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Research Article
Monograph

New genera and species of scuttle flies (Diptera, Phoridae) from Cameroon

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ABSTRACT. Despite the ongoing challenges in identifying Afrotropical Phoridae, this study contributes significantly to the understanding of the scuttle flies (Diptera: Phoridae) from Cameroon. Following a request from Geoff Hancock (Hunterian Museum, Glasgow), specimens were examined, leading to the identification of 32 new species blonging to six new genera, including: Diaclinella excameroon sp. nov.; Dilatoantennatus setaduncus gen. nov., sp. nov.; Dohrniphora etiamexsilva sp. nov.; Dohrniphora exsilva sp. nov.; Immoaristae flavicrusorum gen. nov., sp. nov.; Megaselia artusfemur sp. nov.; Megaselia breviscosta sp. nov.; Megaselia cumcocoa sp. nov.; Megaselia dilatorima sp. nov.; Megaselia exarbustum sp. nov.; Megaselia exngoumou sp. nov.; Megaselia exreservo sp. nov.; Megaselia fuscustergites sp. nov.; Megaselia hancocki sp. nov.; Megaselia jarretti sp. nov.; Megaselia luteidorsum sp. nov.; Megaselia novuspalpi sp. nov.; Megaselia octopanni sp. nov.; Megaselia pallidaalae sp. nov.; Megaselia octopanni sp. nov.; Megaselia propowell sp. nov.; Megaselia setimesopleuron sp. nov.; Megaselia ventersetae sp. nov.; Megaselia spernohypandia sp. nov.; Megaselia venteralbus sp. nov.; Megaselia ventersetae sp. nov.; Mirusgenitalis luteithorax gen. nov., sp. nov.; Multivalli longicauda gen. nov., sp. nov.; Multivalli secundus sp. nov.; Sinearista flavicrus gen. nov., sp. nov

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INTRODUCTION

The Afrotropical Phoridae represent a highly diverse group of Diptera in sub-Saharan Africa, Madagascar, and associated islands (Disney, 2005), with significant findings documented in recent years (Disney, 2021). Phoridae are ecologically diverse, occupying niches as scavengers, parasitoids, and predators (Disney & Ritchie, 1997; Disney & Darlington, 1998; Disney et al., 2013; Brown & Vendetti, 2020). There are numerous genera (64 – in Disney, 2021) and a significant number of species known from the Afrotropical regions, although this is likely an underestimate due to under-sampling, small size, and limited and cryptic diversity (Sanchez-Restrepo et al., 2020; Brown et al., 2022; Caruso et al., 2024). Despite the recent advances, many regions, such as Cameroon, remain underexplored.

Geoff Hancock (Hunterian Museum, Glasgow, Scotland - HMGS) sent me specimens of scuttle flies (Phoridae) with the request that I identify them. The Phoridae of the Afrotropical Region are still far from being well known. My review (Disney, 2021) summarises the present state of knowledge and the literature required to identify species.

MATERIAL AND METHODS

The specimens were preserved in 70% ethanol, and some were sent to RHLD, who mounted them on slides in Berlese Fluid (Disney, 2001). Most specimens were mounted by G. Hancock in one of the "Apathys" formulae, just gum Arabic/acacia and a sugar of some kind. Many specimens are somewhat damaged, with parts incomplete or missing, and the slide mounts have numerous bubbles and debris.

Many bristles and hairs are represented by their sockets alone. The specimens are deposited in the Hunterian Museum, Glasgow, Scotland and the University of Cambridge Museum of Zoology (UCMZ).

RESULTS

Because many specimens are damaged or otherwise poor, the assignment of some specimens to new species may prove to be incorrect when further specimens are procured. However, the diagnoses indicate how they run down in published keys.

Taxonomic hierarchy

Order Diptera Linnaeus, 1758

Genus Diaclinella Borgmeier, 1962

Borgmeier (1962) reassigned the Cuban species *Megaselia cavita* (Brues, 1944) to this new genus. It was described from the male only. The species described below adds a second species to this genus, and its presumed female is described.

Diagnosis. In the key to world genera (Disney, 1994), it runs to couplet 165 to *Diaclinella* Borgmeier, with a single species from Cuba, originally assigned to *Megaselia* by Brues. In the recent key to African genera (Disney, 2021), it runs to couplet 40, *Megaselia* (part), *Physoptera* (part), and *Rhyncophoromyia* (part), where in the current state of knowledge, only females can be identified with confidence. However, the postpedicels of the males of *Physoptera* are described as being small and the front basitarsi as being broad (Borgmeier & Prado, 1975; Borgmeier, 1966). The postpedicels of *Rhyncophoromyia* are globular (Borgmeier, 1963; Prado, 1976), but its long, geniculate proboscis distinguishes it from *Megaselia*.

Diaclinella excameroon sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:B9643B62-5E95-4F2B-82CB-25E93835300D

Figs 1-24

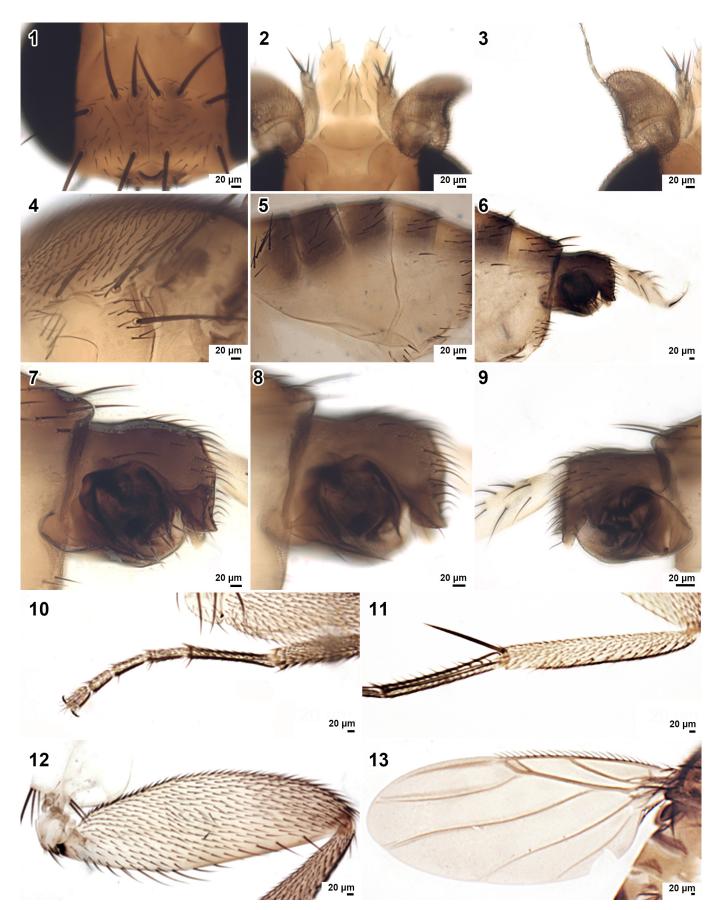
Diagnosis. The male differs from *D. cavita* by the subcostal vein running to vein R1, different costal ratios, and the ratio of the width to the midline length of the frons being1.5/1 as opposed to 1.1/1. The lengths of the anal tubes are the same.

Description. — **Holotype** & Frons (Fig. 1), the frons having only 2 supra-antennal bristles; Fig. 2, postpedicels, palps and proboscis. Postpedicels with a few, pale SPS vesicles (Fig. 3). Side of thorax (Fig. 4) with several hairs and a long bristle on mesopleuron. Scutellum with 4 bristles. Abdomen as in Fig. 5, the venter hairs on segments 3 to 6. The hypopygium as Figs 6–9, the left hypandrial lobe being long and tapered (Fig. 8). The right hypandrial lobe pale, broad and long. The anal tube is 0.2 mm long. Legs yellowish. Front tarsus (Fig. 10) with a near dorsal palisade on all 5 segments. Mid tibia and basitarsus as Fig. 11. Hind femur as Fig. 12. Hind tibia with about 10 small posterodorsal bristles. Wing (Fig. 13) 1.86 mm long. Costal index 0.56. Subcosta runs to R1. Costal ratios 3.17/3.23/1. Costal cilia 0.07 mm long. No hair at base of vein 3. Outer axillary bristle 0.09 mm long. Halteres brown.

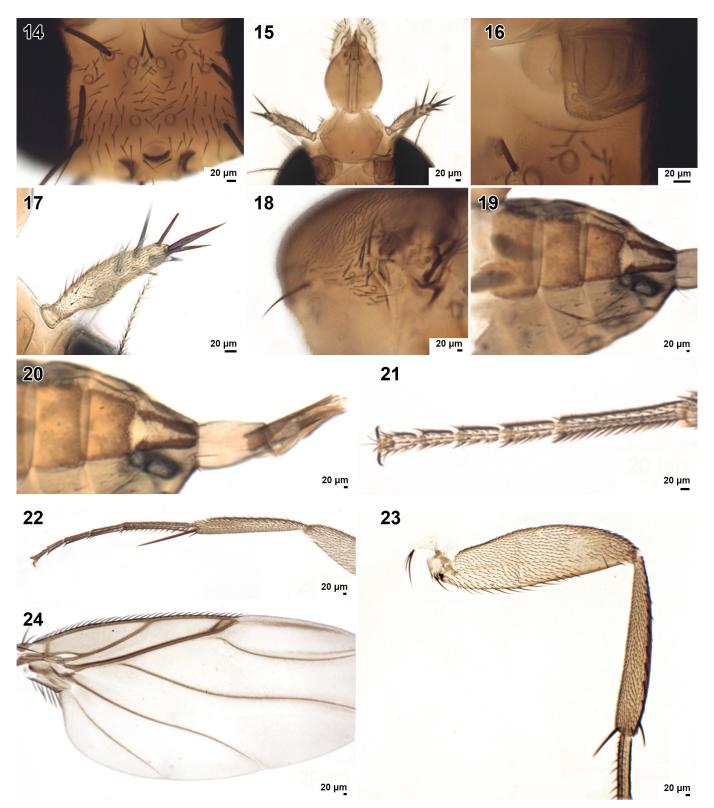
Presumed female. Frons as Fig. 14; Fig. 15, postpedicels, palps and proboscis; Fig. 16, postpedicel with its SPS vesicles and its length being a little longer than its breadth; Fig. 17, palp with its internal 'bubble' feature; Fig. 18, side of thorax. Scutellum 4 bristles; Figs 19 & 20, abdomen. Fig. 21, front tarsus. Fig. 22, mid tibia and tarsus; Fig. 23, hind femur and tibia; Wing (Fig. 24) 2.69 mm long. Costal index 0.56. Costal ratios 8.08/5.57/1. Vein sc joins R1. Costal cilia 0.08 mm long. No hair at base of vein 3. With 6 axillary bristles, the outermost being 0.15 mm long. Halters as male.

Material. Holotype ♂, Cameroon, Ngoumou, N 3.589, E 11.329, cocoa plantation, 14/I /2019, C. Jarrett & L. Powell, Malaise trap (HMGS 26–94). Paratype ♀, Ngoumou, N 3.472, E 11.267, cocoa plantation, 19/IX/2019, C. Jarrett & L. Powell, Malaise trap. Hunterian Museum, Acc. No. GLAHM175882.

Etymology. Named after the country of the specimens.



Figures 1–13. *Diacllinella excameroon* **sp. nov.**, male. **1.** Frons; **2.** Postpedicel palps, and proboscis; **3.** Postpedicel; **4.** Side of thorax; **5.** Abdomen; **6–9.** Hpopygium; **10.** Front tarsus; **11.** Mid tibia and basitarsus; **12.** Hind femur; **13.** Wing.



Figures 14–24. *Diacllinella excameroon* **sp. nov.**, female. **14.** Frons; **15.** Postpedicels, palps and proboscis; **16.** Postpedicel; **17.** Palp; **18.** Side of thorax; **19.** Abdomen; **20.** Ovipositor segments; **21.** Front tarsus; **22.** Mid tibia and basitarsus; **23.** Hind femur; **24.** Wing.

Genus Dilatoantennatus gen. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:C741723B-8092-41F0-9330-4AB669C701FD

Type species. *Dilatoantennatus setaduncus* Disney, sp. nov.

Diagnosis. In the key to world genera (Disney, 1994), it runs to couplets 103 and 105 lead 2 *Megaselia* (part) and *Rhyncophoromyia* (part), but it is noted that these two can only be distinguished in the female. However, the postpedicels of the latter's males are described as being 'globular'. In the key to African genera (Disney, 2021), it runs to couplet 47 *Megaselia* (part). The frons has only a single pair of supraantennals, which is uncommon in a *Megaselia*. Likewise, the form of the male postpedicels and the hypopygium resembles that of many *Megaselia*.

Etymology. Named after the enlarged (*dilato*) postpedicel of the antenna (*antenatus*).

Dilatoantennatus setaduncus sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:5DC3AFBE-9F0D-4B71-BF3E-8DFD3E3ABD13

Figs 25-36

Description. — Holotype ♂. Head as Fig. 25, there being only 2 supra-antennal bristles and the arista being preapical. Side of thorax as Fig. 26, with a bare mesopleuron and only 2 notopleural bristles. Scutellum with 4 strong bristles (Fig. 27). Abdomen (Fig. 28) with hairs on segments 3–6 of the venter. Tergites 2 and 3 with robust bristles towards their lateral margins, and T6 with fine bristles at the rear margin. Hypopygium as Figs 29–31, the bristles of the epandrium having hooked tips (Fig. 31). The legs pale yellow, apart from the dark tips to the hind femora. Front tarsus (Fig. 32) with a near dorsal palisade on all 5 segments. Mid tibia and basitarsus as Fig. 33. Hind femur (Fig. 34) with the hairs of basal half longer than anteroventrals of the outer half. Wing (Fig. 35) 1.86 mm long. Costal index 0.56. Costal ratios 3.17/3.25/1. Subcosta runs to R1. Costal cilia 0.07 mm. No hair at base of vein 3. At least 5 axillary bristles, the longest being 0.09 mm. Halteres (Fig. 36) brown.

Material. Holotype ♂, Cameroon, Ngoumou N 3.472, E 11.267, Hunterian Museum, Acc. No. GLAHM175883.

Genus Dohrniphora Dahl, 1898

Males of the Afrotropical species are keyed by Disney (2003), supplemented by Disney (2006), and some females are keyed by Disney & Kistner (1997).

Dohrniphora etiamexsilva sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:3993E681-9048-4CE8-A270-F7AB8D316D8C

Figs 37–49 [The hypopygium has been mounted with its dorsal face uppermost].

Diagnosis. In the key to males (Disney, 2003), it runs to couplet 19, but the bases of the hind femora are different.

Description. — **Holotype** ♂. Fig. 37, frons; Fig. 38, postpedicels and palps; Fig. 39, mesopleuron with hairs; Fig. 40, abdominal tergites from T2–T6; Fig. Fig. 41 hypopygium dorsal; Figs 42 & 43, hypopygium ventral views; Fig. 44, front tarsus, with a near dorsal palisade on segments 1–4; Fig. 45, mid tibia and basitarsus; Fig. 46, hind femur; Fig. 47, base of hind femur; Fig. 48, hind tibia; wing (Fig. 49) 2.45 mm long, costal index 0.53, costal ratios 11.91/3.03/1, costal cilia 0.11, vein 3 hair 0.08, probably 4 axillary bristles, the outermost 0.30. Halteres with pale stems and grey knobs.

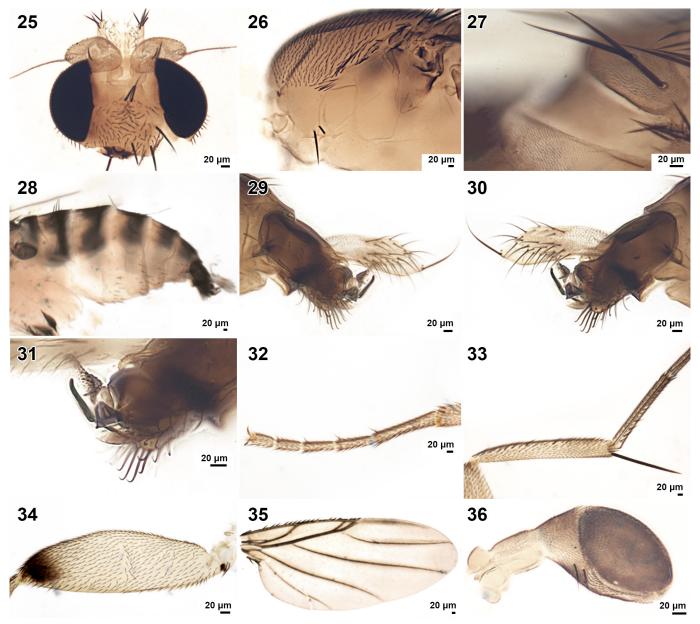
Material. **Holotype** &, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175884

Etymology. Named after it being also (*etiam*) from (*ex*) primary forest (*silva*)

Dohrniphora exsilva sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:31E84CAC-DF3A-4DAB-939C-D4B98CA7FFF9

Figs 50-63



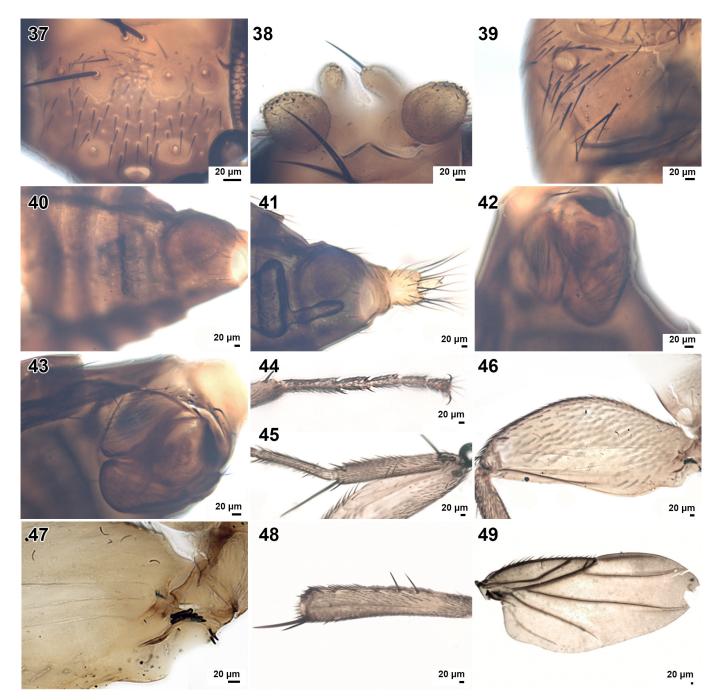
Figures 25–36. *Dilatoantennatus setaduncus* sp. nov., male. 25. Head; 26. Side of thorax; 27. Scutellum; 28. Abdomen; 28–31. Hypopygium. The bristles of the epandrium having hooked tips (Fig. 31); 32. Front tarsus; 33. Mid tibia and basitarsus; 34. Hind femur; 35. Wing; 36. Haltere.

Diagnosis. In the key to males (Disney, 2003), it runs to couplet 14 lead 1 to *D. rostrata* Enderlein, which is only known from the female. However, *D. rostrata* has a dark brown thorax, and its hind femora are dusky yellow with a darker dorsal edges and tips. The Cameroon species does not key out in Disney (2006, supplement). The base of the hind femur indicates that it is clearly a new male.

