

ELEVEN NEW *MIRAX* HALIDAY, 1833 SPECIES
FROM COLOMBIA AND HONDURAS
AND KEY TO THE SIXTEEN NEOTROPICAL *MIRAX* SPECIES
(HYMENOPTERA: BRACONIDAE: MIRACINAE)

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Description of eleven new *Mirax* Haliday, 1833 species from Colombia and Honduras: *M. adjunctus* sp. n. (Colombia), *M. carinatus* sp. n. (Colombia), *M. dilatus* sp. n. (Colombia), *M. fuscus* sp. n. (Colombia), *M. linguaris* sp. n. (Colombia), *M. pendiasae* sp. n. (Honduras), *M. politus* sp. n. (Colombia), *M. ruptus* sp. n. (Colombia), *M. sulcatulus* sp. n. (Honduras), *M. ubangus* sp. n. (Colombia) and *M. vertus* sp. n. (Colombia). A total of 16 *Mirax* species are known in the Neotropical Region. A key to the 16 species is presented. *Centistidea* is considered as subgenus of *Mirax*. 116 line drawings are included.

Key words: *Mirax*, *Centistidea*, description, taxonomic position, identification key

INTRODUCTION

Taxonomic remark on the genus *Mirax* – The genus *Mirax* was described by Haliday in 1833 and the genus *Centistidea* by Rohwer in 1914. Currently *Centistidea* is considered either as valid genus (VAN ACHTERBERG & MEHRNEJAD 2002, CHEN *et al.* 1997, PENTEADO-DIAS 1999, YU *et al.* 2005), or simply suppressed in synonymy under the name *Mirax* (MUESEBECK 1922), or implicitly deemed identical the two taxa (BELOKOBYSKIY 1989: 40–46, 1998: 551; MAETÔ 1995; PAPP & CHOU 1996). The two taxa, *Mirax* and *Centistidea*, are distinguished by the propodeum: it is either entirely polished (*Mirax*) or at least with a medio-longitudinal carina frequently completed with transverse carina(e) as well as with sculpture of different strength (unevenness, (sub-)rugulosity, rugosity etc.) (*Centistidea*). In the present paper taxon *Centistidea* is assigned on subgeneric rank within the genus *Mirax* (see below identification key-couplets 1 (2)–2 (1)).

Subgenera of *Centistidea* – VAN ACHTERBERG & MEHRNEJAD (2002: 32–36) divided the genus *Centistidea* in two subgenera (*Centistidea* and *Paracentistidea*) on the basis of the features as follows:

Subgenus *Centistidea*: metanotum with a pair of depressions “large and almost touching each other”, “pair of membranous spots of pronotum distinct”, “notum” (or sclerotized part of first tergite) “more slender, distinctly narrowed posteriorly”.

Subgenus *Paracentistidea*: metanotum with a pair of depressions "narrow or obsolescent", pair of membranous spots of pronotum missing, "notum" (or sclerotized part of first tergite) "robust" (quotations after and Figs 17, 23, 24 in VAN ACHTERBERG & MEHRNEJAD 2002: 33, 37).

Having examined these subgeneric features of the Neotropical species here discussed I concluded that employing these features as subgeneric characters: nearly every species could be assigned to a separate subgenus (in the case assuming *Centistidea* as to be valid) or species-group (within subgenus *Centistidea*), see also the Figs 111–116. Consequently I do not recognize the subgenera of *Centistidea*.

Taxonomic results – Hitherto five *Mirax* species were registered for the Neotropical Region, they are as follows: *M. brasiliensis* Brues, 1912, *M. insularis* Muesebeck, 1937, *M. malcolmi* Marsh, 1979, *M. striatus* (K-Dias, 1999) and *M. topali* Papp, 1993.

By Prof. M. Sharkey's kindness I received a fairly significant quantity of *Mirax* material taken in Colombia. In this material eleven species proved to be new to science and hereby described: *M. adjunctus* sp. n., *M. carinatus* sp. n., *M. dilatatus* sp. n., *M. fuscus* sp. n., *M. linguaris* sp. n., *M. pendiasae* sp. n., *M. politus* sp. n., *M. ruptus* sp. n., *M. sulcatulus* sp. n., *M. ubangus* sp. n. and *M. vertus* sp. n. bringing the number of the Neotropical *Mirax* species to 16. All species are assigned to the subgenus *Centistidea* Rohwer.

Distribution of the *Mirax* species – 43 described *Mirax* species are known worldwide. The distribution of *Mirax* species is as follows: Palearctic 10 species, Nearctic 8 species, Neotropical 16 species, Indo-Australian–Oceanic 8 species, Ethiopian 3 species. Two species, *M. irruptor* and *M. mogrus*, occur in two regions (Yu *et al.* 2005).

DESCRIPTION OF THE NEW SPECIES

In the descriptions abbreviations follow VAN ACHTERBERG (1993: 5).

Fore wing veins – *m-cu* = transverse medio-cubital or recurrent vein, *r* = first section of the radial vein, *1-M* = basal vein, *1-R1* = first section of the metacarpal vein, *1-SR-M* = first section of the cubital vein, *1-CU1* = first section of the discoidal vein, *2-CU1* = second section of the discoidal vein, *3-CU1* = first section of the subdiscoidal vein, *2-M* = third section of the cubital vein, *2-SR* = first transverse cubital vein, *CU1a* = second section of the subdiscoidal vein or parallel vein. Eye – *OOL* = shortest distance between hind ocellus and compound eye, *POL* = shortest distance between hind two ocelli.

Surface sculpture terminologies after EADY (1968) and HARRIS (1979). Structural terminologies after GAULD & BOLTON (1988: 58–74).

Mirax (Centistidea) adjunctus sp. n.

(Figs 1–7)

Material examined (7 ♀♀ + 1 ♂) – Female holotype and two female + one male paratypes (one female paratype in Museum Budapest): Colombia, Boyacá SFF, Iguaque Lagunillas, 3380 m, 5°25'N / 73°27'W, taken with Malaise trap, 9–24 February 2001, leg. P. Reina (M 1272). One female paratype (in Museum Budapest): Colombia, Boyacá SFF, Iguaque Qda. Carrizal, 3350 m, 5°25'N / 73°27'W, taken with Malaise trap, 21 January 9 February 2001, leg. P. Reina (M 1247). One female paratype: Colombia, Boyacá SFF, Iguaque Cabaña Carrizal, 2850 m, 5°25'N / 73°27'W, taken with Malaise trap, 24 February 9 March 2001, leg. P. Reina (M 1358). One female paratype: Colombia, Amazonas PNN, Amacayacu San Martin, 150 m, 3°23'N / 70°6'W, taken with Malaise trap, 23–30 April 2000 (1 ♀) and 5–13 December 2000 (1 ♀), leg. B. Amado (M 104 and M 1312). One female paratype: Colombia, Magdalena PNN, Tayrona Papangana, 11°20'N / 74°2'W, taken with Malaise trap, 14–28 July 2001, leg. Henríquez (M 2017).

Types condition – Holotype and paratypes are in good condition: holotype is glued on a card point by its right mesosoma side; paratypes also glued on card points either by right mesosomal side or by mesosternum or by coxae 2–3.

Type depositories – Holotype and three female + one male paratypes in Alexander Humboldt Institute, Villa de Leyva, Boyacá, Bogotá (Colombia); two female paratypes are in Hungarian Natural History Museum, Budapest. Hym. Typ. Nos 12068–12069.

Etymology – The species name “adjunctus” indicating its close similarity (adjuncta = joining) to *M. (C.) malcolmi* Marsh.

Description of the female holotype – Body 2.1 mm long. Antenna slightly longer than body. Flagellomeres 1–2 equal in length, first flagellomere seven times as long as broad preapically (Fig. 1). Head in dorsal view transverse (Fig. 2), 1.7 times as broad as long, eye 1.3 times as long as temple, temple receded. Inner margin of eyes parallel. Head polished. – Mesosoma in lateral view 1.3 times as long as high, shiny, mesoscutum subshiny. Precoxal suture missing. Metanotum as in Fig. 111. Propodeum with a medio-longitudinal carina, laterally from it rugo-rugulose, posteriorly with a transverse carina (Fig. 3). Metanotum as in Fig. 111. Hind femur four times as long as broad distally (Fig. 4). – Fore wing: pterostigma 2.6 times as long as wide, issuing *r* just proximal of its midpoint; 2-*SR* one-fourth (or 1.3 times) longer than width of pterostigma (Fig. 5). – Sclerotized plate of first tergite broadening and that of second tergite as in Fig. 6. Ovipositor sheath as long as hind tarsomeres 2–3 combined. – Head and mesosoma black, metasoma blackish brown. Orbit rusty, palps yellow. Tegula and legs yellow, hind tibia and tarsis blackish fumous. Membranous part of tergites 1–2 dirty whitish, that of third light brownish. Wings hyaline, pterostigma and veins yellow.

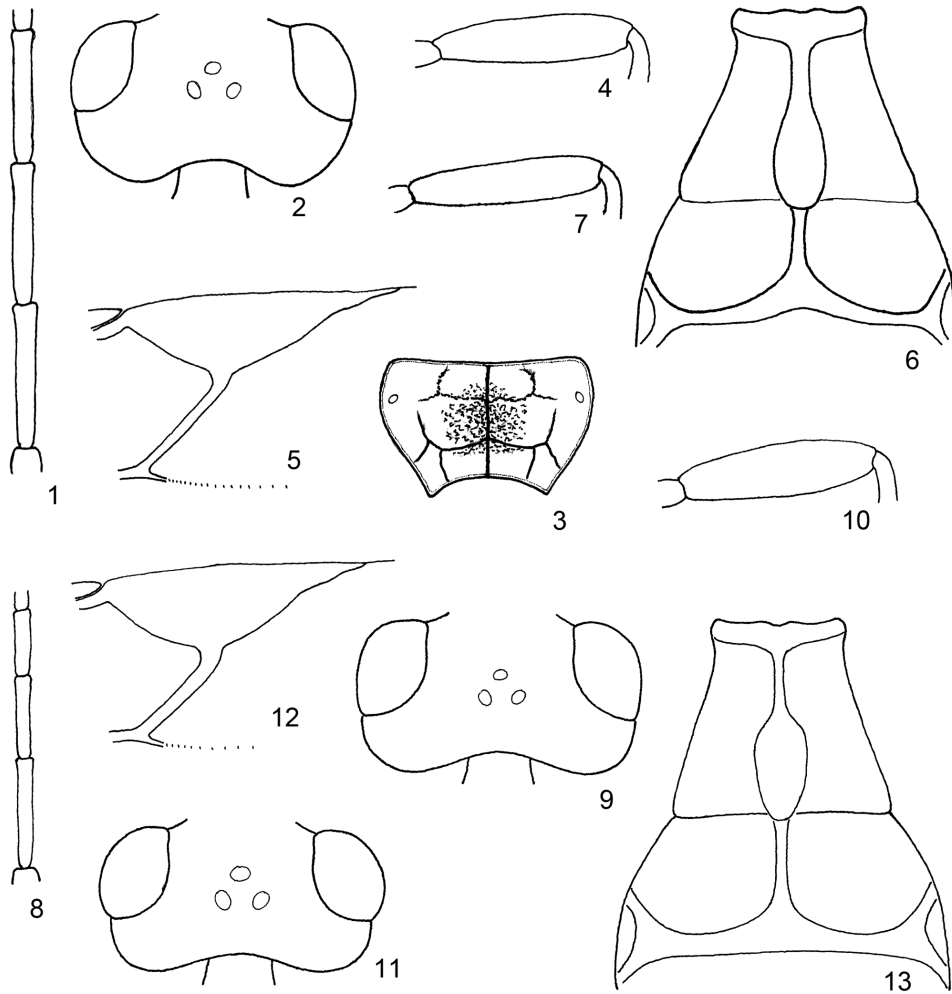
Description of four female paratypes (*nominate form*) – Similar to the female holotype. Body 2–2.2 mm long. Head in dorsal view 1.7–1.8 times as broad as long, eye 1.3–1.5 times as long as temple. Hind femur 4.4–4.6 times as long as broad either (just) distally (Fig. 7) or medially (Fig. 4). Fore wing: pterostigma 2.3–2.6 times as long as wide.

Description of two female and one male paratypes (*melanic form*) – Similar to the nominate form except corporal colour: body blackish, membranous part of tergites 1–2 brown. Legs brownish yellow (1 ♀).

Host unknown.

Distribution: Colombia.

Taxonomic position – The new species, *Mirax (Centistidea) adjunctus*, is nearest to *M. (C.) topali* Papp (PAPP 1993) considering their less broad head in dorsal view, relatively long ovipositor sheath and dark corporal ground-colour; the two species are distinguished by the features in the following key:



Figs 1–13. 1–7: *Mirax (Centistidea) adjunctus* sp. n. (female): 1 = flagellomeres 1–3, 2 = head in dorsal view, 3 = propodeum, 4 = hind femur (holotype), 5 = pterostigma and 2–SR of right fore wing, 6 = tergites 1–2, 7 = hind femur (paratype). – 8–10: *Mirax (Centistidea) topali* Papp: 8 = flagellomeres 1–3, 9 = head in dorsal view, 10 = hind femur. – 11–13: *Mirax (Centistidea) malcolmi* Marsh: 11 = head in dorsal view, 12 = pterostigma and 2–SR of fore wing, 13 = tergites 1–2.

