New species and new records of Platygastrinae and Sceliotrachelinae from Togo (Hymenoptera: Platygastridae)

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New species and new records of Platygastrinae and Sceliotrachelinae from Togo (Hymenoptera: Platygastridae)

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ABSTRACT

Twenty-nine species new to science are described on the basis of material collected in Togo, viz. *Acerotella tschirnhausi*, *Amblyaspis tschirnhausi*, *Ceratacis afrotropica*, *Euxestonotus* (*Cylindrostonotus* subg. n.) *lissogastrus*, *Fidiobia filicornis*, *F. semirufa*, *F. tschirnhausi*, *Inostemma tschirnhausi*, *Leptacis cylindrica*, *L. elongaticeps*, *L. nigrotrochanterica*, *L. quadrilineata*, *L. sensillosa*, *L. togoensis*, *L. trilineata*, *L. tschirnhausiana*, *Platygaster danyiensis*, *P. liga*, *P. lobata*, *P. otandjoboliensis*, *P. planivertex*, *P. subanguliceps*, *P. tricarinata*, *P. tschirnhausi*, *Synopeas basipubens*, *S. meieri*, *S. togoense*, *S. tschirnhausi*, and *S. watsoni*. New records from Togo of 22 known species are given.

KEY WORDS: Platygastrinae, Sceliotrachelinae, Togo, new species, new records.

INTRODUCTION

Members of Platygastridae are parasitoid wasps, especially of gall midges. These wasps are mostly very small (1–2 mm), black, and weakly shining with elbowed antennae that have a flagellum (at most 8 segments; sometimes fewer, especially in the subfamily Sceliotrachelinae). The wings of platygastrids most often lack venation, though they may have fringes of setae. The standard website for the group is that of Johnson (2014) and includes an annotated bibliography, while the latest printed World catalogue is that by Vlug (1995).

In my recent papers Buhl (2011*a*, *b*), I keyed most described species of the larger genera of Afrotropical Platygastridae s. str. and described a total of 52 new species from Tanzania. Below, 29 additional species new to science are described. New records from Togo of already known species are given as well, due to a generous gift of Togo material to me from Dr Michael von Tschirnhaus (University of Bielefeld, Germany). Several more species that are very similar or perhaps identical to known Central or South African species were amongst the material, indicating that many Afrotropical platygastid species are widely distributed. With publication of the present paper, a total of 248 Afrotropical species of Platygastrinae and Sceliotracheline have so far been described.

MATERIAL AND METHODS

Standard abbreviations used: A1–A10 = antennal segments 1–10; OOL = distance between lateral ocellus and eye; LOL = distance between lateral and anterior ocelli, T1–T6 = tergites 1–6.

All the material, pinned on cardboard triangles, has been deposited in the collection of the Zoological Museum, University of Copenhagen, Denmark (ZMUC).

TAXONOMY

Genus *Acerotella* Masner, 1964

Acerota auct. nec Förster, 1856 (no species).
Acerotella: Masner 1964: 148. Type species: *Acerota evanescens* Kieffer, 1914, by original designation.

http://www.africaninvertebrates.org
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Acerotella tschirnhausi sp. n.

Figs 1, 2

Etymology: Named after the collector, M. von Tschirnhaus.

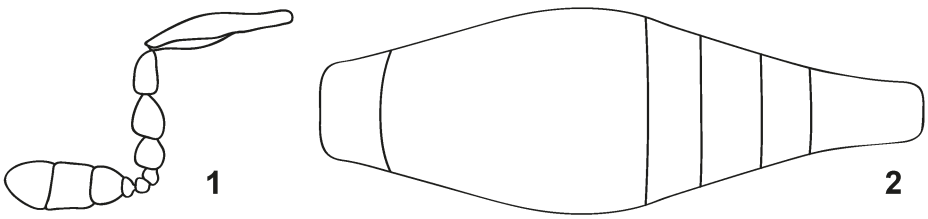
Diagnosis: A small species with a strong, 3-segmented antennal clava in female, brightly coloured A1 and legs; notauli distinct in anterior half, absent in posterior half; female metasoma 1.2× as long as rest of body.

Description:

Female.

Body length 0.85–1.00 mm. Black, A1 and legs including coxae light brownish; A2–A10, mandibles, tegulae and last segment of tarsi dark brown. Head from above 1.65× as wide as long, hardly noticeably wider than mesosoma, rather dull reticulate-coriaceous, frons slightly smoother in lower half. OOL very short, lateral ocelli almost touching inner orbits. Head in frontal view 1.3× as wide as high. Antenna (Fig. 1) with A1 0.8× as long as height of head, as long as distance between inner orbits. Mesosoma 1.25× as long as wide, 1.3× as wide as high. Sides of pronotum finely leathery except posteromedially. Mesoscutum with a few scattered setae, finely leathery, smooth in slightly more than posterior half except laterally; notauli distinct in about anterior half, absent in most of posterior half. Mesopleuron finely leathery almost all over, in upper half with about four short longitudinal wrinkles posteriorly. Scutellum finely leathery and with a few setae. Metapleuron dull coriaceous, with adpressed pilosity in slightly more than posterior half. Fore wing 0.75× as long as entire body, 2.45× as long as wide, reaching apex of metasoma approximately, and clear with fine and dense microtrichia; subcostal vein medium brown, 0.25× as long as wing; marginal cilia about 0.05× width of wing. Hind wing 6.3× as long as wide; marginal cilia slightly more than one-third the width of wing. Metasoma (Fig. 2) 1.2× as long as head and mesosoma combined, 0.8× as wide as mesosoma. T1 dull, with four weak and short longitudinal crenulae around middle, along each side having a fine and complete longitudinal carina close to lateral margin. T2 longer than wide (16:13), smooth except for three slightly dull basal foveae which reach less than 0.2 of length. T3–T4 with very weak, T5 with stronger, and T6 with even stronger reticulate-coriaceous microsculpture. Apical tergites with setae inserted in shallow punctures (about four on T3, eight on each of T4 and T6, six on T5).

Comparison: Assigned to the "*boter*-group" sensu Masner (1980) because of conformation of antennae, but with shorter notauli, brighter-coloured body appendages and smaller body size than Palaearctic *A. boter* (Walker, 1838) and *A. humilis* (Kieffer, 1913), and Nearctic *A. nearctica* Masner, 1980. *A. tschirnhausi* is most similar to *A. aldrovandii*



Figs 1, 2. *Acerotella tschirnhausi* sp. n.: (1) female antenna; (2) female metasoma in dorsal view.

Buhl, 2002, from Panama, but that species has more slender basal flagellar segments and shorter metasoma than *A. tschirnhausi*.

Holotype: ♀ TOGO: Région des Plateaux, Abriwa-Nko, about 5 km N of Badou, at creek Ègnulu–Agbadja (07°37'18"N 00°36'13"E), 24.iv.2008, 310 m, swept in cocoa and avocado plantation, M. von Tschirnhaus.

Paratype: 1♀ Région des Plateaux, N of Kessibo-Wawa, at the border to Ghana (N of Badou), at Wawa river (07°42'11"N 00°35'26"E), 24.iv.2008, 180 m, forest understorey, cocoa plantation and sun-exposed vegetable fields, some Cyperaceae, swept, M. von Tschirnhaus.

Genus *Aceroteta* Kozlov & Masner, 1977

Aceroteta: Kozlov & Masner 1977, in Kozlov 1977: 96. Type species: *Aceroteta borealis* Kozlov & Masner, 1977, by monotypy and original designation.

Aceroteta cf. *africana* Buhl, 2005

Aceroteta africana: Buhl 2005: 282.

Material examined: 1♀ TOGO, Région des Plateaux, Manma-Kopé N of Gbadi Nkougna, SE of Badou (07°27'02"N 00°41'59"E), 25.iv.2008, 660 m, plantation (coffee, oilpalm, *Acacia*), swept above sawdust, M. von Tschirnhaus.

Remark: This specimen has basal flagellar segments shorter than in the unique holotype of *A. africana* from the Republic of South Africa, but that could be due to the small body size of the specimen from Togo (approx. 0.50 mm; the holotype is 0.85 mm long).

Genus *Amblyaspis* Förster, 1856

Amblyaspis: Förster 1856: 107. Type species: *Platygaster tritici* Walker, 1835, designated by Kieffer (1926).

Amblyaspis tschirnhausi sp. n.

Figs 3, 4

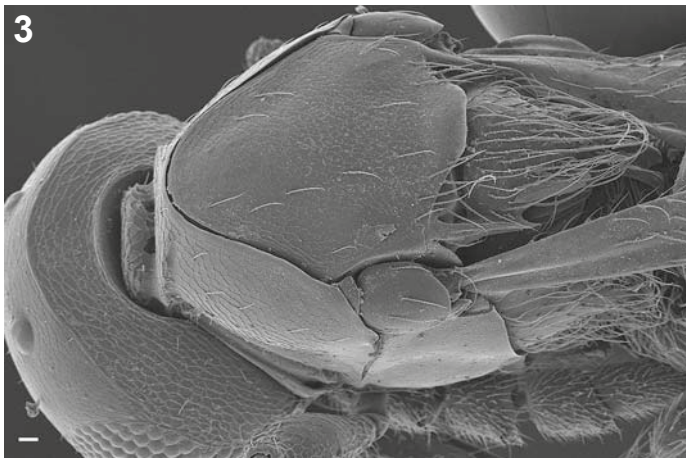
Etymology: Named after the collector, M. von Tschirnhaus.