Description. — **Holotype** ♂. Fig 50, frons; Fig 51 postpedicels; Fig 52, Mesopleuron; Fig 53, mesopleuron with sockets of setae; Fig 54, scutellum; Fig 55, abdomen; Fig 56, hypopygium; Fig 57, front femur and tibia; Fig 58, front tarsus; Fig 59, mid tibia; Fig 60, hind femur; Fig 61, base of hind femur; Fig 62, hind tibia; wing (Fig 63) 2.21 mm long, costal index 0.56, costal ratios 96.8/30.8/1, costal cilia 0.08, vein 3 hair 0.06, axillary bristle 0.07; halteres with brown knobs and pale stems.

Material. **Holotype** ♂, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175884.

Etymology. Named after it being from (*ex*) primary forest (*silva*).



Figures 37–49. *Dohrniphora etiamexsilva* **n. sp.**, male. 37. Frons; 38. Postpedicels and palps; 39. Mesopleuron; 40. Abdominal tergites from T2–T6; 41. Hypopygium dorsal; 42 & 43. Hypopygium ventral views; 44. Front tarsus; 45. Mid tibia and basitarsus; 46. Hind femur; 47. Base of the hind femur; 48. Hind tibia; 49. Wing.

Genus Immoaristae gen. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:BC65F6F4-C8DF-4E6E-B5A5-B835830A2B6F

Type species. *Immoaristae flavicrusorum* Disney, sp. nov.

Diagnosis. In the key to world genera (Disney, 1994), it runs to couplet 97, neither option fits. In the key to African genera (Disney, 2021), it runs to couplets 38 lead 2 *Menozziola* or couplet 41 *Megaselia* (part). With regard to *Menozziola*, the females are very distinctive, but the males are less so. However, while their hypopygia have long anal tubes, they lack hypandrial lobes. The slightly tapered postpedicels that lack aristae are probably diagnostic for the genus. The lack of supra-antennal bristles may also be so.

Etymology. Named after the postpedicels having no (*immo*) aristae.

Immoaristae flavicrusorum sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:EEA1C7D3-4E03-4117-B57A-5883915988EA

Figs 64–74 [thorax mounted dorsal side up]

Description. — **Holotype** ♂. Fig. 64, frons and postpedicel; Fig. 65, palp and proboscis; Figs 66 & 67, dorsal and ventral views of postpedicel; the thorax is mounted dorsal face up, by focussing down the mesopleuron appears to have hairs but may or may not also have a bristle; Fig. 68 abdomen, the grey venter having hairs on segments 3–6, with those on 6 being longest; Fig. 69, hypopygium, whose right hypandial lobe is well developed but left lobe is vestigial; Fig. 70, front tarsus with a near dorsal palisade on segments 1–4; Fig. 71, mid tibia; Fig. 72, hind femur; Fig. 73, hind tibia with a row of small posterodorsal bristles. Wing (Fig. 74) 1.77 mm long, costal index 0.51, costal ratios 4.88/2.15/1, vein Sc to R1, costal cilia 0.07, no vein 3 hair, 9 axillary bristles, 0.08. Haltere knobs greyish brown.

Material. **Holotype** ♂, Cameroon, Ngoumou, N 3.472, E 11.267, cocoa plantation, 19/IX/2019, C. Jarrett & L. Powell, Malaise trap. Hunterian Museum, Acc. No. GLAHM175886.

Etymology. Named after the yellow (*flavi*) legs (*crusorum*).

Genus Megaselia Rondani, 1856

Megaselia Rondani "is one of the largest, most biologically diverse and taxonomically difficult genera in the entire animal kingdom" (Marshall, 2012). At least 1700 species are known, but with it being estimated that there are at least 10,000 Aphiochaeta species, it is evident that the majority remain undescribed. In view of this situation a brief diagnosis is less useful than an indication as to how a new species runs down in existing relevant keys, with an indication as to how it differs from the species arrived at; along with how it differs from species added since the keys in which it will run down to the same couplet(s). The primary keys are those of Beyer (1965) with additional data by Bridarolli (1951). Beyer's keys, however, omit some Aphiochaeta species published by Collin (1912) before his (1965) paper due to overlooking this was before Schmitz (1927) had demoted the genus Aphiochaeta Brues, 1903, to being a subgenus of Megaselia Rondani, 1856. The species described by Collin was picked up in subsequent papers.

Megaselia artusfemur sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:5254A277-8AB7-4D6B-A18E-857707277B0D

Figs 75–85 [No mid tibia present on slide mount]

Diagnosis. Outer halves of hind femora narrowed, notopleural cleft, wings pale. In the keys of Beyer (1965), it runs to page 52 couplet 17, but neither option fits. Likewise, with 2 additions.

Description. — **Holotype** ♂. Fig. 75, frons; Fig. 76, postpedicels and palps; Fig. 77, ventral view of palps and proboscis; Fig. 78, side of thorax with notopleural cleft; Fig. 79, scutellum, with sockets of bristles; Fig. 80, abdomen; Fig. 81, left face of sternum 6 and hypopygium; Fig. 82, right face of hypopygium; Fig. 83, hind femur and tibia; Fig. 84, front tarsus with a near dorsal palisade on segments 1–5. Wing (Fig. 85) 1.26 mm long, costal index 0.48, sc runs to R1, costal ratios 3.82/2.23/1, costal cilia 0.05, no hair at base of vein 3, 4 axillary bristles 0.09. Halteres dark.

Material. **Holotype** ♂, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175887.

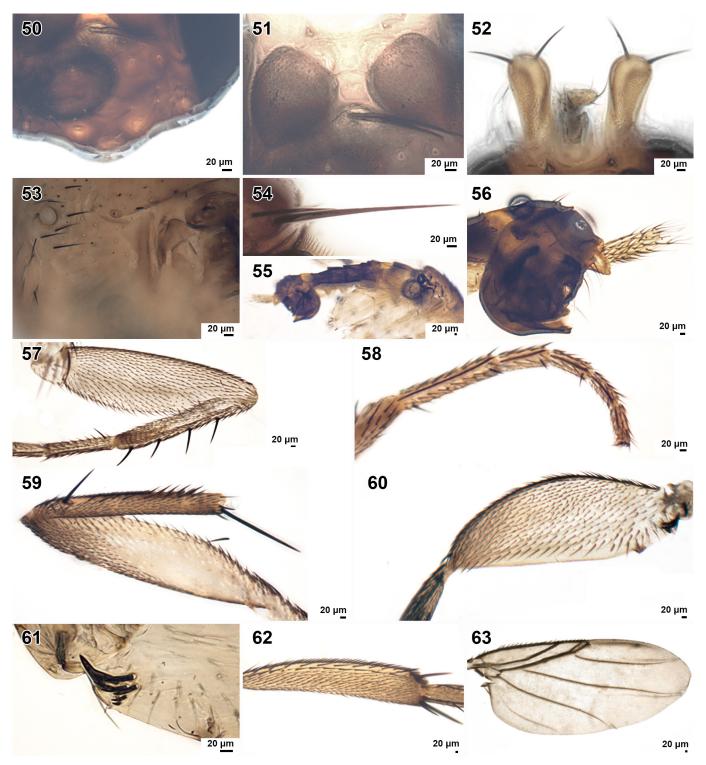
Etymology. Named after the narrow (*artus*) outer half of each hind femur.

Megaselia audreyae Disney, 1978

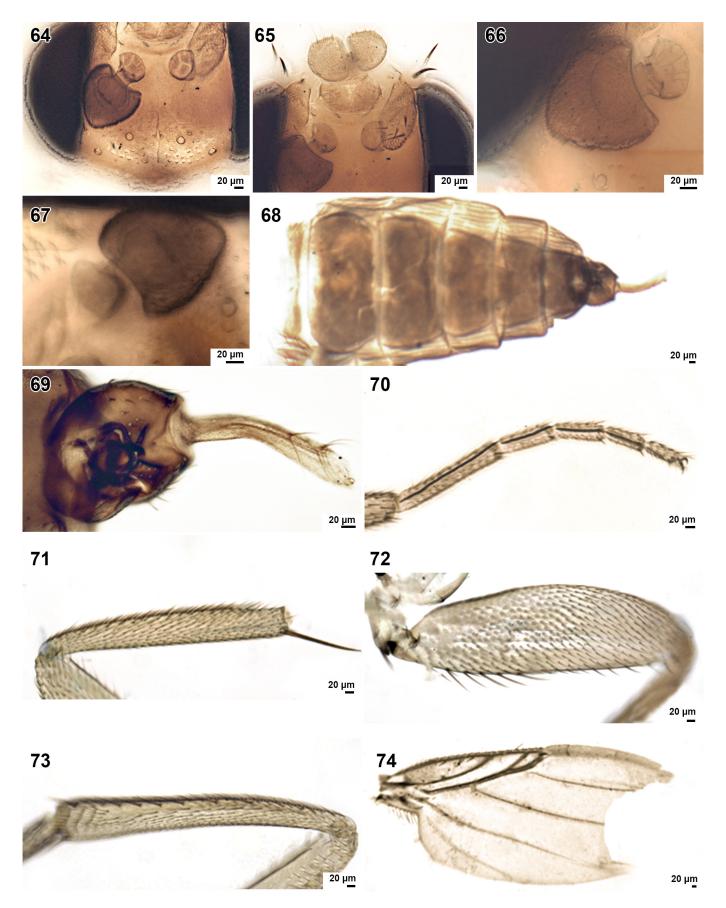
Disney (1978) reported two males collected from the back of the large milliped *Pachybolus* sp. from near Kumba, West Cameroon. Key diagnostic characters include length of postpedicel a little longer than width, and with a pre-apical arista; thorax yellow-orange, mesopleuron with hairs and a bristle; anal tube about as long as epandrium; legs yellow. In the keys of Beyer (1965), it runs to couplet 4 lead 1 on page 48 to *M*.

sokotrana Beyer, but its costal index is only 0.45, and its abdominal tergites 2–6 are brown. *M. equitans* Schmitz runs to the same point in the key. Its hind femora have a small projection near their bases. Hypopygium as figs 2 & 3 in Disney (1978).

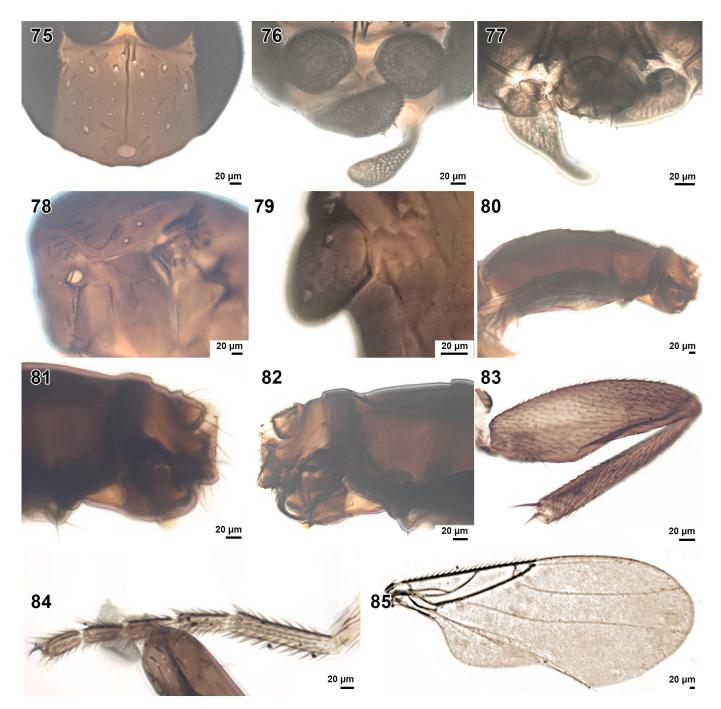
Material examined. 1♂, Cameroon, N 3.472, E 11.267, Ngoumou, cocoa plantation, 19/IX/2019, C. Jarrett & L. Powell, Malaise trap. Hunterian Museum, Acc. No KH 2019.3.1



Figures 50-63. Dohrniphora exsilva sp. nov., male. 50. Frons; 51. Postpedicels. 52. Palps and proboscis; 53. Mesopleuron; 54. Scutellum; 55. Abdomen; 56. Hypopygium; 57. Front femur and tibia; 58. Front tarsus; 59. Mid tibia; 60. Hind femur; 61. Base of hind femur; 62. Hind tibia; 63. Wing.



Figures 64–74. *Immoaristae flavicrusorum* **sp. nov.**, male. **64.** Frons; **65.** Palp and proboscis; **66 & 67.** Dorsal and ventral views of postpedicel; **68.** Abdomen; **69.** Hypopygium; **70.** Front tarsus; **71.** Mid tibia; **72.** Hind femur; **73.** Hind tibia; **74.** Wing.



Figures 75–85. *Megaselia artusfemur* **sp. nov.**, male. **75.** Frons; **76.** Postpedicels and palps; **77.** Ventral view of palps and proboscis; **78.** Side of thorax; **79.** Scutellum; **80.** Abdomen; **81.** Left face of abdominal segment 6 and hypopygium; **82.** Right face of hypopygium; **83.** Hind femur and tibia; **84.** Front tarsus; **85.** Wing.

Megaselia breviscosta sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:687B1368-C205-4FCC-B585-B3AB93E56D0A Figs 86-94

Diagnosis. Postpedicels longer than broad with pre-apical aristas, Costal index 0.29, vein 3 unforked, legs yellow with no differentiated longer hairs below the basal halves of the hind femora. In the keys of Beyer (1965), it runs to page 56, but the very short costal index along with a scutellum with 2 bristles and 2 hairs and the very short hairs below the hind femora rule out the species covered.



Figures 86–94. *Megaselia breviscosta* sp. nov., male. 86. Frons; 87. Postpedicels and palps; 88. Side of thorax; 89. Abdomen; 90 & 91. Hypopygium; 92 front tarsus; 93. Hind femur and tibia; 94. Wing and haltere.

Description. — **Holotype** ♂. Fig. 86, frons; Fig. 87, postpedicels and palps; Fig. 88, side of thorax, with its bare mesopleuron; Fig. 89, abdomen; Figs 90 & 91, hypopygium, segment 5 longer than 4 and the anal tube being scarcely longer than the dorsal edge of the epandrium; Fig. 92, front tarsus, with a near dorsal palisade on segments 1–5; Fig. 93, hind femur and tibia; Wing (Fig. 94) 1.27 mm long, costal index 0.29, costal ratios 8.43/1, no subcosta, costal cilia 0.07, no vein 3 hair or axillary bristles. Halteres with pale stems and dark knobs.

Material. **Holotype** ♂, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175888.

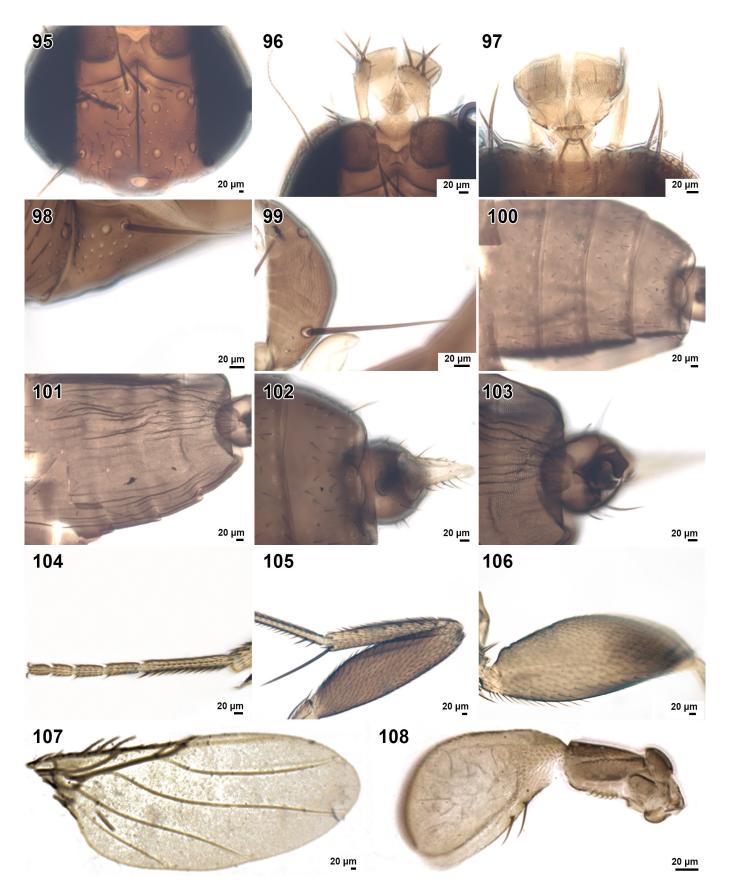
Etymology. Named after the short (brevis) costa.

Megaselia cumcocoa sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:57C76E3E-0A04-43B1-9060-C7CF8DA67495

Figs 95-108

Diagnosis. The antial bristles very close to and level with antero-lateral bristles, labella of proboscis wide and with many spinulae. In the keys of Beyer (1965), it runs to page 49, couplet 19, but neither option fits. Only the female is known for the second option, but its costal index is only 0.41.



Figures 95–108. *Megaselia cumcocoa* **sp. nov.**, male. **95.** Frons; **96.** Postpedicels, palps and proboscis; **97.** Proboscis from below; **98.** Mesopleuron; **99.** Scutellum; **100.** Abdomen dorsal; **101.** Abdomen ventral; **102.** & **103.** Hypopypygium from above and from below; **104.** Front tarsus; **105.** Mid femur and tibia; **106.** Hind femur; **107.** Wing; **108.** Haltere.

Description. — **Holotype** ♂. Fig. 95, frons; Fig. 96, postpedicels, palps and proboscis; Fig. 97, proboscis from below; Fig. 98, mesopleuron with many hairs and 2 bristles; Fig. 99, scutellum, twobristles and 2 hairs; Fig. 100, abdomen dorsal; Fig. 101, abdomen ventral; Figs 102 & 103, hypopypygium from above and vental view; Fig. 104, front tarsus, with a near-dorsal palisade on segments 1–4; Fig. 105, mid femur and tibias; Fig. 106, hind femur; wing (Fig. 107) 1.52 mm long, costal index 0.48, no subcostal, costal ratios 2.97/2.67/1, costal cilia 0.15, vein 3 hair 0.09, 3 axillary bristles 0.12; Fig. 108, haltere.

Material. Holotype ♂, Cameroon, Ngoumou, N 3.472, E 11.267, cocoa plantation, 19/IX/2019, C. Jarrett & L. Powell, Malaise trap. Hunterian Museum, Acc. No. GLAHM175889.

Etymology. Named after being caught with (*cum*) cocoa trees.

Megaselia dilatorima sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:4868C358-790B-40ED-9E30-ABD05E22176D

Figs 109–117 [The front legs are incomplete, all the costal cilia and vein 3 hairs and likewise the scutellar bristles are indicated by their basal sockets only].

Diagnosis. The enlarged notopleural cleft is the first example to be described. In the keys of Beyer (1965), it runs to page 52, couplets 8 and 9, but the wing details do not fit any of the species.

Description. — **Holotype** ♂. Fig. 109, frons; Fig. Fig. 110, postpedicels and palps; Fig. 111, side of thorax with its bare mesopleuron and enlarged notopleural cleft; Scutellum with a pair of bristles and a pair of hairs; Fig. 112, dorsal view of abdomen and a haltere; Figs 113 & 114, dorsal and ventral views of hypopygium; Fig. 115, mid tibia; Fig. 116, hind femur; Wing (Fig. 117) about 1.1 mm long, subcosta free, costal index about 0.46, costal ratios 3.54/2.25/1, 3 axillary bristles 0.07, vein 3 hair. Halteres as Fig. 112.

Material. **Holotype** ♂, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175890.

