

Kinnaridae and Derbidae (Homoptera, Fulgoroidea) from the Dominican amber

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With 15 figures

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Abstract: This is the first fossil record of Kinnaridae (*Oeclidius salaxo* n. sp. and *Quilessa stolidi* n. sp.) and second one of Derbidae (*Cedusa credula* n. sp. and *Dysimia imprudens* n. sp.). All four genera occur in the Greater Antilles today.

Zusammenfassung: Dies ist der erste Fossilnachweis der Familien Kinnaridae (*Oeclidius salaxo* n. sp. und *Quilessa stolidi* n. sp.) und zweite der Derbidae (*Cedusa credula* n. sp. und *Dysimia imprudens* n. sp.). Alle vier Gattungen kommen rezent auf den Großen Antillen vor.

Introduction

The family Kinnaridae was previously unknown in the fossil state. For a long time the fossil record of the family Derbidae was based on misinterpreted genera, in fact representing other families, and only recently the first true derbid was discovered in Eocene Baltic amber (EMELJANOV, 1994). A peculiarity of the finds in Dominican amber described below is that all of them belong to Modern genera, nowadays inhabiting the Greater Antilles.

The type specimens are kept in the Natural History Museum (NHM), London.

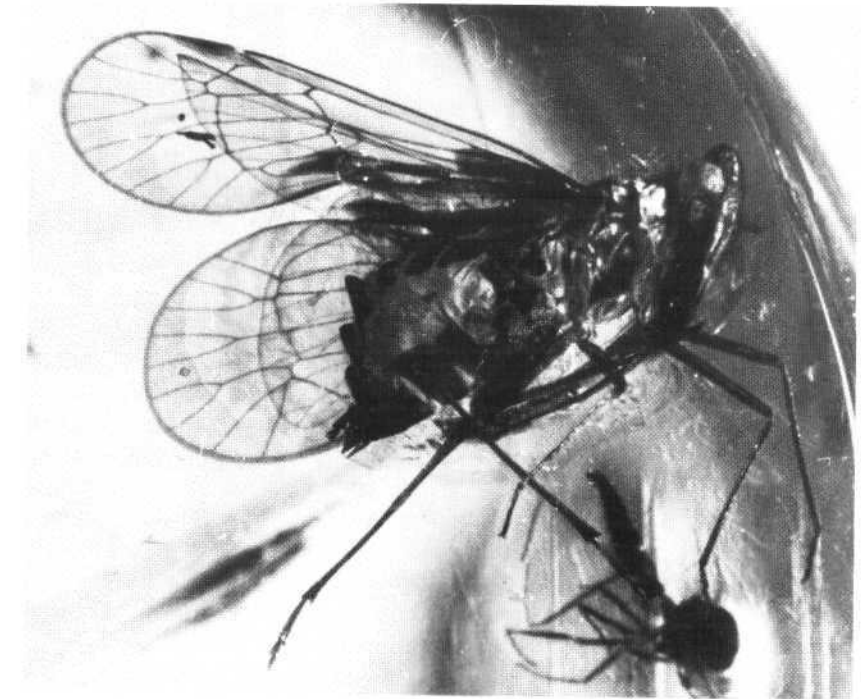
Taxonomy

Family Kinnaridae MUIR, 1925
Tribe Propleromini EMELJANOV, 1984
Oeclidius VAN DUZEE, 1914
Oeclidius salaxo n. sp.

Figs. 1, 3-6

Material: Holotype NHM, Pal. PI II 351(1); female; Dominican amber, Oligocene/Miocene; Dominican Republic; presd. COBRA & BELLAMY 1994. Left wings folded over the abdomen in repose; right wings with costal margins strongly deflexed, lying nearly in the same plane as the left ones; abdomen postmortally distended, with membrane between tergites and sternites strongly expanded.

Derivatio nominis: salaxo: lat. ex gr. braggart.