- 1 First flagellomere 1.3–1.4 times as long as second flagellomere (Fig. 8). Eye in dorsal view almost twice as long as temple, temple rounded (Fig. 9). Hind femur 3.3–4 times as long as broad, somewhat more broad medially (Fig. 10). Antenna yellow, apically brownish. ♀♂: 1.8–1.9 mm. – Argentina *M. (C.) topali* Papp, 1993
- Flagellomeres 1–2 equal in length (Fig. 1). Eye in dorsal view 1.3–1.4 times as long as temple, temple receded (Fig. 2). Hind femur 4.4 to 4.6 times as long broad, somewhat less broad medially (Figs 4, 7). Scape and pedicel rusty brown, flagellum dark to blackish brown. ♀: 2–2.2 mm, ♂: 2.2 mm. – Colombia *M. (C.) adjunctus* sp. n.

The new species is also near to *M. (C.) vertus* sp. n., they distinguishing features are presented in the treatment of *M. vertus*.

On the basis of its original description and of named specimens (4 ♀♀ + 1 ♂ det. J. Papp) *M. (C.) malcolmi* Marsh (MARSH 1979) is also similar to *M. (C.) adjunctus*, they distinctions restrict to a few features, see key-couplet 10.

Mirax (Centistidea) brasiliensis Brues, 1912
(Figs 14–21)

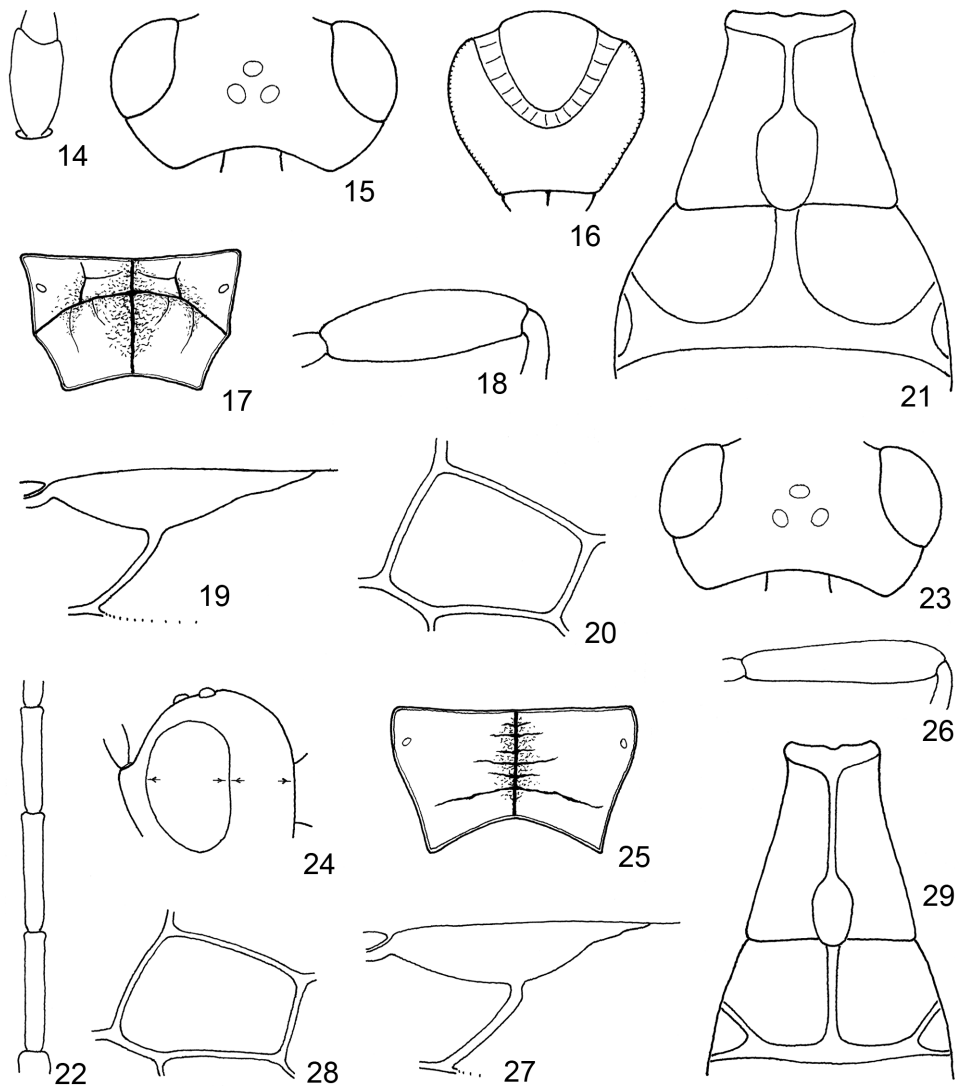
Mirax brasiliensis Brues, 1912: 205 ♀, type locality: "Ceará-Mirim, Rio Grande do Norte, Brazil", female holotype ("one female") in Museum of Comparative Zoology, Harvard University, Cambridge (USA), not examined. – SHENEFELT 1973: 677 (literature up to 1912). PAPP 1993: 174 (in key). PENTEADO-DIAS 1999: 192 (in Note).

Material examined – 1 ♀ (in Hungarian Natural History Museum, Budapest): Brazil, Para, Rio Acara, 25 July 1930, leg. E. Horváth. Female's condition: fairly good, pair of flagelli missing, lower part of head and legs partly obscured (owing to the mounting).

Additional features to the original description – Body 2.5 mm long. Scape barrel-shaped, 1.8 times as long as broad (Fig. 14); pedicel and flagellum missing. Head in dorsal view transverse (Fig. 15), 1.9 times as broad as long, eye 2.1 times as long as temple, temple clearly receded. Inner margin of eyes parallel. Head polished. Mesosoma in lateral view 1.3 times as long as high. Notaulix evenly deep, distinctly crenulated and reaching hind third of mesoscutum (Fig. 16). Mesoscutum shiny. Metanotum as in Fig. 113. Propodeum with a strong medio-longitudinal and a less strong transverse carinae, medially with rather transverse rugulae, subshiny (Fig. 17). Hind femur thick, 2.8 times as long as broad distally (Fig. 18). Fore wing: pterostigma 3.3 times as long as wide, issuing *r* from its midpoint, 2–*SR* 1.4 times as long as width of pterostigma (Fig. 19); first discal cell less high, 1–*M* 1.6 times as long as *m-cu*, 2–*CU1* 2.2 times as long as 1–*CU1* (Fig. 20). Sclerotized plate of first tergite less wide, that of second tergite as in Fig. 21. Ovipositor sheath short, shorter than hind basitarsus. Body and legs testaceous, tergites 1–2 pale yellow. Wings hyaline, pterostima yellow, veins yellow to brownish yellow.

Male and host unknown.

Distribution – Brazil (Para, Rio Grande de Norte).



Figs 14–29. 14–21: *Mirax (Centistidea) brasiliensis* Brues (female): 14 = scape, 15 = head in dorsal view, 16 = mesoscutum with notaulix, 17 = propodeum, 18 = hind femur, 19 = pterostigma and 2-SR of right fore wing, 20 = first discal cell, 21 = tergites 1–2. – 22–29: *Mirax (Centistidea) carinatus* sp. n. (female holotype): 22 = flagellomeres 1–3, 23 = head in dorsal view, 24 = head in lateral view, 25 = propodeum, 26 = hind femur, 27 = pterostigma and 2-SR of right fore wing, 28 = first discal cell, 29 = tergites 1–2.

Taxonomic position – *M. (C.) brasiliensis* Brues is nearest to *M. (C.) insularis* Muesebeck, the two species are distinguished by the features detailed in key-couplet 5.

Mirax (Centistidea) carinatus sp. n.
(Figs 22–29)

Material examined (2 ♀♀) – Female holotype: Colombia, Magdalena PNN, Tayrona Cañaveral, 30 m, 11°20'N / 74°2'W, taken with Malaise trap, 28 July – 14 August 2000, leg. Henriquez (M 565). One female paratype: Colombia, Amazonas PNN, Amacayacu Matamata, 150 m, 3°23'S / 70°6'W, taken with Malaise trap, 20–27 December 2000, leg. A. Parente (M 1119).

Types condition – The two type specimens glued on a card points, holotype by mesosternum, coxae 2–3 and anterior half of sternites; paratype by right side of mesosoma, metasoma strongly creased.

Types depositories – Holotype is deposited in Alexander Humboldt Institute, Villa de Leyva, Boyacá, Bogotá (Colombia); paratype in Hungarian Natural History Museum, Budapest, Hym. Typ. No. 12070.

Etymology – The species name refers to the strong carination of the propodeum (Fig. 25).

Description of the female holotype – Body 2.2 mm long. Antenna somewhat longer than body. Flagellomeres 1–2 equal in length, first flagellomere 6.2 times as long as broad preapically (Fig. 22). Head in dorsal view transverse (Fig. 23), 1.9 times as broad as long, eye almost twice as long as temple, temple receded. Eye in lateral view 1.25 times as broad as temple, i.e. temple 0.7 times as broad as eye, temple beyond eye evenly broad (Fig. 24). Inner margin of eyes parallel. Head polished. – Mesosoma in lateral view 1.5 times as long as high, polished. Metanotum as in cf. Fig. 111. Propodeum near to hind margin with a transverse carina, along strong medio-longitudinal carina finely rugulose with short transverse carinulae (Fig. 25). Hind femur 4.4 times as long as broad distally (Fig. 26). – Fore wing: pterostigma three times as long as wide, issuing *r* distally from its midpoint, 2–SR almost 1.4 times as long as width of pterostigma (Fig. 27). First discal cell short, 1–M 1.5 times as long as *m-cu*, 1–SR–M just concave and *m-cu* straight (Fig. 28). – First tergite somewhat longer than broad posteriorly, its sclerotized plate spoon-shaped: anterior linear part longer than posterior broadening part, sclerotized medio-linear form of second tergite long as in Fig. 29. Ovipositor sheath somewhat shorter than hind basitarsus. – Scape and pedicel light brownish, flagellum black, ultimate five flagellomeres straw yellow. Head and mesosoma light brownish, tergites 1–2 yellow, rest of tergites brownish black. Tegula and legs yellow. Wings subhyaline (very faintly brownish fumous), pterostigma and veins yellowish-brownish.

Deviating features of the female paratype – Body 2.1 mm long. Head in dorsal view 1.85 times as broad as long, eye nearly 1.7 times as long as temple. Hind femur four times as long as broad medially (cf. Fig. 4). Fore wing: pterostigma 3.3 times as long as wide.

Male and host unknown.

Distribution – Colombia.

Taxonomic position – The new species, *Mirax (Centistidea) carinatus* is nearest to *M. (C.) striatus* (Penteado-Dias) (PENTEADO-DIAS 1999) considering their common features: colour pattern of body, venation of wings and short notaulix; the differences between them are as follows:

- 1 Eye in dorsal view about as long as temple (Fig. 8 in PENTEADO-DIAS 1999:193). First flagellomere somewhat longer than second flagellomere (Fig. 7 l.c.). Occiput and third tergite striated (Figs 8 and 11 l.c.). Propodeum posteriorly without transverse carina. Sclerotized plate of first tergite: linear part much shorter than broadening part (Fig. 11 l.c.). Antenna brownish, basally somewhat paler. ♀: 1.6 mm. – Brazil
(*C. striatus* (Penteado-Dias, 1999))
- Eye in dorsal view almost twice as long as temple (Fig. 23). First flagellomere as long as second flagellomere (Fig. 22). Occiput and third tergite smooth. Propodeum posteriorly with transverse carina (Fig. 25). Sclerotized plate of first tergite: anterior linear part longer than posterior broadening part (Fig. 29). Flagellum black, ultimate 5(–6) flagellomeres straw yellow. ♀: 2.1–2.2 mm. – Colombia **M. (C.) carinatus** sp. n.

In the key *M. (C.) carinatus* sp. n. runs to *M. (C.) dilatus* sp. n., see key-couplet 9.

Mirax (Centistidea) dilatus sp. n. (Figs 30–37)

Material examined (2 ♀♀) – Female holotype: Colombia, Boyacá SFF, Iguaque Qda. Carrizal, 5°25'W / 73°27'N, 3350 m, taken with Malaise trap, 21 January – 9 February 2001, leg. P. Reina (M 1247). Female paratype: Colombia, Boyacá SFF, Iguaque Cabaña Mamaramos m1, 5°25'N / 73°27'W, 2855 m, taken with Malaise trap, 23 May – 8 June 2000, P. Reina (M 146).

Types condition – Holotype is in good condition: (1) glued on a card point by right metapleuron and middle coxa, (2) missing: left fore leg (except coxa), tarsomeres 2–5 of right fore leg, (3) hind pair of wings apically folded back. – Paratype also in good condition: (1) glued on a card point by right meso- and metapleuron, (2) missing: tarsomeres 4–5 of left middle and hind legs, pair of claws of right hind tarsus.