Etymology. Named after the dilated (*dilato*) notopleural clefts (*rima*).

Megaselia exarbustum sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:75403CD7-ECC2-47E4-8F21-6F8912BFDE3B

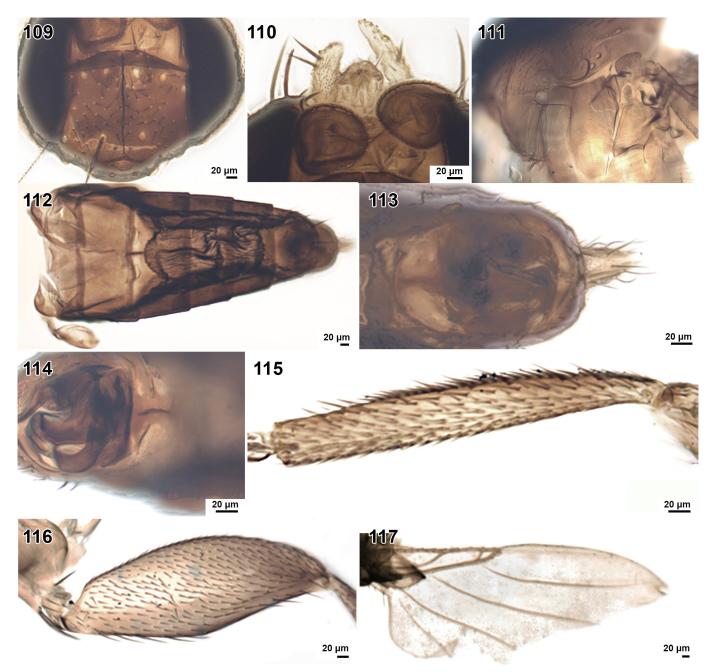
Figs 118-130

Diagnosis. Mesopleuron with hairs and a bristle, scutellum with 2 hairs and 2 bristles, costal index 0.51, anal tube longer than epandrium, abdominal tergites pale apart from dark hind margins to T1–T3. In the keys of Beyer (1965), it runs to couplet 20 on page 50, but neither option fits. The subsequently added *M subbulicauda* has different wing details.

Description. — Holotype ♂. Fig. 118, frons; Fig. 119, postpedicels and palp; Fig. 120, proboscis from ventral view; Fig. 121, lateral part of thorax; Fig. 122, scutellum; Fig. 123, abdomen; Figs 124 & 125, hypopygium, with the left hypandrial lobe longer than the right lobe; Fig. 126, front tarsus with a near dorsal palisade on segments 1–4 and segment 5 longer than 4; Fig. 127, mid tibia, with small posterodorsals; Fig. 128, hind femur; Fig. 129, hind tibia with small posterodorsals; wing (Fig. 130) 1.08 mm long, costal index 0.51, costal ratios 3.70/1.67/1, vein Sc not reaching R1, costal cilia 0.05, vein 3 hair 0.05 and 4 axillary bristles also 0.05. Haltere knobs greyish brown.

Material. **Holotype** ♂, Cameroon, Ngoumou, N 3.472, E 11.267, cocoa plantation, 19/IX/2019, C. Jarrett & L. Powell, Malaise trap. Hunterian Museum, Acc. No. GLAHM175891.

Etymology. Named after being from a cocoa plantation (*arbustum*).



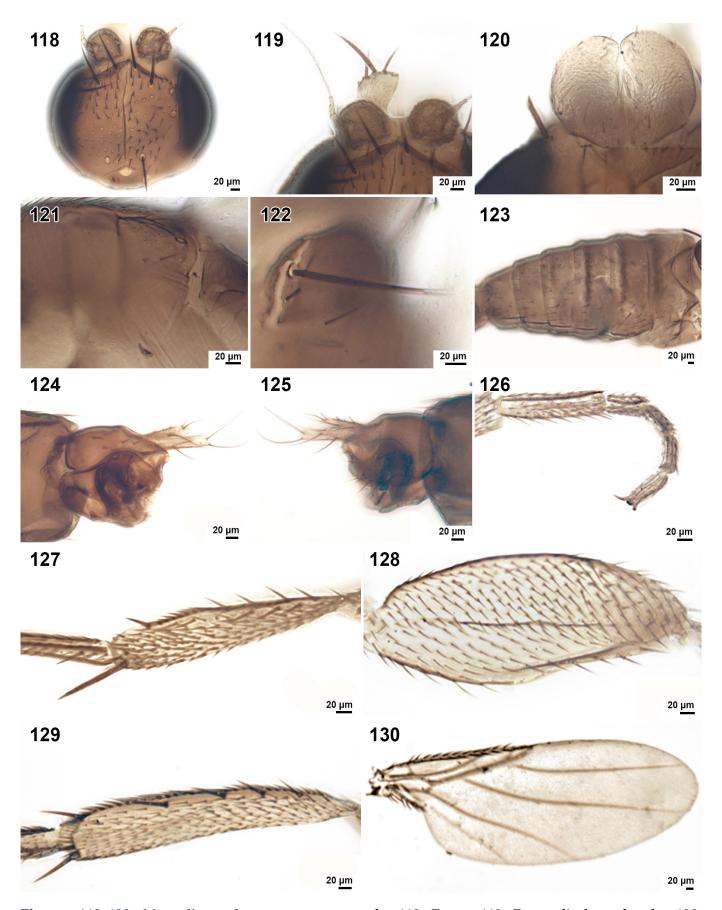
Figures 109–117. *Megaselia dilatorima* **sp. nov.**, male. **109.** Frons; **110.** Postpedicels and palps; **111.** Side of thorax; **112.** Dorsal view of abdomen and a haltere; **113** & **114.** Dorsal and ventral views of hypopygium; **115.** Mid tibia; **116.** Hind femur; **117.** Wing.

Megaselia exngoumou sp. nov.

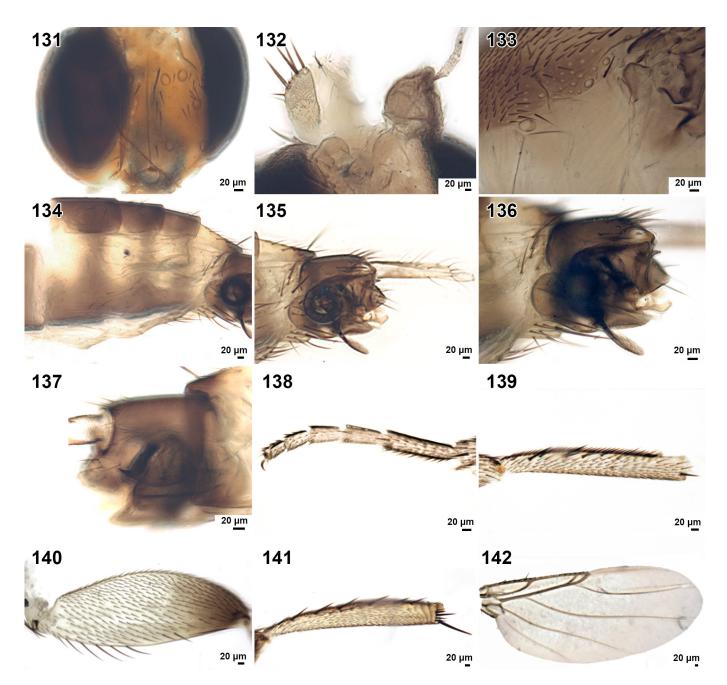
https://zoobank.org/urn:lsid:zoobank.org:act:62914501-0827-4026-A845-95A2F2B0640B

Figs 131-142

Diagnosis. In the key to world genera (Disney, 1994), it runs to couplet 52 lead 2 to *Psyllomyia*. However, the hypopygium differs from the distinctive hypopygia of this genus (see Disney & Kistner, 1998). In the key to Afrotropical genera (Disney, 2021), it runs to couplet 41 lead 1 *Megaselia* (part). The slightly pointed postpedicels exclude most *Megaselia* species. The distinct hypopygium, along with the wing details, identifies this species. In the keys of Beyer (1965), it runs to couplet 12 lead 2 on page 52, *M. longicauda* Bridarolli, but differs in details such as fewer small postero-dorsal bristles on the hind tibiae and the costal ratios.



Figures 118–130. *Megaselia exarbustum* sp. nov., male. 118. Frons; 119. Postpedicels and palp; 120. Proboscis from below; 121. Side of thorax; 122. Scutellum; 123. Abdomen; 124 & 125. Hypopygium; 126. Front tarsus; 127. Mid tibia. 128. Hind femur; 129. Hind tibia; 130. Wing.



Figures 131–142. *Megaselia exngoumou* **sp. nov.**, male. **131.** Frons; **132.** A postpedicel and palp. **133.** Side of thorax; **134.** Abdomen; **135–137.** Hypopygium; **138.** Front tarsus; **139.** Mid tibia; **140.** Hind femur; **141.** Hind tibia; **142.** Wing.

Description. — Holotype ♂. Frons as Fig. 131, with the lower supra-antennals much weaker than the upper pair. Fig. 132, a postpedicel, which is slightly pointed, and palp. Fig. 133, lateral part of thorax; Fig. 134, abdomen; Figs 135–137, hypopygium, whose left hypandrial lobe is shorter than its right lobe. Fig. 138, front tarsus with a near-dorsal palisade on segments 1–5. Fig. 139, mid tibia. Fig. 140, hind femur; Fig. 141, hind tibia. Wing (Fig. 142) 1.70 mm long, costal index 0.52, costal ratios 3.47/3.87/1, subcostal runs to R1, costal cilia 0.08, no vein 3 hair, at least 7 axillary bristles 0.09. Halteres brown.

Material. **Holotype** ♂, Cameroon, Ngoumou, N 3.472, E 11.267, cocoa plantation, 19/IV/ 2019, C. Jarrett & L. Powell, Malaise trap. Hunterian Museum, Acc. No. GLAHM175892.

Etymology. Named after the type locality.

Megaselia exreservo sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:DAFB8086-8A9F-44BF-BE8F-0971926D4125

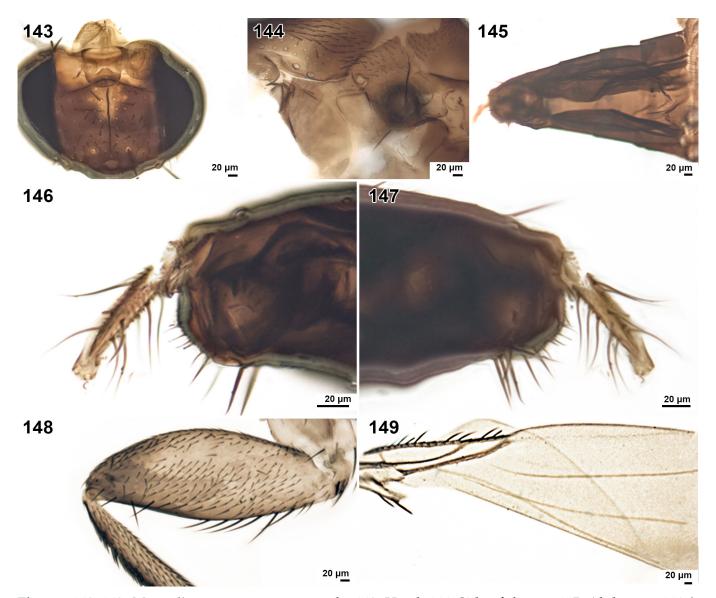
Figs 143–149 [The specimen is badly damaged in having no middle legs, incomplete front tarsi and wings and without halteres].

Diagnosis. The hypopygium has the anal tube longer than the epandrium, whose bristles are shorter than those on the cerci, but whose bristles are shorter than those at the rear of tergite 6. In the keys of Beyer (1965), it runs to couplet 3 on page 56 lead 2, but the costal ratios are clearly different. *M. mera* (Collin) runs to the same point, but its hypopygium is different.

Description. — **Holotype** & Head as Fig. 143; Fig. 144, lateral part of thorax; Fig. 145, abdomen, the venter having hairs on segments 3–6; Figs 146 & 147, hypopygium; legs yellow. Fig. 148, hind femur; Wing (Fig. 149) about 1.5 mm long, no subcostal, costal index about 0.40, costal ratios 1.95/1, costal cilia 0.06, vein 3 hair 0.04, at least 4 axillary bristles 0.08.

Material. **Holotype** ♂, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175893.

Etymology. Named after being from the primary forest.



Figures 143–149. *Megaselia exreservo* **sp. nov.**, male. **143.** Head; **144.** Side of thorax; **145.** Abdomen; **146.** & **147.** Hypopygium; **148.** Hind femur; **149.** Wing.

Megaselia fuscustergites sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:5D102DA0-D124-43FB-85EA-4DA5A5F68CF2

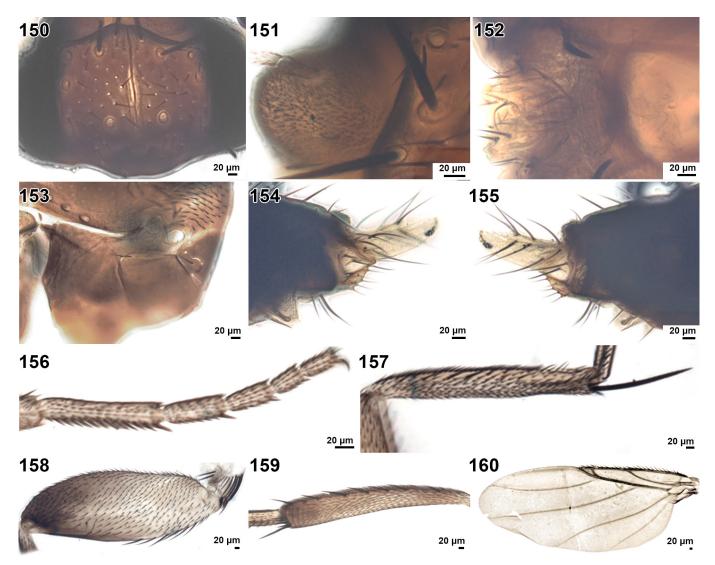
Figs 150–160 [The palps, proboscis and hypopygium were poorly displayed on mounting].

Diagnosis. The hypopygium and abdominal segment 6 with long bristles. Legs yellow. In the keys of Beyer (1965), it runs to page 54 couplet 19, but neither option fits. 2 species previously described by Collin (1912) run to the same couplet, but their hypopygia differ.149, side of thorax, with its bare mesopleuron; scutellum with 2 bristles and 2 hairs; abdominal tergites and venter very dark.

Description. — **Holotype** ♂. Fig. 150, frons; Fig. 151, postpedicel; Fig. 152, pale palps and proboscis in ventral view; Fig. 153, side of thorax, with its bare mesopleuron; scutellum with 2 bristles and 2 hairs; abdominal tergites and venter very dark; Figs 154 & 155, hypopygium; Fig. 156, front tarsus with a near dorsal palisade on segments. 1–5; Fig. 157, mid tibia; Fig. 158, hind femur; Fig. 159, hind tibia. Wing (Fig. 160) 1.07 mm long, costal index 0.54, Sc runs to R1, costal ratios 3.84/2.65/1, costal cilia 0.02, no hair on base of vein 3, 2 axillary bristles 0.04. Halteres with pale stems and dark knobs.

Material. **Holotype** ♂, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175894.

Etymology. Named after the dark (fuscus) abdominal tergites.



Figures 150–160. Megaselia fuscustergites sp. nov., male.150. frons; 151. postpedicel; 152. ventral view of palps and proboscis; 153. side of thorax; 154 & 155. hypopygium; 156. front tarsus; 157. mid tibia; 158. Hind femur; 159. hind tibia; 160. wing.

Megaselia hancocki sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:06E5F85B-083F-49E1-821F-CD2D06E9D950

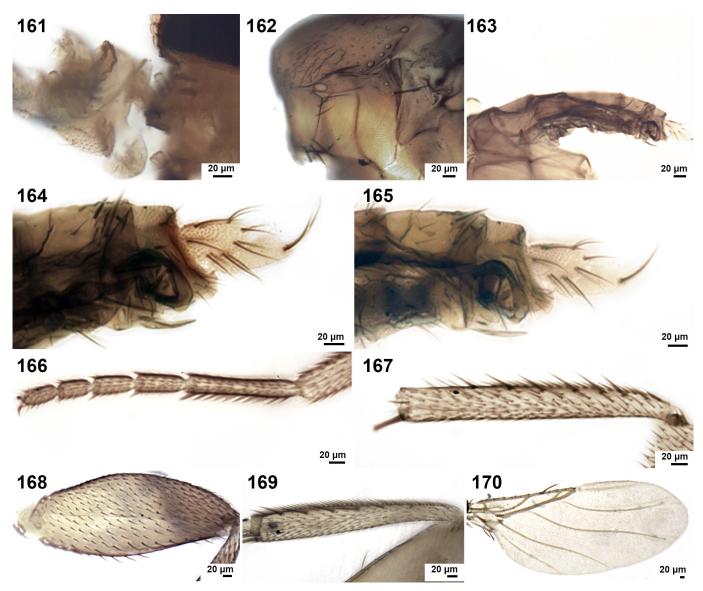
Figs 161–170 [The specimen's head is distorted and has lost its antennae and palps].

Diagnosis. Thorax orange, legs yellow, mesopleuron with hairs and 2 bristles, CI 0.54. In the keys of Beyer (1965), it runs to couplet 19 on page 49, but neither fits as the wing details differ, as with some subsequently described species.

Description. — **Holotype** ♂. Fig. 161, proboscis; Fig. 162, lateral part of thorax; Fig. 163, abdomen and haltere; Figs 164 & 165, hypopygium; Fig. 166, front tarsus, with a near dorsal palisade on segments 1–5; Fig. 167, mid tibia; Fig. 168, hind femur; Fig. 169, hind tibia; wing (Fig. 170) 1–1.05 mm long, costal index 0.54, costal ratios 2.93/2.10/1, vein Sc not reaching R1, costal cilia 0.09, vein 3 hair 0.04, 2 axillary bristles, the outer 0.06.

Material. Holotype ♂, Cameroon, Ngoumou, N 3.472, E 11.267, cocoa plantation, 19/IV/ 2019, C. Jarrett & L. Powell, Malaise trap. Hunterian Museum, Acc. No. GLAHM175895.

Etymology. Named after Geoff Hancock, who slide mounted most of the specimens.



Figures 161–170. *Megaselia hancocki* sp. nov., male. 161. Proboscis; 162. Side of thorax; 163. Abdomen and haltere; 164–165. Hypopygium; 166. Front tarsus; 167. Mid tibia; 168. Hind femur; 169. Hind tibia; 170. Wing.

Megaselia jarretti sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:29A6C657-EA68-43B7-95A5-E6A570007F33

Figs 171-183

Diagnosis. Mesopleuron with hairs, costal index 0.33, anal tube longer than epandrium, hairs of proctiger longer than those at rear of abdominal tergite 6 but shorter than those of cerci, but bristles of epandrium longer than all. In the keys of Beyer (1965), it runs to couplet 26 on page 50, but both options have longer costal indexes and different hypopygia. Three subsequently described species run to this couplet. *Invenusta*?; sokotrana?; verdensis (Hypo not and wing details).

Description. — **Holotype** ♂. Frons as Fig. 171. Postpedicels, which lack SPS vesicles, palps and proboscis as Fig. 172, Side of thorax as Fig. 173, the mesopleuron having 4–5 hairs. Scutellum (Fig. 174) with an anterior pair of hairs and a posterior pair of bristles. Abdomen (Fig. 175) with hairs on segments 3–6 of venter. Figs 176–178, hypopygium; Fig. 179, front tarsus; Fig. 180, mid tibia; Fig. 181, hind femur; Fig. 182, wing; Fig. 183, haltere.