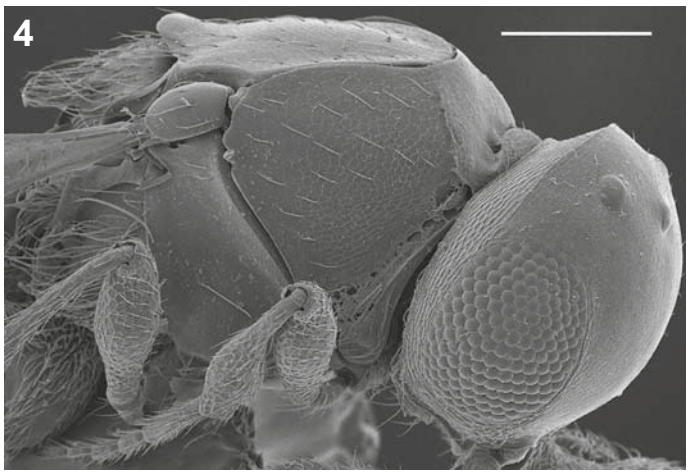
Diagnosis: A small species with head distinctly wider than mesosoma, OOL = 1.3 LOL, distinct hyperoccipital carina, female A8–A9 each fully 1.1× as wide as long, A10 1.6× as long as wide, no notauli and nearly all setae on mesoscutum concentrated in four rows; T3–T4 each with four setae; basal antennal segments and legs including coxae brightly coloured.

Description:

Female.

Body length 0.8–1.0 mm. Head black to medium brown, mesosoma blackish brown to medium brown, metasoma medium to light brown; A1–A4 (sometimes only A1–A2) and mandibles yellowish brown, legs including coxae pale yellowish brown; A5–A10 medium to dark brown. Head (Figs 3, 4) from above about twice as wide as long, slightly more than 1.1× as wide as mesosoma; occiput finely and very slightly transversely reticulate; hyperoccipital carina fine but distinct, more or less complete; vertex and frons with faint reticulation which is partly somewhat transverse. OOL = 1.3 LOL. Head in frontal view very slightly more than 1.1× as wide as high. Antenna with A1 about as long as height of head, 1.4× as long as distance between inner orbits. Mesosoma (Figs 3, 4) 1.4× as long as wide, hardly noticeably higher than wide. Sides of pronotum weakly reticulate-coriaceous, smooth along narrow hind margin. Mesoscutum weakly





Figs 3, 4. *Amblyaspis tschirnhausi* sp. n.: (3) head and mesosoma in dorsal view, scale bar = 10 μm; (4) head and mesosoma in lateral view, scale bar = 100 μm.

and uniformly reticulate, with setae almost only in a single line along imaginary notaulic courses and a single line laterally; notauli absent; hind margin medially with a distinct, transverse prolongation covering base of scutellum, at each side with about six setae above the small scuto-scutellar grooves. Mesopleuron smooth. Scutellum densely covered by white setae typical for the genus. Metapleuron smooth, with sparse white pilosity, denser along lower and hind margins. Propodeal carinae parallel, very slightly separated. Fore wing about as long as entire body, 2.6× as long as wide, weakly infuscated, with dense and moderately strong microtrichia; marginal cilia 0.14× width of wing. Hind wing 8.6× as long as wide; marginal cilia 0.6× width of wing. Metasoma 0.9–1.0× as long as head and mesosoma combined, very slightly narrower than mesosoma. T1 with two short and rather weak longitudinal carinae, anteriorly smooth and swollen, posteriorly with a wide and smooth hind margin, along sides with rather dense and long white setae. T2 with two small basal foveae about 0.15 as long as tergite, between foveae with a longitudinal carina not longer than foveae, otherwise smooth.

T3–T6 with dull reticulate-coriaceous microsculpture, each with four setae in shallow punctures, T5 sometimes with six setae.

Male.

Body length 0.9–1.2 mm. Antenna much as in *A. iringensis* Buhl, 2010, with A4 hardly widened and preapical antennal segments each about 1.5× as long as wide.

Comparison: Similar to *A. iringensis* Buhl, 2010, but that species has head slightly less transverse, hardly wider than mesosoma, with OOL 1.7× as long as LOL, slightly more slender than female antennae, setae on mesoscutum scattered, and *A. iringensis* is distinctly darker than *A. tschirnhausi*. Furthermore, *A. iringensis* has six setae on T3–T4, four on T5.

Holotype: ♀ TOGO: Région des Plateaux, Otandjobo near Zogbégan (SE of Badou), at river Otandjoboli (07°34'42"N 00°41'37"E), 21.iv.2008, 500 m, at river, swept, cocoa plantation, M. von Tschirnhaus.

Paratypes: 5♀ 5♂ same data as holotype; 1♂ Région des Plateaux, Foret d'Asrama, road N 6.8 km ENE Tsagba, 24 km W Tohoun, forest station (07°00'09"N 01°23'57"E), 8.iv.2008, 130 m, forest path with secondary rainforest; 1♀ 1♂ Région des Plateaux, Plateau de Danyi, road from Atigba to Danyi–Apéyémé, at a tributary creek of river Danyi (07°11'04"N 00°41'31"E), 14.iv.2008, 710 m, creek bank and below shrubs and bamboo, plantation, swept; 1♀ Région des Plateaux, Amou Oblo, at base of Montagne des Fétiches (07°23'44"N 00°51'14"E), 15.iv.2008, 295–330 m, mountain slope with remains of secondary forest, cocoa plantation, swept; 1♀ Région des Plateaux, Cascade de Kpimé W of Huimé (07°00'29"N 00°38'45"E), 16.iv.2008, 300 m, path to waterfall, road side, swept; 8♂ Région des Plateaux, NE of Badou, at creek Okpabè (07°35'19"N 00°07'17"E), 20.iv.2008, 370 m, creek bank in remains of secondary rainforest, swept; 5♀ 10♂ Région des Plateaux, Zogbégan, village part Zogbégan-Carriére (SE of Badou), at creek Elèbè, V-shaped valley near cocoa plantation downstream of village (07°34'50"N 00°40'03"E), 20–25.iv.2008, 650 m, remains of secondary rainforest, swept; 1♀ 1♂ Région des Plateaux, Soto, at river Owui (07°36'10"N 00°42'21"E), 21.iv.2008, 470 m, remains of secondary rainforest at river; 8♀ 20♂ Région des Plateaux, Abriwa-Nko, about 5 km N of Badou, at creek Ègnulu–Agbadja (07°37'18"N 00°36'13"E), 24.iv.2008, 310 m, swept in cocoa and avocado plantation; 2♂ Région des Plateaux, Ouwé NW of Gbadi Nkougna (SE of Badou), at creek Ouwé (07°29'32"N 00°41'56"E), 25.iv.2008, 590 m, remains of secondary rainforest, swept. All M. von Tschirnhaus.

Genus *Ceratacis* Thomson, 1859

Ceratacis: Thomson 1859: 69. Type species: *Ceratacis flavipes* Thomson, 1859, by monotypy.

Ceratacis afrotropica sp. n.

Figs 5–9

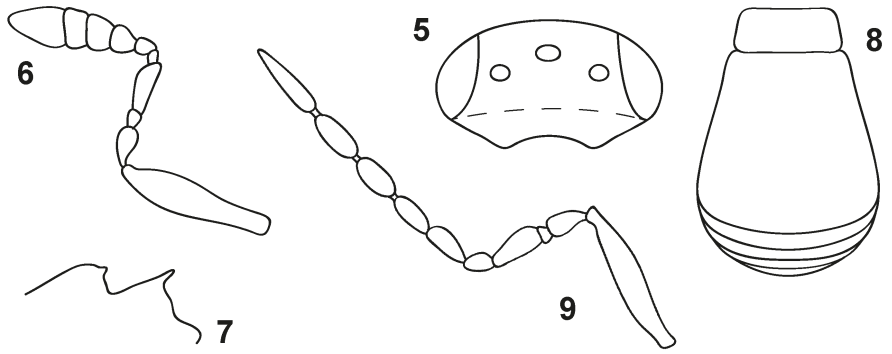
Etymology: The name draws attention to the fact that this is the first described Afrotropical species of the genus.

Diagnosis: Female A4 long and widened, at its longest hardly shorter than the following three segments combined; scutellum much below mesoscutum, posteriorly with a tiny, upwards-directed tooth.

Description:

Female.

Body length 0.75 mm. Black, tegulae and T1 dark brown; A1–A6, mandibles and legs including coxae light brownish yellow, A7–A10 slightly darkened. Head from above (Fig. 5) 1.9× as wide as long, wider than mesosoma (16:14), distinctly reticulate-coriaceous, on occiput and lower half of frons transversely so. Hyperoccipital carina distinct and complete. LOL = 1.4 OOL. Head in frontal view wider than high (16:14). Antenna (Fig. 6) with A1 0.8× as long as height of head, 1.1× as long as distance between inner



Figs 5–9. *Ceratacis afrotropica* sp. n.: (5) head in dorsal view; (6) female antenna; (7) scutellum and propodeal carinae in lateral view; (8) female metasoma in dorsal view; (9) male antenna.

orbits. Mesosoma 1.4× as long as wide, 1.2 × as high as wide. Sides of pronotum faintly longitudinally reticulate along wide upper and anterior margins, smooth below and behind. Mesoscutum evenly covered by moderately dense setae, finely and uniformly reticulate-coriaceous, without notauli; hind margin raised high above scutellum, medially with a brownish smooth, transverse, rounded prolongation, at each side narrowly brownish along hind margin and with dense whitish pubescence behind it. Mesopleuron finely longitudinally striated in about upper 0.4, the rest smooth. Scutellum (Fig. 7) triangular in dorsal view, along middle almost smooth and bare, towards sides dull and with a few setae, in lateral view with a tiny, upwards-directed tooth, scutellum below this tooth slightly brownish. Metapleuron smooth and bare, with pilosity along hind margin. Propodeal carinae brown, parallel; area between them about as long as wide, smooth. Fore wing hardly shorter than entire body, 2.4× as long as wide, faintly infuscated and with fine and dense microtrichia; marginal cilia absent. Hind wing 7.8× as long as wide, with two hamuli; marginal cilia 0.6× width of wing. Metasoma (Fig. 8) as long as mesosoma and 0.9× as wide. T1 with two strong longitudinal carinae. T2 with two short, slightly pubescent basal foveae, rest of tergite smooth except for reticulate microsculpture along narrow hind margin, T3–T6 with similar microsculpture over most of surface and a few very inconspicuous setae.

