times$ OD; OOL $2.8 \times$ OD. Face $2.7 \times$ as wide as high. Clypeus $3.0 \times$ as wide as high. Paraclypeal fovea reaching halfway distance between clypeus and eye. Mandible $1.2 \times$ as long as its maximum width, weakly widened towards apex. Upper tooth as long as lower tooth; middle tooth small, pointed apically; lower tooth subrounded. Antenna more than 15-segmented (apical segments missing). First flagellar segment $2.2 \times$ as long as its apical width. Second segment $1.7 \times$ as long as its maximum width; third to 13th segments $1.5 \times$ as long as their maximum width respectively.

Mesosoma. In lateral view $1.2 \times$ as long as high. Mesoscutum (in dorsal view) $0.9 \times$ as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit present, oval. Prescutellar depression (scutellar sulcus) with distinct median and without lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow crenulated below. Propodeum completely sculptured without median longitudinal carinae. Propodeal spiracles large, its diameter $0.7 \times$ as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur $3.4 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $4.1 \times$ as long as its maximum width. Vein r2 (3-SR) $2.5 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.0 \times$ as long as vein r2 (3-SR).

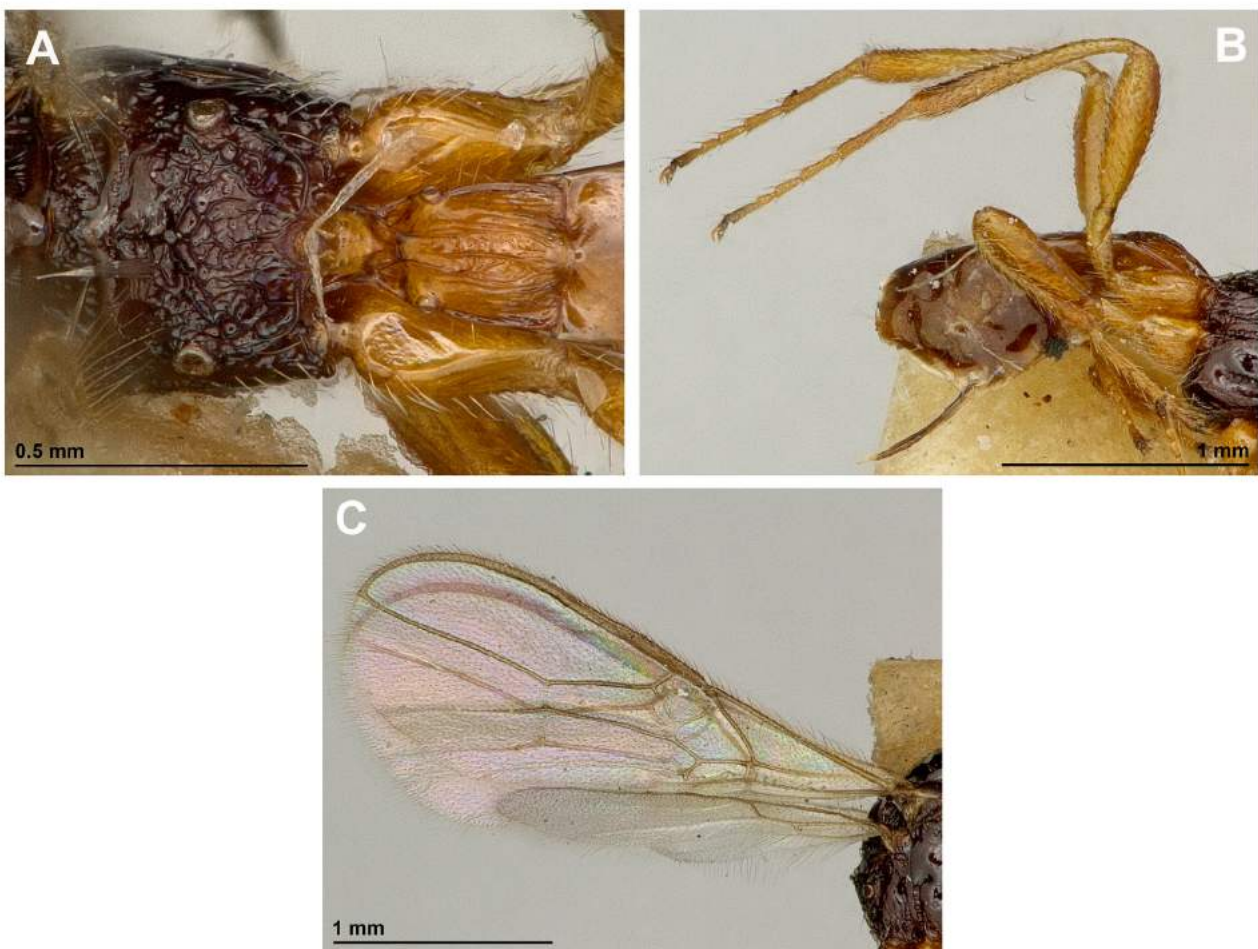


FIGURE 34. *Dinotrema shannoni* (Fischer, 1969) (female, paratype). **A.** Propodeum and first metasomal tergite, dorsal view. **B.** Hind leg, metasoma and ovipositor, lateral view. **C.** Fore and hind wings.

Metasoma. First tergite widened towards apex, $1.6 \times$ as long as its apical width, completely striated. Ovipositor $1.2 \times$ as long as first tergite, shorter than metasoma, $0.7 \times$ as long as hind femur.

Colour. Body and antenna dark brown. Legs brown. Wings hyaline.

Male. Unknown.

Comparative diagnosis. This species is similar to *Dinotrema signifrons* Viereck, 1906, but differs from it in

having the mandible $1.2 \times$ as long as its maximum width ($0.9 \times$ in *D. signifrons*), hind femur $3.4 \times$ as long as its maximum width ($4.0 \times$ in *D. signifrons*), first metasomal tergite $1.6 \times$ as long as its apical width ($2.0 \times$ in *D. signifrons*), eye in lateral view $1.3 \times$ as wide as temple medially ($1.0 \times$ in *D. signifrons*), and face $2.7 \times$ as wide as high ($2.4 \times$ in *D. signifrons*).

Dinotrema signifrons Viereck, 1906, comb. ressur.
(Figs 35, 36)