Material. **Holotype** ♂, Cameroon, Ngoumou, N 3.589, E 11.329, cocoa plantation, 14/IX/2019, C. Jarrett & L. Powell, Malaise trap (HMGS 26–94). Hunterian Museum, Acc. No. GLAHM175896.

Etymology. Named after the collector C. Jarrett.

Megaselia luteidorsum sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:8A41749A-6FBD-4951-8335-4D98AD22DBB6

Figs 184-195

Diagnosis. Orange thorax, mesopleuron with hairs and a bristle, 4 scutellar bristles, very long anal tube and lack of hypandrial lobes. In the keys of Beyer (1965), it runs to couplet 4 lead 1 on page 48. The wing details and brown rather than yellow halteres knobs rule out his species. The wing details exclude 2 subsequently described species running to the same point.

Description. — **Holotype** ♂. Fig. 184, rear part of frons; with 2 supra-antennal bristles; Fig. 185, postpedicel and palp; Fig. 186, ventral view of proboscis and a palp; Fig. 187, side of thorax with hairs and a bristle on the mesopleuron; Fig. 188, scutellum, with sockets indicating 4 bristles; Fig. 189, abdomen, the venter having hairs on segments 3–6; Figs 190 & 191, hypopygium; Fig. 192, front tarsus, with a near-dorsal palisade on segments 1–5; Fig. 193, mid tibia; Fig. 194, hind femur and tibia; Wing (Fig. 195) 1.32 mm long, costal index 0.40, costal ratios 3.48/1.32/1, [costal cilia all lost], vein 3 hair 0.01, at least 3 axillary bristles 0.03. Halteres with pale stems and brown knobs.

Material. Holotype ♂, Cameroon, Ngoumou, N 3.472, E 11.267, cocoa plantation, 19/I X/2019, C. Jarrett & L. Powell, Malaise trap. Hunterian Museum, Acc. No. GLAHM175897.

Etymology. Named after the orange (*lutei*) *dorsum* (back of the thorax).

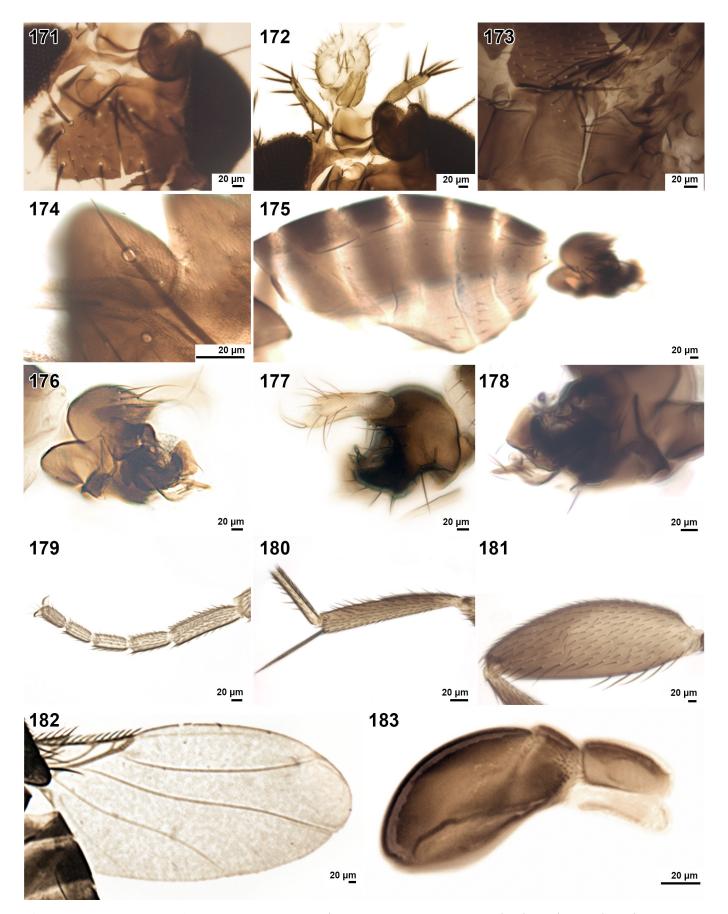
Megaselia novuspalpi sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:BCF72DEF-C28D-4BBB-A433-F83F7793B9F3

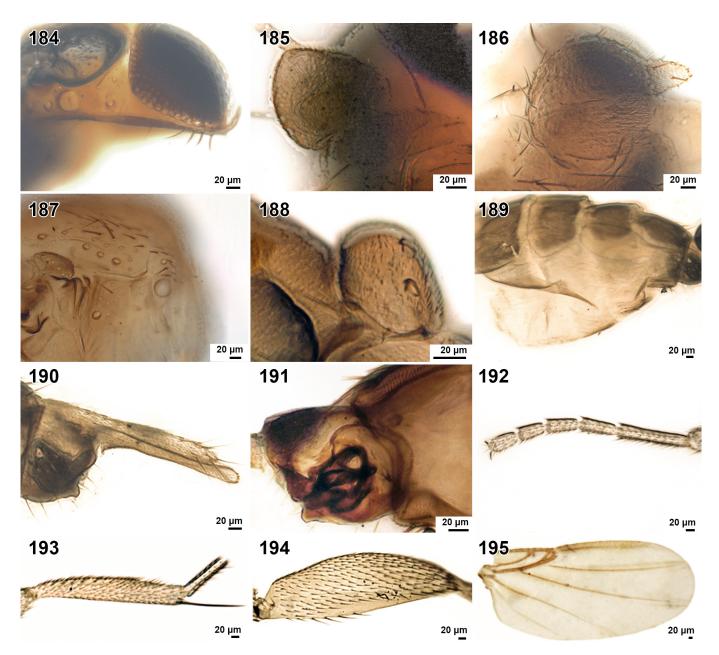
Figs 196–207 [The specimen was damaged on mounting and lacks a scutellum and intact middle legs]

Diagnosis. The bare mesopleuron plus a notopleural cleft, the ends of the palps with their expanded wide tips. In the keys of Beyer (1965), it runs, depending on the number of scutellar bristles, to couplet 16 on page 52 or couplet 13 on page 53. Apart from differences in wing details and leg colouring, the palps exclude the species and later additions.

Description. — Holotype ♂. Fig. 196, frons; Fig. 197, postpedicel and palps; Fig. 198, palps and proboscis in ventral view; Fig. 199, side of thorax, with its bare mesopleuron; scutellum with 2 bristles and 2 hairs; Fig. 200, abdomen with tergites and venter very dark; Figs 201 & 202, hypopygium; Fig. 203, front tarsus, with a near dorsal palisade on segments 1–5; Fig. 204, hind femur and tibia; Fig. 205, hind femur; wing (Fig. 206) 1.51 mm long, costal index 0.52, vein Sc fades way before reaching R1, costal ratios 4.80/3.46/1, costal cilia 0.04, no vein 3 hair, axillary bristle 0.10. Fig. 207, haltere.



Figures 171–183. *Megaselia jarretti* **sp. nov.**, male. **171.** Frons; **172.** Postpedicels, palps and proboscis; **173.** Side of thorax; **174.** Scutellum; **175.** Abdomen; **176–178.** Hypopygium; **179.** Front tarsus; **180.** Mid tibia; **181.** Hind femur; **182.** Wing; **183.** Haltere.



Figures 184–195. *Megaselia luteidorsum* **sp. nov.**, male. **184.** Frons; **185.** Postpedicels and palps; **186.** Labella and palps; **187.** Thorax; **188.** Scutellum; **189.** Abdomen; **190–191.** Hypopygium; **192.** Front tarsus; **193.** Mid tibia. **194.** Hind femur; **195.** Wing.

Material. **Holotype** ♂, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175898.

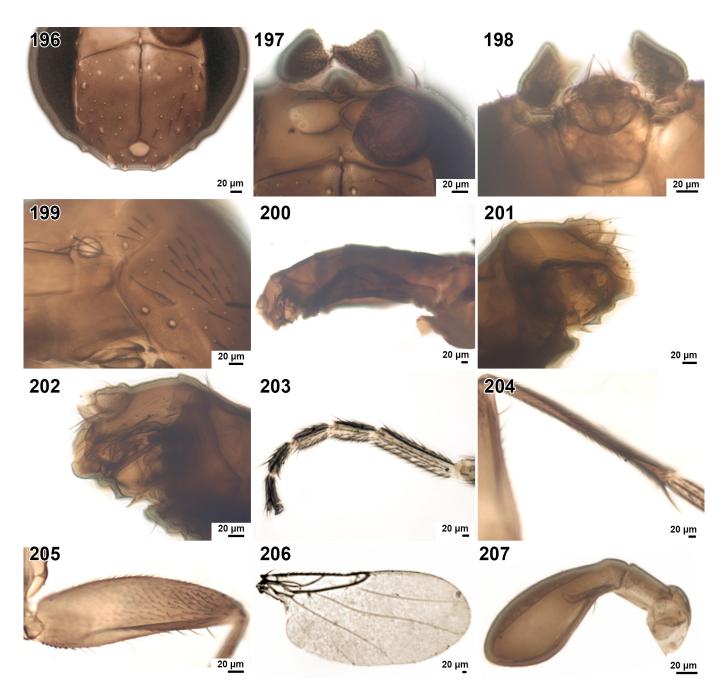
Etymology. From the Latin novus ("new") and palpus ("palp"), in reference to the unique shape of the palps.

Megaselia octopanni sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:F3C47467-3454-4C6F-B515-C82ADDE41944

Figs 208–215 [The specimen lacks a head and front legs].

Diagnosis. Vein 3 unforked. Mesopleruron with hairs and a bristle. Abdominal tergite 6 longer than T5, and sternum 6 with a pair of brown patches with hairs. Anal tube much longer than epandrium. In the keys of Beyer (1965) on pages 48–50, it fails to key out because of its unforked vein 3.

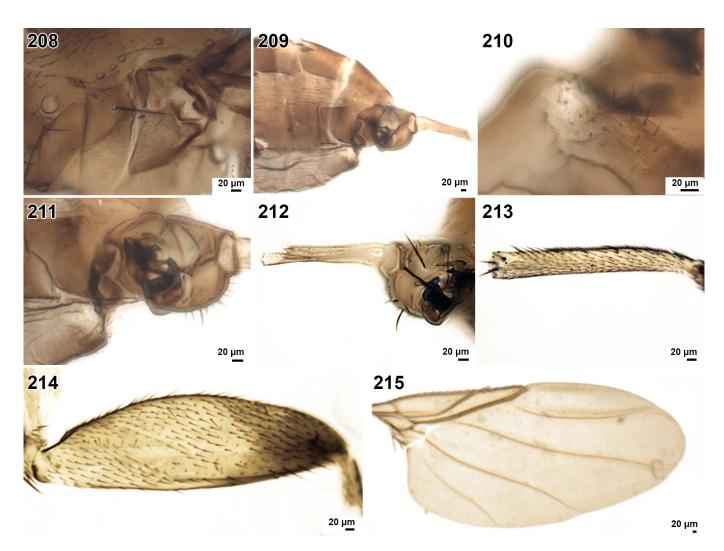


Figures 196–207. Megaselia novuspalpi sp. nov., male. 196. Frons; 197. Postpedicels and palps; 198. Ventral view of proboscis and palps; 199. Side of thorax; 200. Abdomen; 201 & 202. Hypopygium; 203. Front tarsus; 204. Hind femur and tibia; 205. Hind femur; 206. Wing; 207. Haltere.

Description. — Holotype ♂. Side of thorax as Fig. 208; Fig. 209, abdomen; Fig. 210, Left side of sternum 6; Fig. 211, Abdominal sternum 6 and ventral view of hypopygium; Fig. 212, right face of hypopygium; Fig. 213, mid tibia; Fig. 214, hind femur; wing (Fig. 215), 1.51 mm long, costal index 0.52, costal ratios 1.56/1, vein Sc fades away before reaching R1, costal cilia 0.01 mm, no vein 3 hair, 2 axillary bristles 0.01. Halteres with pale stems and dark knobs.

Material. **Holotype** ♂, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.8, 14–18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175899.

Etymology. Named after the brown patches (*panni*) on the abdominal sternum 8 (*octo*).



Figures 208–215. *Megaselia octopanni* **sp. nov.**, male. **208.** Side of thorax; **209.** Abdomen; **210.** Left side of sternum 6; **211.** Abdominal sternum 6 and ventral view of the hypopygium; **212.** Right face of hypopygium; **213.** Mid tibia; **214.** Hind femur; **215.** Wing.

Megaselia pallidaalae sp. n.

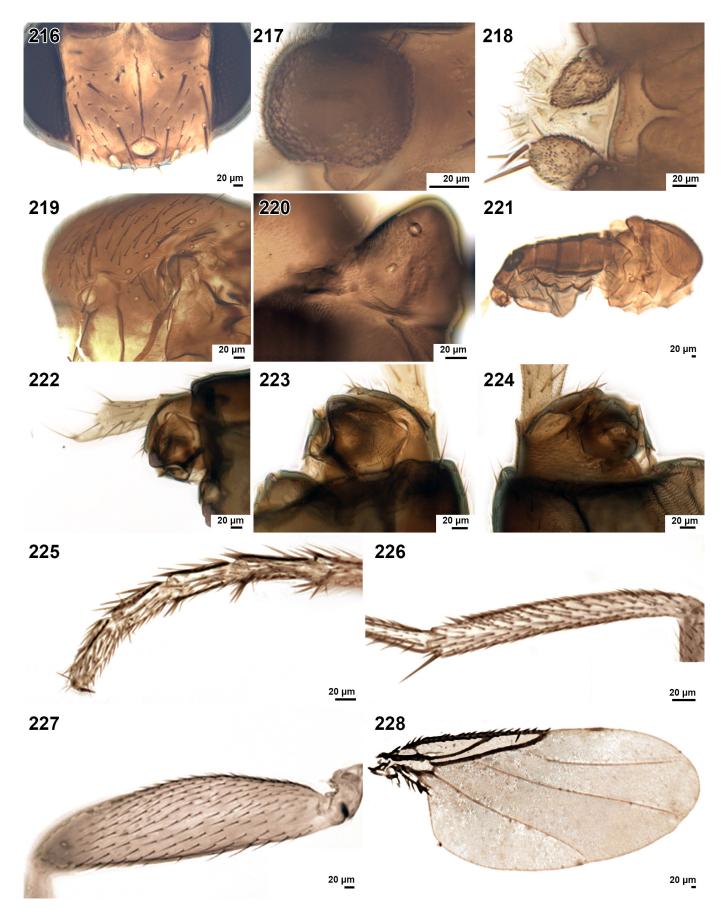
https://zoobank.org/urn:lsid:zoobank.org:act:194AB764-B1E0-4CD6-9174-E846D5C4285F Figs 216-228

Diagnosis. Wings pale, with vein 7 absent and vein 3 not forked. Thorax orange. With hairs and bristles on mesopleuron. Anal tube pale and longer than epandrium. Legs yellow. In the keys of Beyer (1965), it runs to couplet 20 on page 50, but neither option fits.

Description. — Holotype ♂. Frons as Fig. 216, with 4 supra-antennal bristles; Fig. 217, postpedicels; Fig. 218, palps and proboscis; Fig. 219, thorax; Fig. 220, scutellum. Fig. 221, abdomen, with longest tergite hairs on T6 and venter with hairs on segments 3–6. Figs 222–224; hypopygium. Fig. 225, front tarsus with a near dorsal palisade on segments 1–5; Fig. 226, mid tibia; Fig. 227, hind femur. The hind tibia lacks postero- or antero-dorsal small bristles. Wing (Fig. 228) 1.61 mm long, costal index 0.51, costal ratios 1.38/1, subcosta very pale and seemingly not quite reaching R1, costal cilia 0.07, no vein 3 hair, 5 axillary bristles 0.07. Halteres with pale stems and grey/brown knobs.

Material. **Holotype** ♂, Cameroon, Ngoumou, N 3.472, E 11.267, cocoa plantation, 19/IX/2019, C. Jarrett & L. Powell, Malaise trap. Hunterian Museum, Acc. No. GLAHM175900.

Etymology. Named after the pale (*pallida*) wings (*alae*).



Figures 216–228. *Megaselia pallidaalae* sp. nov., male. 216. Frons; 217. Postpedicel; 218. Palps and proboscis; 219. Side of thorax; 220. Scutellum; 221. Abdomen; 222–224. Hypopygium; 225. Front tarsus; 226. Mid tibia; 227. Hind femur; 228. Wing.

Megaselia prohunterian sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:580FA31B-30E5-4AAB-94E6-7DF45704E7EF

Figs 229-241

Diagnosis. Mesopleuron with hairs and bristles. Epandrium with hairs and a bristle and the length of its dorsal edge about equal to the length of the anal tube. Hairs at hind margin of abdominal tergite 6 shorter than all hairs on hypopygium. In the keys of Beyer (1965), it runs to couplet 1 on page 48, but its costal index is clearly shorter.

Description. — **Holotype** & Frons as Fig. 229. Postpedicel (Fig. 230) with SPS vesicles. Postpedicels, palps and proboscis as Fig. 231. Side of thorax as Fig. 232. Scutellum with an anterior pair of hairs and a posterior pair of bristles (Fig. 233). Abdomen as Fig. 234. Hypoppygium as Figs 234–237; Fig. 238, front tibia and tarsus; Fig. 239. Mid tibia; Hind femur (Fig. 240) with the hairs below basal half longer than the antero-ventrals of the outer half. Hind tibia with antero- and postero-dorsal small bristles. Wing (Fig. 241) 1.79 mm long. Costal index 0.45. Costal ratios 3.45/1.76/1. Subcosta runs to R1. Costal cilia 0.17 mm. Vein 3 hair 0.10 mm. 3 axillary bristles, the longest being 0.11 mm. Halteres brown.

Material. Holotype ♂, Cameroon, Ngoumou, N 3.589, E 11.329, cocoa plantation, 14/IX/2019, C. Jarrett & L. Powell, Malaise trap (HMGS 26–94). Hunterian Museum, Acc. No. GLAHM1758101; **Paratype**: 1♂, Cameroon, Ngoumou N 3.472, E 11.267, cocoa plantation, 19/IX/2019, C. Jarrett & L. Powell, Malaise trap. *Etymology.* Named on behalf (pro) of the Hunterian Museum.

Megaselia propowell sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:C870AC3A-2B42-4788-9F7C-FAFA9CAC8F4C

Figs 242-251

Diagnosis. Underside of labella of proboscis with numerous microsetae. Thorax yellow. Mesopleuron bare. Anal tube about as long as dorsal edge of epandrium about equal to the length of the anal tube. Hairs at hind margin of abdominal tergite 6 longer than all hairs on epandrium, but shorter than hairs of cerci and proctiger. In the keys of Beyer (1965), it runs to couplet 45 on page 55, but neither option fits.

Description. — **Holotype** ♂. Frons as Fig. 242; Fig. 243, postpedicels, which lack SPS vesicles, palps and proboscis; Fig. 244, side of thorax; scutellum with an anterior pair of hairs and a posterior pair of bristles. Abdomen as Fig. 245, the venter having hairs on being 0.11 mm. segments 3–6. Hypopygium as Figs 246–247; legs yellowish apart from tips of hind femora. Front tarsus as Fig. 248, with a near dorsal palisade on segments. 1–4; mid tibia as Fig. 249; Fig. 250, hind femur, with the hairs below the basal half longer than the anteroventrals of the outer half. Wing (Fig. 251) 1.79–1.91 mm long. Costal index 0.47–0.51. Costal ratios 3.06–3.52/1.76–1.86/1. Subcosta runs to R1. Costal cilia 0.09–0.11 mm long. Vein 3 hair 0.10 mm. With 3 axillary bristles, the longest. Halteres brown.