Types depositories – Holotype is deposited in the Alexander Humboldt Institute, Villa de Leyva, Boyacá, Bogota (Colombia); paratype in Hungarian Natural History Museum, Hym. Typ. No. 12071

Etymology – The name “dilatus” refers to the wide pterostigma (Figs 34, 37).

Description of the female holotype – Body 2.1 mm long. Antenna one-sixth longer than body, flagellomeres 1–2 equal in length, first flagellomere six times as long broad preapically (cf. Fig. 1). Head in dorsal view transverse (Fig. 30), 1.7 times as broad as long, eye 1.5 times as long as temple, temple rather receded. Eye in lateral view 0.85 times as

broad as temple, i.e., temple almost 1.2 times as broad as eye and evenly broad beyond eye (Fig. 31, see arrows). Inner margin of eyes parallel (cf. Fig. 103, see arrows). Head polished. – Mesosoma in lateral view 1.5 times as long as high, polished. Mesoscutum dull, scutellum subshiny. Metanotum as in Fig. 112. Propodeum along medio-longitudinal carina rugulose with very short transverse carinulae, posteriorly with a transverse carina, otherwise polished (Fig. 32). Hind femur 3.5 times as long as broad medially (Fig. 33). – Fore wing: pterostigma wide, 2.3 times as long as wide, issuing *r* somewhat proximally from its midpoint, 2–*SR* somewhat shorter than width of pterostigma (Fig. 34). First discal cell long, 1–*M* 1.4 times as long as *m-cu*, 1–*SR-M* convex, one-sixth longer than 1–*M* and *m-cu* curved (Fig. 35). – First tergite as long as broad posteriorly, its sclerotized plate “angularly” broadening, sclerotized plate of second tergite as in Fig. 36. Ovipositor sheath long, almost as long as hind tarsomeres 1–3 combined. – Antenna brown. Head and mesosoma testaceous, metasoma brownish black, legs yellow. Wings hyaline, pterostigma and veins yellow.

Deviating features of the female paratype – Body 2 mm long. Hind femur five times as long as broad medially. Fore wing: pterostigma 2.5 times as long as wide and issuing *r* somewhat proximally from its middle, 2–*SR* as long as width of pterostigma (Fig. 37).

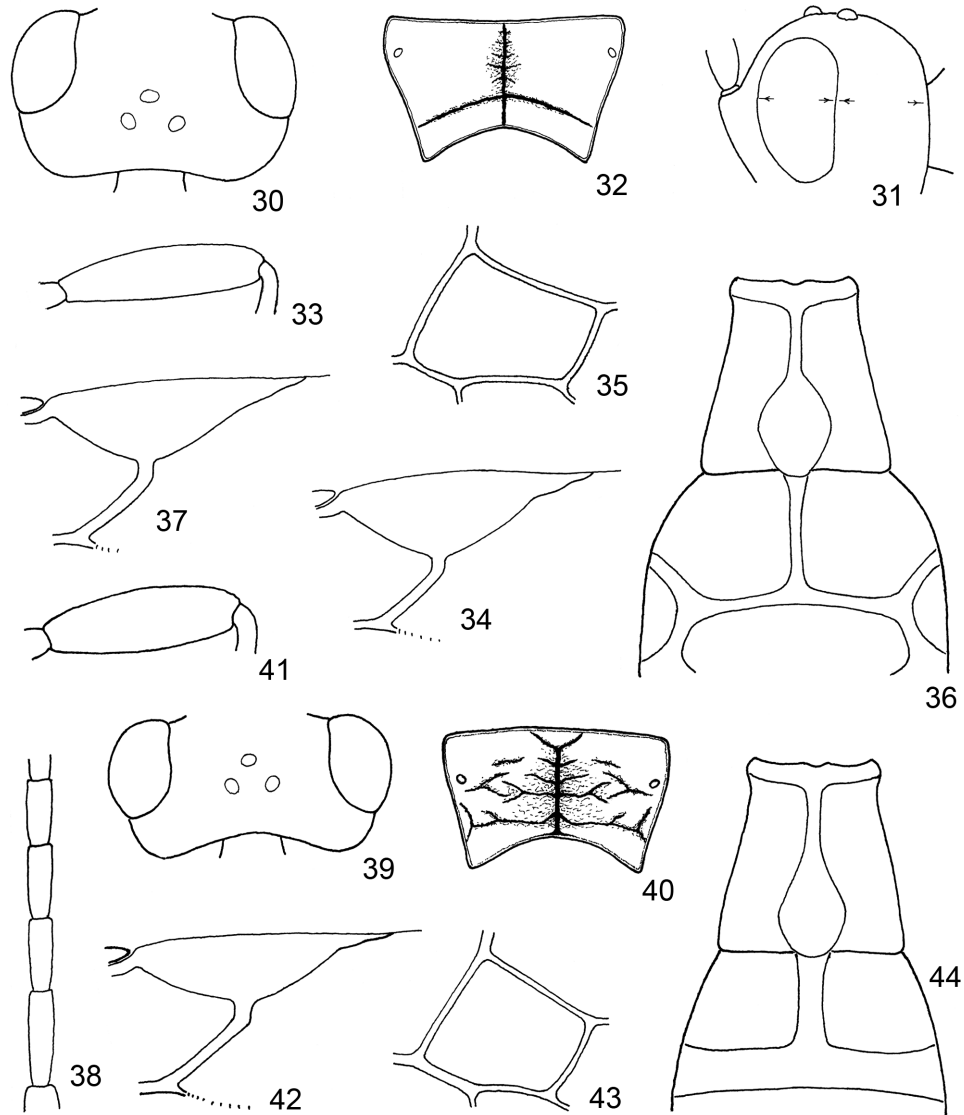
Male and host unknown.

Distribution – Colombia.

Taxonomic position – The new species, *Mirax (Centistidea) dilatatus*, is nearest to *M. (C.) carinatus* sp. n. considering their common features: body light coloured, receded temple in dorsal view and sclerotization of tergites 1–2; distinction between the two species is presented in key-couplet 9.

The new species is also near to *M. (C.) insularis* Muesebeck considering their yellow corporal colour and short 2–*SR* (i.e., not longer than width of pterostigma); the two species differ from each other by the features in the key:

- 1 Notaulix finely crenulated, extending to nearly anterior half of mesoscutum (Fig. 47). Eye in dorsal view twice as long as temple, temple receded, head in dorsal view 1.8 times as broad as long (Fig. 46). Hind femur 2.8–3 times as long as broad distally (Figs 49, 54). First flagellomere slightly longer than second flagellomere, flagellomeres 2–3 almost equal in length (Fig. 45). Fore wing: pterostigma 2.6 times as long as wide (Fig. 50). Hind half of metasoma brownish. ♀: 1.3–1.6 mm. – Dominica, Guadeloupe *M. (C.) insularis* Muesebeck, 1937
- Notaulix not crenulated, restricted to declivous anterior part of mesoscutum. Eye in dorsal view 1.5 times as long as temple, temple rather receded, head in dorsal view 1.7 times as broad as long (Fig. 30). Hind femur 3.6 times as long as broad medially (Fig. 33). Flagellomeres 1–2 equal in length, third flagellomere somewhat shorter than second flagellomere (cf. Fig. 22). Fore wing: pterostigma 2.3 times as long as wide (Fig. 34). Metasoma entirely brown. ♀: 2–2.1 mm. – Colombia ***M. (C.) dilatatus*** sp. n.



Figs 30–44. 30–37: *Mirax (Centistidea) dilatus* sp. n. (female holotype: Figs 30–36, female paratype: Fig. 37): 30 = head in dorsal view, 31 = head in lateral view, 32 = propodeum, 33 = hind femur, 34 = pterostigma and 2-SR of right fore wing, 35 = first discal cell, 36 = tergites 1–2, 37 = pterostigma and 2-SR of right fore wing. – 38–44: *Mirax (Centistidea) fuscus* sp. n. (female, holotype): 38 = flagellomeres 1–4, 39 = head in dorsal view, 40 = propodeum, 41 = hind femur, 42 = pterostigma and 2-SR of right fore wing, 43 = first discal cell, 44 = tergites 1–2.

Mirax (Centistidea) fuscus sp. n.
(Figs 38–44)

Material examined – Female holotype: Colombia, Santander, Virolin Costilla de Fara, 6°6'N / 73°13'W, 1800 m, taken with Malaise trap, 29–31 March 1999, leg. E. Gonzales (M 286). – Holotype is in good condition: glued on a card point by right mesosoma side. Holotype is deposited in Alexander Humboldt Institute, Villa de Leyvá, Boyacá, Bogota (Colombia).

Etymology – The species name “fuscus” refers to the brown corporal colour.

Description of the female holotype – Body 1.8 mm long. Antenna slightly longer than body. First flagellomere one-fourth (1.3 times) longer than second flagellomere and 3.6 times as long as broad preapically (Fig. 38), penultimate flagellomere 2.4 times as long as broad. Head in dorsal view transverse (Fig. 39), twice as broad as long, eye twice as long as temple, temple receded. Inner margin of eyes parallel. Head polished. – Metanotum as in cf. Fig. 111. Propodeum along medio-longitudinal carina with fine transverse carinulae, posteriorly with a transverse carina as in Fig. 40. Hind femur thick, three times as long as broad medially (Fig. 41). – Fore wing: pterostigma 2.8 times as long as wide, issuing *r* from its midpoint, 2–SR 1.4 times as long as width of pterostigma, 1–R1 0.25 times as long as length of pterostigma (Fig. 42). First discal cell fairly high, 1–M nearly 1.6 times as long as *m-cu* (Fig. 43), parallel nerv less distinct. – Sclerotized (brown) plate of first tergite wide spoon-form, that of second tergite fairly wide and “angled” as in Fig. 44. Ovipositor sheath short, as long as second tarsomere of hind tarsus. – Scape and pedicel yellowish brown, flagellum brown. Body brown. Tegula light brown. Oral organs and legs yellow, hind leg with brown(ish) pattern. Wings hyaline, pterostigma brown, veins light brown.

Male and host unknown.

Distribution – Colombia.

Taxonomic position – The new species, *Mirax (Centistidea) fuscus*, is near to *M. (C.) insularis* Muesebeck viewing their receded temple in dorsal view, the two species are distinct by the features as follows:

- 1 Head in dorsal view 1.8 times as broad as long, temple slightly less receded (Fig. 46). Hind femur 2.8(–3) times as long as broad distally (Figs 49, 54). Fore wing: *r* less distinct, 2–SR as long as width of pterostigma (Fig. 50). Ground colour of body yellow with light brownish to brown pattern. ♀: 1.3–1.6 mm. – Dominica, Guadeloupe
M. (C.) insularis Muesebeck, 1937
- Head in dorsal view twice as broad as long, temple receded (Fig. 39). Hind femur three times as long as broad medially (Fig. 41). Fore wing: *r* distinct, 2–SR 1.4 times as long as width of pterostigma (Fig. 42). Ground colour of body brown. ♀: 1.8 mm. – Colombia **M. (C.) fuscus** sp. n.

In the key *M. (C.) fuscus* runs to *M. (C.) linguaris* sp. n., see key-couplet 7.

Mirax (Centistidea) insularis Muesebeck, 1937
(Figs 45–54)

Mirax insularis Muesebeck, 1937: 139 ♀♂, type locality: "Guadeloupe, West-Indies", female holotype (and female + male paratypes) in The Natural History Museum (London), female and male paratypes in The University, Puerto Rico (San Juan), one female and one male paratypes in Hungarian Natural History Museum, Budapest (by exchange, examined). – SHENEFELT 1973: 677 (literature up to 1958). PENTEADO-DIAS 1999: 192 (in Note).

Material examined (1 ♀ + 1 ♂ paratypes and 1 ♀: all three specimens in Museum Budapest) – 1 ♂ and 1 ♀ paratypes (Hym. Typ. Nos 11676–11677): Dominica, 1936 (♀) and 12 July 1936 (♂), ex *Leucoptera coffella* Guérin, leg. et educ. F. Sein, Jr. 1 ♀: Dominica, Ridgefield, November 1963, leg. F. Bennett (No. 646).