Figs. 1-2. Dominican amber Kinnaridae: 1, *Oeclidius salaxo* n. sp., holotype female; 2, *Quilessa stolidi* n. sp. (Kinnaridae), holotype male.

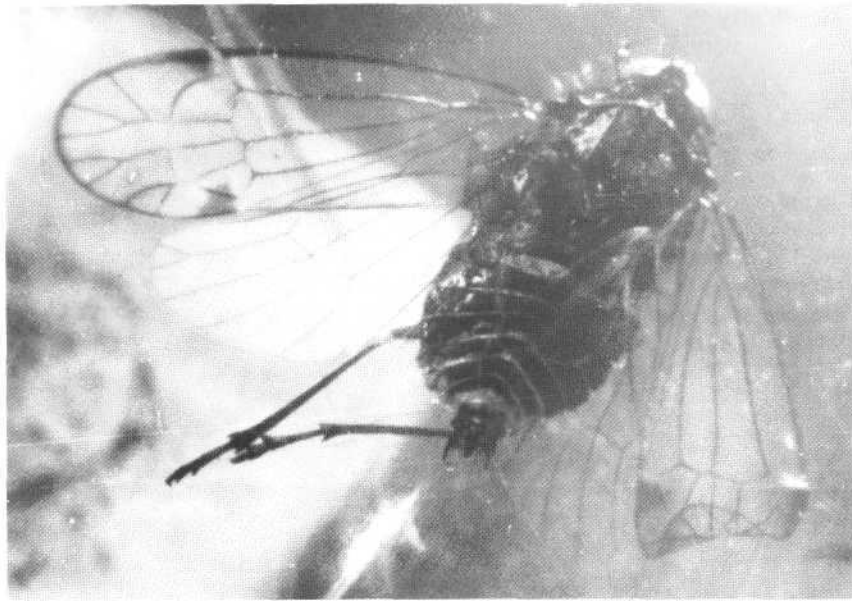
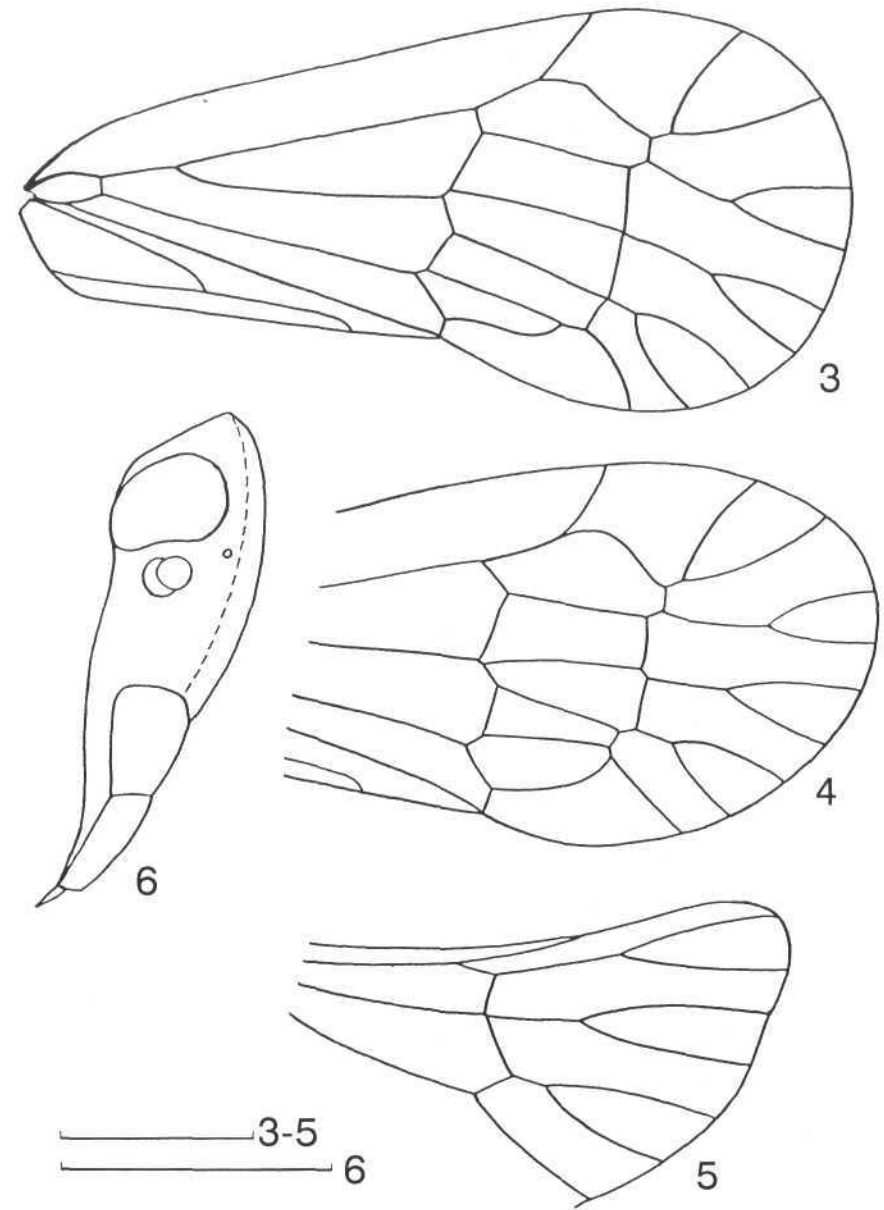