Material. **Holotype** ♂, Cameroon, Ngoumou, N 3.589, E 11.329, cocoa plantation, 14/IX/2019, C. C. Jarrett & L. Powell, Malaise trap (HMGS 26–94). Hunterian Museum, Acc. No. GLAHM175902.

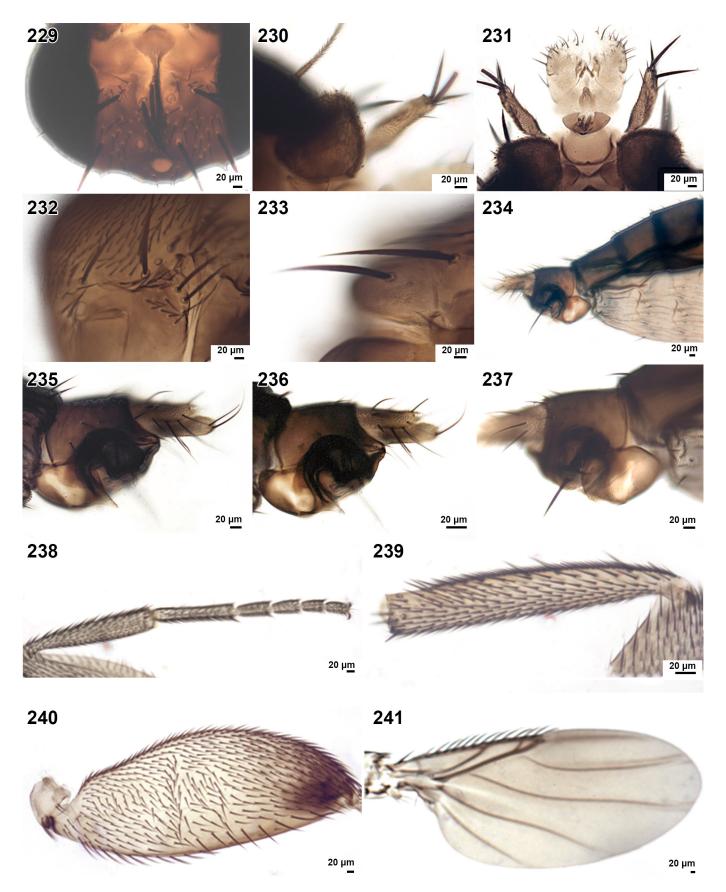
Etymology. Named from the Latin prefix *pro-* ('for') and the surname Powell, honouring L. Powell, the collector of the type specimen.

Megaselia setimesopleuron sp. nov

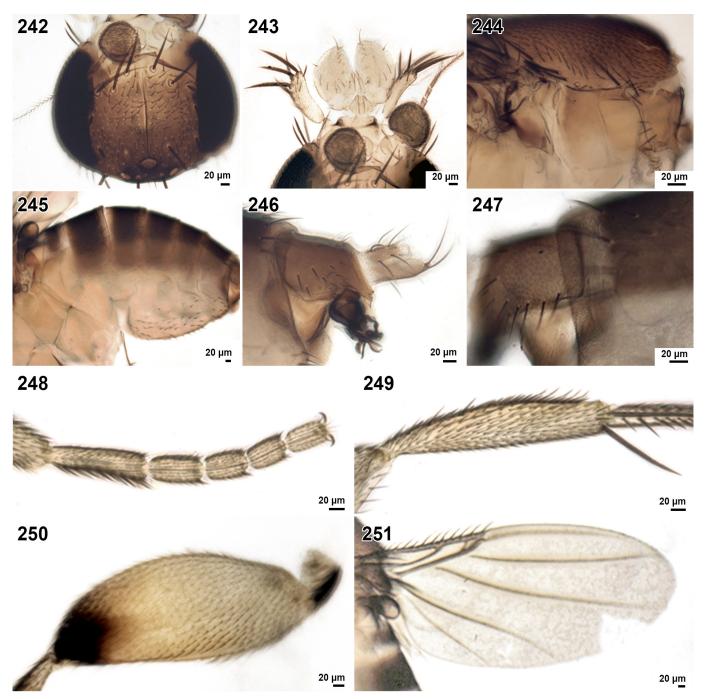
https://zoobank.org/urn:lsid:zoobank.org:act:83933B0C-6D33-43B1-9F2D-FFF8EF863B8D

Figs 252–261 [The specimen lacks one wing, and the other one is damaged].

Diagnosis. In the key to Afrotropical genera (Disney, 2021), it runs to couplet 38 *Megaselia* (part) and *Menozziola*. The hypopygium of the latter has a much longer anal tube and vestigial hypandrial lobes. Within the huge genus *Megaselia*, the very large number of hairs (>40) on the mesopleuron is previously not recorded. In the keys of Beyer (1965), it runs to couplet 15 on page 49, but neither fits.

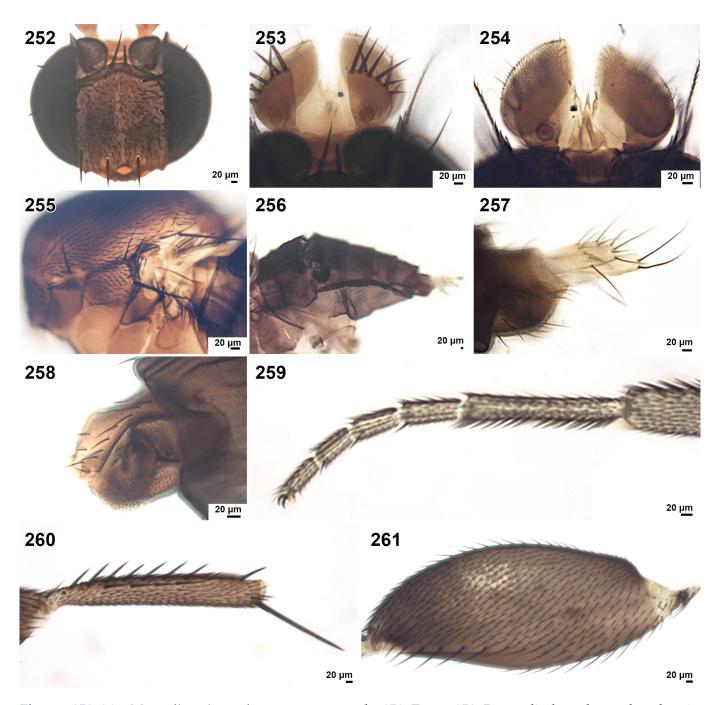


Figures 229–241. *Megaselia prohunterian* **sp. nov.**, male. **229.** Frons; **230.** Postpedicels; **231.** Palps and proboscis; **232.** Side of thorax; **233.** Scutellum; **234.** Abdomen; **235–236.** Left face of hypopygium at 2 different focuses; **237.** Right face of hypopygium; **238.** Front tarsus; **239.** Mid tibia; **240.** Hind femur; **241.** Wing.



Figures 242–251. Megaselia propowell sp. nov., male. 242. Frons; 243. Postpedicels, palps and proboscis; 244. Side of thorax; 245. Abdomen; 246 & 247. Hypopygium; 248. Front tarsus; 249. Mid tibia; 250. Hind femur; 251. Wing.

Description. — Holotype ♂. Frons as Fig. 252, there being only 2 supra-antennal bristles. Postpedicels, which have SPS vesicles, and palps as Fig. 253, with their internal 'bubble' feature. Proboscis (Fig. 254) broad with numerous setae below; side of thorax as Fig. 255; abdomen (Fig. 256) with small hairs on segments 3–6 of venter. Hypopygium as Figs 257 & 258, the hypanrial lobes being broad, with that of the right side shorter. Legs brown. Front tarsus (Fig. 259) with a near dorsal palisade on segments. 1–4. Mid tibia (Fig. 260) with postero-dorsal and posterior spines. Fig. 261, hind femur. Hind tibia with posterdorsal spines only. Wing 2.58 mm long. Costal index 0.61. Costal ratios 3.84/1.48/1. Subcosta free. Costal cilia 0.10 mm. With a hair at base of vein 3 represented by its socket only. Axillary bristles lost. Halteres brown.



Figures 252–261. Megaselia setimesopleuron sp. nov., male. 252. Frons; 253. Postpedicela, palps and proboscis; 254. Labella; 255. Side of thorax; 256. Abdomen; 257 & 258. Hypopygium; 259. Front tarsus; 260. Mid tibia; 261. Hind femur.

Material. **Holotype** 3, Cameroon, Ngoumou, N 3.589, E 11.329, cocoa plantation, 14/IX/2019, C. Jarrett & L. Powell, Malaise trap, (HMGS, 26–95). Hunterian Museum, Acc. No. GLAHM175903.

Etymology. Named after the hairs (seti) of the mesopleuron, being more numerous than previously recorded.

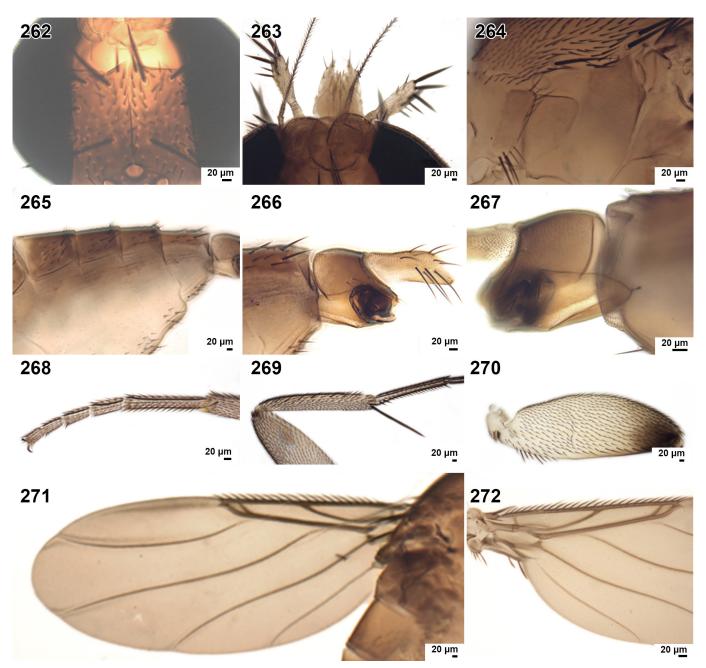
Megaselia siphunculus sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:EF97C7AD-67E4-4BA5-9BF2-B08F6F0C7075

Figs 262-272

Diagnosis. The yellow thorax, bare mesopleuron, yellow legs, broad hypandrial lobes and wing details characterise this species. In the keys of Beyer (1965), it runs to couplet 30 lead 2 on page 54, but the wing details don't fit. 10 other species will run to this point, but the wing details and hypopygia do not match. [surophila?]

Description. — **Holotype** ♂. Frons as Fig. 262; postpedicels, which lack SPS vesicles, Fig. 263, palps and proboscis; Fig. 264, side of thorax; Fig. 265, abdomen, the venter having numerous hairs on segments 3–6. Figs 266–267, hypopygium; the left hypandrial lobe being longer than the right lobe. Fig. 268, front tarsus, with a near dorsal palisade on segments 1–4; Fig. 269, mid tibia and basitarsus; Fig. 270, hind femur; Wing (Fig. 271 and Fig. 272, basal half) length 1.61 mm, costal index 0.50, costal ratios 5.00/3.87/1. Sc free, costal cilia 0.05, vein 3 hair 0.01, 2 axillary bristles, the outermost 0.05. Halteres brown.



Figures 262–272. *Megaselia siphunculus* sp. nov., male. 262. Frons. 263. Postpedicela, palps and proboscis; 264. Side of thorax; 265. Abdomen; 266–267. Hypopygium; 268. Front tarsus; 269. Mid tibia and basitarsus; 270. Hind femur; 271–272. Wing.

Material. Holotype ♂, Cameroon, Ngoumou, N 3.589, E 11.329, cocoa plantation, 14/IX/2019, C. Jarrett & L. Powell, Malaise trap (HMGS, 26–95). Hunterian Museum, Acc. No. GLAHM175904.

Etymology. Named after the little tube (*siphunculus*) with reference to the long anal tube.

Megaselia spernohypandia sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:B8FBB4FE-9AA6-42EB-99B2-3AF60E5F3C1E

Figs 273-284

Diagnosis. The combination of a bare mesopleuron, a notopleural cleft, the hairs of the epandrium, cerci, proctiger and those at the rear of abdominal tergite 6 being all about the same length, the lack of hypandrial lobes and the yellow legs serves to rule out known species. In the keys of Beyer (1965), it runs to couplet 19 on page 52, but neither option fits.

Description. — **Holotype** & Frons as Fig. 273; The postpedicels, palps and proboscis as Fig. 274; The postpedicels having SPS vesicles (Fig. 275); side of *thorax* as Fig. 276; scutellum with 4 bristles; abdomen as Fig. 277, the venter having hairs on segments 3–6; hypopygium as Figs 278–280, the hypandrial lobes being vestigial; Fig. 281, front tarsus, with a near dorsal palisade on segments 1–5; Fig. 282, mid tibia and basitarsus; hind femur as Fig. 283. Hind tibia without antero- or postero-dorsal small spines. Wing (Fig. 284) 1.33 mm long. Costal index 0.52. Costal ratios 3.94/2.28/1. Sc runs to R1. Costal cilia 0.06 mm long. No hair at base of vein 3. 2 axillary bristles, the longest being 0.11 mm long. Haltere knobss brown.

Material. Holotype ♂, Cameroon, Ngoumou, N 3.589, E 11.329, cocoa plantation, 14/IX/2019, C. Jarrett & L. Powell, Malaise trap (HMGS, 26–95). Hunterian Museum, Acc. No. GLAHM175905.

Etymology. Named after the reject (sperno) of hypandrial lobes.

Megaselia venteralbus sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:5E450A07-9112-46B4-BFFD-F2E157D37361

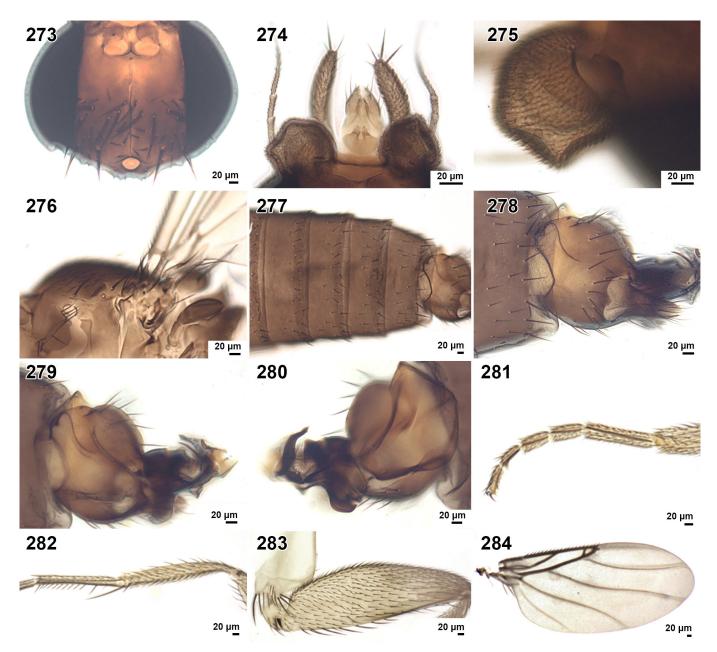
Figs 285-298

Diagnosis. The combination of 4 supra-antennal bristles, labella with many small setae, the mesopleuron with hairs and a bristle, scutellum with 2 hairs and 2 bristles, vanter pale, the hypopygium with a pale anal tube longer than epandrium, with a pale left hypandrial lobe but the right lobe vestigial, legs yellow apart from tips of hind femora serves to rule out known species. In the keys of Beyer (1965) it runs to couplet 16 lead 1 on page 49, but the wing's details don't fit.

Description. — Holotype ♂. Frons as Fig. 285; Fig. 286, postpedicels, which lack SPS vesicles, palps and proboscis from above and Fig. 287, ventral view of same with numerous setae on the labellae of the proboscis; Fig. 288, side view of thorax, with 2 notopleurals. Scutellum with an anterior pair of small hairs and a posterior pair of bristles; Abdomen as Fig. 289 and the very pale venter as Fig. 290, with the hairs on segments 4–6 only; Figs 291 & 292, left and right faces of hypopygium. The left hypandrial lobe being pale and long (Fig. 293), but the right lobe vestigial; Fig. 294, front tarsus with a near dorsal palisade on segments 1–5; Fig. 295, mid tibia and tarsus; Fig. 296, hind femur; Wing (Fig. 297) 1.47 mm long, costal index 0.51. costal ratios 3.47/2.97/1. Sc runs to R1; Costal cilia 0.11, vein 3 hair 0.09, with 3 axillary bristles, the longest being 0.09 mm long. Halteres as Fig. 298.

Material. **Holotype** ♂, Cameroon, Ngoumou, N 3.589, E 11.329 cocoa plantation, 14/IX/2019, C. Jarrett & L. Powell, Malaise trap (HMGS, 26–95). Hunterian Museum, Acc. No. GLAHM175906.

Etymology. Named after the very pale (albus) venter.



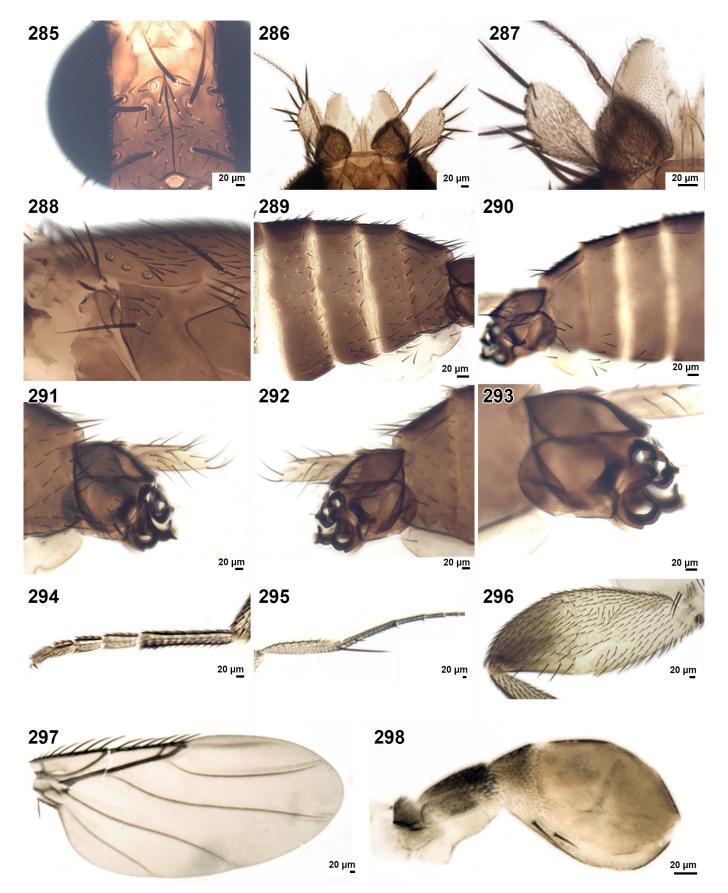
Figures 273–284. *Megaselia spernohypandia* **sp. nov.**, male. **273.** Frons; **274.** Postpedicels, palps and proboscis; **275.** Postpedicel; **276.** Side of thorax; **277.** Abdomen; **278.** Hypopygium from above; **279.** Penis complex; **280.** Hypopygium from below; **281.** Front tarsus; **282.** Mid tibia and basitarsus; **283.** Hind femur; **284.** Wing.