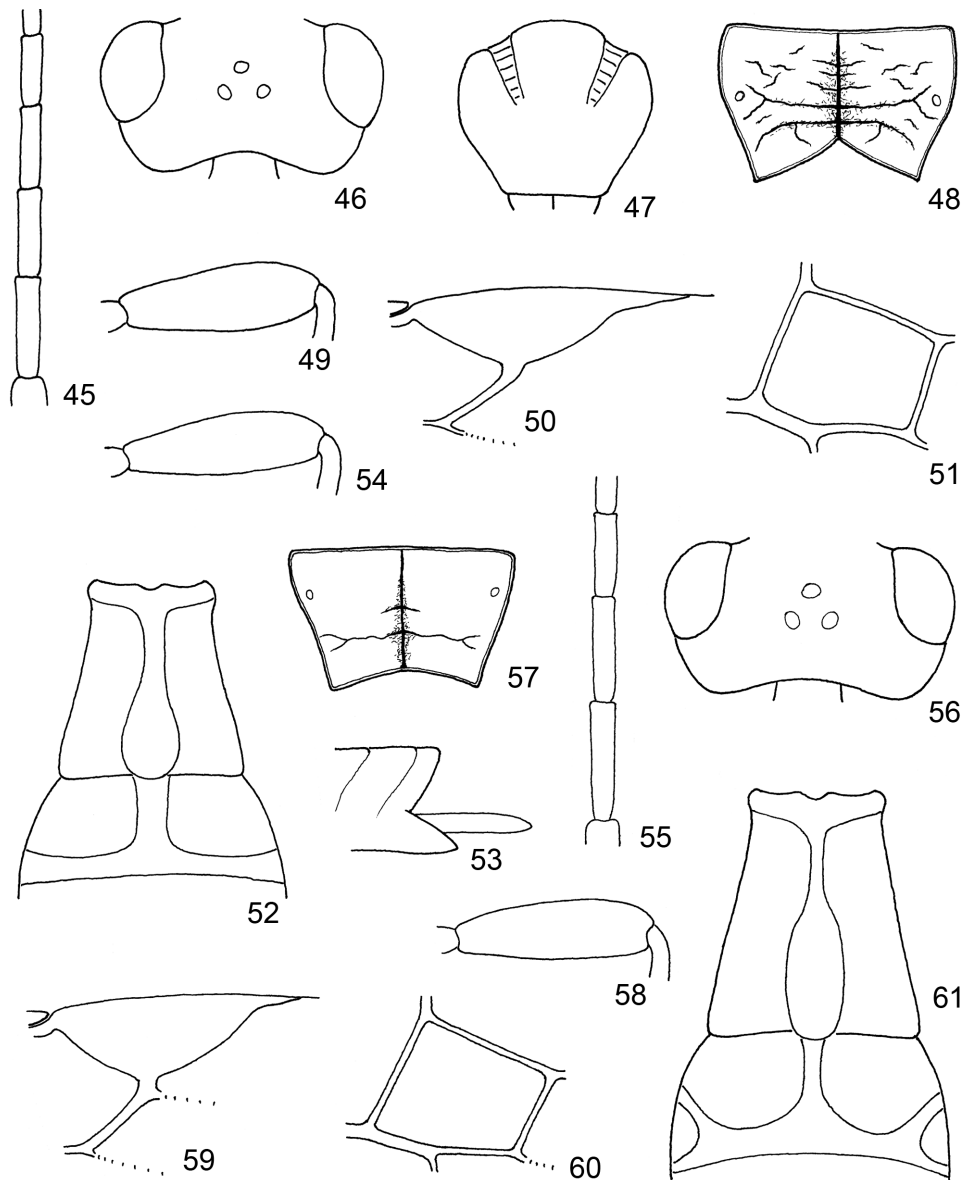
Additional features to the original description – ♀. Body 1.5–1.7 mm long. First flagellomere slightly (1.1 times) longer than second flagellomere, first flagellomere four times as long as broad preapically (Fig. 45), penultimate flagellomere three times as long as broad. Head in dorsal view 1.8 times as broad as long, eye twice as long as temple, temple receded (Fig. 46). Inner margin of eyes parallel (cf. Fig. 103). Head dull. – Mesosoma in lateral view 1.6 times as long as high, dull. Notaulix shallowing, finely crenulate-subcrenulated and extending to anterior half of mesoscutum (i.e. pair of notaulices not meeting posteriorly as in Fig. 47). Precoxal suture short, crenulated. Metanotum as in cf. Fig. 111. Propodeum with transverse carinulates and rugulae (Fig. 48). Hind femur thick, 2.8–3 times as long as broad distally (Figs 49, 54). Claw as in Fig. 110. – Fore wing: pterostigma 2.6–2.8 times as long as wide and issuing *r* from its middle, 2–*SR* as long as width of pterostigma (Fig. 50). First discal cell less high, 1–*M* 1.25 times as long as *m-cu*, 1–*SR-M* 1.2 times as long as 1–*M*, 2–*CU1* somewhat longer than 1–*CU1* (Fig. 51). – Sclerotized plate of first tergite spatulate, that of second tergite rather ridge-shape as in Fig. 52. Tergites 1–2 dull, rest of tergites subshiny. Ovipositor sheath shorter than hind basitarsus (Fig. 53). – Antenna yellow, distally darkening. Head and mesosoma yellow, mesoscutum and scutellum light brownish; tergites 1–2 pale yellow, rest of tergites brown(ish); legs straw yellow. Wings hyaline, pterostigma and veins yellow.

♂. Similar to the female. Body 1.5 mm long. First flagellomere a bit shorter than second flagellomere, first flagellomere five times as long as broad preapically, penultimate flagellomere three times as long as broad. Head in dorsal view 1.9 times as broad as long. Hind femur less thick, three times as long as broad distally (Fig. 54). Fore wing: pterostigma 2.6 times as long as wide and issuing *r* somewhat proximally from its middle. Metasoma beyond tergites 1–2 brown.

Host – *Leucoptera coffella* Guérin (Lep. Lyonetiidae).

Distribution – Dominica, Guadeloupe.

Taxonomic position – *Mirax (Centistidea) insularis* Muesebeck is nearest to *M. (C.) brasiliensis* Brues, their shared features are the presence of notaulix on dorsal side of mesoscutum (Figs 16, 47) and light colour of body: to distinguish them see key-couplet 5.



Figs 45–61. 45–54 *Mirax (Centistidea) insularis* Muesebeck (female): 45 = flagellomeres 1–4, 46 = head in dorsal view, 47 = mesoscutum with notaulix, 48 = propodeum, 49 = hind femur, 50 = pterostigma and 2–SR of right fore wing, 51 = first discal cell, 52 = tergites 1–2, 53 = posterior end of metasoma, 54 = hind femur. – 55–61 *Mirax (Centistidea) linguaris* sp. n. (female, holotype): 55 = flagellomeres 1–3, 56 = head in dorsal view, 57 = propodeum, 58 = hind femur, 59 = pterostigma and 2–SR of right fore wing, 60 = first discal cell, 61 = tergites 1–2.

Mirax (Centistidea) linguaris sp. n.
(Figs 55–61)

Material examined (2 ♀♀) – Female holotype: Colombia, Nariño, Territorio Kofán, 1000 m, 10°30'N / 77°13'W, taken with Malaise trap, 25–26 September 1998, leg. E. González (M 280). Female paratype: Colombia, Magdalena PNN, Santa Marta San Lorenzo, taken with Malaise trap, 2200 m, 10°48'N / 73°39'W, 15–30 January 2001, leg. J. Camillo (M 1186).

Type condition: holotype and paratype are in good condition, glued on card point by their right mesopleuron.

Type depository: holotype is deposited in the Alexander Humboldt Institute, Villa de Leyva, Boyacá, Bogota (Colombia), paratype in Hungarian Natural History Museum, Budapest, Hym. Typ. No. 12072.

Etymology – The species name "linguaris" refers to the sclerotized spatulate-shape plate of first tergite (Fig. 61).

Description of the female holotype – Body 2 mm long. Antenna somewhat shorter than body, first flagellomere a bit longer (20:18) than second flagellomere and almost five times as long as broad preapically (Fig. 55), penultimate flagellomere 2.8 times as long as broad. Head in dorsal view transverse (Fig. 56), 1.8 times as broad as long, eye 2.2 times as long as temple, temple receded. Inner margin of eyes parallel. Face twice as wide as high. Head polished. – Mesosoma in lateral view 1.2 times as long as high, polished. Mesoscutum uneven, shiny. Metanotum as in cf. Fig. 113. Propodeum along medio-longitudinal carina rugulose, posteriorly with a transverse carina, otherwise polished. (Fig. 57). Hind femur less thick, 3.3 times as long as broad distally (Fig. 58). – Fore wing: pterostigma 2.35 times as long as wide, issuing *r* just proximally from its midpoint, 2–SR somewhat shorter (17:15) than width of pterostigma, 1–R1 0.25 times as long as pterostigma (Fig. 59). First discal cell high, 1–M 1.5 as long as *m-cu*, parallel nerv (3–CU1 + CU1a) weakly distinct (Fig. 60). – Sclerotized (brown) plate of first tergite spatulate, that of second tergite fairly wide and bent as in Fig. 61. Ovipositor sheath long, as long as tarsomeres 1–3 of hind tarsus. – Scape and pedicel light brown, flagellum brown. Head and mesosoma brown, metasoma somewhat lighter brown than head and mesosoma combined. Tegula light brown. Membranous part of tergites pale yellow. Legs yellow. Wings subhyaline, i.e. feebly brownish fumous. Pterostigma and veins light brown.

Deviating features of the single female paratype – Body 2 mm long. First flagellomere 1.2 times as long as broad preapically. Pterostigma 2.6 times as long as wide, 2–SR as long as width of pterostigma. Sclerotized (brown) plate of first tergite less spatulate-shape.

Male and host unknown.

Distribution – Colombia.

Taxonomic position – The new species, *Mirax (Centistidea) linguaris*, is nearest to *M. (C.) fuscus* sp. n. considering their common features: brownish to brown corporal colour, receded temple in dorsal view (Figs 39, 56) face twice as wide as high; the two species can be distinguished by the features detailed in key-couplet 7.

Mirax (Centistidea) pendiasae sp. n.
(Figs 62–69)

Material examined (2 ♀♀) – Female holotype: Honduras, Foo. Morazan, San Antonio de Oriente, Uyura, 6 March 1997, leg. C. Hansson. Female paratype: Honduras, Cortes, Parque Nacional Cusuco, 5 km N Buenos Aires, taken with Malaise trap in an oak / pine cloud forest, 15°29'N / 88°13'W, 30 June 1995, leg. R. CAVE.

Types condition – Holotype is in good condition: (1) glued on a card point by hind two pairs of coxae, (2) left hind wing somewhat less visible owing to the mounting. Paratype also in good condition: glued on a card point by right side of mesosoma.

Type depositories – Holotype is deposited in Zoologisk Museum, The University, Lund (Sweden); paratype in Hungarian Natural History Museum, Budapest, Hym. Typ. No. 12073.

Etymology – The new species is dedicated to Prof. Dr. Angelica Penteado-Dias (São Carlos), the well-known explorer of the braconids of the Neotropical Region; her name is an abbreviated epithet pen[teado]diasae.

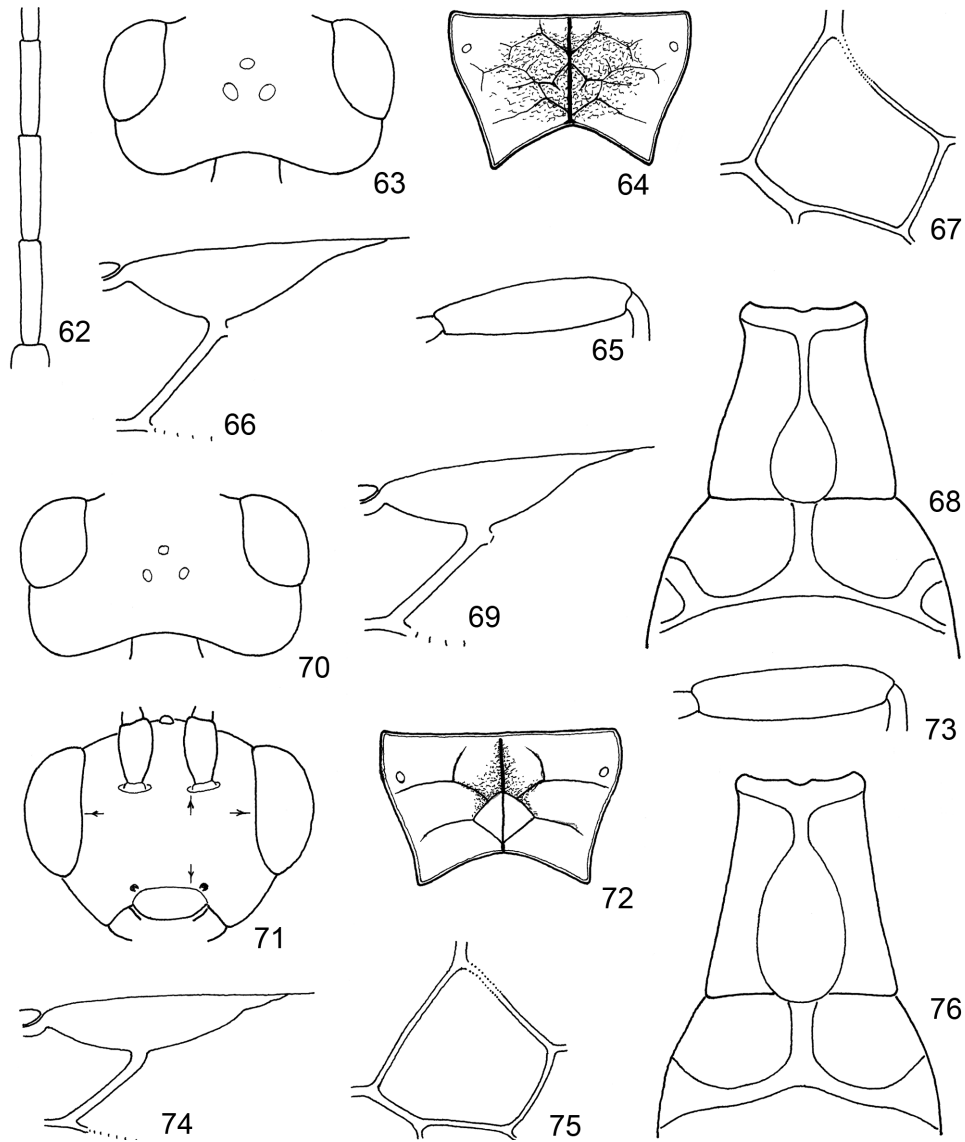
Description of the female holotype – Body 2.2 mm long. Antenna somewhat longer than body, flagellomeres 1–2 equal in length, first flagellomere 5.5 times as long as broad preapically (Fig. 62), penultimate flagellomere three times as long as broad. Head in dorsal view transverse (Fig. 63), 1.8 times as broad as long, eye 1.7 times as long as temple, temple rounded. Inner margin of eyes parallel. Head uneven, subshiny to dull. – Mesosoma in lateral view 1.4 times as long as high. Mesoscutum uneven to densely subpunctate, dull, otherwise mesosoma polished. Metanotum as in cf. Fig. 116. Propodeum with a strong medio-longitudinal carina, almost entirely and rather transversely rugulose with a few carinate and areolate elements (Fig. 64). Hind femur four times as long as broad somewhat distally (Fig. 65). – Fore wing: pterostigma 2.6 times as long as wide, issuing *r* proximally from its midpoint, *1–R1* 0.3 times as long as pterostigma, *2–SR* 1.7 times as long as width of pterostigma (Fig. 66). First discal cell high, *1–M* 1.5 times as long as *m–cu*, *1–SR–M* anteriorly weakly sclerotized and a bit longer than *1–M* (Fig. 67). – Sclerotized (brown) plate of first tergite spoon-shaped broadening posteriorly, that of second tergite as in Fig. 68. Membrane part of tergites 1–3 finely striate. Ovipositor sheath as long as hind basitarsus. – Antenna, head and mesosoma brown, metasoma somewhat lighter brown. Oral organs and tegula pale yellow, legs pale yellow to yellow. Wings hyaline, pterostigma and veins brownish to yellowish.