Fig. 2 (Legend see p. 439)

Description: Typical representative of the genus. Corypha ('vertex'; areas of fulgoroid cranium termed after ANUFRIEV & EMELJANOV, 1988) slightly ascending, oblong, nearly twice longer than wide, nearly twice wider medially and posteriorly than at anterior margin, with lateral margins slightly convex. Metopa ('frons') narrow, trough-like, slightly widening towards clypeus, shallowly convex in profile, nearly thrice longer than post-clypeus. Lateral ocelli present, median one absent. Antennae relatively slender; scape cylindrical, about as long as wide; pedicel also cylindrical, of subequal diameter, nearly thrice longer than wide. Rostrum long, about as long as face, extended beyond hind coxae (like in *Oe. persephone* FENNAH). Forewings of usual shape for the genus, apically rounded and somewhat obliquely truncate (shape of postnodal part of right forewing essentially distorted in Fig. 3). The vein surrounding pterostigmal cell (RA2) forking just beyond crossvein *ir* (forming short stalk beyond it), *M* forking at nodal level; *RP*, *MA* and *MP* forking subapically; insular cell tapered apically (right forewing) or closed with a crossvein. Hindwings with *MP* and *CuA1* fused for a short distance, free apically. Wax pore areas on VI-VIII abdominal tergites clearly visible.



Figs. 3-6. *Oeclidius salaco* n. sp. (Kinnaridae): 3, right forewing; 4, distal part of left forewing (mirror image); 5, distal part of right hindwing; 6, head in lateral aspect. Scale bar 1 mm in all drawings.

Colour brownish, genae ventrally and clypeus partly dark brown. Wings transparent; pterostigmal cell slightly suffused (thickened) anteriorly. Body length of female ca. 5.6 mm, forewing length ca. 4.4 mm.

Comparison: The new species could be placed close to the Recent *Oe. persephone* (Jamaica), but is clearly distinct from it (as well as from other congeners) in the stalked apical cell of the pterostigma (RA2 forking beyond ir. 11 more species are recorded from Cuba, Jamaica and Haiti (FENNAH, 1980).

Tribe Prosotropini FENNAH, 1945
 Quilessa FENNAH, 1942
 Quilessa stolidus n. sp.