Male.

Body length 0.70 mm. Antenna (Fig. 9) with flagellar pubescence about half as long as width of segments; fore wing with sparse microtrichia, marginal cilia 0.12× width of wing; otherwise as in female.

Comparison: Distinct on account of shape of female antenna and of scutellum, but nevertheless approaching the morphology of e.g. Palaearctic *C. cochleata* (Walker, 1835).

Holotype: ♀ TOGO: Région des Plateaux, Lavié-Todji N of Huimé, NE of Kpalimé (07°01'16"N 00°39'41"E), 18.iv.2008, 560–575 m, remains of secondary rainforest, dense bank vegetation with much *Anubias gigantea* A. Chev. ex Hutch., swept, M. von Tschirnhaus.

Paratype: 1♂, same data as holotype.

Genus *Euxestonotus* Fouts, 1925

Eoxestonotus Debauche, 1947: 267.
Euxestonotus: Fouts 1925: 98. Type species: *Platygaster error* Fitch, 1861, by original designation.

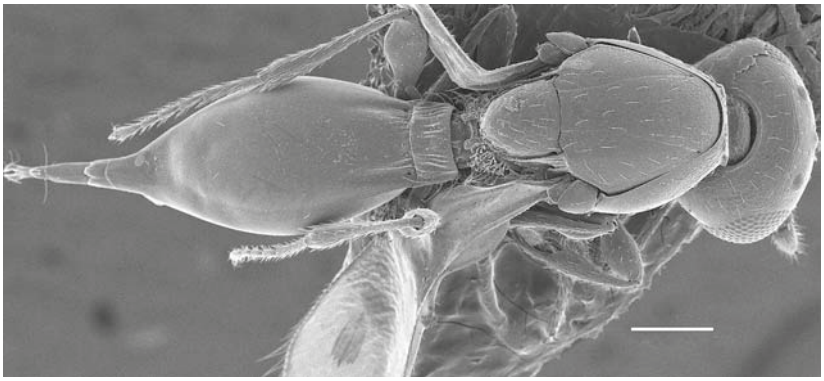


Fig. 10. *Euxestonotus* (*Cylindrostonotus*) *lissogastrus* sp. n, female body in dorsal view. Scale bar = 100 μm.

Euxestonotus deimos Buhl, 1998

Euxestonotus deimos: Buhl 1998: 248.

Material examined: 1♀ TOGO, village Amakpave, river Haho at border between Région Maritime and Région des Plateaux, bridge of main road over Haho river (06°46'22"N 01°10'44"E), 80 m, 6.iv.2008, swept in *Panicum maximum* Jacq. and *Zea mays* L., M. von Tschirnhaus.

Remarks: This specimen differs from the holotype (from Ivory Coast) in having the mesoscutum smooth (except at anterior ends of notauli), antennae dark brown and legs generally medium brown.

Cylindrostonotus subg. n.

Etymology: The prefix is derived from Latin *cylindrus* (cylindric); in reference to the characteristic metasoma with one large cylinder of a tergite behind petiole. The end of the name is the last part of the name of the genus of which this subgenus is a part.

Type species: *Euxestonotus lissogastrus* sp. n.

Diagnosis: Differs from *Euxestonotus* s. str. in having female metasoma consisting of only two tergites, the petiole and a large fused one (approaching appearance of metasoma of *Holocoeliella* Huggert, 1981; but the latter has *Platygaster*-like mesosoma).

Euxestonotus (**Cylindrostonotus**) **lissogastrus** sp. n.

Fig. 10

Etymology: The specific name from a combination of Greek *lisso* (smooth), combined with the Latin *gaster* (ancient Greek *gastêr*), i.e. the abdomen behind the petiole; in reference to the unusually smooth metasoma having no segmentation behind T1.

Diagnosis: Sufficiently given above, in the diagnosis for the subgenus.

Description:

Female.

Body length 1.05–1.50 mm. Black; A1–A2, mandibles and legs including coxae medium brown with trochanters, base and apex of femora, entire fore tibiae, basal two-thirds of mid and hind tibiae, and segments 1–4 of all tarsi light brown; A3–A10 dark brown. Head from above (Fig. 10) 2.0× as wide as long, 1.1× as wide as mesosoma; occiput

rather weakly, transversely reticulate-coriaceous; hyperoccipital carina faintly evident; vertex finely reticulate-coriaceous laterally (not transversely so), between ocelli smooth and with weak transverse striae medially; frons smooth on mid area in upper half, finely reticulate here towards sides, in lower half with weak, oblique reticulate-coriaceous sculpture. Eyes bare. OOL:LOL=4:5. Head in frontal view 1.3× as wide as high. Antenna with A1 0.9× as long as height of head, longer than distance between inner orbits (14:12); A2 as long as A3–A4 combined; A4 twice as long as A3, hardly longer than wide; A5 about 1.25× as long as wide; A7–A10 forming a weak clava; A7 1.5× as long as A6; A9 1.5× as long as wide, as long as A10. Mesosoma (Fig. 10) nearly 1.5× as long as wide, 1.2× as high as wide. Sides of pronotum smooth except for weak reticulate microsculpture in upper anterior part. Mesoscutum with sparse, scattered setae, smooth except for reticulation on slightly less than anterior half of mid lobe; notauli distinct and complete, almost parallel, in extreme posterior part slightly diverging; hind margin slightly concave; scuto-scutellar grooves absent. Mesopleuron smooth. Scutellum sparsely and evenly setose, smooth, exactly at level with mesoscutum, slightly sloping behind. Metapleuron smooth, with rather sparse pilosity all over. Propodeal carinae short, parallel; much of the transverse area between them smooth. Fore wing clear, almost reaching tip of metasoma, two-thirds as long as entire body, 2.5× as long as wide, with very sparse and inconspicuous microtrichia; marginal cilia 0.09× width of wing. Hind wing 6.4× as long as wide, with two hamuli; marginal cilia hardly 0.3× width of wing. Metasoma (Fig. 10) 1.3–1.5× as long as head and mesosoma combined, as wide as mesosoma, 1.3× as wide as high. T1 evenly covered by about ten longitudinal carinae. Rest of metasoma consisting of one large fused tergite, this having short longitudinal striae anteriorly, the longest lateral ones slightly shorter than T1, the medial ones hardly half as long as T1, rest of tergite smooth and bare.

Holotype: ♀ TOGO: Région des Plateaux, Manma-Kopé N of Gbadi Nkougna, SE of Badou (07°27'02"N 00°41'59"E), 25.iv.2008, 660 m, plantation (coffee, oilpalm, *Acacia*), swept above sawdust, M. von Tschirnhaus.

Paratypes: 1♀ Région des Plateaux, Plateau de Danyi, road from Atigba to Danyi-Apéyémé, at a tributary creek of river Danyi (07°11'04"N 00°41'31"E), 14.iv.2008, 710 m, creek bank and below shrubs and bamboo, plantation, swept; 1♀ Région des Plateaux, Plateau de Danyi, near Dzogbégan, Monastière de l'Ascension, at river/creek Danyi (07°14'30"N 00°40'45"E), 14.iv.2008, 725 m, abandoned plantation ground with 3 dominant plants (*Eleusine indica* (L.) Gaertn., *Rhynchelytrum repens* (Willd.) C.E. Hubb., *Cyperus* sp.), swept. Both M. von Tschirnhaus.

Genus *Fidiobia* Ashmead, 1894

Rosneta Brues, 1909: 157.
Triclavus Brèthes, 1916: 411.
Fahringeria Kieffer, 1921: 68.
Platyllotropa Szelényi, 1938: 126.
Fidiobia: Ashmead 1894: 170. Type species: *Fidiobia flavipes* Ashmead, 1894, by monotypy.

Fidiobia filicornis sp. n.

Figs 11, 12

Etymology: From Latin *filum* (thread); in reference to the rather unusual (for the genus) non-clavate male antennae.

Diagnosis: Antennae of male filiform, 10-segmented; mesoscutum weakly sculptured, without notauli.

Description:

Male.

Body length 0.65 mm. Black, metasoma with brownish tint; A1–A2 and legs including coxae light brownish yellow; A3–A10, mandibles and tegulae dark brown. Head from above (Fig. 11) 2.0× as wide as long, hardly wider than mesosoma; occiput distinctly reticulate-coriaceous (hardly transversely so), slightly angled but without a carina; vertex finely transversely reticulate-striate posteriorly, rest faintly reticulate; frons with rather large, hardly transverse, weak meshes. OOL equal to shorter diameter of lateral ocellus; LOL=2.5 OOL. Head in frontal view 1.15× as wide as high. Antenna (Fig. 12) 10-segmented, with A1 two-thirds as long as height of head, as long as distance between inner orbits, A1 with only a narrow lamella at apex; A9 1.2× as wide as long; flagellar pubescence short. Mesosoma 1.25× as long as wide, 1.25× as wide as high. Sides of pronotum moderately strongly reticulate-coriaceous (not longitudinally so), smooth along hind margin. Mesoscutum with a few scattered setae, weakly reticulate-coriaceous in about anterior half and along sides, rest smooth; notauli absent. Mesopleuron in upper half with a few longitudinal carinae, rest smooth. Scutellum with only about 10 scattered setae, twice as wide as long, half as long as mesoscutum. Metapleuron smooth anteromedially, in lower 0.4 and along upper margin with whitish pilosity, also having a low whitish foamy rim along upper margin. Propodeal carinae low, whitish, parallel; area between them smooth, 1.5× as wide as long. Fore wing 0.95× as long as entire body, 2.6× as long as wide, faintly infuscated, with fine and dense microtrichia; submarginal vein light brown, one-third as long as wing; marginal cilia 0.07× width of wing. Hind wing 5.7× as long as wide; marginal cilia almost 0.4× width of wing. Metasoma 0.9× as long as head and mesosoma combined, 0.8× as wide as mesosoma. T1 smooth. T2 1.15× as wide as long, with two transverse and sculptured basal foveae in anterior 0.2, otherwise smooth. T3–T7 with at most weak traces of microsculpture. Apical tergites with fine setae inserted in shallow punctures: four on each of T3–T5, six on T6.