Deviating features of the female paratype – Head in dorsal view 1.9 times as broad as long. Pterostigma narrow, 3.3 times as long as wide, *2–SR* 1.8 times as long as width of pterostigma (Fig. 69). Coxae and trochanters pale yellow, rest of legs with much brownish to brown pattern. Bown colour of body somewhat darker.

Male and host unknown.

Distribution – Honduras.

Taxonomic position – The new species, *Mirax (Centistidea) pendiasae*, is nearest to *M. (C.) striatus* Penteado-Dias (PENTEADO-DIAS 1999: 92) considering the sclerotized plates of tergites 1–2 and form of head in dorsal view, they can be distinguished using the following key:



Figs 62–76. 62–69: *Mirax (Centistidea) pendiasae* sp. n. (female, holotype: Figs 62–68, female paratype: Fig. 69): 62 = flagellomeres 1–3, 63 = head in dorsal view, 64 = propodeum, 65 = hind femur, 66 = pterostigma and 2-SR of right fore wing, 67 = first discal cell, 68 = tergites 1–2, 69 = pterostigma and 2-SR of right fore wing. – 70–76: *Mirax (Centistidea) politus* sp. n. (female, holotype): 70 = head in dorsal view, 71 = head in frontal view, 72 = propodeum, 73 = hind femur, 74 = pterostigma and 2-SR of right fore wing, 75 = first discal cell, 76 = tergites 1–2.

- 1 First flagellomere somewhat (in Fig. 7: 1.2 times, in PENTEADO-DIAS 1999: 192) longer than second flagellomere. Eye in dorsal view 1.2–1.4 times as long as temple, temple less rounded (Fig. 8 l.c.). Medio-longitudinal sclerotized plate of second tergite shorter than latero-transverse sclerotized part, striolate membranous part of third tergite narrow, tergite itself seven times as broad as long (Fig. 11 l.c.). Ground colour of body yellow with brown to dark brown pattern. ♀: 1.6 mm. – Brazil
M. (C.) striatus (Penteado-Dias, 1999)
- Flagellomeres 1–2 equal in length (Fig. 62). Eye in dorsal view 1.7 times as long as temple, temple more rounded (Fig. 63). Medio-longitudinal sclerotized plate of second tergite somewhat shorter than latero-transverse sclerotized part as in Fig. 68. Striolate membranous part of third tergite wide, tergite itself three times as broad as long. Ground colour of body brown. ♀: 2.2–2.4 mm. – Honduras ***M. (C.) pendiasae* sp. n.**

In the key *M. (C.) pendiasae* sp. n. runs to *M. (C.) sulcatulus* sp. n., see key-couplet 13.

Mirax (Centistidea) politus sp. n.

(Figs 70–77)

Material examined – Female holotype: Colombia, Boyacá SFF, Iguaque Qda. Carrizal, 3350 m, 5°25'N / 73°27'W, taken with Malaise trap, 21 January – 9 February 2001, leg. P. Reina (M 1247). – Holotype is in good condition: (1) glued on a card point by its hind part of mesosternum and pair of middle coxae, (2) left fore leg (except coxa) missing, (3) distal third of left wings bending backwards. Holotype is deposited in the Alexander Humboldt Institute, Villa de Leyva, Boyacá, Bogota (Colombia).

Etymology – The species name “*politus*” refers to the polished body.

Description of the female holotype – Body 2.5 mm. Antenna long, 1.4 times as long as body, second flagellomere 1.25 times as long as first flagellomere, second flagellomere seven times as long as broad preapically, third flagellomere slightly shorter than second flagellomere (Fig. 77), penultimate flagellomere 3.5 times as long as broad. Head in dorsal view transverse (Fig. 70), 1.75 times as broad as long, eye 1.4 times as long as temple, temple rounded. In frontal view inner margin of eyes parallel, face 1.8 times as wide as high (Fig. 71, see arrows). Head polished. – Mesosoma in lateral view 1.3 times as long as high, polished. Metanotum as in cf. Fig. 116. Propodeum with a rhombus-form *areola basalis*, laterally from medio-longitudinal carina rather transversely carinulated (Fig. 72). Hind femur four times as long as broad medially, almost parallel-sided (Fig. 73). – Fore wing: pterostigma narrow, four times as long as wide, issuing *r* just proximally from its midpoint, 2–SR 1.6 times as long as width of pterostigma (Fig. 74). First discal cell high, 1–M 1.6 times as long as *m-cu* (Fig. 75). – Sclerotized (brown) plate of first tergite wide (its petiole unusually short), that of second tergite as in Fig. 76, membranous parts of tergites 1–3 not striolated.

Ovipositor sheath short, as long as tarsomeres 2–3 of hind tarsus. – Antenna and metasoma brown, pedicel apically brownish yellow. Head and mesosoma blackish brown, gena ventrally weakly rusty. Oral organs, tegula and legs yellow, tibiae and tarsi 2–3 brownish fumous. Wings hyaline, pterostigma yellow, veins yellowish to yellowish brownish.

Male and host unknown.

Distribution – Colombia.

Taxonomic position – The new species, *Mirax (Centistidea) politus*, is nearest to *M. (C.) ubangus* sp. n. considering their polished body and dark corporal colour, the two species are distinguished as follows:

- 1 Face in frontal view wide, 1.8 times as wide as high; inner margin of eyes parallel (Fig. 71, see arrows). Second flagellomere 1.25 times as long as first flagellomere (Fig. 77). Sclerotized (brown) plate of first tergite wide, that of second tergite short and wide, laterally evenly sclerotized as in Fig. 76. Fore wing: pterostigma narrow, four times as long as wide; 2–SR 1.6 times as long as width of pterostigma (Fig. 74). Scape and pedicel blackish brown, pedicel apically brownish yellow. ♀: 2.5 mm. – Colombia
M. (C.) politus sp. n.
- Face in frontal view less wide, 1.5 times as wide as high; inner margin of eyes faintly converging ventrally (cf. Fig. 79). First flagellomere just longer than second flagellomere (Fig. 90). Sclerotized (brown) plate of first tergite less long and widening somewhat angularly, that of second tergite long and narrow, laterally less sclerotized (Fig. 96). Fore wing: pterostigma rather wide, 2.8 times as long as wide, 2–SR 1.4 times as long as width of pterostigma (Fig. 94). Scape and pedicel variably brownish yellow to brown. ♀♂: 1.9–2.1 mm. – Colombia
M. (C.) ubangus sp. n.

In the key *M. (C.) politus* sp. n. runs to *M. (C.) striatus* PENTEADO-DIAS, see key-couplets 14–15.

***Mirax (Centistidea) ruptus* sp. n.**

(Figs 78–83)

Material examined – Female holotype: Honduras, Conés, Parque Nacional Cusuco, 5 km N of Buenos Aires, 15°29'N / 88°13'W, 15 August 1995, leg. R. Cave. – Holotype is in good condition: glued on a card point by its hind pleural part. Holotype is deposited in Zoologisk Museum, The University, Lund.

Etymology – The species name “ruptus” refers to the “interrupted” carina of propodeum (Fig. 80).

Description of the female holotype – Body 2.6 mm long. Antenna about as long as body, flagellomeres 1–2 equal in length, first flagellomere five times as long as broad

preapically (cf. Fig. 62), penultimate flagellomere 3.6 times as long as broad. Head in dorsal view transverse (Fig. 78), almost 1.8 times as broad as long, eye 1.5 times as long as temple, temple rounded. Inner margin of eyes converging ventrally (Fig. 79, see arrows). Head uneven / subpunctate, dull. – Mesosoma in lateral view 1.4 times as long as high. Mesoscutum and scutellum uneven / subpunctate and dull. Metanotum as in Fig. 115. Propodeum polished, medio-longitudinal carina interrupted: its fore part missing, hind angle of propodeum rugulose (Fig. 80). Hind femur 3.3 times as long as broad medially (Fig. 81). – Fore wing: pterostigma 2.8 times as long as wide, issuing *r* from its midpoint, 2-*SR* 1.4 times as long as width of pterostigma (Fig. 82). First discal cell high, 1-*M* 1.6 times as long as *m-cu*, 1-*SR-M* weakly sclerotized anteriorly (cf. Fig. 88). – Sclerotized (brown) plate of first tergite spatulate, first tergite one-fourth longer than that of second tergite (Fig. 83), membranous part of third tergite large, together with tergites 1-2 finely striolate. Ovipositor sheath as long as tarsomeres 1-2 and half of 3rd tarsomere combined. – Ground colour of body brown. Antenna dark brown, ultimate four flagellomeres whitish. Face light brown. Oral organs and legs pale to whitish yellow, tibiae + tarsi 2-3 brownish fumous. Tegula light brownish. Membranous parts of tergites whitish. Wings faintly subhyaline, pterostigma and veins brownish yellowish.

Male and host unknown.

Distribution – Honduras.

Taxonomic position – The new species, *Mirax (Centistidea) ruptus*, is near to *M. (C.) sulcatulus* sp. n. based on their rounded temple in dorsal view, fine sculpture and more or less dull vertex + mesoscutum and brown corporal colour; the two species are distinguished by the following features:

- 1 Medio-longitudinal carina of propodeum fully present: extending from its fore to hind margins, otherwise propodeum rugulose with transverse carinulates (Fig. 86). Vertex between fore ocellus and occiput with a weak groove (Fig. 85). Sclerotized (brown) plate of second tergite half as long as that of first tergite, medio-longitudinal plate of second tergite short petiolate (Fig. 89). Pterostigma narrow, issuing *r* somewhat proximal from its midpoint, 2-*SR* straight and 1.3 times as long as width of pterostigma (Fig. 87). Flagellum fully brown. ♀: 1.8–2 mm. – Honduras

***M. (C.) sulcatulus* sp. n.**

- Medio-longitudinal carina of propodeum interrupted: its fore part missing, otherwise propodeum polished (Fig. 80). Vertex without weak groove between fore ocellus and occiput. Sclerotized median (brown) plate of second tergite long narrow, nearly (0.75 times) as long as that of first tergite, medio-longitudinal plate of first tergite long petiole-shape (Fig. 83). Pterostigma slightly less narrow, issuing *r* from its midpoint, 2-*SR* faintly bent and 1.4 times as long as width of pterostigma (Fig. 82). Flagellum brown, ultimate four flagellomeres whitish. ♀: 2.6 mm. – Honduras

***M. (C.) ruptus* sp. n.**

The new species is also near to *M. (C.) pendiasae* sp. n. considering their common features: brown ground colour of body, rounded temple in dorsal view (Figs 63, 78) and large membranous part of third tergite (Fig. 89); the two species can be distinguished from each other using the following features key:

- 1 Medio-longitudinal carina of propodeum fully present: extending from its fore to hind margins, laterally from carina rather transversely rugulose with a few carinulate and areolate elements (Fig. 64). Fore wing: pterostigma 2.6 times as long as wide, issuing *r* proximally from its midpoint, 2-SR 1.7 times as long as width of pterostigma (Fig. 66). Sclerotized plate of second tergite half as long as that of first tergite (Fig. 68). Tegula pale yellow. ♀: 2.2 mm. – Honduras **M. (C.) pendiasae** sp. n.
- Medio-longitudinal carina of propodeum interrupted, its anterior part missing, otherwise propodeum polished (Fig. 80). Fore wing: pterostigma less wide, four times as long as wide, issuing *r* from its midpoint, 2-SR 1.4 times as long as width of pterostigma (Fig. 82). Sclerotized (brown) plate of second tergite one-fourth shorter than that of first tergite (Fig. 83). Tegula light brownish. ♀: 2.6 mm. – Honduras **M. (C.) ruptus** sp. n.