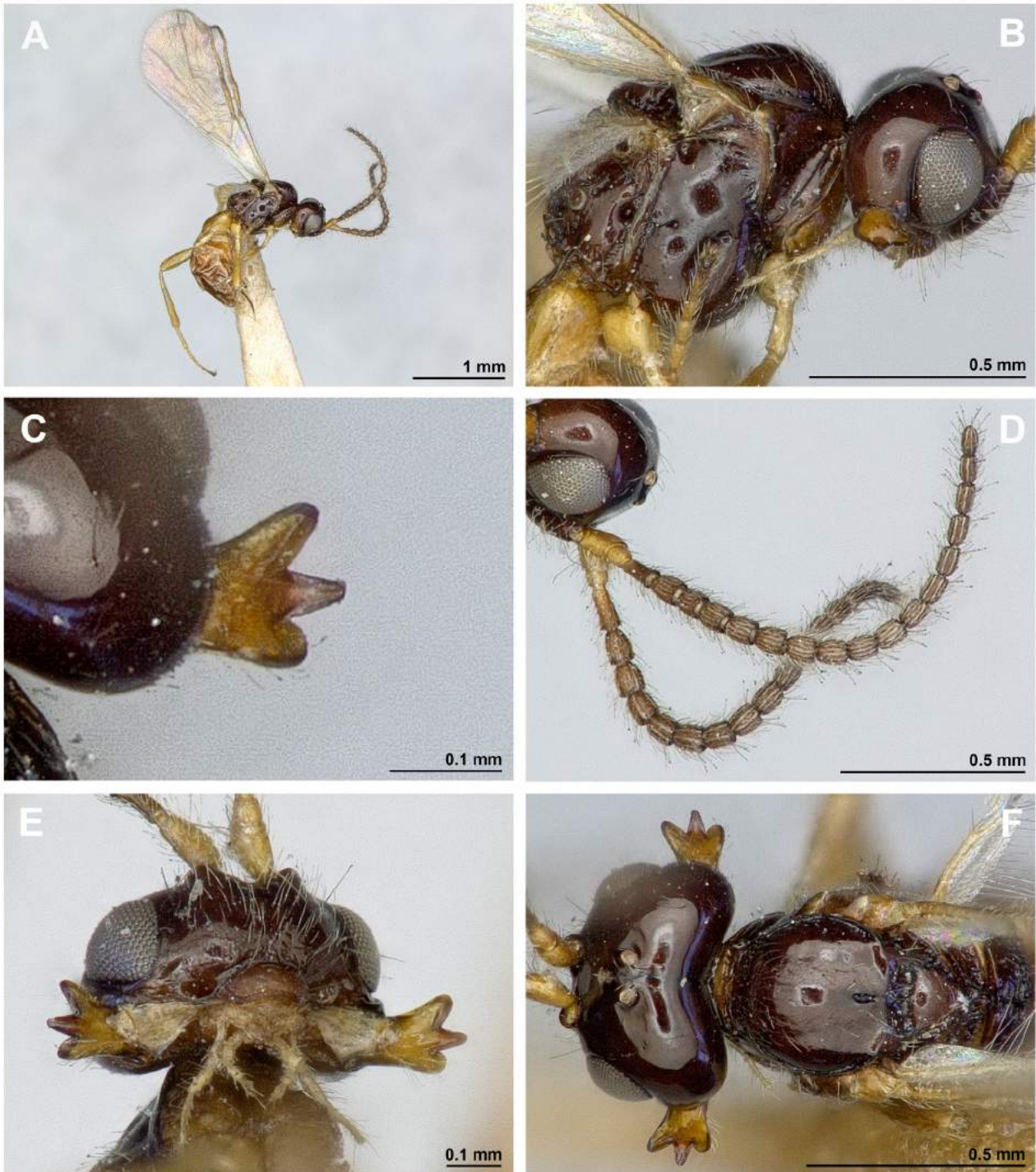


FIGURE 35. *Dinotrema signifrons* Viereck, 1906 (female, paratype). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Mandible. **D.** Antenna. **E.** Face, frontal view. **F.** Head and mesonotum, dorsal view.

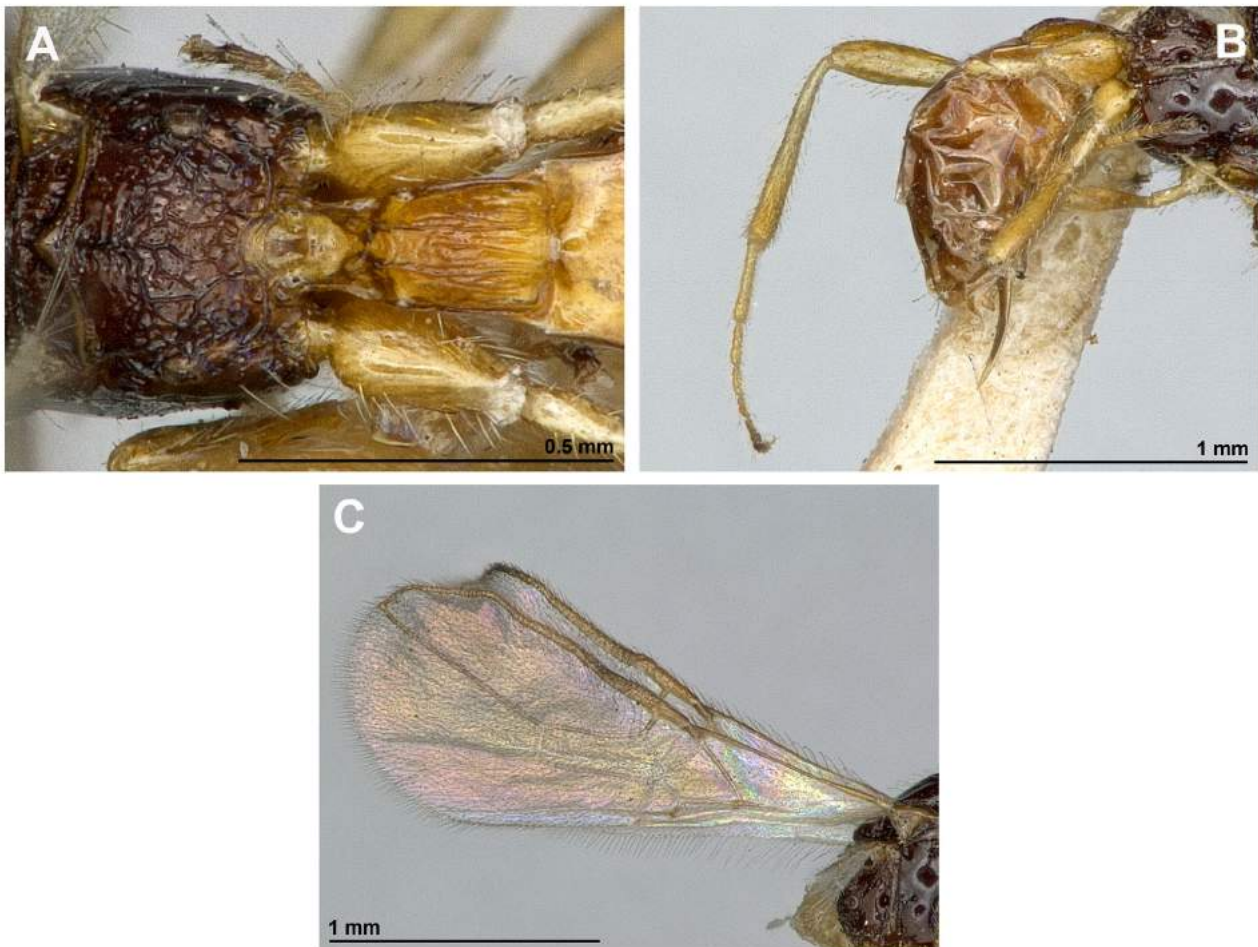


FIGURE 36. *Dinotrema signifrons* Viereck, 1906 (female, paratype). **A.** Propodeum and first metasomal tergite, dorsal view. **B.** Hind leg, metasoma and ovipositor, lateral view. **C.** Fore and hind wings.

Dinotrema signifrons Viereck 1906: 177; Muesebeck and Walkey 1951: 151; Yu *et al.* 2012.

Aspilota signifrons: Fischer 1969b: 254; Shenefelt 1974: 980; Marsh 1979: 222.

Material examined. 1 female (paratype), "U.S.A., Lafayette, Ind., J.M. Aldrich Collector" (NHMW).

Redescription. Female. Body 1.8 mm; fore wing 2.1 mm; hind wing 1.4 mm.

Head. In dorsal view, $1.9 \times$ as wide as median length, $1.5 \times$ as wide as mesoscutum, smooth. Eye in lateral view as wide as temple medially. POL $1.2 \times$ OD; OOL $2.8 \times$ OD. Face $2.4 \times$ as wide as high. Clypeus $3.0 \times$ as wide as high. Paraclypeal fovea reaching halfway distance between clypeus and eye. Mandible $0.9 \times$ as long as its maximum width, widened towards apex. Upper tooth longer than lower tooth; middle tooth long, pointed apically; lower tooth subrounded. Antenna 19-segmented. First flagellar segment $2.0 \times$ as long as its apical width. Second to tenth segments $1.2\text{--}1.3 \times$ as long as their maximum width; 11th to 17th (apical) segments $1.6\text{--}1.7 \times$ as long as their maximum width respectively.

Mesosoma. In lateral view $1.1 \times$ as long as high. Mesoscutum (in dorsal view) as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit present, oval. Prescutellar depression (scutellar sulcus) with distinct median and lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum completely sculptured without median longitudinal carinae. Propodeal spiracles large, its diameter $0.6 \times$ as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur $4.0 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $4.3 \times$ as long as its maximum width. Vein r2 (3-SR) $2.4 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.2 \times$ as long as vein r2 (3-SR).

Metasoma. First tergite widened towards apex, $2.0 \times$ as long as its apical width, striated. Ovipositor $1.1 \times$ as long as first tergite, shorter than metasoma, $0.7 \times$ as long as hind femur.