Comparison: A distinct Afrotropical species of the genus on account of conformation of antennae and mesoscutum.

Holotype:♂ TOGO: Région des Plateaux, Cascade d'Ayomé NE of Amlamé (07°30'08"N 00°57'20"E), 13.iv.2008, 305–330 m, at shady creek bank in rock gorge, much *Anubias gigantea*, swept, M. von Tschirnhaus.

Fidiobia semirufa sp. n.

Figs 13, 14

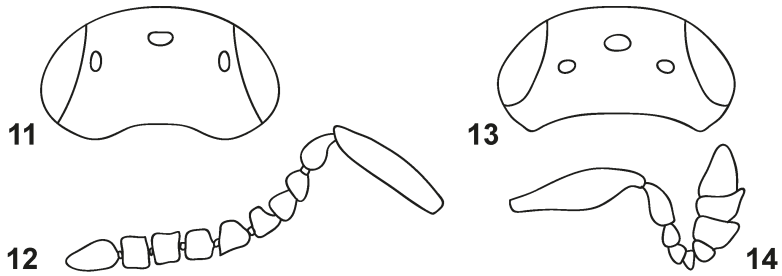
Etymology: From Latin *semi* and *rufa*, meaning "half-red"; in reference to the probably characteristic colour of this species.

Diagnosis: Antennae of male clavate, 9-segmented, with short A3 and A7–A8 distinctly transverse; mesoscutum reticulate-coriaceous, without notauli; body brightly coloured.

Description:

Male.

Body length 0.55 mm. Body light reddish brown with vertex, mesoscutum except anteriorly, and a large mid part of T2 darkened, blackish; A1–A5 and legs including coxae



Figs 11–14. *Fidiobia* spp.: *F. filicornis* sp. n., male, (11) head in dorsal view, (12) antenna; *F. semirufa* sp. n., male, (13) head in dorsal view, (14) antenna.

pale yellowish, A6–A9 slightly more brownish. Head from above (Fig. 13) 2.3× as wide as long, as wide as mesosoma, dull, finely and uniformly reticulate-coriaceous. OOL hardly half as long as LOL, about equal to longer diameter of lateral ocellus. Head in frontal view 1.2× as wide as high. Antenna (Fig. 14) with A1 0.7× as long as height of head, as long as distance between inner orbits; A3 distinctly widened. Mesosoma 1.15× as long as wide, 1.4× as wide as high, finely reticulate-coriaceous, strongest on mesoscutum, this (and scutellum) being evenly covered by sparse, white setae, without notauli. Scutellum much more finely sculptured than mesoscutum, 3.0× as wide as long, 0.35× as long as mesoscutum. Metapleuron with a white, foamy structure along margins (except the anterior one), dorsal areas of propodeum also covered by white, foamy structures. Fore wing almost clear, about as long as entire body, 2.65× as long as wide, with fine and dense microtrichia; submarginal vein pale, 0.18× as long as wing; marginal cilia 0.1× width of wing. Hind wing with marginal cilia 0.4× width of wing. Metasoma 0.9× as long as mesosoma, narrower than the latter (11:14), smooth. T2 1.1× as wide as long, with two whitish transverse basal foveae to about 0.15 of length.

Comparison: A characteristic Afrotropical species on account of shape of antennae in combination with colouration and lack of notauli. Most similar to *F. citri* (Nixon, 1969) from Jamaica, but that species has distinctly more slender flagellar segments.

Holotype: ♂ TOGO: Région des Plateaux, Zogbégan, village part Zogbégan-Carriére (SE of Badou), at creek Elèbè, V-shaped valley near cocoa plantation downstream of village (07°34'50"N 00°40'03"E), 20–25.iv.2008, 650 m, remains of secondary rainforest, swept, M. von Tschirnhaus.

Fidiobia tschirnhausi sp. n.

Fig. 15

Etymology: Named after the collector, M. von Tschirnhaus.

Diagnosis: Mesoscutum strongly longitudinally striated over most of surface, without notauli; mesopleuron strongly longitudinally striated in upper half.

Description:

Female.

Body length 0.55–0.90 mm. Black, T1 more or less dark brown; A1–A6 and legs including coxae light yellowish, tegulae and A7–A9 darker brown. Head from above (Fig. 15) 2.3× as wide as long, 1.1× as wide as mesosoma, strongly and uniformly

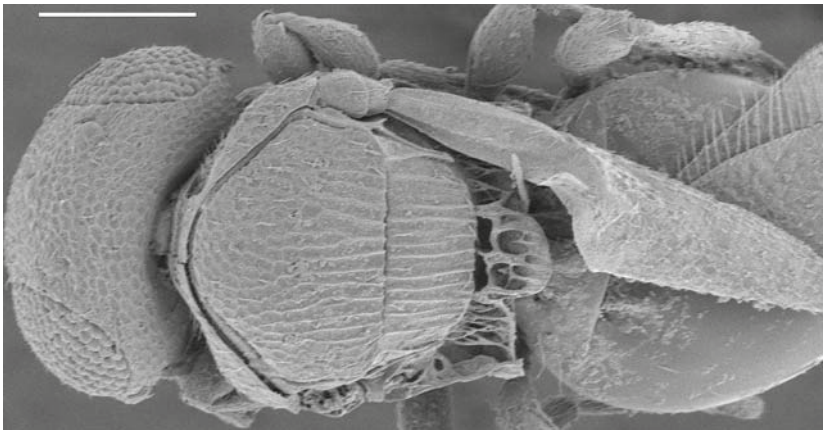


Fig. 15. *Fidiobia tschirnhausi* sp. n., body in dorsal view. Scale bar = 100 μm.

reticulate-coriaceous (not transversely so), hyperoccipital carina absent. OOL very short, less than half as long as diameter of lateral ocellus. Head in frontal view 1.2× as wide as high. Antenna 9-segmented, with A1 two-thirds as long as height of head, 1.2× as long as shortest distance between inner orbits; A2 twice as long as A3, which is slightly elongate and as long as A4–A5 combined; A6 almost twice as wide as A4–A5 but only two-thirds as wide as A7 and less than half as long; A7–A9 large, forming clava, A7 1.15× as wide as long, 1.3–1.6× as long as the more transverse A8; A9 about two-thirds to three-fourths as long as A7–A8 combined. Mesosoma (Fig. 15) 1.1× as long as wide, 1.25× as wide as high. Sides of pronotum sculptured as head. Mesoscutum bare, strongly longitudinally striated, except along narrow lateral and anterior margins which are reticulate-coriaceous; notauli invisible. Mesopleuron strongly longitudinally striated in upper half over most of its length, smooth in lower half. Scutellum 2.6× as wide as long, strongly longitudinally striated all over (or with 12 distinct longitudinal carinae). Metapleuron smooth and bare antero-medially, along upper and lower margins and in posterior half with pilosity and having a white foamy structure. Metanotum and propodeum medially with a raised foamy whitish structure which in dorsal view is 1.2× as wide as long, slightly less than half as wide as scutellum (6:13), and as long. Fore wing 0.9× as long as entire body, 3.0× as long as wide, faintly infuscated, with fine and dense microtrichia; submarginal vein pale, slightly less than one-fifth as long as wing (9:48); marginal cilia absent. Hind wing 5.2× as long as wide; marginal cilia nearly 0.25× width of wing. Metasoma hardly shorter than head and mesosoma combined (27:28), sometimes as long, slightly narrower than mesosoma (18:19). T1 medially with four weak longitudinal carinae, on each side of these having a small transverse spot of short pubescence. T2 1.1× as long as wide, smooth except for two basal foveae reaching 0.35 of the length of tergite, foveae basally very inconspicously pubescent. Apical tergites hidden beneath T2 except for apex of T6, which is smooth.

Male.

Body length 0.50–0.55 mm. Antennae very similar to those of female; A3 not longer than wide and on inner side slightly pointed towards apex; A4–A5 small, A6 1.5× as wide as these, 0.6× as long as A7 and 0.6× as wide; A7 about 1.5× as wide as long, A8

twice as wide as long, A9 as long as A7–A8 combined. Metasoma shorter than rest of body (15:17).

Comparison: Similar to *F. zebra* Buhl, 2010, from Tanzania but OOL shorter, and mesoscutum and mesopleuron more striated. The two species also differ as regards measurements of antennal segments (female A3 relatively shorter in *F. zebra*), and foamy structure on metanotum of *F. zebra* is twice as wide as long. In smaller specimens of *F. tschirnhausi*, OOL is about as long as ocellus, but they are still more sculptured than in *F. zebra*, and notauli are completely absent, in contrast to in *F. zebra*, which has striation on mesoscutum more irregular than in *F. tschirnhausi*, the lateral striae in *F. zebra* being more separated, indicating notauli. Cf. also Buhl (2010).

Holotype: ♀ TOGO: Région des Plateaux, Ouvêtsévé near Kpélé Élé (07°21'27"N 00°51'12"E), 15.iv.2008, 345 m, creek bank within forest, diverse herb vegetation, swept, M. von Tschirnhaus.