The new species is also near to *M. (C.) striatus* (Penteado-Dias) (PENTEADO-DIAS 1999: 192) based on their finely striate desclerotized (pale yellow) part of tergites 1–3, (almost) polished propodeum and dorsal form of head; they can be distinguished using the following key:

- 1 Medio-longitudinal carina of propodeum fully present, i.e. not interrupted proximally, otherwise propodeum polished with a few transverse rugulae (Fig. 9 in PENTEADO-DIAS 1999: 193). First flagellomere somewhat longer than second flagellomere (Fig. 7 l.c.). Fore wing: *r* indistinct (Fig. 10 l.c.). Sclerotized (brown) plate of first tergite broad and rather round, striation of third tergite short (Fig. 11 l.c.). Ground colour of body yellow with brown to dark brown pattern, flagellum fully brownish. ♀: 1.6 mm. – Brazil *M. (C.) striatus* (Penteado-Dias, 1999)
- Medio-longitudinal carina of propodeum interrupted proximally, otherwise propodeum polished (Fig. 80). Flagellomeres 1–2 equal in length (cf. Fig. 62). Fore wing: *r* distinct (Fig. 82). Sclerotized (brown) plate of first tergite elongate (Fig. 83), striation of second tergite long. Ground colour of body brown, flagellum also brown, ultimate four flagellomeres pale yellow. ♀: 2.6 mm. – Honduras **M. (C.) ruptus** sp. n.

The new species, *M. (C.) ruptus*, stands alone with its interrupted medio-longitudinal carina on propodeum (Fig. 80), in key see couplet 12.

Mirax (Centistidea) sulcatulus sp. n.
(Figs 84–89)

Material examined – Female holotype: Honduras, Fco. Morazan, San Antonio de Oriente Uyuca, 6 March 1997, leg. G. Hansson. – Holotype is in good condition: glued on a card point by its mesosternum. Holotype is deposited in Zoologisk Museum, The University, Lund.

Etymology – The species name “sulcatulus” refers to the weak groove on middle of vertex between the hind two ocelli (Fig. 85).

Description of the female holotype – Body 1.8 mm long. Antenna slightly longer than body, about as long as fore wing. Flagellomeres 1–2 equal in length, first flagellomere six times as long as broad preapically (cf. Fig. 1), penultimate flagellomere three times as long as broad. Head in dorsal view transverse (Fig. 84), 1.7 times as broad as long, eye 1.7 times as long as temple, temple rounded. Inner margin of eyes converging ventrally (cf. Fig. 79, see arrows). Vertex between hind two ocelli with a fine groove (“sulcatulus”) extending from fore ocellus to occiput (Fig. 85). Head polished, vertex subshiny. – Mesosoma in lateral view 1.4 times as long as high, polished, mesoscutum just uneven and subshiny. Metanotum as in cf. Fig. 116. Propodeum with a strong medio-longitudinal carina, transversely carinate and rugulose as in Fig. 86. Hind femur 3.3 times as long as broad medially (cf. Fig. 81). – Fore wing: pterostigma rather narrow: 2.8 times as long as wide, issuing *r* just proximally from its midpoint, 2–*SR* almost 1.2 times as long as width of pterostigma (Fig. 87). First discal cell less high, 1–*M* 1.6 times as long as *m-cu*, 1–*SR-M* weakly sclerotized anteriorly and just longer (25:23) than 1–*M*, parallel nerv (3–*CU1* + *CU1a*) missing (Fig. 88, see arrows). – Sclerotized (brown) plate of first tergite spoon-shape, that of second tergite curved, lateral plate of second tergite weakly sclerotized, membranous part of third tergite unusually large and quadrate-form (Fig. 89), membranous parts of tergites 1–3 striolate. Ovipositor sheath as long as hind basitarsus. – Antenna and body brown, pedicel light brown. Membranous parts of tergites 1–3 whitish. Oral organs pale yellow. Tegula yellow. Coxae, trochanters and femora pale yellow, rest of legs yellow. Wings hyaline, pterostigma brown, veins brownish to yellowish.

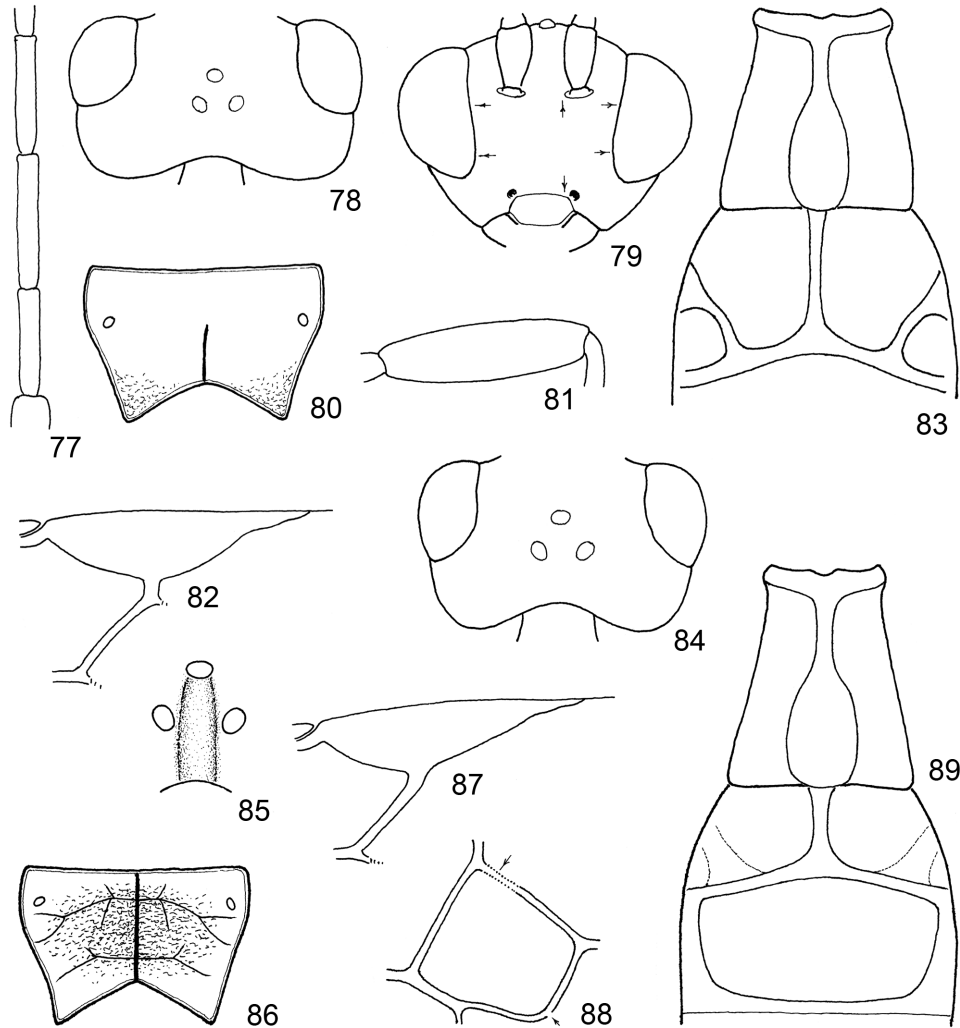
Male and host unknown.

Distribution – Honduras.

Taxonomic position – The new species, *Mirax (Centistidea) sulcatulus*, is nearest to *M. (M.) lithocolletidis* Ashmead based on their shared features: fine groove on vertex between hind pair of ocelli and subopaque head + mesosoma, the distinction between the two species is restricted to a few features as follows:

- 1 Propodeum “with a grooved line at middle” (subgeneric difference). “The head and thorax feebly rugose or punctulate.” (quotations after ASHMEAD 1893: 378). “Thorax mostly brownish-black; abdomen blackish beyond second tergite;” (quotation after MUESEBECK 1922: 10); face and legs yellow. ♀♂: 1.5–1.6 mm. – Canada, USA *M. (M.) lithocolletidis* Ashmead, 1893

- Propodeum with a strong medio-longitudinal carina, laterally of it with transversely carinulate and rugulose (Fig. 86; subgeneric difference). Head and mesosoma almost smooth. Antenna and body brown, legs pale yellow. ♀: 1.8 mm. – Honduras **M. (C.) sulcatulus** sp. n.



Figs 77–89. 77: *Mirax (Centistidea) politus* sp. n. (female, holotype): flagellomeres 1–3. – 78–83: *Mirax (Centistidea) ruptus* sp. n. (female, holotype): 78: = head in dorsal view, 79 = head in frontal view, 80 = propodeum, 81 = hind femur, 82 = pterostigma and 2–SR of right fore wing, 83 = tergites 1–2. – 84–89: *Mirax (Centistidea) sulcatulus* sp. n. (female, holotype): 84 = head in dorsal view, 85 = groove on vertex between hind two ocelli, 86 = propodeum, 87 = pterostigma and 2–SR of right fore wing, 88 = first discal cell, 89 = tergites 1–3.

The new species is also near to *M. (C.) fuscus* sp. n. by their brown corporal ground colour and similar form of the sclerotized parts of tergites 1–2, the two species can be separated by the following key:

- 1 Temple in dorsal view receded, head twice as broad as long, vertex without weak groove between hind pair of ocelli (Fig. 39). Flagellomeres 1–2 less long, first flagellomere one-fourth longer than second flagellomere, first flagellomere 3.6 times as long as broad preapically (Fig. 38). Sclerotization of tergites 1–2 as in Fig. 44, straight lateral part of second tergite evenly sclerotized (Fig. 44), membranous part of third tergite small. Hind femur three times as long as broad medially (Fig. 41). Scape yellowish. ♀: 1.8 mm. – Colombia ***M. (C.) fuscus* sp. n.**
- Temple in dorsal view rounded, head 1.7 times as broad as long, vertex with a weak groove between fore ocellus and occiput (Fig. 84). Flagellomeres 1–2 long, equal in length, first flagellomere six times as long as broad preapically (cf. Fig. 1). Sclerotization of tergites 1–2 as in Fig. 89, curved lateral part of second tergite weakly sclerotized, membranous part of third tergite large and quadrate-form (Fig. 89). Hind femur 3.3 times as long as broad medially (cf. Fig. 81). Scape brown. ♀: 1.8 mm. – Honduras ***M. (C.) sulcatulus* sp. n.**

In the key *M. (C.) sulcatulus* sp. n. runs to *M. (C.) pendiasae* sp. n., see key-couplet 13.

***Mirax (Centistidea) ubangus* sp. n.** (Figs 90–100)

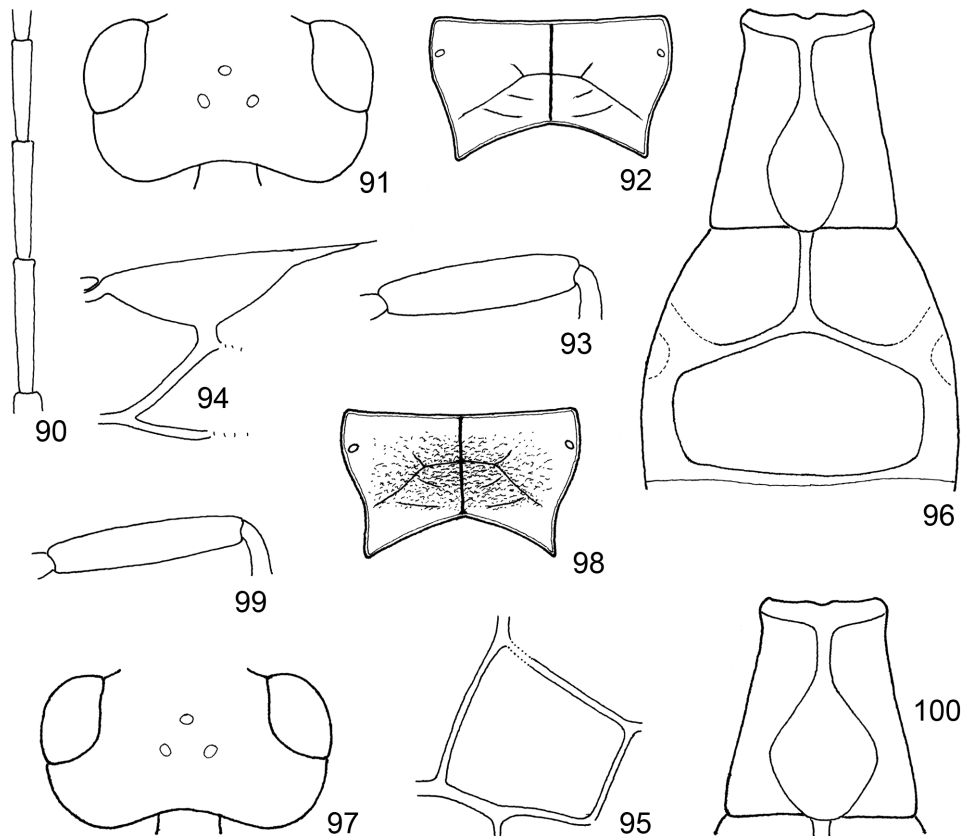
Material examined (4 ♀♀ + 2 ♂♂) – Female holotype (in Boyacá) and one male paratype (in Budapest): Colombia, Boyacá SFF, Iguaque Cabaña Carrizal, 2850 m, 5°27'N / 73°27'W, taken with Malaise trap, 24 February – 9 March 2011, leg. P. Reina (M 1358). Two female and one male paratypes (in Boyacá): Colombia, Boyacá SFF, Iguaque Lagunillas, 3380 m, taken with Malaise trap, 9–24 February 2001, leg. P. Reina (M 1272). One female paratype (in Budapest): Colombia, Magdalena PNN, Tayrona Palangana, 30 m, 11°20'N / 74°2'W, taken with Malaise trap, 14–28 July 2001, leg. R. Henriquez (M 2017).