Colour. Body, legs and antenna from yellowish brown to dark brown. Wings hyaline.

Male. Unknown.

Comparative diagnosis. This species is similar to *D. shannoni* (Fischer, 1969); differences between both species are shown after the redescription of the latter species.

***Dinotrema stenostigma* (Provancher, 1886)**

(Figs 37, 38)



FIGURE 37. *Dinotrema stenostigma* (Provancher, 1886) (A, C–F—female, B—male, paratypes). A–B. Habitus, lateral view. C. Mandible. D. Antenna. E. Face, fronta view. F. Head and mesosoma, lateral view.



FIGURE 38. *Dinotrema stenostigma* (Provancher, 1886) (female, paratype). **A.** Head and mesonotum, dorsal view. **B.** Propodeum and first metasomal tergite, dorsal view. **C.** Hind leg, metasoma and ovipositor, lateral view. **D.** Fore and hind wings.

Scotionerus stenostigma Provancher 1886: 157; Dalla Torre 1898: 15; Gahan 1913: 38; Muesebeck and Walkey 1951: 151.

Aspilota stenostigma: Fischer 1969c: 73; Shenefelt 1974: 981; Marsh 1979: 222.

Dinotrema stenostigma: Yu *et al.* 2012.

Material examined. 1 female, USA, "Cabin John, Md., Spring.1917, R.M. Fouts" (NHMW); 1 male, "Maryland, Glen Echo, Summer.1917, R.M. Fouts, F66" (NHMW).

Redescription. Female. Body 1.4 mm; fore wing 1.9 mm; hind wing 1.4 mm.

Head. In dorsal view, $2.0 \times$ as wide as median length, $1.4 \times$ as wide as mesoscutum, smooth. Eye in lateral view $1.2 \times$ as wide as temple medially. POL $1.6 \times$ OD; OOL $4.8 \times$ OD. Face $1.9 \times$ as wide as high. Clypeus $3.0 \times$ as wide as high. Paraclypeal fovea reaching halfway distance between clypeus and eye. Mandible $1.4 \times$ as long as its maximum width, widened towards apex. Upper tooth longer than lower tooth; middle tooth long, pointed apically; lower tooth subrounded. Antenna more than 13-segmented (apical segments missing). First flagellar segment $3.0 \times$ as long as its apical width. Second segment $2.0 \times$ as long as its maximum width; third to sixth segments $1.8 \times$; seventh to 11th 1.5 – $1.6 \times$ as long as their maximum width respectively.

Mesosoma. In lateral view as long as high. Mesoscutum (in dorsal view) about as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit present, oval. Prescutellar depression (scutellar sulcus) with distinct median and lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow smooth. Propodeum completely sculptured, without median longitudinal carinae. Propodeal spiracles small, its diameter $0.2 \times$ as wide as distance from spiracle to anterior margin of propodeum.

Leg. Hind femur $4.5 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $3.7 \times$ as long as its maximum width. Vein r2 (3-SR) $2.4 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.6 \times$ as long as vein r2 (3-SR).

Metasoma. First tergite widened towards apex, $2.3 \times$ as long as its apical width, weakly striated. Ovipositor $1.4 \times$ as long as first tergite, shorter than metasoma, $0.9 \times$ as long as hind femur.

Colour. Body, legs and antenna from yellowish brown to dark brown. Wings hyaline.

Male. Body 1.6 mm; fore wing 1.8 mm; hind wing 1.2 mm. Antenna 23-segmented. First flagellar segment $3.3 \times$ as long as its apical width; second to 21st segments $2.5 \times$ as long as their maximum width. Radial (marginal) cell $4.0 \times$ as long as its maximum width. Vein r2 (3-SR) $2.5 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.9 \times$ as long as vein r2 (3-SR). Otherwise similar to female.

Comparative diagnosis. This species is similar to *D. latitergum* (Fischer, 1969); differences between both species are shown after the redescription of the latter species.

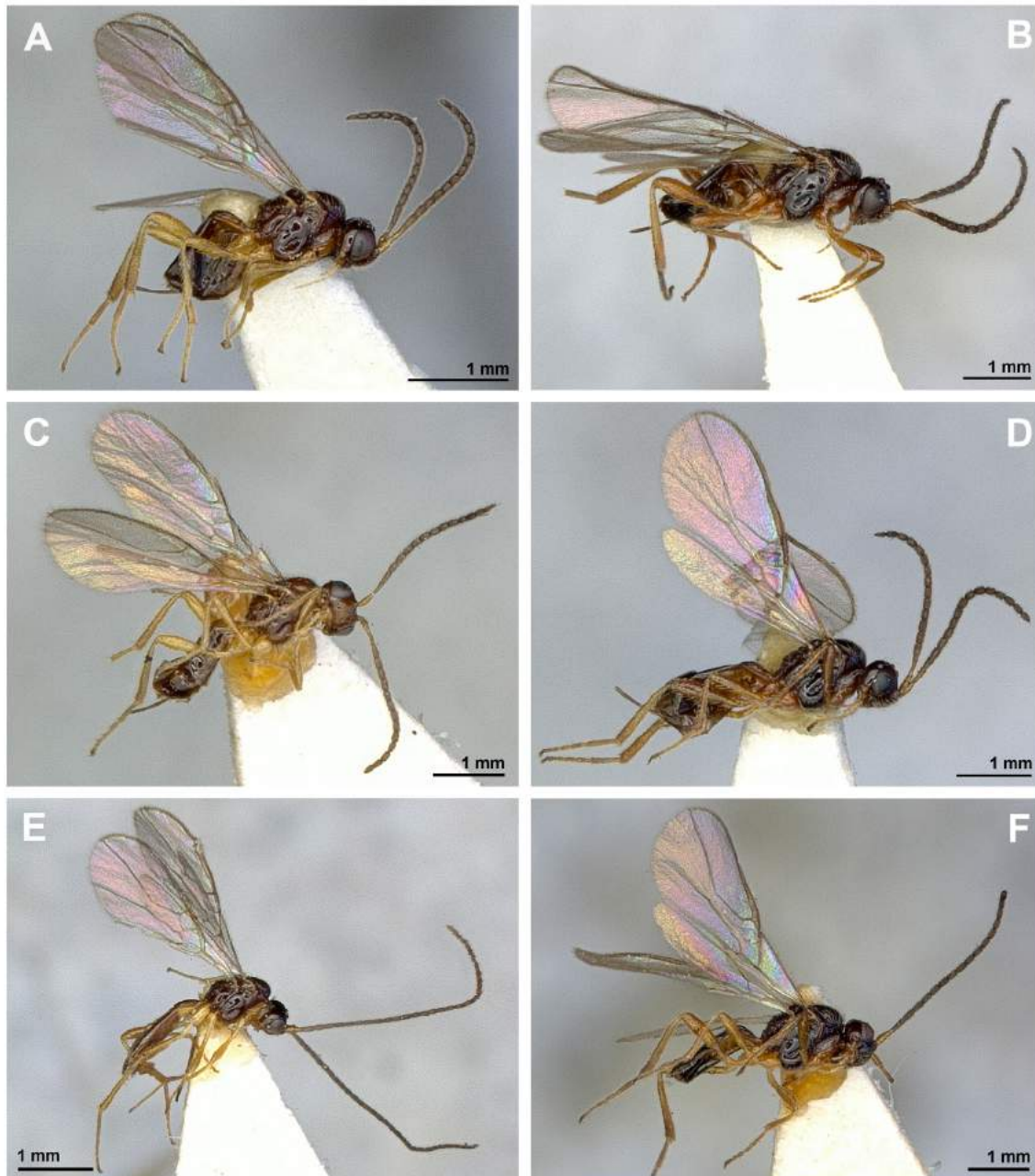


FIGURE 39. *Dinotrema subbidentatum* Peris Felipe 2016 (A–D—female, holotype; E–F—male, paratype). **A.** Habitus variety body light—metasoma short, lateral view. **B.** Habitus variety body dark—metasoma short, lateral view. **C.** Habitus variety body light—metasoma long, lateral view. **D.** Habitus variety body dark—metasoma long, lateral view. **E.** Habitus variety body light, lateral view. **F.** Habitus variety body dark, lateral view.