Paratypes: 1♂ (as well as two additional specimens used for SEM) Région des Plateaux, Zogbégan, village part Zogbégan-Carriére (SE of Badou), at creek Elèbè, V-shaped valley near cocoa plantation downstream of village (07°34'50"N 00°40'03"E), 20–25.iv.2008, 650 m, remains of secondary rainforest, swept; 1♂ Région des Plateaux, Ikavi-Kopé, at river/brook Ekèbè (07°36'10"N 00°44'31"E), 21.iv.2008, 535 m, brook, mud, dead wood, *Anubias gigantea*, adjacent to cocoa plantation, swept; 4♀ 26♂ Région des Plateaux, E of Ounabe at the border between Préf. D'Amou and Préf. de Wawa, NW of Témédja, NW of Atakpamé, at creek Ofè (07°32'35"N 00°59'59"E), 19.iv.2008, 705 m, remains of secondary rainforest at creek with coffee plantation, dense understorey, swept. All M. von Tschirnhaus.

Genus *Gastrotrypes* Brues, 1922

Gastrotrypes: Brues 1922: 270. Type species: *Gastrotrypes spatulatus* Brues, 1922, by original designation.

Gastrotrypes spatulatus Brues, 1922

Gastrotrypes spatulatus: Brues 1922: 271.

Material examined: 2♀ TOGO, Région des Plateaux, Ouwé NW of Gbadi Nkougna (SE of Badou), at creek Ouwé (07°29'32"N 00°41'56"E), 25.iv.2008, 590 m, remains of secondary rainforest, swept; 1♀ Région des Plateaux, Mont Agou NE of Agou Gadzépé, SE of Kpalimé (06°52'23"N 00°44'57"E), 17.iv.2008, 940–985 m, remains of secondary rainforest, downwards along road from mountain peak, swept; 1♀ Région des Plateaux, Manma-Kopé N of Gbadi Nkougna, SE of Badou (07°27'02"N 00°41'59"E), 25.iv.2008, 660 m, plantation (coffee, oilpalm, *Acacia*), swept above sawdust. All M. von Tschirnhaus.

Genus *Inostemma* Haliday, 1833

Acerota Förster, 1856: 107.
Ceratopsilus Kieffer, 1913*a*: 462.
Brachinostemma Kieffer, 1916: 551.
Inocerota Szelényi, 1939: 121.
Inostemma: Haliday 1833: 270. Type species: *Psilus boscii* Jurine, 1807, by monotypy.

Inostemma tschirnhausi sp. n.

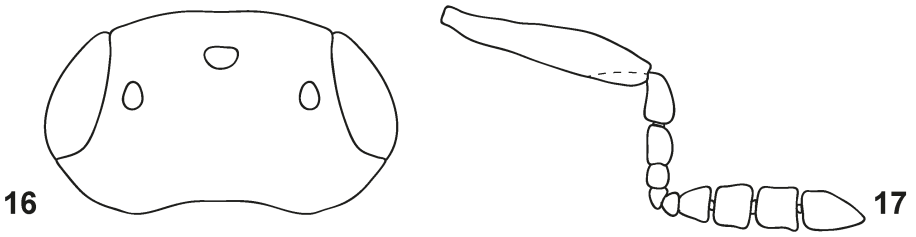
Figs 16, 17

Etymology: Named after the collector, M. von Tschirnhaus.

Diagnosis: Head twice as wide as long, without excavation on vertex; female A1 with only a very narrow lamella, slightly longer than following six segments combined; female A4 very slightly longer than wide; horn of female T1 very slightly surpassing anterior margin of mesosoma.

Description:

Female.



Figs 16, 17. *Inostemma tschirnhausi* sp. n., female: (16) head in dorsal view; (17) antenna.

Body length 1.0 mm. Black; antennae, mandibles, tegulae and legs including coxae dark brown; trochanters, most of fore tibiae, base and apex of mid and hind tibiae, and segments 1–4 of all tarsi light brown. Head from above (Fig. 16) 2.0× as wide as long, 1.2× as wide as mesosoma, almost uniformly reticulate-coriaceous with small meshes, transversely so just above antennal sockets; vertex not concave. LOL about twice as long as OOL. Head in frontal view 1.4× as wide as high. Antenna (Fig. 17) with A1 slightly longer than following six segments combined, 0.8× as long as height of head, 0.9× as long as distance between inner orbits; A3 1.5× as long as wide, A4 very slightly longer than wide. Mesosoma 1.3× as long as wide, slightly more than 1.1× as wide as high. Sides of pronotum reticulate-coriaceous, smoother antero-medially. Mesoscutum finely reticulate-coriaceous, with complete notauli which posteriorly are widened and sculptured. Scutellum flat and smooth. Fore wing whitish (not completely clear but colourless), almost reaching apex of metasoma, 2.5× as long as wide, with fine and dense microtrichia; subcostal vein medium brown, 0.3× length of wing; marginal cilia very short. Hind wing 5.0× as long as wide; marginal cilia 0.2× width of wing. Metasoma 1.25× as long as head and mesosoma combined, 0.9× as wide as mesosoma. Horn of T1 very slightly surpassing anterior margin of mesosoma, longitudinally striated dorsally and laterally. T2 slightly longer than wide (14:13), finely striated laterally in anterior half, smooth posteriorly. T3–T6 with fine microsculpture and setae, combined slightly shorter than T2 (13:14), T6 as long as wide.

Comparison: This species runs to *I. nitidum* Sundholm, 1970, in Buhl's (2011*b*) key to Afrotropical *Inostemma*, but that species has vertex slightly excavated, A1 only as long as A2–A6 combined, fore wing 2.7× as long as wide, female metasoma as long as head and mesosoma combined, horn of T1 brown and dorsally smooth, and T6 1.5× as wide as long.

Holotype: ♀ TOGO: Région des Plateaux, Kougnohou, at river Kpon (07°41'22"N 00°47'44"E), 23.iv.2008, 560 m, swept, M. von Tschirnhaus.

Genus *Iphitrachelus* Haliday, 1836

Iphitrachelus: Haliday in Walker 1836: 273. Type species: *Iphitrachelus lar* Haliday, 1836, by monotypy.

Iphitrachelus danielssoni Buhl, 2005

Iphitrachelus danielssoni: Buhl 2005: 284.

Material examined: 1♂ TOGO, Région des Plateaux, Zoumenou S of Zogbégan, SE of Badou, at creek Iviwou-Zato (07°30'54"N 00°40'54"E), 25.iv.2008, 670 m, cocoa and coffee plantation , ferns, Araceae, Zingiberaceae, M. von Tschirnhaus.

Genus *Leptacis* Förster, 1856

Xestonotus Förster, 1856: 107.
Miramblyaspis Dodd, 1914: 91.
Prosamblyaspis Kieffer, 1926: 561.
Axestonotus Kieffer, 1926: 625.
Anacoryphe Debauche, 1947: 274.
Mandraka Risbec, 1953: 343.
Leptacis: Förster 1856: 107. Type species: *Ichneumon tipulae* Kirby, 1798; designated by Ashmead (1893).

Leptacis acanthia Buhl, 2005

Leptacis acanthia: Buhl 2005: 284.

Material examined: 1♀ TOGO, Région des Plateaux, main road between Agbanon and Agoté, at creek Tomezuitoe (07°15'53"N 00°47'51"E), 15.iv.2008, 360 m, creek bank at teak forest (*Tectona grandis* L.), shady cocoa plantation, swept, M. von Tschirnhaus.

This specimen differs from the South African type material only in minor details.

Leptacis africana Masner, 1960

Leptacis africana: Masner 1960: 11, 26.

Material examined: 1♀ TOGO, Région des Plateaux, main road between Agbanon and Agoté, at creek Tomezuitoe (07°15'53"N 00°47'51"E), 15.iv.2008, 360 m, creek bank at teak forest (*Tectona grandis* L.), shady cocoa plantation, swept, M. von Tschirnhaus.

Leptacis athos Masner, 1960

Leptacis athos: Masner 1960: 9, 10, 15.

Material examined: 1♂ TOGO, Région des Plateaux, Akloa, at creek Domi coming from the Cascades d'Akloa (07°30'46"N 00°36'36"E), 22.iv.2008, 280 m, cocoa and avocado plantation, swept, M. von Tschirnhaus.

Leptacis bidentata Buhl, 2004

Leptacis bidentata: Buhl 2004: 334.

Material examined: 1♀ TOGO, Région des Plateaux, Ouwé NW of Gbadi Nkougna (SE of Badou), at creek Ouwé (07°29'32"N 00°41'56"E), 25.iv.2008, 590 m, remains of secondary rainforest, swept, M. von Tschirnhaus.

Leptacis bispinosa Buhl, 2005

Leptacis bispinosa: Buhl 2005: 285.

Material examined: 1♀ TOGO, Région des Plateaux, Kodjo-Kopé N of Badou, at creek Djodji (07°38'56"N 00°35'43"E), 24.iv.2008, cocoa and oilpalm plantation, swept, M. von Tschirnhaus.

Leptacis cylindrica n. sp.

Fig. 18

Etymology: From Latin *cylindrus* (cylindric), in reference to the characteristic, rather cylindrical metasoma.

Diagnosis: Scutellum with one tiny translucent spine; female metasoma 1.25–1.30× as long as rest of body, with only one tergite behind the long T2.

Description:

Female.