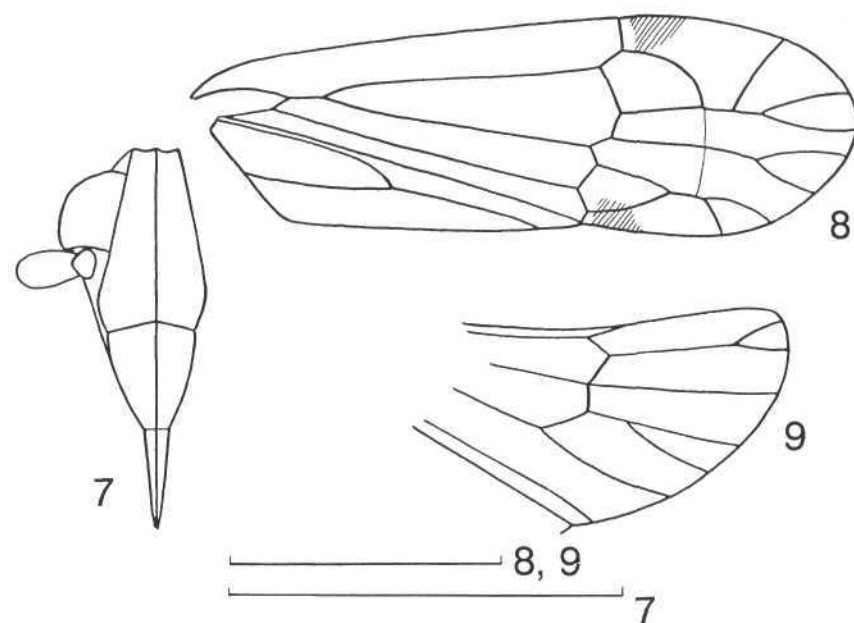
Figs. 2, 7-9

Material: Holotype NHM Pal. PI II 60; male (wings half spread); Dominican amber, Oligocene/Miocene; Dominican Republic; purchd McCALLUM & MARCUS 1993.

Derivatio nominis: stolidus = lat. foolish.

Description: Peculiar member of the genus *Quilessa*. Corypha trapezoidal, nearly as wide anteriorly as long at midline, with anterior carina obscure, anteriorly gradually curved into dorsal part of metopa (the latter correspondingly convex dorsally and curved caudad as usual). Metopa quite elongate, widening ventrad up to below antennae (where nearly twice wider than dorsally), with sides nearly straight dorsally, convex below antennae, converging near clypeus. Both corypha and metopa with median carina. Pronotum a little longer than dorsal head aspect, with distinct median carina and without laterodiscal ones. Mesonotum with three sharp subparallel carinae. Forewings nearly 3.5 times as long as wide, almost parallel-sided, only slightly widening towards nodal level, postnodal part almost semi-elliptically rounded, a little oblique due to wing apex slightly displaced forward. Postnodal venation with some peculiarities. Interradial cell anterodistally bordered with arcuate RA2 vein giving no branches (like in *Prosotropis* UHLER), weak interstitial postnodal crossveins rm and mcu continuing the RA2 arc (absent in the other, Recent *Quilessa* species as judged from the figures in FENNAH, 1942). CuA branches fused for some distance. Hindwings with RP forking near margin, and MP + CuA1 simple. Details of genitalia untraceable. Anal tube small, short. Pygophore with narrow, long, acuminate lateral processes.