Dinotrema subbidentatum Peris-Felipo, 2016
(Figs 39–41)

Dinotrema subbidentatum Peris-Felipo in Peris-Felipo and Belokobylskij 2016b: 10.

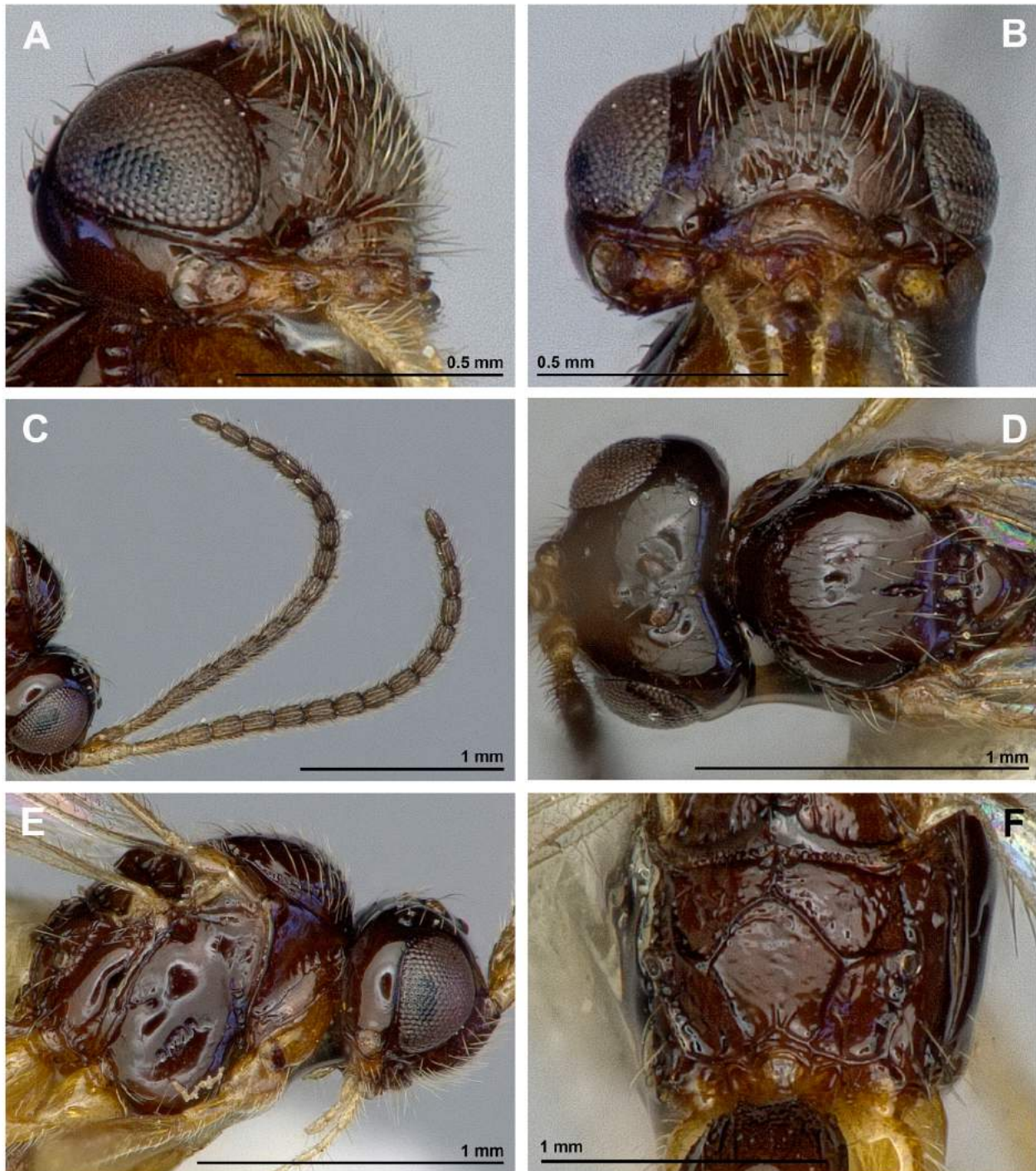


FIGURE 40. *Dinotrema subbidentatum* Peris Felipo 2016 (female, holotype). **A.** Head and mandible, lateral view. **B.** Face, frontal view. **C.** Antenna. **D.** Head and mesonotum, dorsal view. **E.** Head and mesosoma, lateral view. **F.** Propodeum, dorsal view.

Material examined. 1 female (holotype), Brazil, Sta. Cat., Nova Teutonia, 27.vii.1952 (F. Plaumann leg.) [B.M. 1957–341] (BMNH); 1 female (paratype), same locality as holotype, but, 27°11'B 52°23'L, 7.vi.1937 (F. Plaumann leg.) [B.M. 1937–656] (BMNH); 7 females, 5 males (paratypes), same locality as holotype, but, 29.v.1937,

19.viii.1937 [B.M. 1937–748], 30.iv.1938, 10.v.1938, 16.vi.1935, 25.viii.1935, 10.ix.1935, 8.iii.1936 (BMNH, ZISP); 1 male (paratype), same locality as holotype, but 27°B 52–58°L, 3.vi.1938 (F. Plaumann leg.) [B.M. 1938–458] (BMNH); 55 females, 1 male (paratypes), same locality, but 24.iii.1941 [B.M. 1957–341], 12.viii.1941, 9.xi.1941, 12.ix.1941, 14.vii.1944, 17.vii.1944, 23.vii.1945, 19.iv.1952, 10.v.1952, 30.v.1952, 1.vi.1952, 2.vi.1952, 3.vi.1952, 5.vi.1952, 17.vii.1952, 27.vii.1952, 2.viii.1952, 23.x.1952, 26.ix.1952 (BMNH, ZISP); 1 female (paratype), Brazil, Paraná, Rondon, vii.1952 (Leg. F. Plaumann) [B.M. 1957–341] (BMNH).

Description.: See Peris-Felipo and Belokobylskij (2016b).

Comparative diagnosis. This species is similar to *D. plaumanni* Peris-Felipo 2016; differences between both species are shown after the redescription of the latter species.