Body length 0.75–1.00 mm. Blackish, T1 medium brown, A1–A6 and legs including coxae light brown, A7–A10 and tegulae dark brown, A2 and A4–A6 sometimes

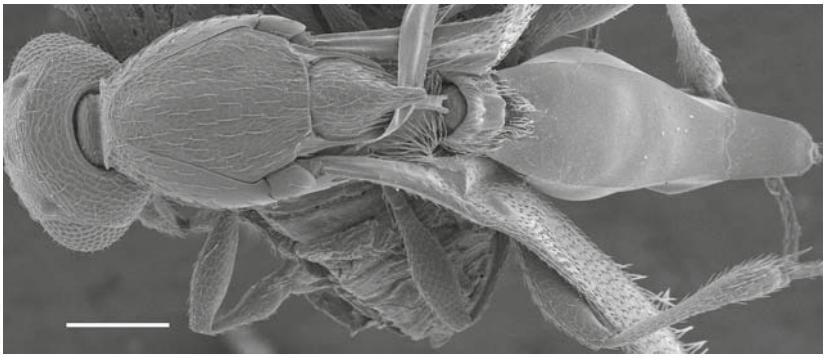


Fig. 18. *Leptacis cylindrica* sp. n., female body in dorsal view. Scale bar = 100 μm.

darkened. Head from above (Fig. 18) 1.7–1.9× as wide as long, 1.20–1.25× as wide as mesosoma; occiput distinctly and transversely reticulate-coriaceous; hyperoccipital carina evident medially; vertex and frons distinctly and more or less irregularly reticulate-coriaceous, with rather large meshes. Eyes virtually bare. OOL equal to diameter of lateral ocellus; LOL about 4× as long as OOL. Head in frontal view 1.1× as wide as high. Antenna with A1 0.85–0.90× as long as height of head, 1.2–1.5× as long as distance between inner orbits; A2 slightly longer than A3–A4 combined, sometimes A3–A4 combined only 0.7× as long as A2; A4–A5 subequal, each only slightly longer than A3 and A6; A7 1.3–1.5× as long as wide; A8 1.00–1.33× as long as wide; A9 about as long as wide. Mesosoma (Fig. 18) 1.6–1.9× as long as wide, 1.25× as high as wide. Sides of pronotum reticulate-coriaceous (slightly longitudinally so), in upper 0.6 smooth in about posterior half. Mesoscutum evenly and moderately densely setose, finely and uniformly reticulate-coriaceous; notauli absent (sometimes very faintly evident, visible from certain angles in about posterior 0.7); hind margin straight, covering front edge of scutellum; scuto-scutellar grooves diminutive, without conspicuous setae. Mesopleuron smooth. Scutellum sculptured and setose much as mesoscutum, with a tiny translucent spine. Metapleuron with pilosity over most of surface, but very sparse at anterior margin, sometimes bare in anterior 0.4. Propodeal carinae brownish, very close together. Fore wing 0.75–0.85× as long as entire body, 3.1–3.4× as long as wide, almost clear, with fine and dense microtrichia; marginal cilia almost 0.3× width of wing. Hind wing 10–11× as long as wide; marginal cilia about as long as to slightly longer than width of wing. Metasoma (Fig. 18) 1.25–1.30× as long as head and mesosoma combined, 0.7× as wide as mesosoma, 1.3× as wide as high. T1 with a transverse depression around midlength and several weak longitudinal carinae. T2 with a few crenulae in basal 0.1, rest of T2 as well as T3 smooth and bare, T2 4.5× as long as T3; T3 about $1.\overline{3}$× as long as wide, rest of tergites hidden or fused.

Comparison: Easily recognised on account of the combination of the two characters mentioned in the diagnosis. The *Leptacis* species of the Indonesian subgenus *Cylindrotacis* Buhl, 2008, also have only three visible tergites, but these species have two scutellar spines, one on each posterior corner of scutellum.

Holotype: ♀ TOGO: Région des Plateaux, Manma-Kopé N of Gbadi Nkougna, SE of Badou (07°27'02"N 00°41'59"E), 25.iv.2008, 660 m, plantation (coffee, oilpalm, *Acacia*), swept above sawdust, M. von Tschirnhaus.

Paratypes: 2♀ Région des Plateaux, Plateau de Danyi, road from Atigba to Danyi–Apéyémé, at a tributary creek of river Danyi (07°11'04"N 00°41'31"E), 14.iv.2008, 710 m, creek bank and below shrubs and bamboo, plantation, swept; 2♀ Région des Plateaux, Plateau de Danyi, near Dzogbégan, Monastière de l'Ascension, at river/creek Danyi (07°14'30"N 00°40'45"E), 14.iv.2008, 725 m, abandoned plantation ground with three dominant plants (*Eleusine indica* (L.) Gaertn., *Rhynchelytrum repens* (Willd.) C.E. Hubb., *Cyperus* sp.), swept; 1♀ Région des Plateaux, Plateau de Danyi, near Atigba (07°09'52"N 00°41'33"E), 14.iv.2008, 775 m, remains of secondary rainforest, underwood, forest plantation, road side with much *Sida acuta* Burm. F., swept; 1♀ Région des Plateaux, Kpélé Bémé SW of Adagali (07°06'02"N 00°43'28"E), 290 m, 16.iv.2008, cultured land in a wide plain with *Stachytarpheta indica* Vahl (dominant weed) and grasses, swept. All M. von Tschirnhaus.

Leptacis elongaticeps sp. n.

Figs 19–22

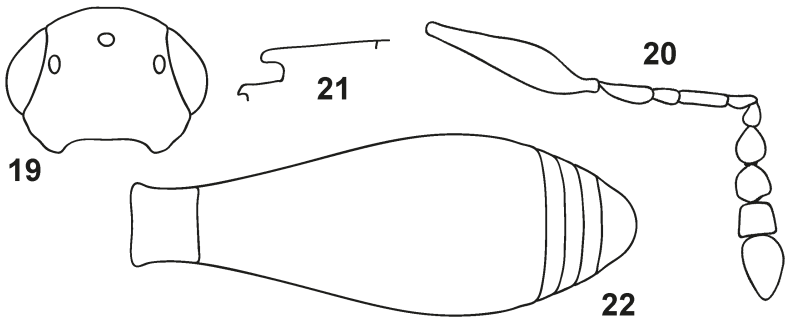
Etymology: from Latin *elongare* (elongate) and *cephalicus* (head); in reference to the characteristically narrow head.

Diagnosis: Head in frontal view as high as wide to slightly higher than wide, from above at most 1.6× as wide as long.

Description:

Female.

Body length 0.70–0.95 mm. Black, T1 dark brownish; A1, mandibles and legs including coxae light brownish yellow, A2–A10 and tegulae medium to dark brown; in the paratype, A2–A6 are also light brownish, and thickened part of femora, of mid and hind tibiae, and last segment of tarsi faintly darkened. Head from above (Fig. 19) 1.5–1.6× as wide as long, wider than mesosoma (12:11); occiput transversely and moderately strongly reticulate-coriaceous, more weakly reticulate on vertex and frons, meshes becoming transverse on lower half of frons; hyperoccipital carina weakly developed, disappearing laterally. OOL shorter than diameter of lateral ocellus. Eyes bare. Head in frontal view higher than wide (13:12), in paratype only as high as wide. Antenna (Fig. 20) with A1 0.75–0.85× as long as height of head, 1.5× as long as distance between inner orbits; A9 1.2× as wide as long; A4 in holotype as long as A2, in the smaller paratype slightly shorter than A2. Mesosoma 1.8–1.9× as long as wide, 1.2× as high as wide. Sides of pronotum reticulate-coriaceous (not longitudinally so) in about one-third of length from entire anterior margin and up to lower third of hind margin, the rest smooth. Mesoscutum with sparse, scattered and inconspicuous setae, weakly reticulate-coriaceous, smoother postero-medially, and medially on lateral lobes; notauli faintly evident almost to anterior margin (invisible on the smaller paratype); mid lobe posteriorly blunt, slightly prolonged to base of scutellum; scuto-scutellar grooves triangular, each covered by three distinct, long setae. Mesopleuron smooth. Scutellum (Fig. 21) flat, dull, with a few setae, and having a short, brownish translucent spine. Metapleuron smooth and bare, with a small area of pilosity at hind margin. Propodeal carinae low, translucent, distinctly separated over whole length, very slightly diverging; area between them slightly longer than wide. Fore wing slightly surpassing tip of metasoma, 0.75–0.90× as long as entire body, 4.3× as long as wide, almost clear, with fine and rather dense microtrichia; marginal cilia 0.5–0.6× width of wing. Hind wing 9.2× as long as wide; marginal cilia 1.6× the width of wing. Metasoma (Fig. 22) about 1.1× as long as head and mesosoma combined, about as wide as mesosoma. T1 with three almost complete, well developed longitudinal carinae, the two lateral ones converging, tergite laterally with inconspicuous pubescence. T2 in



Figs 19–22. *Leptacis elongaticeps* sp. n., female: (19) head in dorsal view; (20) antenna; (21) scutellum and propodeal carinae in lateral view; (22) metasoma in dorsal view.

anterior 0.1 with two basal foveae and a few longitudinal striae laterally of these, rest of tergite smooth. T3–T6 with reticulate microsculpture, almost without setae.

Comparison: This species runs to *L. kryi* Buhl, 2011, in Buhl's (2011*b*) key to Afrotropical species of *Leptacis*, but that species has a more transverse head, more elongate antennal clava, mesosoma only 1.5× as long as wide, smoother sides of pronotum, less elongate wings, and shorter but more pointed metasoma. Cf. also Buhl (2011*b*).

Holotype: ♀ TOGO: Région des Plateaux, N of Kessibo-Wawa, at the border to Ghana (N of Badou), at river Wawa (07°42'11"N 00°35'26"E), 24.iv.2008, 180 m, forest understorey, cocoa plantation and sun-exposed vegetable fields, some Cyperaceae, swept, M. von Tschirnhaus.

Paratype: 1♀ same data as holotype.

Leptacis fusiformis Buhl, 2005

Leptacis fusiformis: Buhl 2005: 287.