Megaselia ventersetae sp. nov.

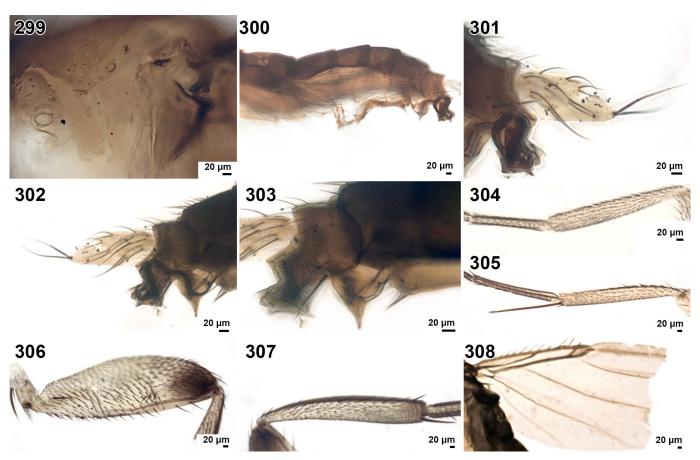
https://zoobank.org/urn:lsid:zoobank.org:act:8E611578-22F6-4C1B-93CD-FF00862FE6EA

Figs 299–308 [The specimen lacks a head and the fifth segments of the front tarsi. Also, the scutellum is obscured, and both wings are incomplete].

Diagnosis. Abdominal venter pale with many strong hairs on segments 3–6. Each side of epandrium with hairs and a bristle that is longer than those at rear of T6. Anal tube longer than epandrium. Proctiger bristles longer than the rest. In the keys of Beyer (1965), it cannot be keyed due to the lack of the head and incomplete wings. However, the hairy venter and details of the hypopygium exclude the species covered, apart from those described from females only.



Figures 285–298. *Megaselia venteralbus* **sp. nov.**, male. **285.** Frons; **286.** Postpedicels, palps and proboscis from above; **287.** The same in ventral view; **288.** Side of thorax; **289.** Abdomen; **290.** Venter viewed from below; **291–292.** Hypopygium and left hypandrial lobe as 293; **294.** Front tarsus; **295.** Mid tibia and tarsus; **296.** Hind femur; **297.** Wing; **298.** Haltere.



Figures 299–308. *Megaselia ventersetae* sp. nov., male. 299. Thorax; 300. Abdomen; 301–303. Hypopygium; 304. Front tibia and basitarsus; 305. Mid tibia and basitarsus; 306. Hind femur; 307. Hind tibia. 308. Wing.

Description. — **Holotype** ♂. Fig. 299, side of thorax; Fig. 300, abdomen; Figs 301–303, hypopygium; Fig. 304, front tibia and basitarsus; Fig. 305, mid tibia and basitarsus; Fig. 306, hind femur; Fig. 307, hind tibia; incomplete wing (Fig. 308), costal index less than 0.5, vein Sc not discerned, costal ratios 4.60/3.33/1, costal cilia 0.17, vein 3 hair only sockets present, 3 axillary bristles 0.11. Haltere knobs dark.

Material. **Holotype** ♂, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175907.

Etymology. Named after the venter having many strong hairs (*setae*).

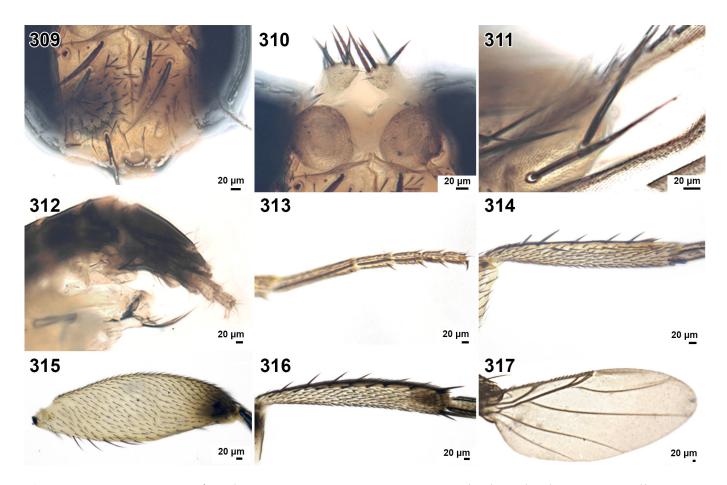
Megaselia female species A

Figs 309–317 [Much of the side of the thorax is obscured by bubbles].

Diagnosis. Thorax orange, abdominal tergites part yellow part brown, venter pale with hairs on segments 3–6, legs yellow apart from tips of hind femora. Costal index 0.56. A problem with the keys of Beyer (1965) is that he didn't key the males and females separately. *Species A* runs to couplet 12 on to page 51, lead 1 and thence by repeatedly following both options at a couplet on to couplet 10 on page 52. However, the wing details and/or at least one of the characters in the above diagnosis rule out the species encountered.

Female. Fig. 309, frons; Fig. 310, postpedicels and palps; Fig. 311, scutellum; Fig. 312, abdomen; Fig. 313, front tarsus with a near dorsal palisade on segments 1–5; Fig. 314, mid tibia; Fig. 315, hind femur; Fig. 316, hind tibia. Wing (Fig. 317) 1.93 mm long, costal index 0.56, costal ratios 3.32/2.81/1, costal cilia 0.06, no vein 3 hair, 5 axillary bristles 0.08. Halteres with pale grey knobs.

Specimen examined. 1[♀], Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No KH 2019.3.1



Figures 309–317. *Megaselia* female species A. **309.** Frons; **310.** Postpedicels and palps; **311.** Scutellum; **312.** Abdomen; **313.** Front tarsus; **314.** Mid tibia; **315.** Hind femur; **316.** Hind tibia; **317.** Wing.

Megaselia female species B

Figs 318–329 [The head of the specimen is tilted at an angle, and the palps are missing].

Diagnosis. Mesopleuron with hairs and 2 bristles, scutellum with 2 bristles and 2 hairs, abdominal venter with hairs on segments 5–7, legs yellow, costal index 0.50. In the keys of Beyer (1965), it runs to couplet 19 on page 49, but neither option fits along with an addition due to different wing details.

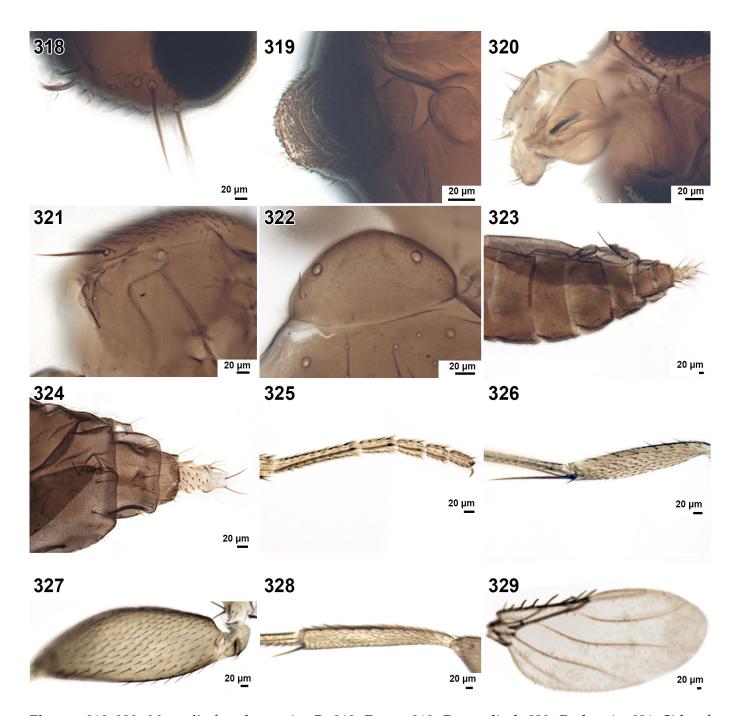
Female. Fig. 318, frons; Fig. 319, postpedicel; Fig. 320, proboscis; Fig. 321, side of thorax; Fig. 322, scutellum; Fig. 323, dorsal view of abdomen; Fig. 324, ventral view of abdomen; Fig. 325, front tarsus with a near dorsal palisade on segments 1–4; Fig. 326, mid tibia; Fig. 327, hind femur; Fig. 328, hind tibia; Wing (Fig. 329) 1.18 mm long, costal index 0.50, costal ratios 3.87/2.67/1, Sc almost to R1, costal cilia 0.10, vein 3 hair 0.05, 4 axillary bristles 0.06. Halteres with grey stems and very pale knobs.

Specimen examined. **1**♀, Cameroon, Ngoumou, N 3.472, E 11.267, cocoa plantation, 19/IX/2019, C. Jarrett & L. Powell, Malaise trap. Hunterian Museum, Acc. No KH 2019.3.1

Megaselia female species C

Figs 330–340 [Much is obscured by bubbles, especially the side of the head].

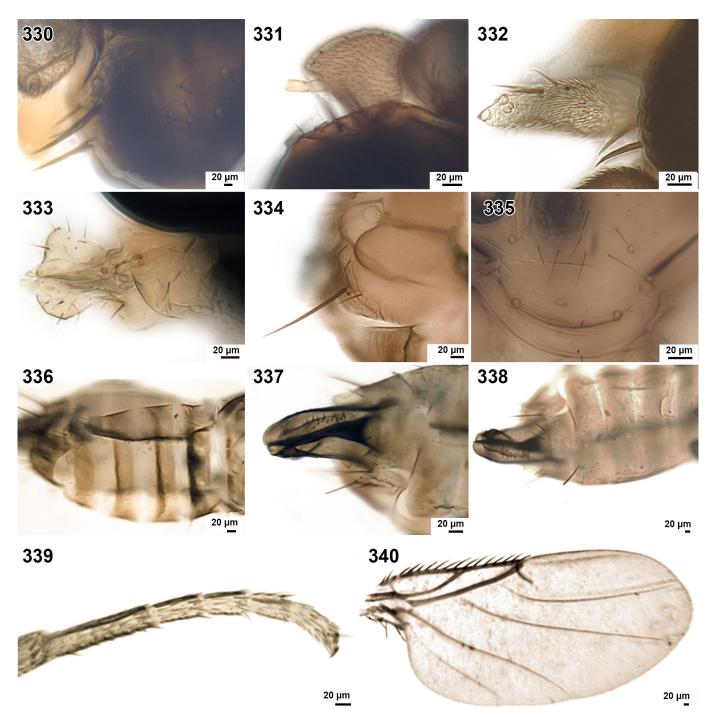
Diagnosis. Mesopleuron with hairs and a bristle; abdominal tergites 1–4 pale brown with posterior borders brown; legs yellow; vein 3 unforked. In the keys of Beyer (1965), it runs to couplet 20 on page 50, but neither option applies. *Megaselia subulicauda* (Schmitz, 1929), treated under the since discarded genus *Hemiplastophora* Beyer, will run to this couplet, but its ovipositor and proboscis are both longer (fig. 1 in Schmitz, 1929).



Figures 318–329. *Megaselia* female species B. 318. Frons; 319. Postpedicel; 320. Proboscis; 321. Side of thorax; 322. Scutellum; 323. Dorsal view of abdomen; 324. Ventral view of abdomen; 325. Front tarsus; 326. Mid tibia; 327. Hind femur; 328. Hind tibia; 329. Wing.

Female. Fig. 330, frons; Fig. 331, postpedicel; Fig. 332, palp; Fig. 333, ventral view of proboscis; Fig. 334, mesopleuron with hairs and a bristle; Fig. 335, scutellum, with sockets only of 2 bristles and 2 hairs; Fig. 336, dorsal view of tergites 1–6 of abdomen; Fig. 337, from tergite 6 to tip of abdomen; Fig. 338, ventral view of abdomen; Fig. 339, front tarsus with a near dorsal palisade on segments 1–4; wing (Fig. 340) 1.35 mm, costal index 0.50, costal ratios 1.05/1, no Sc vein, costal cilia 0.09, v3 hair socket only, 3 axillary bristles 0.09. Halteres with pale stems and very pale knobs.

Specimen examined. **1**♀, Cameroon, Ngoumou, N 3.472, E 11.267, cocoa plantation, 19/IX/2019, C. Jarrett & L. Powell, Malaise trap. Hunterian Museum, Acc. No KH 2019.3.1

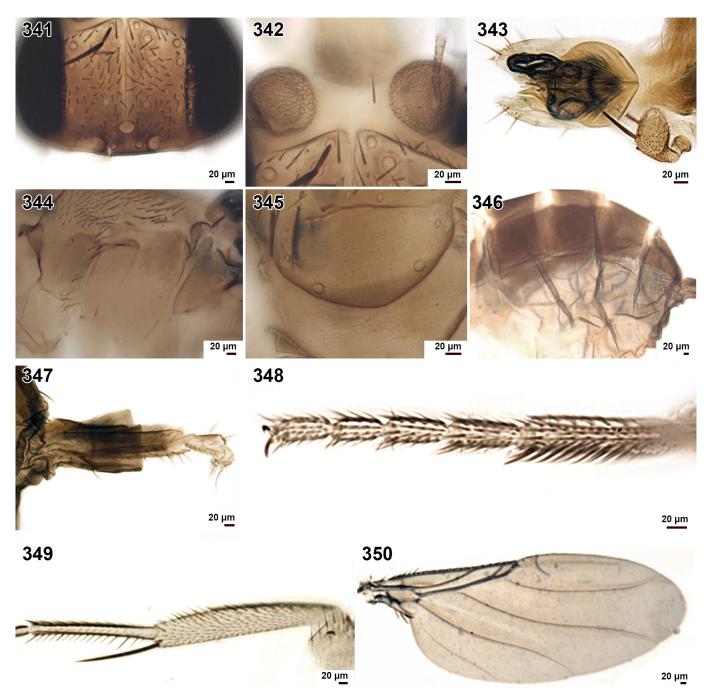


Figures 330–340. *Megaselia* female species C. **330.** Frons; **331.** Postpedicel; **332.** Palp. **333.** Ventral view of proboscis. **334.** Mesopleuron; **335.** Scutellum; **336.** Abdomen dorsal; **337.** Tergite 6 to tip; **338.** Ventral view of abdomen; **339.** Front tarsus; **340.** Wing.

Megaselia female species D

Figs 341-350

Diagnosis. Mesopleuron bare, thorax orange, legs yellow, CI 0.45. In the keys of Beyer (1965), it runs to couplet 16 on page 53, based on male characters only. Taking both options more than once (because wing details differ, including subsequent species running to these couplets), one arrives at couplet 27, which is based on the female abdominal tergites, but both species have some tergites yellow, unlike species D in which they are all brown.



Figures 341–350. *Megaselia* female species D. **341.** Frons; **342.** Postpedicels; **343.** Palp and proboscis; **344.** Side of thorax; **345.** Scutellum; **346.** Abdomen; **347.** Ovipositor segment; **348.** Front tarsus; **349.** Mid tibia and basitarsus; **350.** Wing.

Female. Fig. 341, frons; Fig. 342, postpedicels, with SPS vesicles; Fig. 343, palp and proboscis; Fig. 344, side of thorax; Fig. 345, scutellum; Fig. 346, abdomen; Fig. 347, ovipositor segments; legs yellow; Fig. 348, front tarsus with a near dorsal palisade on segments 1–4; Fig. 349, mid tibia and basitarsus; hairs below the basal half of hind femur longer than those of the anteroventral half; Wing (Fig. 350) 1.49 mm long, costal index 0.45, costal ratios 5.54/2.45/1, subcosta pale but runs to R1, costal cilia 0.07, vein 3 hair only 0.02, 3 axillary bristles 0.08. Halteres with pale stems and dark knobs.

Specimen examined. 1[♀], Cameroon, N 3.472, E 11.267, Ngoumou, cocoa plantation, 19/IX/ 2019, C. Jarrett & L. Powell, Malaise trap. Hunterian Museum, Acc. No KH 2019.3.1

Megaselia female species E

Figs 351–361 [Much is obscured by bubbles, especially the sides of the hind femora, and the abdomen is a mess].

Diagnosis. Thorax orange, mesopleuron with hairs, legs yellow, CI 0.54. In the keys of Beyer (1965), it runs to couplet 16 lead 2 on page 49, but its costal index and costal ratios are different.

Female. Fig. 351, frons; Fig. 352, postpedicel, which has SPS vesicles; Fig. 353, a palp and proboscis; Fig. 354, side of thorax, the mesopleuron having a dozen hairs (but most represented by their sockets only); Fig. 355, scutellum and haltere; Fig. 356, abdomen; Figs 357 & 358, dorsal and ventral views of the ovipositor segments; Fig. 359, front tarsus with a near dorsal palisade on segments 1–4; Fig. 360, hind femur; wing (Fig. 361) 1.85 mm long, costal index 0.54, costal ratios 4.00/3.24/1, vein Sc runs to R1, costal cilia 0.10, vein 3 hair 0.04, 4 axillary bristles 0.10. Halteres (Fig. 355).

Specimen examined. **1**♀, Cameroon, Ngoumou, N 3.472, E 11.267, cocoa plantation, 19/IX/ 2019, C. Jarrett & L. Powell, Malaise trap. Hunterian Museum, Acc. No KH 2019.3.1

Megaselia female species F

Figs 362–370 [The middle legs are missing; also, the axillary region of the wing].

Diagnosis. Mesopleuron bare, 2+2 scutellars, CI 0.56. In the keys of Beyer (1965), it runs to couplet 5 on page 53 lead 2 and on to couplet 16, which is for males only.

So, by a series of moves, where each option is rejected because of the wing details, one arrives at couplet 37 on page 55. Likewise, some additions at couplets on the way have different wing details.,

Female. Fig. 362, frons, with the antials close to anterolaterals but lower on the frons; Fig. 363, postpedicels and palps; Fig. 364, side of thorax; Fig. 365, scutellum and haltere; Fig. 366, abdomen, with longest hairs on tergite 6 and venter with hairs on segments 5–7, with longest hairs on 6 and 7; Fig. 367, front tarsus with a near dorsal palisade on segments 1–4; Fig. 368, hind femur; Fig. 369, hind tibia; wing (Fig. 370) 1.00 mm long, costal index 0.56, costal ratios 3.78/2.02/1, vein Sc runs to R1, costal cilia 0.05, vein 3 hair 0.04. Halteres with dark knobs (Fig. 365).