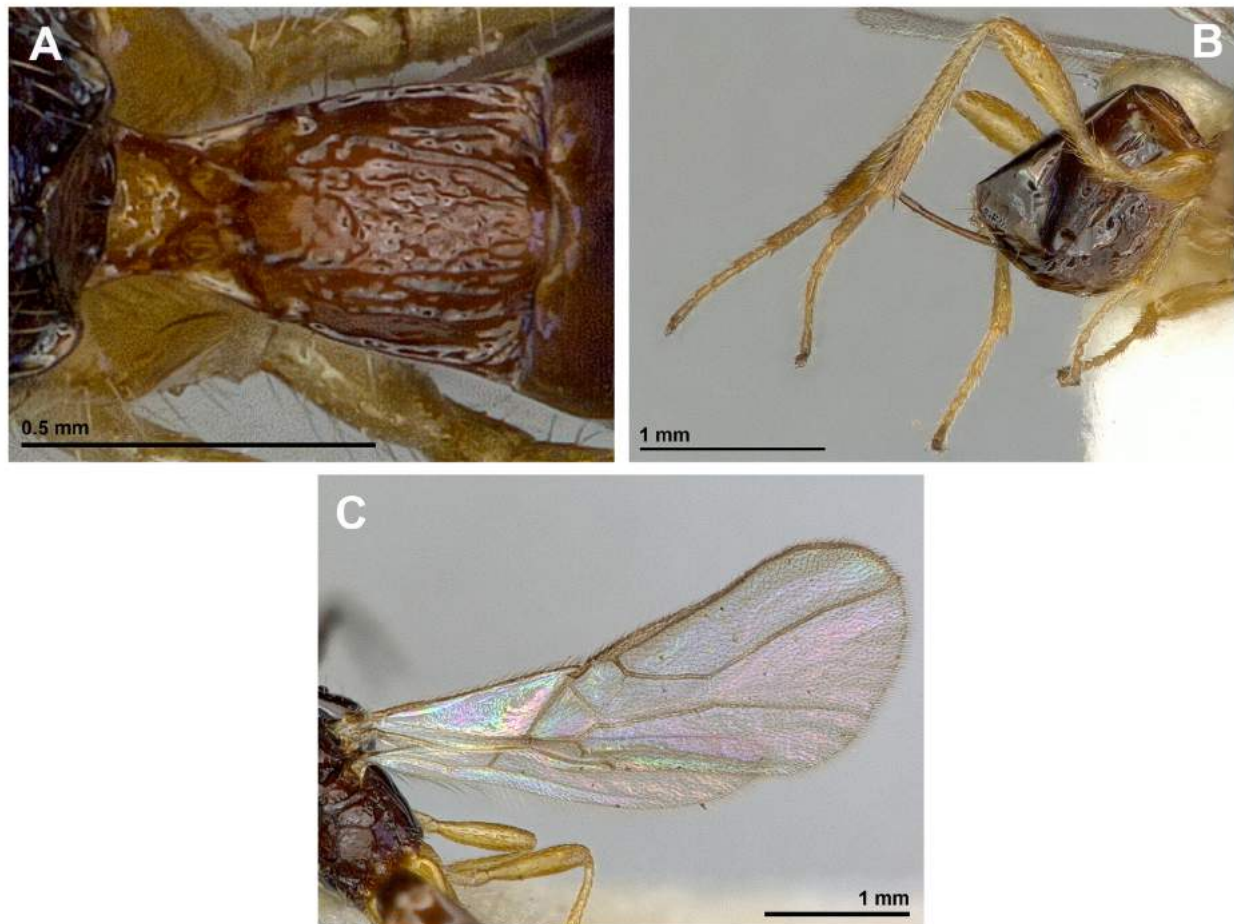


FIGURE 41. *Dinotrema subbidentatum* Peris Felipo 2016 (female, holotype). **A.** First metasomal tergite. **B.** Metasoma, hind leg and ovipositor, lateral view. **C.** Fore and hind wings.

Dinotrema sylvaticae (Fischer, 1969)

(Figs 42, 43)

Aspilota sylvaticae Fischer 1969b: 256; Shenefelt 1974: 981; Marsh 1979: 222; Yu *et al.* 2012.

Dinotrema sylvaticae: Peris-Felipo and Belokobylskij 2016b: 3.

Material examined. 2 females (paratypes), "U.S.A., Iowa, Ledges States Park, Boone Country, 8.viii.1948, reared from *Psalliota sylvatica*, Jean Laffoon, F44" (NHMW).

Redescription. Female. Body 2.8 mm; fore wing 2.4 mm; hind wing 1.6 mm.

Head. In dorsal view, $1.8 \times$ as wide as median length, $1.4 \times$ as wide as mesoscutum, smooth. Eye in lateral view $1.3 \times$ as wide as temple medially. POL $1.7 \times$ OD; OOL $3.8 \times$ OD. Face $1.8 \times$ as wide as high. Clypeus $2.6 \times$ as wide as high. Paraclypeal fovea reaching halfway distance between clypeus and eye. Mandible $1.2 \times$ as long as its maximum width, weakly widened towards apex. Upper tooth as long as lower tooth; middle tooth long, pointed apically; lower tooth subrounded. Antenna 26-segmented. First flagellar segment $4.0 \times$ as long as its apical width.

Second segment $2.6 \times$ as long as its maximum width; third segment 2.4 times; fourth to 17th 2.2 times; 18th to 23rd 2.0 times, 24th (apical) $2.5 \times$ as long as their maximum width respectively.

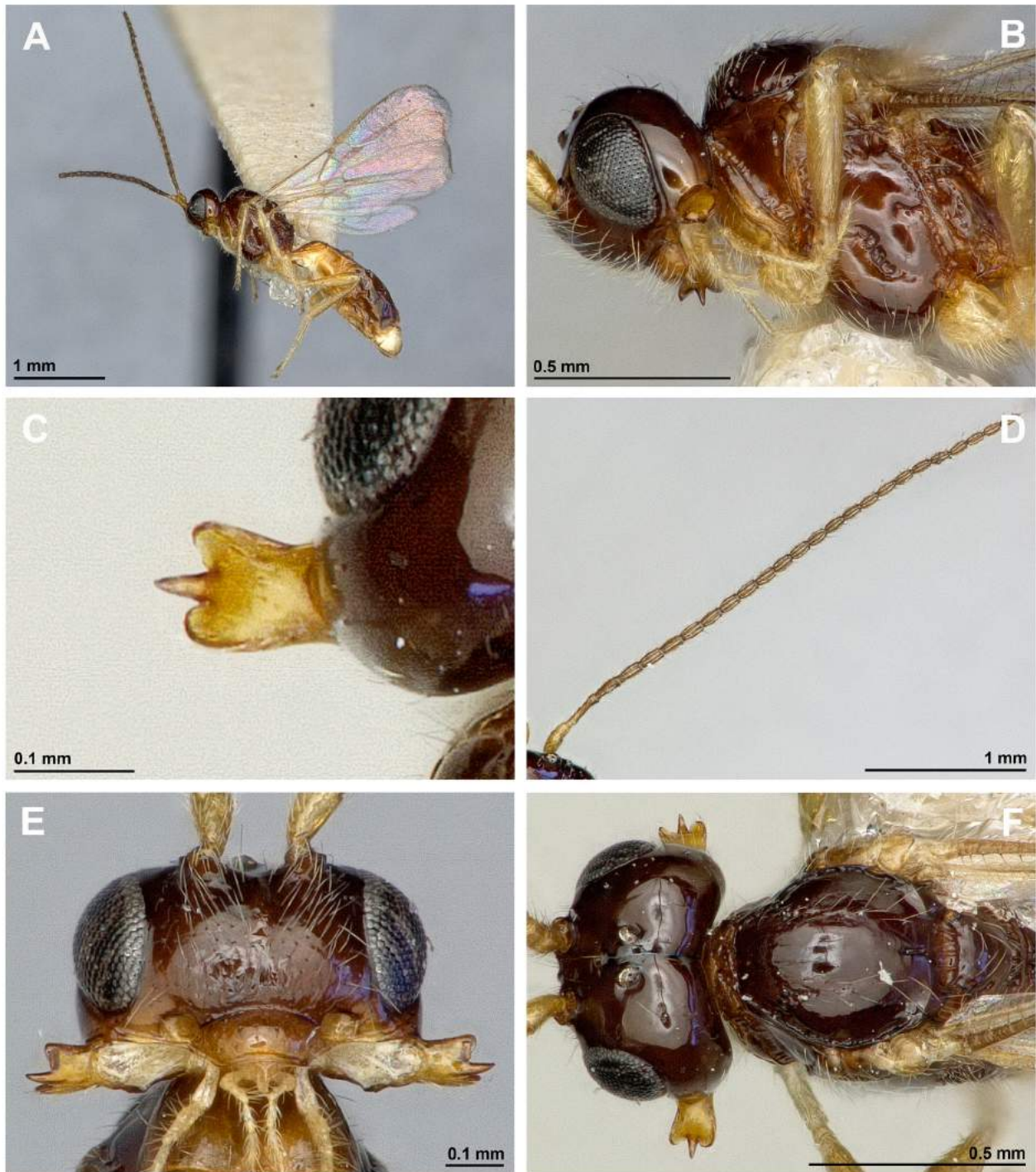


FIGURE 42. *Dinotrema sylvaticae* (Fischer, 1969) (female, paratype). **A.** Habitus, lateral view. **B.** Head and mesosoma, lateral view. **C.** Mandible. **D.** Antenna. **E.** Face, frontal view. **F.** Head and mesonotum, dorsal view.

Mesosoma. In lateral view $1.2 \times$ as long as high. Mesoscutum (in dorsal view) $1.1 \times$ as long as its maximum width. Notauli mainly absent on horizontal surface of mesoscutum. Mesoscutal pit present, elongate. Prescutellar depression (scutellar sulcus) with distinct median and lateral carinae. Precoxal sulcus present, crenulated, not reaching anterior and posterior margins of mesopleuron. Posterior mesopleural furrow crenulated. Propodeum completely sculptured with median longitudinal carinae. Propodeal spiracles small, its diameter $0.2 \times$ as wide as distance from spiracle to anterior margin of propodeum.