Material examined: 1♀ TOGO, Région des Plateaux, NE of Badou, at creek Okpabè (07°35'19"N 00°07'17"E), 20.iv.2008, 370 m, creek bank in remains of secondary rainforest, swept; 1♀ Région des Plateaux, Abriwa-Nko, about 5 km N of Badou, at creek Ègnulu–Agbadja (07°37'18"N 00°36'13"E), 24.iv.2008, 310 m, swept in cocoa and avocado plantation. Both M. von Tschirnhaus.

Hitherto, known only from the holotype (Republic of South Africa). The specimens from Togo are smaller (about 0.7 mm) and have less slender antennae than the holotype, head about twice as wide as long, 1.3× as wide as mesosoma, fore wing 3.25× as long as wide, with marginal cilia 0.4× width of wing, and female metasoma slightly shorter than rest of body (20:21).

Leptacis leptoventris Buhl, 2010

Leptacis leptoventris: Buhl 2010: 36.

Material examined: 1♀ TOGO, Région des Plateaux, Zogbégan, village part Zogbégan-Carriére (SE of Badou), at creek Elèbè, V-shaped valley near cocoa plantation (07°34'50"N 00°40'03"E), 20–25.iv.2008, 650 m, remains of secondary rainforest and dense bank vegetation, swept; 1♀ Région des Plateaux, Kougnohou, at river Kpon (07°41'22"N 00°47'44"E), 23.iv.2008, 560 m, swept. Both M. von Tschirnhaus.

Leptacis microcera Buhl, 2003

Leptacis microcera: Buhl 2003: 27.

Material examined: 1♀ TOGO, Région des Plateaux, Ouvêtsévé near Kpélé Élé (07°21'27"N 00°51'12"E), 15.iv.2008, 345 m, creek bank within forest, diverse herb vegetation, swept, M. von Tschirnhaus.

Leptacis cf. *mitratus* Huggert, 1976

Leptacis mitratus: Huggert 1976: 224.

Material examined: 1♀ TOGO, Région des Plateaux, Mont Agou NE of Agou (NE of Agou Gadzépé, SE of Kpalimé), Kebo-Dalavé (06°50'56"N 00°44'54"E), 17.iv.2008, 275 m, plantation (with banana, cocoa and mango) along small creek, swept, M. von Tschirnhaus.

L. mitratus was described from Zaire, but the present specimen from Togo seems more similar to the very closely related *L. pteridis* Buhl, 2002, from Borneo (due to conformation of A3–A4), although with a longer OOL than that species. Fore wings of the Togo specimen are intermediate in size (2.7× as long as wide) between those of the Borneo and Zaire material (2.5× as long as wide and "almost 3.0× as long as wide", respectively).

Leptacis nigrotrochanterica sp. n.

Figs 23–26

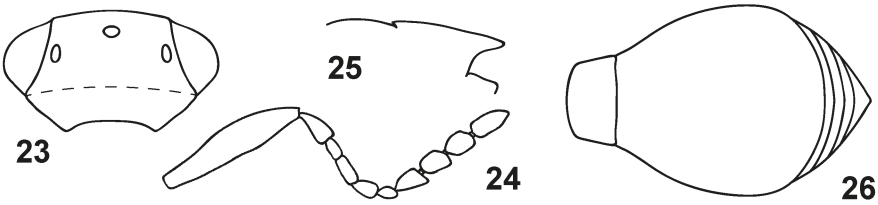
Etymology: From Latin *niger* and *trochanter*, meaning "black trochanters"; in reference to the trochanters which are contrastingly darker than rest of legs.

Diagnosis: A middle-sized species with hyperoccipital carina distinct but weak; female A4 about 1.5× as long as A3, very slightly more than twice as long as wide; A9 1.4× as long as wide; scutellar spine as long as propodeum and rather thick in lateral view; marginal cilia of fore wing 0.14× width of wing; female metasoma 0.8× as long as rest of body.

Description:

Female.

Body length 1.1 mm. Shiny black, including coxae and trochanters; A1, mandibles and fore and mid legs light brownish; A2–A6 and apex of mid tibiae slightly darkened; hind legs medium brown with darkened apical third of tibiae; last segment of all tarsi slightly darkened, A7–A10 dark brown. Head from above (Fig. 23) 1.85× as wide as long, 1.2× as wide as mesosoma; occiput finely and slightly transversely reticulate-coriaceous; hyperoccipital carina distinct and nearly complete but weak; vertex and frons weakly reticulate-coriaceous, in lower half of frons distinctly transversely so. OOL hardly half as long as diameter of lateral ocellus. Eyes bare. Head in frontal view 1.2× as wide as high. Antenna (Fig. 24) with A1 0.8$\overline{3}$× as long as height of head, 1.25× as long as distance between inner orbits; A9 1.4× as long as wide. Mesosoma one and two-thirds as long as wide, 1.15× as high as wide. Sides of pronotum smooth except for very faint sculpture in upper anterior corner, with only about 10 inconspicuous setae close to margins. Mesoscutum with sparse, short, scattered inconspicuous setae, finely and uniformly reticulate-coriaceous; notauli absent; hind margin medially with a very small convexity, without setation above the triangular scuto-scutellar grooves. Mesopleuron smooth. Scutellum (Fig. 25) with only a few setae, finely leathery; spine as long as propodeal carinae, brownish only at apex, without lamella. Metapleuron smooth, bare only medially along anterior margin, rest of surface with sparse pilosity. Propodeal carinae low, dark, parallel, well separated, area between them slightly longer than wide. Fore wing clear, 0.8× as long as body, 2.6× as long as wide, with fine and very sparse microtrichia; marginal cilia 0.14× width of wing. Hind wing 7.5× as long as wide; marginal cilia two-thirds the width of wing. Metasoma (Fig. 26) 0.8× as long as head and mesosoma combined, hardly longer than mesosoma (30:29) and 1.1× as wide.



Figs 23–26. *Leptacis nigrotrochanterica* sp. n., female: (23) head in dorsal view; (24) antenna; (25) scutellum and propodeal carinae in lateral view; (26) metasoma in dorsal view.

T1 with three rather robust longitudinal carinae, laterally slightly pubescent and with a few long setae. T2 1.1× as long as wide, with two slightly pubescent basal foveae to 0.1 of length, having a few longitudinal striae on the outer slopes of foveae, otherwise smooth. T3–T5 each with a transverse stripe of rugosity, T6 reticulate-coriaceous all over. Apical tergites with fine setae inserted in shallow punctures (very few on T3–T4, 12 on T5).

Comparison: This species runs to *L. papei* Buhl, 2011, in Buhl's (2011*b*) key, but that species has more slender antennae, a longer and thinner scutellar spine, and longer marginal cilia of wings. Cf. also Buhl (2011*b*).

Holotype: ♀ TOGO: Région des Plateaux, Cascade d'Ayomé NE of Amlamé (07°30'08"N 00°57'20"E), 13.iv.2008, 305–330 m, at shady creek bank in rock gorge, much *Anubias gigantea*, swept, M. von Tschirnhaus.

Leptacis pronotata Buhl, 2011

Leptacis pronotata: Buhl 2011*b*: 80, 93.

Material examined: 1♀ TOGO, Région des Plateaux, Klabé–Azafi, at river Gonobè (07°36'00"N 00°43'21"E), 21.iv.2008, 485 m, remains of secondary rainforest at river, rotting oranges, grass along road, swept; 2♀ Région des Plateaux, E of Ounabe at the border between Préf. D'Amou and Préf. de Wawa, NW of Témédja, NW of Atakpamé, at creek Ofê (07°32'35"N 00°59'59"E), 19.iv.2008, 705 m, remains of secondary rainforest at creek with coffee plantation, dense understorey, swept; 2♀ Région des Plateaux, Abriwa-Nko, about 5 km N of Badou, at creek Ègnulu–Agbadja (07°37'18"N 00°36'13"E), 24.iv.2008, 310 m, swept in cocoa and avocado plantation. All M. von Tschirnhaus.

Leptacis quadrilineata sp. n.

Figs 27–30

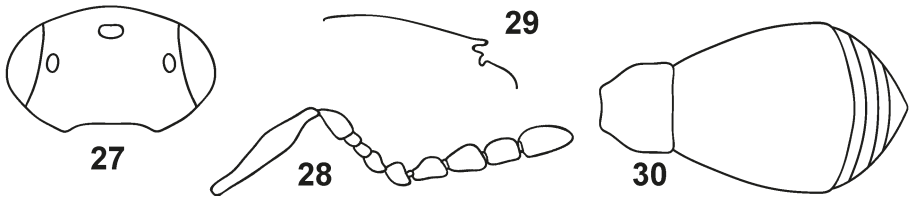
Etymology: From Latin *quattuor* and *linea*, "four lines"; in reference to the distinct four lines formed by setae on the mesoscutum.

Diagnosis: A small species with weak hyperoccipital carina; female A4 very slightly elongate, only slightly longer than A3 and shorter than A5; A9 1.2× as long as wide; mesoscutum with setae forming four distinct longitudinal lines; scutellum with a very small tooth; female metasoma 0.9× as long as rest of body.

Description:

Female.