Types condition – Types are in good condition: every specimen glued on card points by their right pleuron (holotype, 1 ♀ + 2 ♂ paratypes) or by their hind part of mesosternum and middle coxae (2 ♀ paratypes).

Types depositories – Holotype and two female + one male paratypes are deposited in Alexander Humboldt Institute, Villa de Leyva, Boyacá, Bogota (Colombia); one female and one male paratypes in Hungarian Natural History Museum, Budapest, Hym. Typ. Nos 12074–12075.

Etymology – The new species received the fantasy name “ubangus”.

Description of the female holotype – Body 2 mm long. Antenna just longer than body, first flagellomere a bit longer than second flagellomere, first flagellomere 6.5 times as long as broad preapically (Fig. 90), penultimate flagellomere twice as long as broad. Head in dorsal view transverse (Fig. 91), 1.7 times as broad as long, eye relatively short: 1.35 times as long as temple, temple rounded. Inner margin of eyes converging ventrally, face 1.6 times as wide as high (cf. Fig. 79, see arrows). Head polished. – Mesosoma in lateral view 1.25 times as long as high, polished. Metanotum as in cf. Fig. 115. Propodeum with a medio-longitudinal carina and with transverse carinula as in Fig. 92, otherwise propodeum polished. Hind femur four times as long as broad medially (Fig. 93). – Fore wing: pterostigma rather narrow, 2.8 times as long as wide, issuing *r* from its midpoint, 2-SR 1.4 times as long as width of pterostigma, 2-M present (Fig. 94). First discal cell high, 1-M 1.5 times as long as *m-cu*, 1-M and 1-SR-M equal in length, 1-SR-M anteriorly weakly sclerotized (Fig. 95). – Sclerotized (brown) plate of first tergite wide spoon-shape, feebly angled, that



Figs 90–100. *Mirax (Centistidea) ubangus* sp. n. (female, holotype: Figs 90–96): 90 = flagellomeres 1–3, 91 = head in dorsal view, 92 = propodeum, 93 = hind femur, 94 = pterostigma and 2-SR of right fore wing, 95 = first discal cell, 96 = tergites 1–3, 97 = head in dorsal view (female paratype), 98 = propodeum (male paratype), 99 = hind femur (female and male paratypes), 100 = first tergite (male paratype).

of second tergite straight and less sclerotized laterally, membranous part of third tergite unusually large and quadrate-form (Fig. 96). Ovipositor sheath as long as hind basitarsus. – Antenna brownish black, pedicel apically light brownish, head and mesosoma black, metasoma blackish with blackish brown pattern. Oral parts and tegula brownish. Legs light brown with yellowish pattern. Membranous part of tergites brown. Wings hyaline, pterostigma yellowish, veins brownish to yellowish.

Deviating features of the three female paratypes – Similar to the female holotype. Body 1.8–1.9 mm long. Head in dorsal view 1.7–1.85 times as broad as long (1.7: 1 ♀: Fig. 91, 1.85: 2 ♀♀: Fig. 97). Hind femur 4–5 times as long as broad medially (4x: 1 ♀: Fig. 93, 4.4x: 1 ♀, 5x: 1 ♀: Fig. 99). Legs brown (1 ♀); two females albanic forms: oral organs, tegula and legs yellow (hind tibia + tarsus blackish: 1 ♀). Legs yellow with feeble brownish tint, hind tibia and tarsus darkening.

Description of the two male paratypes – Similar to the female types. Body 1.8–2 mm long. Flagellomeres 1–2 equal in length. Head in dorsal view 1.85 times as broad as long (Fig. 97). Propodeum nearly entirely rugulose (Fig. 98). Hind femur five times as long as broad medially (Fig. 99). Sclerotized (brown) plate of first tergite wider than that of holotype (Fig. 100).

Host unknown.

Distribution – Colombia.

Taxonomic position – The new species, *Mirax (Centistidea) ubangus*, is nearest to *M. (C.) politus* sp. n. as well as to *M. (C.) vertus* sp. n., their distinctions are presented at the latter two species. – In key the new species runs to *M. (C.) topali* Papp, see key-couplet 17.

***Mirax (Centistidea) vertus* sp. n.**

(Figs 101–109)

Material examined – Female holotype: Colombia, Boyacá SFF, Iguaque Qda. Carrizal, 3350 m, 5°25'N / 73°27'W, taken with Malaise trap, 21 January – 9 February 2001, leg. P. Reina. – Type condition and depository: Holotype is in good condition: (1) glued on a card point by mesosternum, (2) left hind wing posteriorly somewhat creased. Holotype is deposited in Alexander Humboldt Institute, Villa de Leyva, Boyacá, Bogota (Colombia).

Etymology – The name “*vertus*” is a fantasy name.

Description of the female holotype – Body 2.8 mm long. Antenna about one-six longer than body. First flagellomere slightly (30:28) longer than second flagellomere, first flagellomere seven times as long as broad preapically (Fig. 101), penultimate flagellomere almost four times as long as broad. Head in dorsal view transverse (Fig. 102), 1.7 times as broad as long, eye slightly protruding and 1.5 times as long as temple, temple rounded. Inner margin of eyes parallel, face 1.5 times as wide as high (Fig. 103, see arrows). – Mesosoma 1.55 times as long as high, mesoscutum and scutellum uneven and dull. Metanotum as in Fig. 116. Propodeum rugulose with carinulate-areolate elements, its medio-longitudinal carina strong (Fig. 104). Hind femur 4.1 times as long as broad distally (Fig. 105). – Fore

wing: pterostigma narrow, 3.3 times as long as wide and issuing *r* proximally from its midpoint, 2–SR 1.5 times as long as width of pterostigma (Fig. 106). First discal cell somewhat elongate, 1–M 1.6 times as long as *m-cu* and 1–SR–M as long as 1–M (30:30), parallel nerv and 1–SR–M anteriorly weakly sclerotized (Fig. 107). – Sclerotized (brown) plate of first tergite spoon-shape broadening and convex (i.e. not angled), sclerotized (brown) lateral part of second tergite fairly wide and straight as in Fig. 108. Ovipositor sheath as long as tarsomeres 2–3 of hind tarsus. – Antenna blackish. Head brownish black, orbit weakly rusty. Mesosoma and metasoma black. Tergites 1–2 brown, membranous part light brown. Oral organs, tegula and legs yellow, tarsi brownish fumous. Gena ventrally rusty. Wings hyaline, pterostigma and veins yellow.

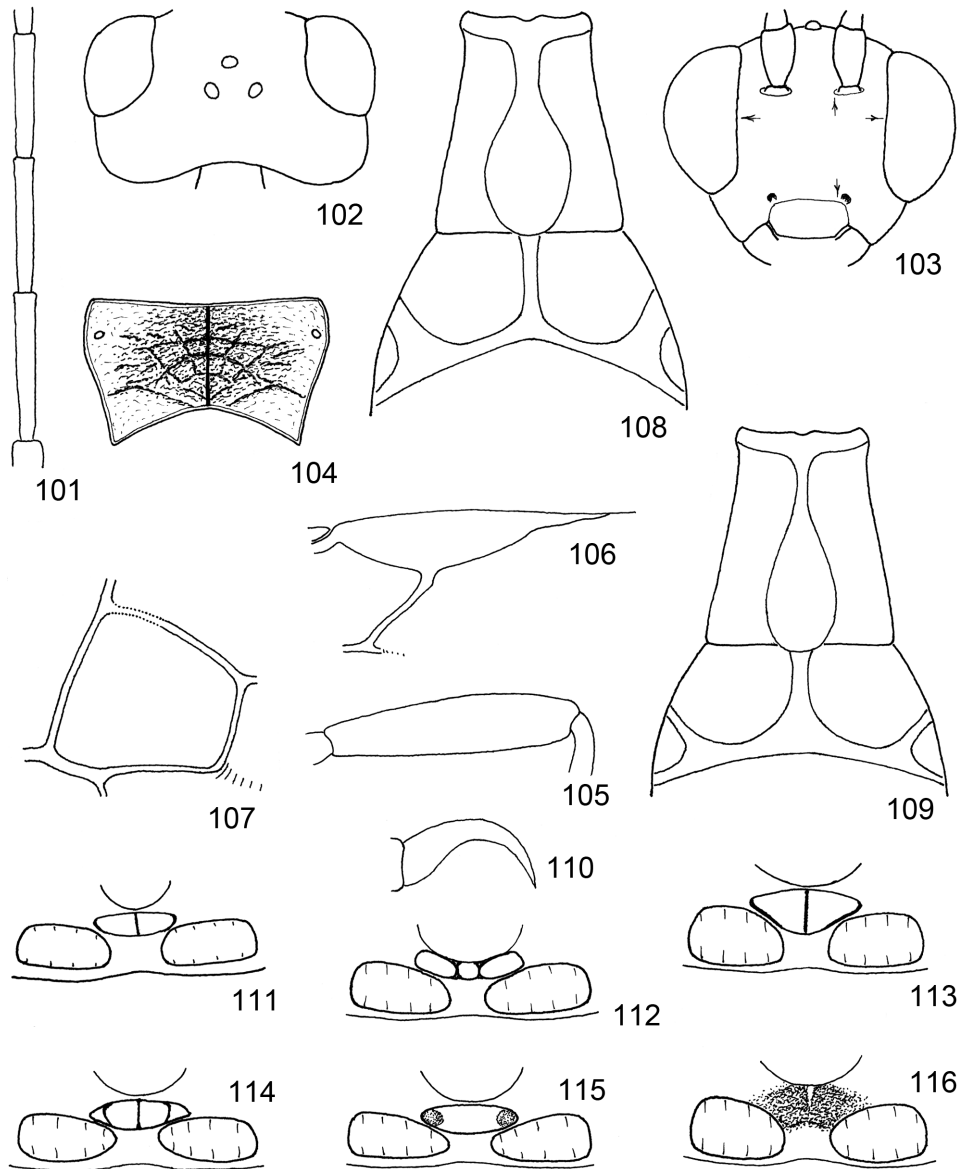
Male and host unknown.
Distribution – Colombia.

Taxonomic position – The new species, *Mirax (Centistidea) vertus*, is nearest to *M. (C.) ubangus* sp. n. based on their less broad head in dorsal view (Figs 91, 102) and dark colour of body; they can be distinguished by the following key:

- 1 Temple in dorsal view somewhat more rounded, ocelli small: OOL 1.5 times as long as POL (Fig. 91). Propodeum with transverse carinula and either polished (Fig. 92) or rugulose (Fig. 98). Pterostigma less narrow, 2.8 times as long as wide, issuing *r* from its midpoint, *r* more distinct, 2–SR 1.4 times as long as width of pterostigma, 2–M present (Fig. 94). Lateral margin of sclerotized (brown) plate of first tergite spoon-shape and feebly angled, lateral plate of second tergite partly weakly sclerotized (Fig. 96). Scape and pedicel variably brownish yellow to brown. ♀♂: 1.9–2.1 mm. – Colombia **M. (C.) ubangus** sp. n.
- Temple in dorsal view somewhat less rounded, ocelli middle-sized, OOL 1.6 times as long as POL (Fig. 102). Propodeum rugulose with distinct carinulate-areolate elements (Fig. 104). Pterostigma narrow: 3.3 times as long as wide, issuing *r* proximally from its midpoint, *r* less distinct, 2–SR 1.3 times as long as width of pterostigma, 2–M missing (Fig. 106). Lateral margin of sclerotized (brown) plate of first tergite large spoon-shape and convex (i.e. not angled), lateral plate of second tergite evenly sclerotized (Fig. 108). Scape and pedicel dark brown. ♀: 2.8 mm. – Colombia **M. (C.) vertus** sp. n.