FIGURE 43. *Dinotrema sylvaticae* (Fischer, 1969) (female, paratype). **A.** Propodeum, dorsal view. **B.** First metasomal tergite, dorsal view. **C.** Hind leg, metasoma and ovipositor, lateral view. **D.** Fore and hind wings.

Leg. Hind femur $3.6 \times$ as long as its maximum width.

Wings. Radial (marginal) cell $3.8 \times$ as long as its maximum width. Vein r2 (3-SR) $2.0 \times$ as long as vein cuq1 (2-SR); vein r3 (SR1) $2.2 \times$ as long as vein r2 (3-SR).

Metasoma. First tergite widened towards apex, $2.0 \times$ as long as its apical width, weakly striated in apical half. Ovipositor $0.8 \times$ as long as first tergite, shorter than metasoma, $0.6 \times$ as long as hind femur.

Colour. Body and antenna dark brown. Legs and first metasomal tergite yellowish brown. Wings hyaline.

Male. Unknown.

Comparative diagnosis. This species is similar to *D. multiareolatum* Peris-Felipo 2016; differences between both species are shown after the redescription of the latter species.

***Dinotrema teutoniaense* Peris-Felipo, 2016**

(Figs 44, 45)

Dinotrema teutoniaense Peris-Felipo in Peris-Felipo and Belokobylskij 2016b: 15.

Material examined. 1 female (holotype), Brazil, Nova Teutonia, $27^{\circ}11'B$ $52^{\circ}23'L$, 24.ix.1935 (F. Plaumann leg.) (BMNH); 3 females, 2 males (paratypes), same locality as holotype, but 2.ix.1935, 11.viii.1937 [B.M. 1937–656], 1.vi.1938 [B.M. 1938–458], 24.iv.1938, 6.v.1938 [B.M. 1938–682] (BMNH); 1 female (paratype), same locality as holotype, but “[B.M. 1957–341]” (ZISP).

Description. See Peris-Felipo and Belokobylskij (2016b).

Comparative diagnosis. This species is similar to *D. foliformis* (Fischer, 1969); differences between both species are shown after the redescription of the latter species.

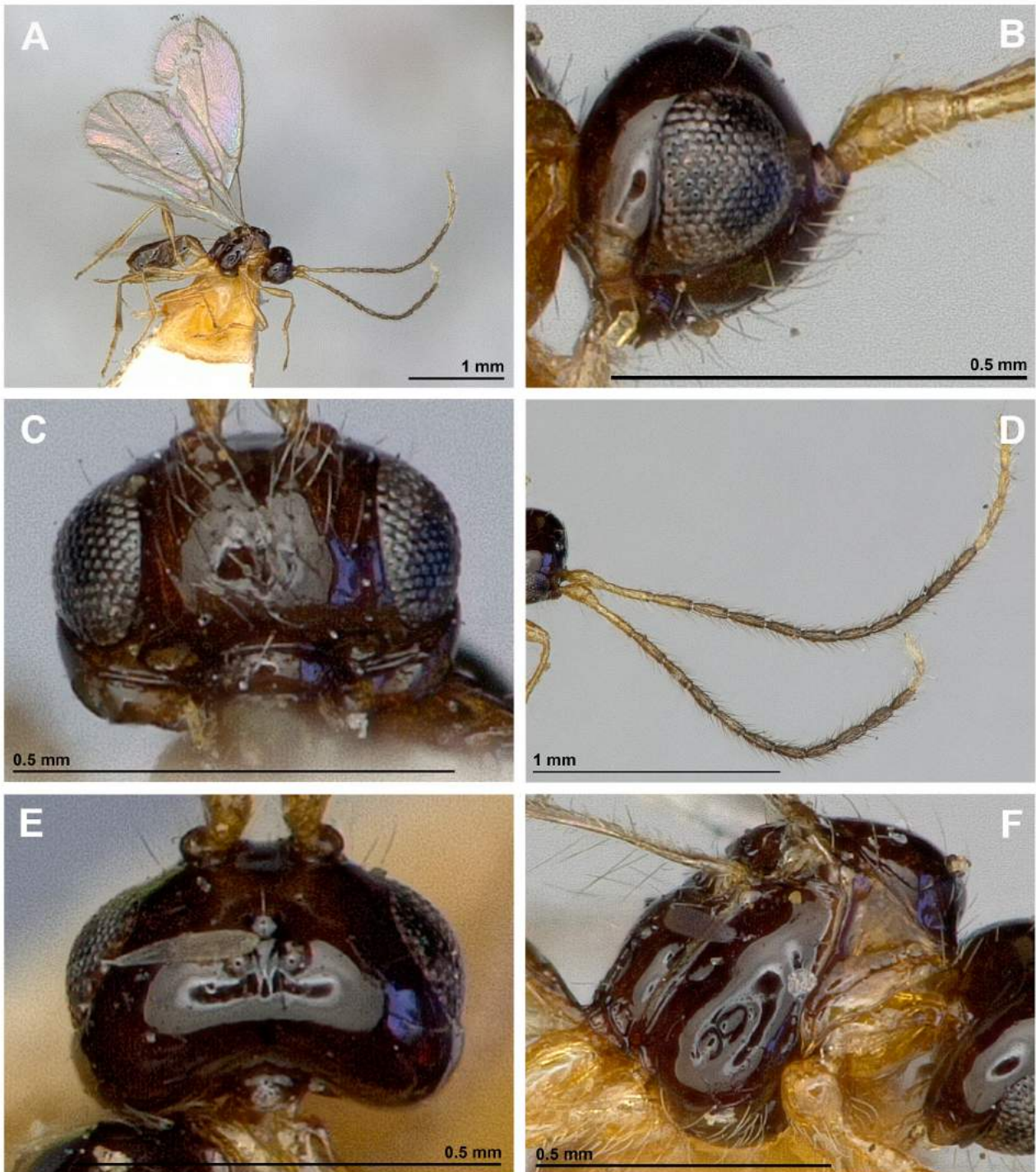


FIGURE 44. *Dinotrema teutoniaense* Peris Felipo 2016 (female, holotype). **A.** Habitus, lateral view. **B.** Head, lateral view. **C.** Face and mandible, frontal view. **D.** Antenna. **E.** Head, dorsal view. **F.** Mesosoma, lateral view.