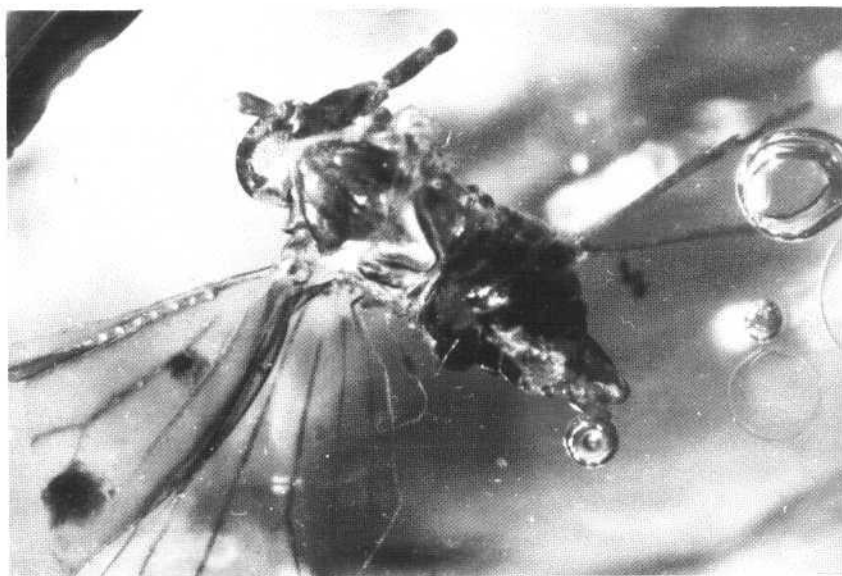
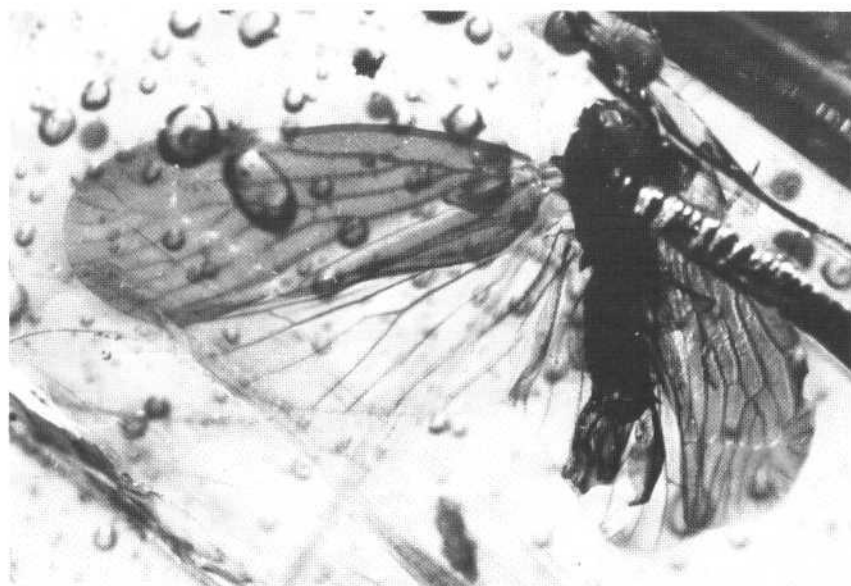
Colour dark brown to black, head carinae paler, so that the darker median portion tapered from antennae to clypeal end of median carina. Pronotum dorsally dark brown with a pair of oblique transverse oval pale spots laterad



Figs. 7-9. *Quilessa stolidus* n. sp. (Kinnaridae): 7, head in anteroventral aspect; 8, forewing; 9, distal part of hindwing.

of median carina, their medial portions on disc, lateral ones on paradiscal areas. Forewings transparent with dark veins; anterior portion of pterostigma suffused forming a spot; a similar spot just beyond claval apex. Legs brown. Forewing length ca. 2.8 mm.

Comparison: In most characters agrees to the genus *Quilessa*, but shows several particularities in both fore- and hindwing venation. Anterior postnodal venation like in the genus *Prosotropis*, i.e. without the vein across pterostigma, and with postnodal rm crossvein. The development of additional postnodal mcu is an original feature of this species. In hindwings RP is forked and MP + CuA1 simple. The above character combination indicates an isolated position of this species in the genus.



Figs. 10-11. Dominican amber Derbidae: 10, *Cedusa credula* n. sp., holotype male; 11, *Dysimia imprudens* n. sp., holotype male.

Family Derbidae SPINOLA, 1839
 Tribe Cedusini EMELJANOV, 1992
Cedusa FOWLER, 1904
Cedusa credula n. sp.