The new species is also near to *M. (C.) adjunctus* sp. n. considering their somewhat less broad head in dorsal view (Figs 2, 102), thin hind femur (Figs 4, 7, 105) and dark coloured of body; the distinction between the two species is as follows:

- 1 Flagellomeres 1–2 equal in length (Fig. 1). Fore wing: pterostigma wide, 2.6 times as long as wide, 2–SR 1.3 times as long as width of pterostigma (Fig. 5). Temple in dorsal view receded, eye in dorsal view not protrud-



Figs 101–116. – 101–108: *Mirax (Centistidea) vertus* sp. n. (female, holotype): 101 = flagellomeres 1–3, 102 = head in dorsal view, 103 = head in frontal view, 104 = propodeum, 105 = hind femur, 106 = pterostigma and 2–SR of right fore wing, 107 = first discal cell, 108 = tergites 1–2. – 109 = *Mirax (Centistidea) topali* Papp (female, holotype): tergites 1–2. – 110 = *Mirax (Centistidea) insularis* Muesebeck (female and male): claw. – 111–116: Metanotum with different arrangement of pair of depressions and median dimple: 111 = *M. (C.) adjunctus* sp. n., 112 = *M. (C.) dilatus* sp. n., 113: *M. (C.) brasiliensis* Brues, 114: *M. (C.) insularis* Muesebeck, 115 = *M. (C.) ruptus* sp. n., 116 = *M. (C.) vertus* sp. n.

ing (Fig. 2). Orbit variably (dark) rusty to yellowish (otherwise head dark coloured). ♀: 2–2.2 mm. – Colombia **M. (C.) adjunctus** sp. n.

- First flagellomere slightly (30:28) longer than second flagellomere (Fig. 101). Fore wing: pterostigma less wide, 3.3 times as long as wide, 2–SR 1.5 times as long as width of pterostigma (Fig. 106). Temple in dorsal view rounded, eye in dorsal view slightly protruding (Fig. 102). Orbit less distinctly rusty (otherwise head blackish brown). ♀: 2.8 mm. – Colombia **M. (C.) vertus** sp. n.

The new species, *M. (C.) vertus*, stands alone with the composition of its features, in key see couplet 16.

KEY TO THE NEOTROPICAL SPECIES OF *MIRAX* HALIDAY, 1833 Subgenus *Centistidea* Rohwer, 1914

Key based mainly on females.

- 1 Propodeum polished, medio-longitudinal carina missing – subgenus *Mirax* Haliday, 1833 s. str. (no species in Neotropics) 2
- 2 Propodeum with a medio-longitudinal (strong) carina, laterally from it with rather transverse sculpture: rugulae, rugae, rugose or with carinate elements (Figs 3, 17, 25, 32, 40, 48, 57, 64, 72, 80, 86, 92, 98, 104) – subgenus *Centistidea* Rohwer, 1914 3
- 3 Temple in dorsal view receded (Figs 2, 15, 23) or rather receded (Figs 30, 39) 4
 - Temple in dorsal view rounded (Figs 63, 70, 78, 84, 91, 102) 11
- 4 Notaulix present dorsally on mesoscutum, weakly to distinctly crenulated and at least extending to anterior half of mesoscutum (Figs 16, 47). Corporal colour testaceous or yellow 5
 - Notaulix not (exceptionally indistinctly) crenulated and short, restricted always to declivous fore part of mesoscutum. Corporal colour dark: light brown to black(ish) 6
- 5 Notaulix evenly deep, distinctly crenulated and extending to two-thirds of mesoscutum (i.e. pair of notaulices meeting posteriorly, Fig. 16). Head in dorsal view 1.9 times as broad as long, eye not protruding and 2.1 times as long as temple, temple slightly more receded (Fig. 15). Propodeum with transverse carinulae as in Fig. 17. Body testaceous. ♀: 2.2–2.5 mm *M. (C.) brasiliensis* Brues, 1912

- Notaulix shallowing, finely crenulate-subcrenulate and extending to anterior third of mesoscutum (i.e. pair of notaulices not meeting posteriorly, Fig. 47). Head in dorsal view 1.8 times as broad as long, eye slightly protruding and twice as long as temple, temple somewhat less receded (Fig. 46). Propodeum with transverse carinulae and rugulae as in Fig. 48. Body yellow. ♀♂: 1.5–1.7 mm. – Dominica, Guadeloupe
M. (C.) insularis Muesebeck, 1937
- 6 First flagellomere somewhat longer than second flagellomere (Figs 38, 55) 7
- First flagellomere as long as second flagellomere (Figs 1, 22) 8
- 7 Sclerotized (brown) median plate of first tergite spoon-shape (Fig. 44). Fore wing: pterostigma less wide, 2.8 times as long as wide, 2–SR 1.4 times as long as width of pterostigma (Fig. 42). Hind femur thick, three times as long as broad medially (Fig. 41). Ground corporal colour brown. ♀: 1.8 mm. – Colombia **M. (C.) fuscus** sp. n.
- Sclerotized (brown) median plate of holotype's first tergite spatulate-shape (Fig. 61), that of paratype less spatulate-shape. Fore wing: pterostigma wide, 2.35 times as long as wide, 2–SR somewhat shorter than width of pterostigma (Fig. 59). Hind femur less thick, 3.3 times as long as broad distally (Fig. 58). Ground corporal colour brownish to light brown. ♀: 2 mm. – Colombia **M. (C.) linguaris** sp. n.
- 8 Propodeum with a strong medio-longitudinal carina, close along it transversely (sub)rugulose, posteriorly with a transverse (less strong) carina, otherwise propodeum smooth to shiny (Figs 25, 32) 9
- Propodeum with a medio-longitudinal carina, medially with a transverse carina, otherwise propodeum more or less rugulose, or medio-longitudinal carina anteriorly missing (Figs 3, 80) 10
- 9 Temple in lateral view 0.7 times as broad as eye, i.e., eye 1.25 times as broad as temple (Fig. 24, see arrows). Fore wing: pterostigma less wide, three times as long as wide, 2–SR almost 1.4 times as long as width of pterostigma (Fig. 27); first discal cell small: 1–SR–M and *m-cu* straight (Fig. 28). First tergite somewhat longer than broad posteriorly, sclerotization of tergites 1–2 as in Fig. 29. Mesosoma light brown. ♀: 2.1–2.2 mm. – Colombia **M. (C.) carinatus** sp. n.
- Temple in lateral view almost 1.2 times as broad as eye, i.e., eye 0.85 times as broad as temple (Fig. 31, see arrows). Fore wing: pterostigma wide, 2.3 times as long as wide, 2–SR as long as width of pterostigma (Figs 34, 37);

- first discal cell: *1-SR-M* convex and *m-cu* slightly curved (Fig. 35). First tergite as long as broad posteriorly, sclerotization of tergites 1–2 as in Fig. 36. Mesosoma testaceous, metasoma brownish black. ♀: 2–2.1 mm. – Colombia **M. (C.) dilatatus** sp. n.
- 10 Eye in dorsal view slightly protruding, 2.5 times as long as temple, temple rounded (Fig. 11). Vertex and temple subpunctate, mesoscutum subpunctate to (almost) smooth; vertex, temple and mesoscutum pruinose to subshiny. Fore wing: pterostigma wide, 2.5 times as long as wide, 2–*SR* as long as width of pterostigma (Fig. 12). Between fore ocellus and occiput (i.e. on vertex) a weak groove (cf. Fig. 85). Sclerotized (brown) plate of first tergite less broadening as in Fig. 13. Pterostigma black to brown. ♀♂: 2–2.5 mm. – Colombia *M. (C.) malcolmi* Marsh, 1979
- Eye in dorsal view not protruding, 1.3–1.4 times as long as temple, temple receded (Fig. 2). Vertex and temple polished, mesoscutum smooth and subshiny. Fore wing: pterostigma slightly less wide, 2.6 times as long as wide, 2–*SR* 1.3 times as long as width of pterostigma (Fig. 5). Between fore ocellus and occiput (i.e. on vertex) without a weak groove. Sclerotized (brown) plate of first tergite broadening as in Fig. 6. Pterostigma yellow. ♀: 2–2.2 mm, ♂: 2.2 mm. – Colombia **M. (C.) adjunctus** sp. n.
- 11 Flagellomeres 1–2 equal in length (Fig. 62) 12
- First flagellomere somewhat longer than second flagellomere (Figs 8, 90, 101) or, contrarily, second flagellomere somewhat longer than first flagellomere (Fig. 77) 14
- 12 Medio-longitudinal carina of propodeum interrupted: its anterior half missing, otherwise propodeum polished (Fig. 80). Sclerotized (brown) plate of second tergite long, nearly as long as that of first tergite (Fig. 83). Inner margin of eyes converging ventrally (Fig. 79, see arrows). Flagellum brown, ultimate four flagellomeres whitish. ♀: 2.6 mm. – Honduras **M. (C.) ruptus** sp. n.
- Medio-longitudinal carina of propodeum not interrupted: carina extending full length of propodeum, propodeum with transverse rugulosity (Figs 64, 86). Sclerotized (brown) plate of second tergite distinctly (i.e. half to nearly two-thirds) shorter than that of first tergite (Figs 68, 89). Flagellum fully dark coloured to blackish brown 13
- 13 Head in dorsal view slightly more transverse, 1.8–1.9 times as broad as long as long, eye almost twice as long as temple, temple less rounded (Fig. 63). Hind femur four times as long as broad distally (Fig. 65). First tergite somewhat less long: as long as broad behind (Fig. 68). Vertex

- without fine groove (between fore ocellus and occiput). ♀: 2.2–2.4 mm. – Honduras
M. (C.) pendiasae sp. n.
- Head in dorsal view slightly less transverse, 1.7 times as broad as long, eye 1.7 times as long as temple, temple rounded (Fig. 84). Hind femur 3.3 times as long as broad medially (Fig. 81). First tergite long: 1.2 times longer than broad behind (Fig. 89). Vertex with a fine groove (between fore ocellus and occiput, Fig. 85). ♀: 1.8–2 mm. – Honduras
M. (C.) sulcatulus sp. n.
- 14 Second flagellomere 1.25 times as long as first flagellomere (Fig. 77). Face in frontal view wide, 1.8 times as wide as high, inner margin of eyes parallel (Fig. 71, see arrows). Fore wing: 2–SR distinctly, 1.5 times as long as width of pterostigma (Fig. 74). Sclerotized (brown) plate of first tergite wide, that of second tergite short as in Fig. 76. Scape and pedicel brown, pedicel apically brownish yellow. ♀: 2.5 mm. – Colombia
M. (C.) politus sp. n.
- First flagellomere just to 1.2 times as long as second flagellomere (Figs 8, 90, 101). Face in frontal view less wide, 1.5 times as wide as high (Figs 79, 103) 15
- 15 Striolate membranous part of third tergite narrow, tergite itself clearly seven times as broad as long; anterior sclerotized (brown) plate of first tergite short petiole-shape; medio-longitudinal sclerotized plate of second tergite shorter than its latero-transverse part (Fig. 11 in PENTEADO-DIAS 1999: 192). First flagellomere four times as long as broad preapically (Fig. 7 l.c.). Ground colour of body honey yellow, metasoma posteriorly with dark brown pattern. Pterostigma brown. ♀: 1.6 mm. – Brazil
M. (C.) striatus (Penteado-Dias, 1999)
- Striolate membranous part of third tergite wide, tergite itself about 2–2.5 times as broad as long; anterior sclerotized (brown) plate of first tergite long petiole-shape, medio-longitudinal sclerotized (brown) plate of second tergite about as long as its latero-transverse part (Figs 96, 108, 109). First flagellomere 6–7 times as long as broad preapically (Figs 90, 101). Ground colour of body dark to blackish brown with little yellow(ish) pattern. Pterostigma yellow 16
- 16 Eye in dorsal view slightly protruding, temple relatively less rounded; head in dorsal view 1.7 times as broad as long (Fig. 102). Propodeum rugulose with carinate-areolate elements (Fig. 104). Fore wing: 2–SR 1.5 times as long as width of pterostigma, pterostigma issuing (very short) *r*

- proximally from its middle (Fig. 106). Hind tibia brownish fumous, hind tarsus brownish. ♀: 2.8 mm. – Colombia **M. (C.) vertus** sp. n.
- Eye in dorsal view not protruding, temple relatively more rounded; head in dorsal view 1.7–1.8 times as broad as long (Figs 9, 91) 17
- 17 Eye in dorsal view long, 1.8–1.9 times as long as temple, temple more rounded (Fig. 9). Between toruli a short raised ridge. Sclerotized (brown) broadening plate of first tergite less wide (and not angled), lateral sclerotized (brown) plate of second tergite bent as in Fig. 109). Hind femur 3.3–4 times as long as broad medially (Fig. 10). Face rusty to dark rusty; tergites 1–2 yellow, legs straw yellow. ♀♂: 1.8–1.9 mm. – Brazil
M. (C.) topali Papp, 1993
- Eye in dorsal view short, 1.35 times as long as temple, temple less rounded (Fig. 91). Between toruli without a ridge. Sclerotized (brown) spoon-shape plate of first tergite wide (and feebly angled), lateral sclerotized (brown) plate of second tergite straight as in Fig. 96. Hind femur four times as long as broad, almost parallel-sided (Fig. 93, 99). Face blackish brown to black, tergites 1–2 brown, legs brownish. ♀♂: 1.9–2.1 mm. – Colombia **M. (C.) ubangus** sp. n.

*

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