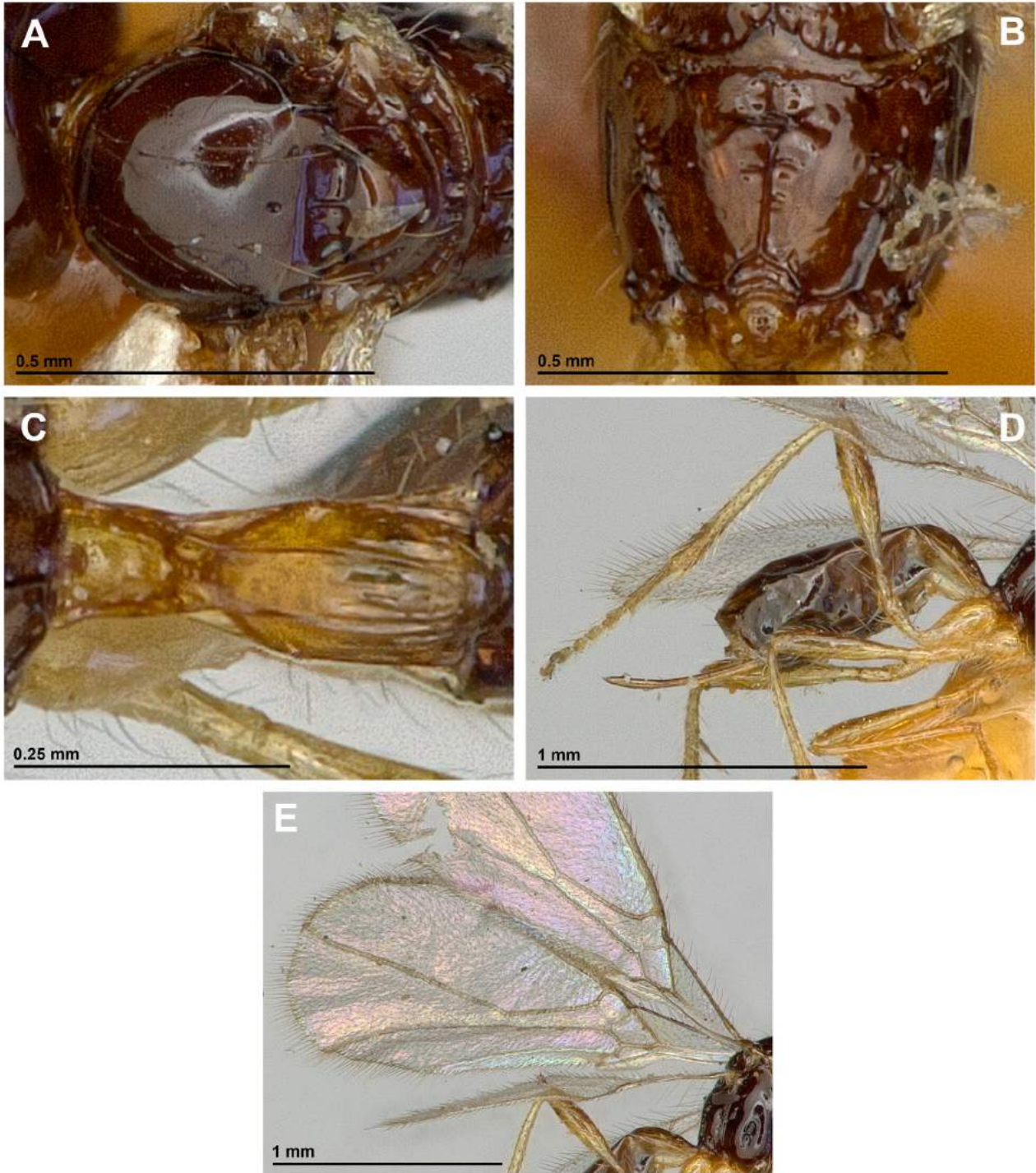


FIGURE 45. *Dinotrema teutoniaense* Peris Felipo 2016 (female, holotype). **A.** Mesonotum, dorsal view. **B.** Propodeum, dorsal view. **C.** First metasomal tergite. **D.** Metasoma, hind leg and ovipositor, lateral view. **E.** Fore and hind wings.

Key to Nearctic and Neotropical species of *Dinotrema*

- 1. Propodeum entirely or mainly smooth (Figs 4B, 16A, 22A) 2
- Propodeum with complete or short median carinae or widely and entirely sculptured; sometimes additionally with complete longitudinal median carina or large and distinctly delineated areola 4
- 2(1). Head in dorsal view $1.2 \times$ as wide as median length (Fig. 15F). Mesosoma in lateral view $1.6 \times$ as long as high (Fig. 15B). Eye in lateral view $0.8 \times$ as wide as temple medially (Fig. 15B). Hind femur $2.5 \times$ as long as its maximum width (Fig. 16B). First metasomal tergite $2.8 \times$ as long as its apical width (Fig. 16A). Propodeal spiracles large, its diameter $0.6 \times$ as wide as distance

	from spiracle to anterior margin of propodeum (Fig. 16A). [Antenna 13-segmented. Body length 2.1 mm]. U.S.A	
-	Head in dorsal view 1.7–1.8 × as wide as median length (Figs. 3F, 21F). Mesosoma in lateral view 1.0–1.1 × as long as high (Figs. 3B, 21B). Eye in lateral view 2.0–3.8 × as wide as temple medially (Figs. 3B, 21B). Hind femur 4.0–4.5 × as long as its maximum width (Figs. 4C, 22C). First metasomal tergite 0.8–2.0 × as long as its apical width (Figs. 4B, 22B). Propodeal spiracles small, its diameter 0.2–0.3 × as wide as distance from spiracle to anterior margin of propodeum (Figs. 4B, 22A).	3
3(2).	First metasomal tergite 2.0 × as long as its apical width (Fig. 22B). Eye in lateral view 2.0 × as wide as temple medially (Fig. 21B). Mandible as long as its maximum width (Fig. 21C). First flagellar segment 2.5 × as long as its maximum width (Fig. 21D). Apical flagellar segments same colour as middle segments (Fig. 21D). Hind femur 4.0 × as long as its maximum width (Fig. 22C). Antenna 20-segmented. Body length 1.7 mm. U.S.A.	D. lobidens (Fischer)
-	First metasomal tergite 0.8 × as long as its apical width (Fig. 4B). Eye in lateral view 3.8 × as wide as temple medially (Fig. 3B). Mandible 1.3 × as long as its maximum width (Fig. 3C). First flagellar segment 4.0 × as long as its maximum width (Fig. 3D). Apical flagellar segments paler than middle segments (Fig. 3D). Hind femur 4.5 × as long as its maximum width (Fig. 4C). Antenna 21-segmented. Body length 1.6 mm. U.S.A.	D. armillariae (Fischer)
4(1).	Propodeum with distinctly delineated areola (Figs. 30A, 40F).	5
-	Propodeum without delineated areola	6
5(1).	Two teeth of mandible visible in lateral view (Fig. 40A). Mandible 1.7 × as long as its maximum width (Fig. 40A). Apical flagellar segments same colour as middle segments (Fig. 40C). First flagellar segment 2.5–3.0 × as long as its maximum width (Fig. 40C). Eye in lateral view 1.3 × as wide as temple medially (Fig. 40E). First metasomal tergite 1.4 × as long as its apical width (Fig. 41A). Antenna 17-segmented. Body length 1.6–2.0 mm. Brazil	D. subbidentatum Peris-Felipo
-	Three teeth of mandible visible in lateral view (Fig. 29C). Mandible 1.3 × as long as its maximum width (Fig. 29C). Apical flagellar segments paler than middle segments (Fig. 29D). First flagellar segment 3.5 × as long as its maximum width (Fig. 29D). Eye in lateral view 1.8 × as wide as temple medially (Fig. 29F). First metasomal tergite 3.0 × as long as its apical width (Fig. 30B). Antenna 23-segmented. Body length 2.0–2.2 mm. Brazil	D. plaumanni Peris-Felipo
6(4).	Mesoscutal pit absent (Figs. 13F, 23F, 31F).	7
-	Mesoscutal pit present.	9
7(6).	Precoxal sulcus long, reaching anterior margin of mesopleuron (Fig. 31B). Posterior mesopleural furrow completely crenulated (Fig. 31B). First metasomal tergite 1.5 × as long as its apical width (Fig. 32A). Propodeal spiracles large, its diameter 0.6 × as wide as distance from spiracle to anterior margin of propodeum (Fig. 32A). Antenna 18-segmented. Body length 2.2 mm. U.S.A	D. saileri (Fischer)
-	Precoxal sulcus short, not reaching anterior margin of mesopleuron (Figs. 21B, 23B). Posterior mesopleural furrow mainly smooth or weakly crenulated below (Figs. 21B, 23B). First metasomal tergite 2.1–2.5 × as long as its apical width (Figs. 22B, 24B). Propodeal spiracles small, its diameter 0.2–0.3 × as wide as distance from spiracle to anterior margin of propodeum (Figs. 22A, 24A).	8
8(7).	First metasomal tergite 2.1 × as long as its apical width (Fig. 14A). Eye in lateral view as wide as temple medially (Fig. 13B). First flagellar segment 3.3 × as long as its maximum width (Fig. 13D). Apical flagellar segment 3.6 × as long as its maximum width (Fig. 13D). Face 2.3 × as wide as high (Fig. 13E). Propodeum mainly or widely smooth and with complete median longitudinal carina (Fig. 14A). Antenna 19-segmented. Body length 1.2 mm. U.S.A	D. ephemera (Viereck)
-	First metasomal tergite 2.5 × as long as its apical width (Fig. 24B). Eye in lateral view 1.3 × as wide as temple medially (Fig. 23B). First flagellar segment 3.0 × as long as its maximum width (Fig. 23D). Apical flagellar segment 2.7 × as long as its maximum width (Fig. 23D). Face 2.6 × as wide as high (Fig. 23D). Propodeum widely or entirely sculptured (Fig. 24A). Antenna 23-segmented. Body length 2.2 mm.] U.S.A	D. longibasis (Fischer)
9(6).	Propodeal spiracles large, its diameter 0.6–0.7 × as wide as distance from spiracle to anterior margin of propodeum (Figs. 34A, 36A).	10
-	Propodeal spiracles small, its diameter 0.2–0.3 × as wide as distance from spiracle to anterior margin of propodeum.	11
10(9).	Mandible 0.9 × as long as its maximum width (Fig. 35C). Hind femur 4.0 × as long as its maximum width (Fig. 36B). First metasomal tergite 2.0 × as long as its apical width (Fig. 36A). Eye in lateral view as wide as temple medially (Fig. 35B). Face 2.4 × as wide as high (Fig. 35E). Antenna 19-segmented. Body length 1.8 mm. U.S.A	D. signifrons Viereck
-	Mandible 1.2 × as long as its maximum width (Fig. 33C). Hind femur 3.4 × as long as its maximum width (Fig. 34B). First metasomal tergite 1.6 × as long as its apical width (Fig. 34A). Eye in lateral view 1.3 × as wide as temple medially (Fig. 33B). Face 2.7 × as wide as high (Fig. 33E). Antenna with more than 15 segments (apical segments missing). Body length 2.3 mm. U.S.A.	D. shannoni (Fischer)
11(9).	Posterior mesopleural furrow completely crenulated (Fig. 42B). Antenna 26-segmented. Body length 2.9 mm. U.S.A.	D. sylvaticae (Fischer)
-	Posterior mesopleural furrow smooth.	12
12(11).	First metasomal tergite 1.5–2.0 × as long as its apical width.	13
-	First metasomal tergite 2.3–3.9 × as long as its apical width.	18
13(12).	Mandible 1.7 × as long as its maximum width (Fig. 11C). First flagellar segment 2.2 × as long as its maximum width (Fig. 11D). Antenna with more than 14 segments (apical segments missing). Body length 1.6 mm.] U.S.A.	D. disstriae (Fischer)
-	Mandible 1.0–1.3 × as long as its maximum width. First flagellar segment 3.0–4.0 × as long as its maximum width.	14
14(13).	First flagellar segment 3.0–3.2 × as long as its maximum width (Figs. 5D, 9D).	15
-	First flagellar segment 3.8–4.0 × as long as its maximum width (Fig. 1D).	17
15(14).	Mandible as long as its maximum width (Fig. 5C). First metasomal tergite 1.5 × as long as its apical width (Fig. 5D). Hind femur 3.5–3.6 × as long as its maximum width (Fig. 6D). [Antenna 17–20-segmented. Body length 1.6 mm.] U.S.A.	