Specimen examined. 1[♀], Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No KH 2019.3.1

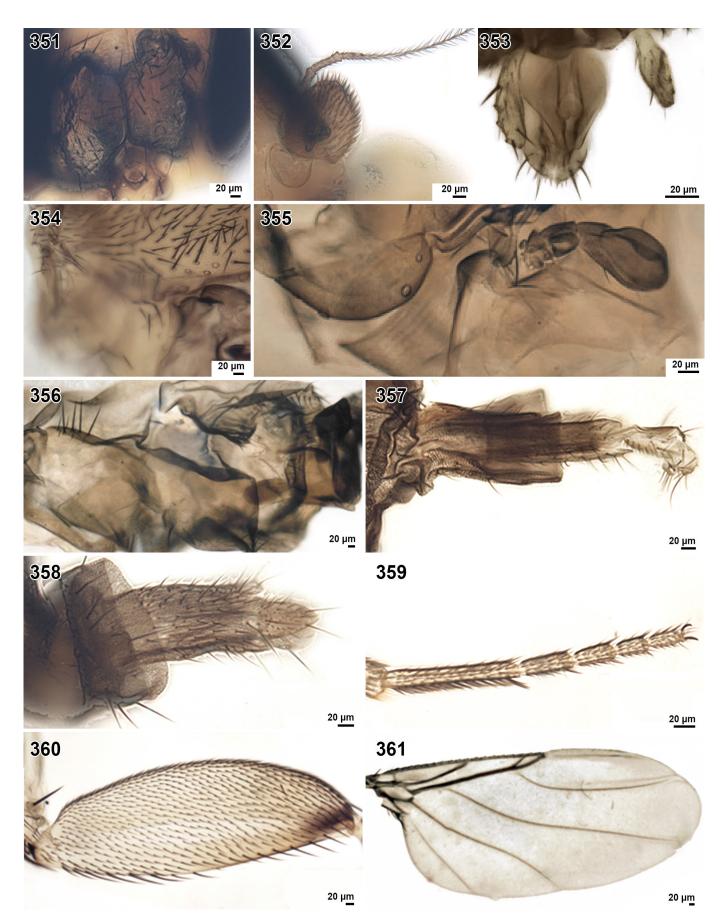
Megaselia female species G

Figs 371–382 [The specimen lacks palps and the scutellum. All the costal cilia and axillary bristles have been lost].

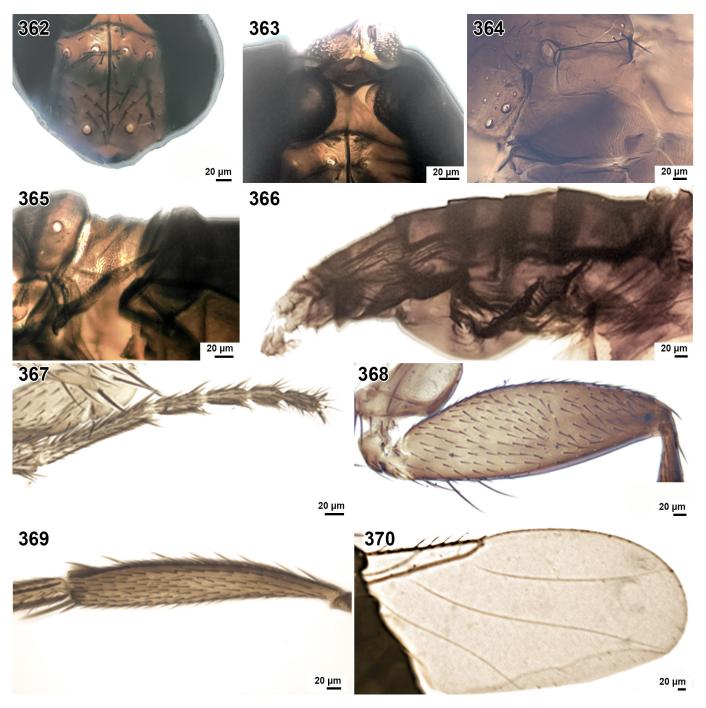
Diagnosis. Mesopleuron with hairs and 2 bristles. Legs pale brown. CI 0.54. In the keys of Beyer (1965), it runs to couplet 4 on page 48, or couplet 12 on page 49 or couplet 20 on page 50, but the wing details exclude all the species encountered. An addition to the last option has a longer proboscis and different ovipositor segments.

Female. Fig. 371, frons, upper supra-antennal bristles are wider apart than the pre-ocellars; Fig. 372, postpedicels; Fig. 373, proboscis; Fig. 374, mesopleuron; Fig. 375, abdominal tergites 2–5; Fig. 376, segment 6 to tip of abdomen; Fig. 377, front tarsus with a near dorsal palisade on segments 1–4; Fig. 378, mid tibia; Fig. 379, hind femur; Fig. 380, hind tibia; wing (Fig. 381) 1.67 mm, costal index 0.54, costal ratios 4.25/2.08/1, vein 3 hair 0.05. Fig. 382, haltere.

Specimen examined. $\mathbf{1}^{\circ}$, Cameroon, Ngoumou, N 3.472, E 11.267, cocoa plantation, 19/IX/2019, C. Jarrett & L. Powell, Malaise trap.



Figures 351–361. *Megaselia* female species E. 351. Frons; 352. Postpedicel; 353. A palp and proboscis; 354. Side of thorax; Fig. 355. Scutellum and haltere; 356. Abdomen; 357 & 358. Dorsal and ventral views of the ovipositor segments; 359. Front tarsus; 360. Hind femur; 361. Wing.



Figures 362–370. *Megaselia* female species F. **362.** Frons; **363.** Postpedicels and palps; **364.** Thorax; **365.** Scutellum and haltere; **366.** Abdomen; **367.** Front tarsus; **368.** Hind femur; **369.** Hind tibia; **370.** Wing.

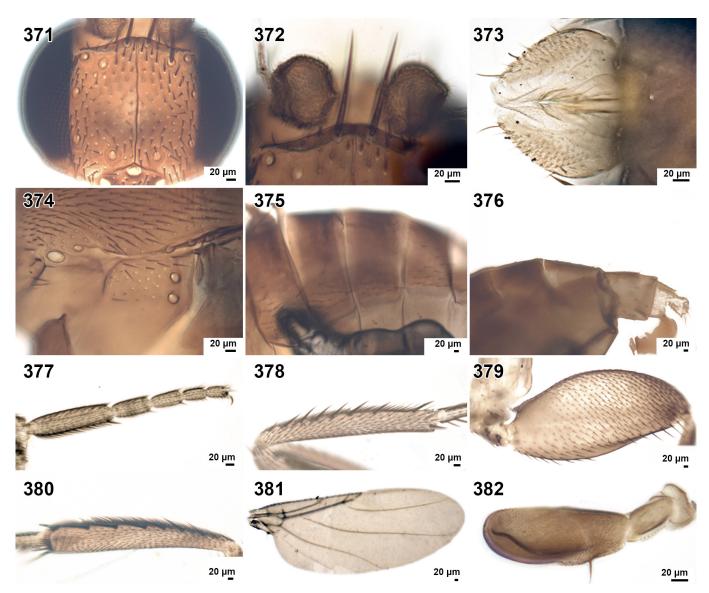
Genus Mirusgenitalis gen. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:F68E4B12-41C4-443A-942F-7D29C142D836

Type species. *Mirusgenitalis luteithorax* Disney, **sp. nov.**

Diagnosis. In the key to world genera (Disney, 1994), it runs to couplet 20, but neither option fits as the hind tibia has a single dorsal palisade. In the more recent key to Afrotropical genera (Disney, 2021), it runs to couplet 18, but neither option fits; in particular, the hypopygium is quite different.

Etymology. Named after the strange (*mirus*) hypopygium.



Figures 371–382. *Megaselia* female species G. 371. Frons; 372. Postpedicels; 373. Proboscis; 374 mesopleuron; 375. Abdominal tergites 2–5; 376. Segment 6 to tip of abdomen; 377. Front tarsus; 378. Mid tibia; 379. Hind femur; 380. Hind tibia; 381. Wing; 382. Haltere.

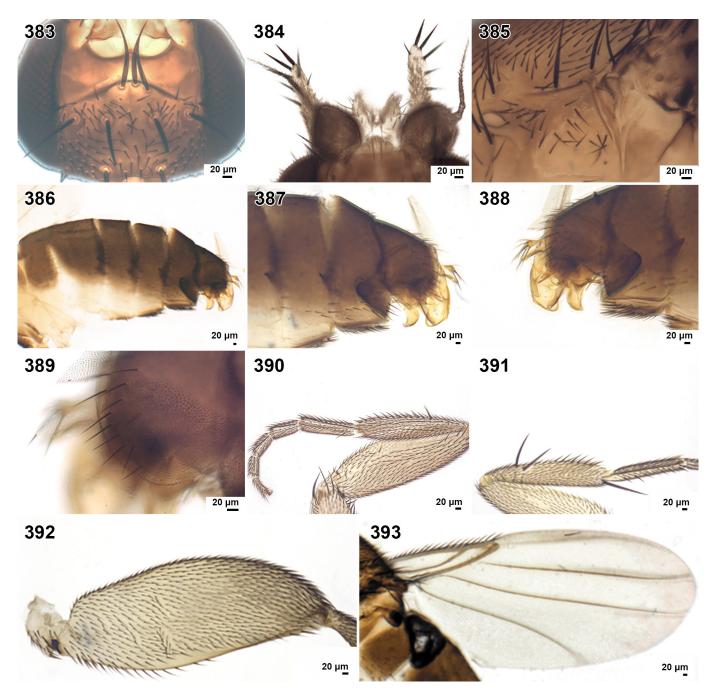
Mirusgenitalis luteithorax sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:2FB4F445-9AF9-459D-B5BE-B0ABF0EE5022 Figs 383–393

Description. — **Holotype** ♂. Fig. 383, frons; Fig. 384, postpedicels (which lack SPS vesicles), palps and proboscis; Fig. 385, side of thorax; scutellum with 4 bristles; Fig. 386, abdomen, the hairs on segments 5 and 6 of venter are numerous, robust and closely crowded (Fig. 386); hypopygium as Figs 387–389; legs yellowish, Fig. 390, front tibia and tarsus, the tibia having I small bristle in its basal half and the tarsus with a near dorsal palisade on segments 1–5; Fig. 391, mid tibia and basitarsus, the tibia having 1 dorsal and 1 anterodorsal bristle; Fig. 392, hind femur; wing (Fig. 393) 1.64 mm long, costal index 0.40, vein 3 unforked costal ratios 2.37/1, costal cilia 0.09, 2 vein 3 hairs both 0.07, 1 Ax bristle 0. 09. Halteres brown.

Material. **Holotype** &, Cameroon, N 3.589, E 11.329, cocoa plantation, 14/IX/2019, C. Jarrett & L. Powell, Malaise trap (HMGS, 26–95). Hunterian Museum, Acc. No. GLAHM175908.

Etymology. Named after the yellow (*lutei*) thorax (Greek to English).



Figures 383–393. *Mirusgenitalis luteithorax* sp. nov., male. 383. Frons; 384. Postpedicels, palps and proboscis; 385. Side of thorax; 386. Abdomen; 387–389. hypopygium; 390. Front tibia and tarsus; 391. Mid tibia; 392. Hind femur; 393. Wing.

Genus Multisetae gen. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:8F6D90B8-2403-4116-AC74-401E63B2733B

Type species. Multisetae longicauda Disney, sp. nov.

Diagnosis. In the key to world genera (Disney, 1994), it runs to couplet 18, but the combination of bristles on the mid tibia and the forked vein 3 prevents progress. If one ignores one character, one can proceed to couplet 98, but neither option fits. In the key to Afrotropical genera (Disney, 2021), it runs to couplet 20, but the hypopygia differ. Apart from the bristles on the mid tibia, it has a second shorter hair palisade. Furthermore, the hind femora have very small hairs along their ventral edges.

Etymology. Named after the many (multi) bristles (setae) on the tibiae.

Multisetae longicauda sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:AE8D659A-7CB0-46FB-A547-1AC1804B0111

Figs 394-404

Description. — **Holotype** ♂. Fig. 394, head, with 4 strong supra-antennal bristles. Fig. 395, postpedicel and palp; Mesopleuron is bare; Fig. 396, scutellum; Fig. 397, abdomen; Figs 398 & 399, hypopygium; Fig. 400, front leg, the tibia having an antero-dorsal bristle in its basal half and the tarsus with a near dorsal palisade on segments 1–4; Fig. 401, mid tibia with its second shorter hair palisade and bristles; Fig. 402, hind femur; Fig. 403, hind tibia; wing, (Fig. 404) 3.26 mm long, costal index 0.49, costal ratios 13.8/3.5/1, subcostal vein free, costal cilia 0.01 mm, 2 vein 3 hairs 0.01, 5 axillary bristles also 0.01 mm. Halter knobs pale.

Material. **Holotype** ♂, Cameroon, Ngoumou, N 3.472, E 11.267, cocoa plantation, 1/ix/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175909.

Etymology. Named after the long anal tube.

Genus Multispinae gen. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:BF1C5D66-BA54-4F26-88C9-CCCA5CFE01A3

Type species. *Multispinae luteicruris* Disney, sp. nov.

Diagnosis. In the key to world genera (Disney, 1994), it to couplet 52 lead 2 *Psyllomia*, which differs in having an unforked vein 3, a costal index less than 0.45, different hypopygia and small hairs at the bases of the hind femora. In the key to Afrotropical genera (Disney, 2021), it runs to couplet 20 lead 2 *Phalactophora*, which has different hypopygia and small hairs at the bases of the hind femora.

Etymology. Named after the many (*multi*) spines (*spinae*) at the bases of the hind femora.

Multispinae luteicruris sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:70554063-0C7C-499C-A95F-C0F9498ED751

Figs 405-418

Description. — Holotype ♂. Fig. 405, frons, only 2 supra-antennal bristles; Fig. 406, postpedicels; Fig. 407, ventral view of proboscis and tip of a pale palp; Fig. 408, side of thorax; Fig. 409, scutellum; Fig. 410, abdomen; Fig. 411 & 412, hypopygium; Fig. 413, front tarsus; Fig. 414, front tibia; Fig. 415, hind tibia; Fig. 416, base of hind femur; Fig. 417, hind tibia; Wing (Fig. 418) 1.85 mm long; costal index 0.51, costal ratios 7.84/2.37/1, vein Sc pale and just reaching R1, costal cilia 0.06, vein 3 hair 0.04, axillary bristles (number not apparent) 0.15. Halteres brown.

Material. **Holotype** ♂, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175910.

Etymology. Named after the yellow (*lutei*) legs (*cruris*).

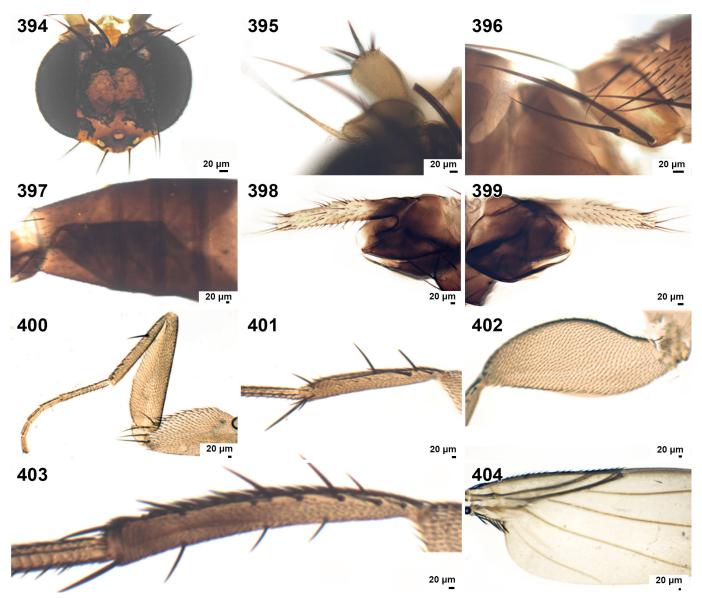
Genus Multivalli gen. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:28593864-8921-496B-914B-7CBD9F665B1F

Type species. Multivalli longicauda Disney, sp. nov.

Diagnosis. In the key to world genera (Disney, 1994), it runs to couplet 113, but the hypopygium differs with its very long anal tube. In the key to Afrotropical genera (Disney, 2021), it runs to couplet 26 lead 1 *Psyllomyia*, but the long anal tube and lack of a bristle in the basal half of the mid tibia, along with the 4 setal palisades on the hind tibia, distinguish it.

Etymology. Named after the many (*multi*) setal palisades (*valli*) on the middle and hind tibiae.



Figures 394–404. *Multisetae longicauda* sp. nov., male. 394. Frons; 395. Postpedicel, palp and proboscis; 396. Scutellum; 397. Abdomen; 398 & 399. Hypopygium; 400. Front leg; 401. Mid tibia; 402. Hind femur; 403. Hind tibia; 404. Wing.

Multivalli longicauda sp. nov.

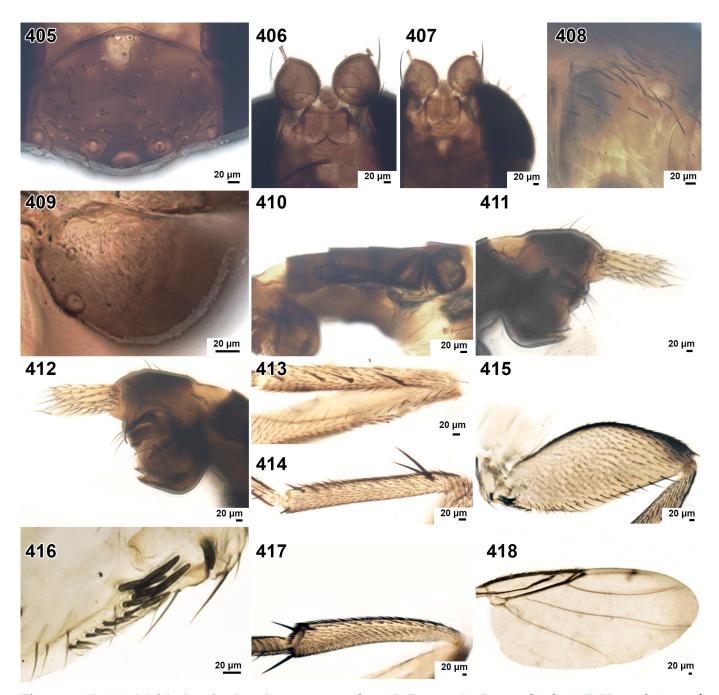
https://zoobank.org/urn:lsid:zoobank.org:act:03852B2C-DDEB-4136-B0EB-11BDF27A47E3

Figs 419–428 [palps missing]

Diagnosis. Postpedicels longer than broad with pre-apical aristas, mesopleuron bare, anal tube much longer than epandrium. Vein 3 not forked. Wing length 2.99–3.02 mm.

Description. — **Holotype** ♂. Fig. 419, frons, with 2 supra-antennal bristles; Fig. 420, postpedicels; Fig. 421, proboscis Fig. 422, side of thorax; scutellum with an anterior pair of hairs and a posterior pair of bristles; Figs 423 & 424, hypopygium; legs yellow; Fig. 425, anterior face of mid tibia; Figs 426 & 427, posterior and anterior faces of hind femur and tibia, the hairs on the ventral edges of the hind femora are no longer than those on the their anterior faces; wing (Fig. 428) length 2.99–3.02 mm, costal index 0.50–0.51, costal ratios 1.72–1.88/1, costal cilia 0.12–0.13, vein 3 hair 0.04, 4 axillary bristles 0.15–0.16; halteres with pale stems and dark knobs.

Material. **Holotype** ♂, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Maise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175911. **Paratype**: 1♂ as holotype (UCMZ).



Figures 405-418. *Multispinae luteicruris* **sp. nov.**, male. **405.** Frons; **406.** Postpedicels; **407.** Ventral view of proboscis and tip of a palp; **408.** Side of thorax; **409.** Scutellum; **410.** Abdomen; **411 & 412.** Hypopygium; **413.** Front tibia; **4** mid tibia; **415.** Hind femur; **416.** Base of hind femur; **417.** Hind tibia; **418.** Wing.