Figs. 10, 12, 13

Material: Holotype NHM, Pal. PI II 58; male; Dominican amber, Oligocene/Miocene, Dominican Republic; purchd McCALLUM & MARCUS 1993. Left wings spread and elevated, nearly in coupled condition, anojugal area folded, right wings lying along the body half open.

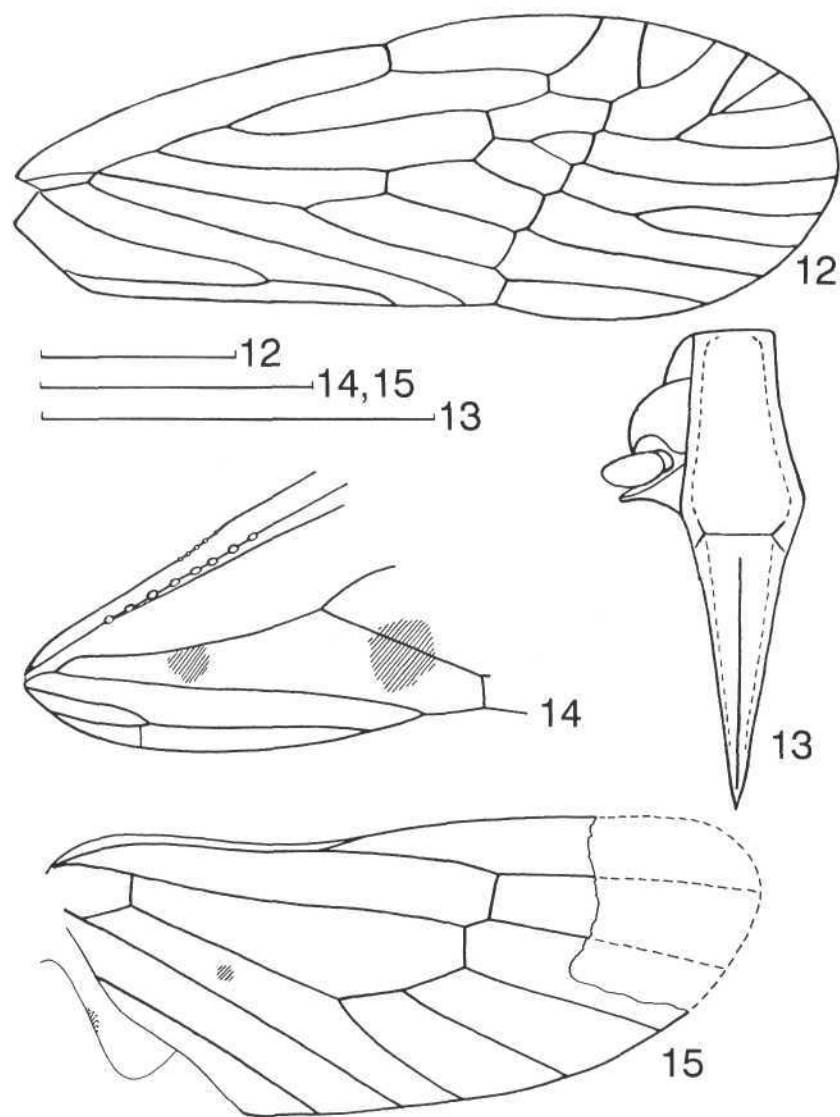
Derivatio nominis: *Credula* = lat. credulous.