- *D. caudatulum* (Fischer)
- Mandible 1.2–1.3 × as long as its maximum width (Figs. 9C, 27C). First metasomal tergite 1.8–2.0 × as long as its apical width (Figs. 10B, 27D). Hind femur 3.8–3.9 × as long as its maximum width (Figs. 10C, 28B). **16**
 - 16(15). Propodeum mainly or widely smooth, with complete median longitudinal carina (Fig. 28A). Face 2.2 × as wide as high (Fig. 27E). Clypeus 3.1 × as wide as high (Fig. 27E). Prescutellar depression (scutellar sulcus) without lateral carinae (Fig. 27F). Radial (marginal) cell 4.0 × as long as its maximum width. Vein r2 (3-SR) 3.3 × as long as vein cuq1 (2-SR) (Fig. 28C). Antenna 24-segmented. Body length 1.8 mm. U.S.A. *D. pauperum* (Fischer)
 - Propodeum mainly sculptured, with complete median longitudinal carina (Fig. 10A). Face 1.5 × as wide as high (Fig. 9E). Clypeus 2.1 × as wide as high (Fig. 9E). Prescutellar depression (scutellar sulcus) with lateral carinae (Fig. 9F). Radial (marginal) cell 3.6 × as long as its maximum width. Vein r2 (3-SR) 2.1 × as long as vein cuq1 (2-SR) (Fig. 10D). Antenna 22-segmented. Body length 2.0 mm. U.S.A. *D. communis* (Fischer)
 - 17(14). Propodeum sculptured, without median longitudinal carinae and with carinae reaching propodeal edges (Fig. 19F). First flagellar segment 4.0 × as long as its maximum width. Radial (marginal) cell 3.6 × as long as its maximum width. Vein r3 (SR1) 2.2 × as long as vein r2 (3-SR) (Fig. 20B). [Antenna completely missing.] Body length 1.9–2.1 mm. Canada, U.S.A. *D. latitergum* (Fischer)
 - Propodeum mainly smooth with complete median longitudinal carinae and with short subtransverse carinae emerging from median carina, but far distant from propodeal edges (Fig. 2B). First flagellar segment 3.3 × as long as its maximum width (Fig. 1D). Radial (marginal) cell 4.3 × as long as its maximum width. Vein r3 (SR1) 2.7 × as long as vein r2 (3-SR) (Fig. 2E). Antenna 20-segmented. Body length 1.8 mm. Canada, U.S.A. *D. angusticorne* (Fischer)
 - 18(12). First flagellar segment 5.5 × as long as its maximum width (Fig. 44D). Face 1.2 × as wide as high (Fig. 44C). [Antenna 18-segmented. Body length 1.3–1.4 mm]. Brazil. *D. teutoniaense* Peris-Felipo
 - First flagellar segment 3.0–3.8 × as long as its maximum width. Face 1.7–1.9 × as wide as high. **19**
 - 19(18). First metasomal tergite 2.3–2.5 × as long as its apical width. First flagellar segment 3.0–3.2 × as long as its maximum width. Eye in lateral view 1.1–1.2 × as wide as temple medially. **20**
 - First metasomal tergite 3.1–3.9 × as long as its apical width. First flagellar segment 3.5–3.8 × as long as its maximum width. Eye in lateral view 1.5–1.9 × as wide as temple medially. **21**
 - 20(19). Propodeum completely sculptured, without longitudinal and subtransverse carinae (Fig. 38B). Prescutellar depression (scutellar sulcus) with lateral carinae (Fig. 38A). Vein r2 (3-SR) 2.4 × as long as vein cuq1 (2-SR); vein r3 (SR1) 2.6 × as long as vein r2 (3-SR) (Fig. 38D). Antenna with more than 13 segments (apical segments missing). Body length 1.4 mm. Canada, U.S.A. *D. stenostigma* (Provancher)
 - Propodeum mainly smooth with complete median longitudinal carinae and with short subtransverse carinae emerging from median carina, but far distant from propodeal edges (Fig. 8B). Prescutellar depression (scutellar sulcus) without lateral carinae (Fig. 8A). Vein r2 (3-SR) 2.7 × as long as vein cuq1 (2-SR); vein r3 (SR1) 2.1 × as long as vein r2 (3-SR) (Fig. 8E). Antenna more than 12-segmented (apical segments missing). Body length 2.0 mm. U.S.A. *D. clayensis* (Fischer)
 - 21(19). First metasomal tergite 3.1 × as long as its apical width (Fig. 26E). First flagellar segment 3.8 × as long as its maximum width (Fig. 25E). Head in dorsal view 1.6 × as wide as median length (Fig. 26A). Clypeus 2.3 × as wide as high (Fig. 25F). Propodeum completely sculptured, without median longitudinal carina (Fig. 26D). Antenna 23-segmented. Body length 1.5–2.0 mm. Argentina, Brazil. *D. multiareolatum* Peris Felipo
 - First metasomal tergite 3.9 × as long as its apical width (Fig. 18B). First flagellar segment 3.5 × as long as its maximum width (Fig. 17D). Head in dorsal view 2.0 × as wide as median length (Fig. 17D). Clypeus 3.5 × as wide as high (Fig. 17E). Propodeum mainly smooth and with complete median longitudinal carina (Fig. 18A). Antenna 17-segmented. Body length 2.6 mm. U.S.A. *D. foliformis* (Fischer)

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