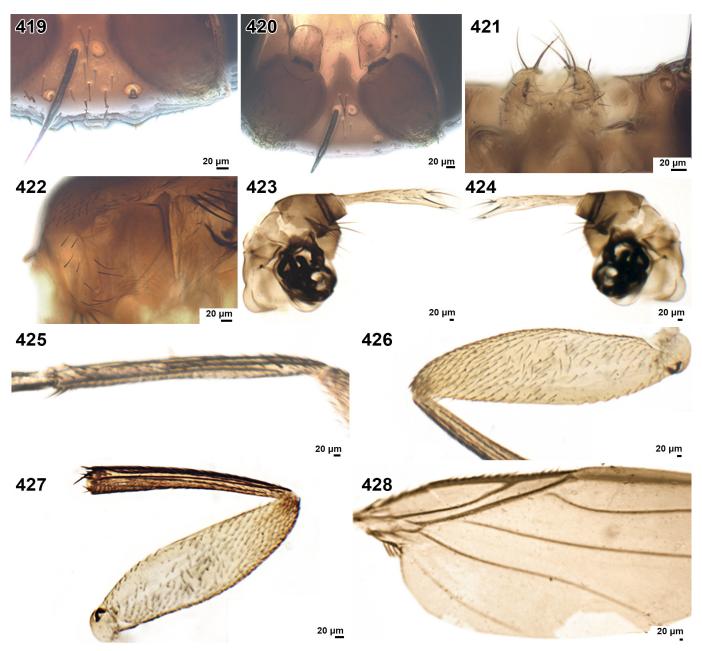
Multivalli secundus sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:10BE99F6-3174-4939-B5D2-42CBA7406326

Figs 429–436 [The specimen was damaged on mounting and lacks its head and front tarsus].

Diagnosis. mesopleuron bare, anal tube much longer than epandrium, but shorter than in the previous species. Vein 3 not forked. Wing length 2.18 mm.

Description. — **Holotype** ♂. Fig. 429, side of thorax; Fig. 430, scutellum; abdomen with dark tergites and pale venter; Figs 431 & 432, hypopygium; legs yellow; Fig. 433, mid tibia; Fig. 434, hind femur; Fig. 435, hind tibia; Wings (Fig. 436) 2.18 mm long, costal index 0.50, costal ratios 2.25/1. Costal cilia 0.11, axillary bristles 0.13. Halteres with pale stems and dark knobs.



Figures 419–428. *Multivalli longicauda* **sp. nov.**, male. **419.** Frons; **420.** Postpedicels; **421.** Proboscis; **422.** Side of thorax; **423** & **424.** Hypopygium; **425.** Anterior face of mid tibia; **426** & **427.** Posterior and anterior faces of hind tibia and femur; **428.** Wing.

Material. **Holotype** ♂, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No. GLAHM175912.

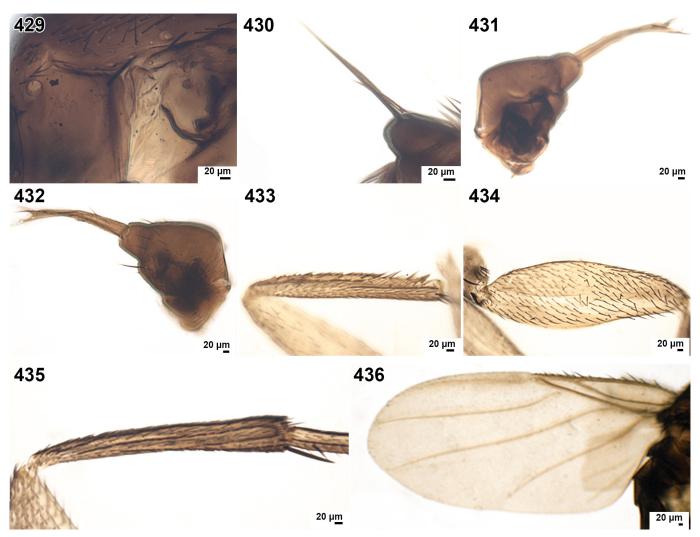
Etymology. Named after it being the second (*secundus*) species for this genus.

Genus Psyllomyia Loew, 1857

A key to the seven Afrotropical species and three Oriental species is provided by Disney & Kistner (1998), with an addition by Maruyama & Disney (2008), and Liu (2001) covers two Chinese species, which are not named.

Psyllomyia braunsi Schmitz, 1914

Material examined. ♀, Cameroon, Dip. Res., Primary forest, N. 3.184, E. 12.814, 18/1/2019, Malaise trap, C. Jarrett & L. Powell. Hunterian Museum, Acc. No KH 2019.3.1



Figures 429–436. *Multivalli secundus* sp. nov., male. 429. Thorax; 430. Scutellum; 431 & 432. Hypopygium; 433. Mid tibia; 434. Hind femur; 435. Hind tibia; 436. Wing.

Genus Sinearista gen. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:3E5729DE-0CBC-41AB-816D-A896438D24AF

Type species. *Sinearista flavicrus* Disney, sp. nov.

Diagnosis. In the key to world genera (Disney, 1994), it runs to couplet 93 lead 2 *Megaselia* (part). The shape of the postpedicels and their lack of aristas, along with the frons being much wider than long rules out *Megaselia*. In the key to Afrotropical genera (Disney, 2021), it runs to couplet 38 lead 2 *Menozziola*; the same features plus the different hypopygium rule out this genus.

Etymology. Named after its antennae being without (*sine*) aristas.

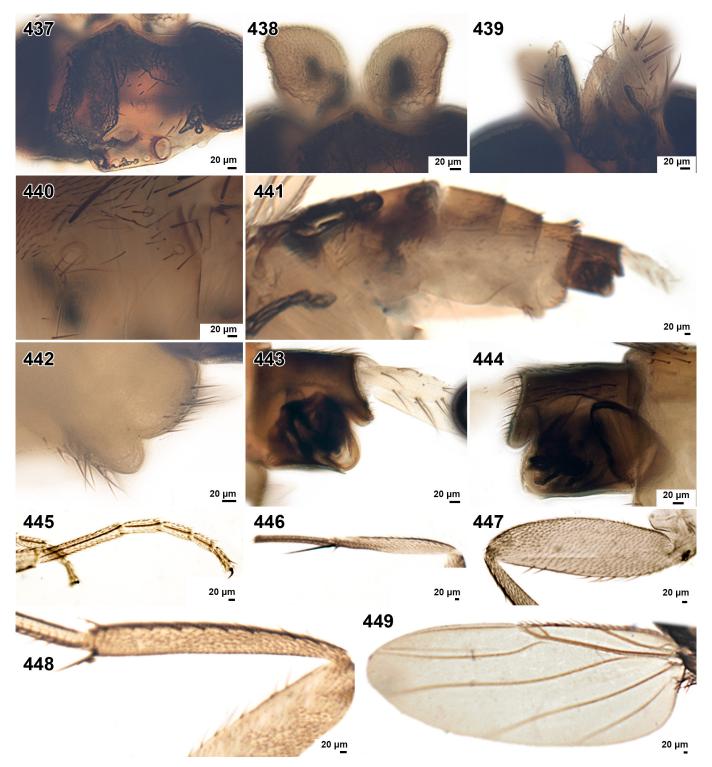
Sinearista flavicrus sp. nov.

https://zoobank.org/urn:lsid:zoobank.org:act:AD7A8D16-574A-4BCC-B005-6D3B3B58BAC0

Figs 437-449

Description. — Holotype ♂. Fig. 437, frons; Fig. 438, postpedicels with SPS vesicles; Fig. 439, palp; Fig. 440, side of thorax, the mesopleuron having hairs and a bristle; scutellum with 4 bristles; Fig. 441, abdomen, the venter being pale and with hairs on segments 5 and 6; Fig. 442, sternum 6, Figs 443 & 444, hypopygium, the hypandrial lobe of the right side being vestigial; Fig. 445, front tarsus with a near dorsal palisade on segments 1–5, but incomplete on segment 5; Fig. 446, mid tibia and basitarsus;

Fig. 447, hind femur; Fig. 448, hind tibia; wing, (Fig. 449) 2.12 mm long, costal index 0.53, costal ratios 5.70/4.14/1, Sc runs to R1, costal cilia 0.08, no V3 hair, 6 axillary bristles 0.01. Haltere knobs greyish brown. *Material.* Holotype &, Cameroon, Ngoumou, N 3.472, E 11.287, cocoa plantation, 19/IX/2019, Malaise trap, C. Jarrett & L. Powell (HMGS, 26–95). Hunterian Museum, Acc. No. GLAHM175913. *Etymology.* Named after the yellow (*flavi*) legs (*crus*).



Figures 437-449. Sinearista flavicrus sp. nov., male. 437. Frons; 438. Postpedicels; 439. Palps and proboscis from below; 440. Side of thorax; 441. Abdomen; 442. Sternum 6; 443 & 444. Hypopygium; 445. Front tarsus; 446. Mid tibia and basitarsus; 447. Hind femur; 448. Hind tibia; 449. Wing.

DISCUSSION

This paper adds six new genera to the latest key to the Afrotropical genera of Phoridae (Disney, 2021), thus reinforcing the perception that the Afrotropical Phoridae remain the least well-documented of the world's biogeographic regions. In the current study, 31 new species from Cameroon are described, contributing to the known fauna of the Afrotropical region. The genus *Megaselia* is particularly noteworthy, as it is represented by 23 of the newly identified species, along with seven unidentified female specimens. While systematic surveys are sparse, the description of new species and even new genera from Cameroon is evidence of high endemism and rich, yet understudied biodiversity. Currently, nearly 64 genera of Phoridae have been documented in the Afrotropical region. Ongoing research is anticipated to reveal additional genera and species, including those that are newly described in this paper.

AUTHOR'S CONTRIBUTION

The author confirms his contribution to the whole processing steps in the research, examination of the specimens, illustrations and preparation of the manuscript, and He read and approved the final version of the manuscript.

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This research received no specific grant from any funding agencies.

AVAILABILITY OF DATA AND MATERIAL

The specimens listed in this study are deposited in the Hunterian Museum, Glasgow, Scotland and are available from the curator upon request.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study only included arthropod material, and all required ethical guidelines for the treatment and use of animals were strictly adhered to in accordance with international, national, and institutional regulations. No human participants were involved in any studies conducted by the authors for this article.

CONSENT FOR PUBLICATION

Not applicable.

CONFLICT OF INTERESTS

The authors declare that there is no conflict of interest regarding the publication of this paper.

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Dr Brian Brown and Professor Emily Hartop have kindly pointed out that the damaged state of most specimens suggests that when intact specimens are obtained, characters not present in the type material of some species may require reassessment of their generic and or species assignments. The assignments above are based on the couplets arrived at in the relevant keys. However, sometimes I had to make the most probable choice when the character had been lost in the specimen. I would like to express my sincere gratitude to the anonymous reviewers for their constructive feedback on earlier versions of this manuscript. I also extend my heartfelt thanks to the subject editor for her thorough proofreading and editing of the text.

REFERENCES

Bridarolli, A. (1951) Diptera Phoridae de Kivu (gen. *Megaselia*) del Museo de Congo Belga (Tervuren). *Annales du Musée royal du Congo Belge* (Zoologie) 7, 1–67.

Beyer, E.M. (1965) Phoridae (Diptera Brachycera). Exploration du Parc National Albert, Mission G. F. De Witte (1933–1935), 99, 1–211.

Borgmeier, T. (1962) Versuch einer Uebersicht ueber die neotropischen *Megaselia*-Arten, sowie neue oder wenig bekannte Phoriden verschiedener Gattungen (Dipt. Phoridae). *Studia Entomologica, Petropolis,* 5, 289–488.

Borgmeier, T. (1963) Revision of the North American phorid flies. Part I. The Phorinae, Aenigmatiinae and Metopininae, except *Megaselia* (Diptera, Phoridae). *Studia Entomologica*, *Petropolis*, 6, 1–256.

- Borgmeier, T. [1965](1966) Revision of the North American Phorid flies. Part III. The species of the genus *Megaselia*, subgenus *Megaselia* (Diptera, Phoridae). *Studia Entomologica*, *Petropolis*, 8, 1–160.
- Borgmeier, T. & Prado, A.P. do (1975) New or little-known Neotropical Phorid flies, with description of eight new genera (Diptera, Phoridae). *Studia Entomologica, Petropolis*, 18, 3–90.
- Brown, B.V. & Vendetti, J.E. (2020) *Megaselia steptoeae* (Diptera: Phoridae): specialists on smashed snails. *Biodiversity Data Journal*, 8, e50943 https://doi.org/10.3897/BDJ.8.e50943
- Brown, B.V., Hartop, E.A. & Wong, M.A. (2022) Sixteen in one: white-belted *Megaselia* Rondani (Diptera: Phoridae) from the New World challenge species concepts. *Insect Systematics and Diversity*, 6 (3), 1. https://doi.org/10.1093/isd/ixac008
- Brues, C.T. (1903)[1904] A monograph of North American Phoridae. *Transactions of the American Entomological Society*, 29, 331-404.
- Caruso, V., Hartop, E., Chimeno, C., Noori, S., Srivathsan, A., Haas, M., Lee, L., Meier, R. & Whitmore, D. (2024) An integrative framework for dark taxa biodiversity assessment at scale: A case study using *Megaselia* (Diptera, Phoridae). *Insect Conservation and Diversity*, 17 (6), 968–987. https://doi.org/10.1111/icad.12762
- Collin, J.E. (1912) Diptera. Phoridae from Seychelles. *Transactions of the Linnean Society of London*, 15, 105–118. https://doi.org/10.1111/j.1096-3642.1912.tb00093.x
- Disney, R.H.L. (1978) A new species of Afrotropical *Megaselia* (Diptera: Phoridae), with a re-evaluation of the genus *Plastophora*. *Zeitschrift für Angewandte Zoologie*, 65, 313–319.
- Disney, R.H.L. (1994) *Scuttle flies: The Phoridae*. Chapman & Hall, London. 467 p. https://doi.org/10.1007/978-94-011-1288-8
- Disney, R.H.L. (2001) The preservation of small Diptera. Entomologist's Monthly Magazine, 137, 155–159.
- Disney, R.H.L. (2003) Revision of the Afrotropical species of *Dohrniphora* Dahl (Diptera: Phoridae). *Zootaxa*, 196, 1–24. https://doi.org/10.11646/zootaxa.196.1.1
- Disney, R.H.L. (2005) Phoridae (Diptera) of Madagascar and nearby islands. Studia Dipterologica, 12, 139–177.
- Disney, R.H.L. (2006) Insects of Arabia scuttle flies (Diptera: Phoridae) Part I: all genera except *Megaselia*. In: Krupp, F. (ed) *Fauna of Arabia* 22, Senckenbergische Naturforschende Gesellschaft, Frankfurt a.M, Germany and King Abdulaziz City for Science and Technology, Ryadah, Kingdom of Saudi Arabia, pp. 473–521.
- Disney, R.H.L. (2021) Phoridae (Scuttle Flies), Chapter 59. In: Kirk-Spriggs, A.H. & Sinclair, B.J. (eds) Manual of Afrotropical Diptera. Volume 3. Brachycera-Cyclorrhapha, excluding Calyptratae. *Suricata* 8. South African National Biodiversity Institute, Pretoria. pp. 1383–1437.
- Disney, R.H.L. & Darlington, J.P.E.C. (1998) A new species and new host records of Phoridae (Diptera) associated with termites (Isoptera: Termitidae) in Kenya. *Sociobiology*, 32, 167–180.
- Disney, R.H.L. & Kistner, D.H. (1997) New species and new host records of Phoridae (Diptera) associated with termites (Isoptera: Termitidae). *Sociobiology*, 30,1–33.
- Disney, R.H.L. & Kistner, D.H. (1998) New species and new records of myrmecophilous Phoridae (Diptera). *Sociobiology*, 31, 291–349.
- Disney, R.H.L. & Ritchie, J.M. (1997) A new genus of Phoridae (Dipt.) that parasitizes an Afrotropical millipede (Diplopoda: Odontopygidae). *Entomologist's Monthly Magazine*, 133, 151–156.
- Disney, R.H.L., Kurina, O., Tedersoo, L. & Cakpo, Y. (2013) Scuttle flies (Diptera: Phoridae) reared from fungi in Benin. *African Invertebrates*, 54, 357–371.
- Liu, G. (2001) A Taxonomic Study of Chinese Phorid Flies Diptera: Phoridae (part 1). China: Neupress. 292 p.
- Marshall, S.A. (2012) Flies: The Natural History and Diversity of Diptera. Firefly Books, New York. 615 p.
- Maruyama, M. & Disney, R.H.L. (2008) Scuttle flies associated with Old World army ants in Malaysia (Diptera: Phoridae; Hymenoptera, Formicidae, Dorylinae). *Sociobiology*, 51, 65–71.
- Prado, A.P. do (1976) Records and descriptions of phorid flies, mainly of the Neotropical Region (Diptera; Phoridae). *Studia Entomologica, Petropolis*, 19, 561–609.
- Sanchez-Restrepo, A.F., Chifflet, L., Confalonieri, V.A., Tsutsui, N.D., Pesquero, M.A. & Calcaterra, L.A. (2020) A Species delimitation approach to uncover cryptic species in the South American fire ant decapitating flies (Diptera: Phoridae: *Pseudacteon*). *PloS one*, 15 (7), e0236086. https://doi.org/10.1371/journal.pone.0236086
- Schmitz, H. (1927) Revision der Phoridgattungen, mit Beschreibung neuer Gattungen und Arten. *Natuurhistorisch Maandblad*, 16, 30–40, 45–50, 59–68, 72–79, 92–100, 110–116, 128–132, 142–148, 164, 176.
- Schmitz, H. (1929) Zur Kenntnis einiger von Dr. Jos. Bequaert gesammelter afrikanischer Phoriden. Revue de Zoologie et de Botanique Africaines, 18, 37–43.

جنسها و گونههای جدید مگسهای گوژپشت (Diptera, Phoridae) از کشور کامرون

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چكىدە: با وجود چالش مستمر در شناسايى دوبالان خانوادە Phoridae در منطقه افروتروپيكال، اين مطالعه، يك تلاش موثر در شناسايى گونههاى اين حشرات در كامرون محسوب مىشود. مبتنى بر درخواست جف هانكاك (موزه هانترين، گلاسكو، اسكاتلند)، نمونهها مورد بررسى قرار گرفتند و در نتيجه ۲۲ گونه جديد متعلق به شش جنس بالانشى، شدند. اين تاكسونهاى شامل موارد زير بودند. Pohrniphora excameroon sp. nov. بالمان موارد زير بودند. Pohrniphora etiamexsilva sp. nov. بالمان موارد وير بودند. Pohrniphora etiamexsilva sp. nov. بالمان sp. nov. بالموهعelia artusfemur sp. nov. بالموهعelia etiamesopelia etiamesopelia etimesopelia etimesopelia exreservo sp. nov. بالموهعelia etiamesopelia etimesopleuron sp. nov. بالموهعelia propowell sp. nov. بالموهعelia potopanni sp. nov. بالموهعelia setimesopleuron sp. nov. بالموهعelia propowell sp. nov. بالموهعelia siphunculus sp. nov. بالموهعelia venteralbus sp. nov. بالموهعelia spernohypandia sp. nov. بالموهعelia ventersetae sp. nov. بالموهعelia etinesopleuron sp. nov. بالموهعelia siphunculus sp. nov. بالموهعelia luteidorius sp. nov. بالموهعelia ventersetae sp. nov. بالموهعelia luteidorius sp. nov. بالموهعelia etiamexsilva sp. nov. بالموهدات وتعدل الموهدات وتعدل الموهدات

واژگان کلیدی: افروتروپیکال، تنوع، توصیف، تاکسونهای جدید، رکوردهای جدید.