Description: Typical representative of the genus. Face elongate, metopa widest ventrally, projecting laterad into obtuse angles at junction with sub-antennal lobes, with slightly concave lateral margins dorsad of the lobes, without median carina. Clypeus narrow wedge-shaped, with median carina. Rostrum (labium) torn off, deformed and hanging from the tips of mouth stylets. Forewings weakly widened towards nodal level (not so markedly as appearing in Fig. 12 representing somewhat oblique view of the wing). Radial vein surrounding pterostigmal cell unbranched. RP forked before apex. Anteriormost M branch forking beyond crossvein series, its anterior branch then divided into three almost in one point. MP with two endings. Hindwings with typical venation showing no peculiarities. Genitalia habitually typical for *Cedusa*, slightly open, but details of the penis can not be reliably traced. Styles slightly diverging, long and broad, with flattened longitudinal rib extending up to narrow, acuminate, incurved apex, their upper margin convex in distal 3/4, lower one with flat wedge-shaped tooth directed mediad. Anal tube (X segment) 2/3 as long as styles, narrow, more or less parallel-sided, rounded truncate apically. XI segment and its appendages set dorsally near the very apex of X segment.

Colour dark brown. Legs (especially tibiae and tarsi) and lateral edges of metopa paler, whitish.

Forewing length ca. 4.1 mm.

Comparison: The genus *Cedusa* is now distributed worldwide, common in Tropics and Subtropics, and represented by a great number of species distinguishable only by genitalia. About one and a half hundred species was described from the New World, but species inventory of this genus is far from completion. Three species recorded from Haiti are *C. inflata* BALL (= *santaclara* MYERS), *C. colona* CALDWELL, and *C. quinteca* KRAMER. The new species possess a peculiar trifurcation in the anteriormost MA branch, so far not recorded in any Recent congener.



Figs. 12-15. Derbidae: 12-13, *Cedusa credula* n. sp.: 12, forewing; 13, head in anteroventral aspect; 14-15, *Dysimia imprudens* n. sp.: 14, proximal part of forewing, 15, hindwing.

Tribe Derbini SPINOLA, 1839
Dysimia MUIR, 1924
Dysimia imprudens n. sp.

Figs. 11, 14, 15

Material: Holotype NHM Pal. PI II 61, male; Dominican amber, Oligocene/Miocene, Dominican Republic; purchd. McCALLUM & MARCUS 1993. Right wings torn off, left ones spread, both distal 2/3 of forewing and apex of hindwing missing; neck wrung, head lying almost horizontal, fore and mid legs missing.
 Derivatio nominis: imprudens = lat. improvident.

Description: Forewings with claval loop occupying 1/3 of clavus. Crossvein connecting CuA to wing margin set much beyond claval apex. Costal margin with several small sensory pits, radial stem not far from base with 8 large sensory pits. Claval loop near its apex connected to wing margin with a crossvein (not recorded in other Derbidae; possibly individual aberration). Hindwings quite typical for the genus. Margin of anojugal area with a darkening (or thickening) like in *D. maculata* MUIR as figured by BROOMFIELD (1985), the structure cannot be a stridulatory plate, because the anojugal lobe is very delicate, incapable of supporting the wing margin. Genital appendages short and broad, styles spoon-shaped; anal tube broad, truncate posteriorly, its margin posteriorly concealed with those of styles.

Colour brownish. Metopa dark brown, turning paler towards clypeus. Lower orbits slightly darkened. Lora suffused dorsally. Pronotum dorsally pale, whitish; paranota dark brown. Mesonotum brown, metanotum pale brown. Abdomen brown, posterior tergites darker. Hind legs brown. Forewing veins slightly darkened, one brown spot behind CuA stem, another, larger one across midlength of posterior CuA branch; no distinct spots near R stem. Hindwing veins dark brown, in some parts pale, CuP, Pcu and 1A less darkened, little brown spot in first cubital space. Hindwing length ca. 2.7 mm.

Comparison: The new species can be placed near *D. muiri* BROOMFIELD (Jamaica), being distinguished by absence of the bands in preocular area at the upper eye margin and on genae at their lower margin, as well as by dark metopa. Other species recorded from Greater Antilles are *D. maculata* (Puerto Rico, Halti), *D. jamaicensis* (DISTANT) (Jamaica), and *D. telfordi* BROOMFIELD (Puerto Rico).

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