Body length 0.55 mm. Blackish; A1, tegulae and legs including coxae light brown, mandibles and A2–A10 darker brown. Head from above (Fig. 27) twice as wide as long, 1.25× as wide as mesosoma; occiput and hind part of vertex transversely reticulate-coriaceous, rest of vertex and frons weakly reticulate with rather large meshes (at most slightly



Figs 27–30. *Leptacis quadrilineata* sp. n., female: (27) head in dorsal view; (28) antenna; (29) scutellum and propodeal carinae in lateral view; (30) metasoma in dorsal view.

transverse); hyperoccipital carina weak. Eyes bare. OOL slightly shorter than diameter of lateral ocellus. Head in frontal view 1.15× as wide as high. Antenna (Fig. 28) with A1 0.75× as long as height of head, as long as distance between inner orbits; A9 1.2× as long as wide. Mesosoma 1.5× as long as wide, 1.$\overline{3}$× as high as wide. Sides of pronotum faintly leathery in less than anterior half, rest smooth. Mesoscutum with setae forming four distinct longitudinal lines: two along imaginary notaulic courses and one along each side, otherwise bare, weakly reticulate-coriaceous, without notauli; hind margin narrowly brownish, very slightly convex, with three setae at each side. Scuto-scutellar grooves invisible. Mesopleuron smooth. Scutellum (Fig. 29) rather densely setose, slightly smoother than mesoscutum, in dorsal view slightly elongate, *Amblyaspis*-like, in lateral view with a very small, brownish tooth behind, without lamella. Metapleuron smooth, with pilosity only posteriorly. Propodeal carinae moderately high, translucent, very close together. Fore wing 1.1× as long as entire body, 3.3× as long as wide, almost clear, with fine and dense microtrichia; marginal cilia fully 0.4× width of wing. Hind wing 12.5× as long as wide; marginal cilia 1.5× width of wing. Metasoma (Fig. 30) 0.9× as long as head and mesosoma combined, nearly 1.1× as wide as mesosoma. T1 raised anteriorly, behind with two weak longitudinal carinae, inconspicuously setose. T2 with two very weak basal foveae which have a few inconspicuous setae at their base, T2 otherwise smooth. T3–T6 with reticulate sculpture, apex of T6 smooth; apical tergites at most with very few, inconspicuous setae.

Comparison: This species runs to *L. microcera* Buhl, 2003, in Buhl's (2011*b*) key, but that species has more elongate basal flagellar segments, mesosoma 1.7× as long as wide, scattered setae on mesoscutum, a much stronger scutellar spine, and fore wing with scattered, long microtrichia.

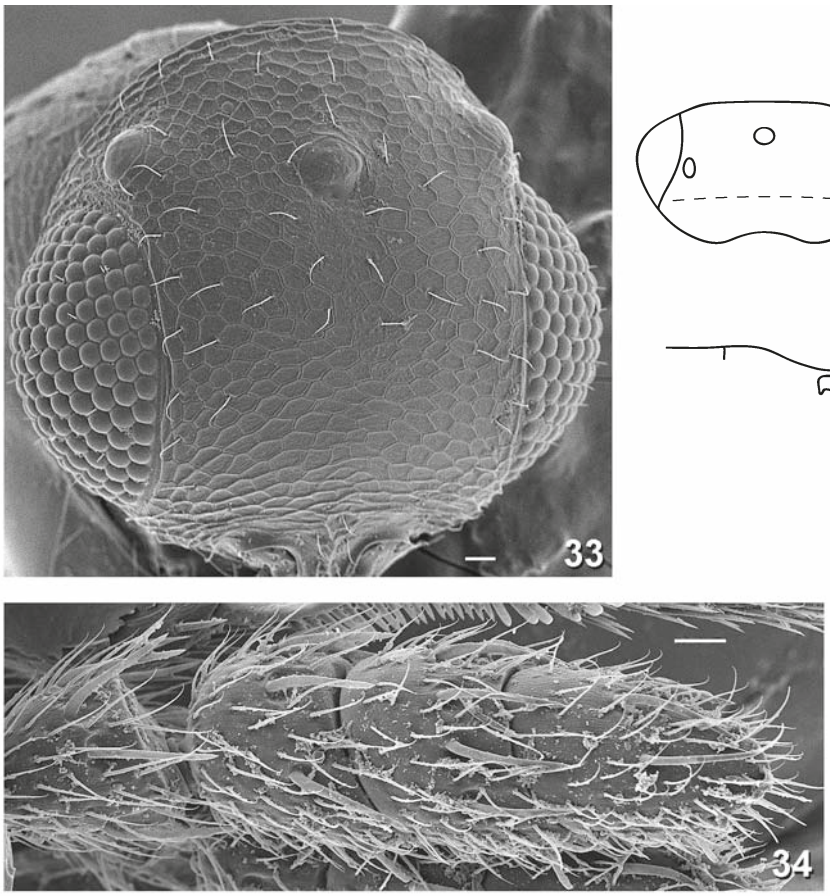
Holotype: ♀ TOGO: Région des Plateaux, Ouwé NW of Gbadi Nkougna (SE of Badou), at creek Ouwé (07°29'32"N 00°41'56"E), 25.iv.2008, 590 m, remains of secondary rainforest, swept, M. von Tschirnhaus.

Leptacis sensillosa sp. n.

Figs 31–34

Etymology: Derived from the Latin *sensillum*; in reference to the unusually distinct sensillae on antennal club.

Diagnosis: A small species with weak hyperoccipital carina; A3–A4 small, about equal, each very slightly longer than wide, combined 0.75× as long as A2; antennal clava with strong sensillae; A9 slightly transverse; scutellar spine thin, half as long as propodeum; female metasoma at most 0.9× as long as rest of body.



Figs 31–34. *Leptacis sensillosa* sp. n., female: (31) head in dorsal view; (32) scutellum and propodeal carinae in lateral view; (33) female head in frontal view; (34) female antennal clava. Scale bars = 100 μm.

Description:

Female.

Body length 0.65–0.75 mm. Black, T1 sometimes brown; A1–A3, mandibles and legs including coxae light brownish yellow; A4–A10 and tegulae dark brown. Head from above (Fig. 31) 1.85–2.00× as wide as long, 1.3× as wide as mesosoma, distinctly reticulate-coriaceous (only in one specimen transversely so); hyperoccipital carina incomplete and inconspicuous but vertex raised and angled. OOL equal to shorter diameter of lateral ocellus. Eyes with at most sparse and very short setae. Head in frontal view (Fig. 33) wider than high (13:12). Antenna (Fig. 34) with A1 0.75–0.85× as long as height of head, 1.1–1.2× as long as distance between inner orbits; A3–A4 small, about equal, each very slightly longer than wide, combined 0.75× as long as A2; A5 about 1.25× as long as A4; A9 very slightly transverse; antennal clava with unusually distinct sensillae. Mesosoma about 1.7× as long as wide, 1.2× as high as wide. Sides of pronotum reticulate-coriaceous (in one specimen slightly longitudinally so), smooth

along wide hind margin. Mesoscutum with sparse, evenly scattered setae, uniformly reticulate-coriaceous, without notauli; hind margin straight, slightly brownish, covering scuto-scutellar grooves, with only two setae laterally above scutellar margins on each side. Mesopleuron smooth. Scutellum (Fig. 32) sculptured almost as mesoscutum, slightly more densely setose than this, with a thin, short, more or less brownish spine without lamella. Metapleuron smooth, bare medially only in anterior 0.25, and bare in about anterior half just inside upper and lower margins. Propodeal carinae translucent light brownish, fused. Fore wing hardly shorter than entire body, 3.15–3.30× as long as wide, faintly infuscated, with moderately fine (slightly thickened) and dense microtrichia; marginal cilia 0.3–0.4× width of wing. Hind wing 11.3–12.0× as long as wide; marginal cilia 1.60–1.75× width of wing. Metasoma 0.8–0.9× as long as head and mesosoma combined, 1.05–1.15× as long as mesosoma, and as wide. T1 smooth and bare medially between the two moderately prominent longitudinal carinae, at each side with short, dense pubescence, continuing on ventral side and on the two small basal foveae on T2, rest of T2 as well as apical tergites virtually smooth and bare except for faint reticulation on T6.

Variation: The single specimen mentioned as additional material differs from the rest mainly in having strongly transverse sculpture on occiput and frons, and it is smaller and lighter coloured than the type specimens, A1–A6, mandibles and legs including coxae being yellowish brown.

Comparison: *L. sensillosa* runs to *L. pallidispina* Buhl, 2005, in Buhl's (2011*b*) key, but that species has the head perfectly rounded, longer A3–A4, higher and thicker scutellar spine in lateral view, propodeum less sloping, and wings less elongate. *L. microcera* is somewhat similar to *L. sensillosa*, but the head is 1.3× as wide as high, frons almost smooth, antennae more slender, sides of pronotum smooth, scutellar spine higher and thicker, fore wing has scattered long microtrichia, and marginal cilia of hind wing are only slightly longer than width of wing.

Holotype: ♀ TOGO: Région des Plateaux, E of Ounabe at the border between Préf. D'Amou and Préf. de Wawa, NW of Témédja, NW of Atakpamé, at creek Ofê (07°32'35"N 00°59'59"E), 19.iv.2008, 705 m, remains of secondary rainforest at creek with coffee plantation, dense understorey, swept, M. von Tschirnhaus.

Paratypes: 2♀ same data as holotype. Additional material: 1♀ Région des Plateaux, N of Kessibo-Wawa, at the border to Ghana (N of Badou), at river Wawa (07°42'11"N 00°35'26"E), 24.iv.2008, 180 m, forest understorey, cocoa plantation and sun-exposed vegetable fields, some Cyperaceae, swept, M. von Tschirnhaus.

Leptacis terricola Masner, 1960

Leptacis terricola: Masner 1960: 12, 25.

Material examined. 1♀ TOGO, Région des Plateaux, 1 km downstream of Totamé (07°35'21"N 00°37'55"E), 20.iv.2008, 590 m, mountain slope with scattered forest trees and dense ground vegetation, rotting fruits of avocado, swept, M. von Tschirnhaus.

Leptacis togoensis sp. n.

Figs 35–38

Etymology: Named after the country of the type locality, Togo.

Diagnosis: A small species with distinct hyperoccipital carina; female A4 about 1.4× as long as A3, hardly longer than the widened A5; A8–A9 each slightly transverse, rather strongly pointed at apex on inner side; scutellar spine half as long as propodeum; fore

Figs 35–38. *Leptacis togoensis* sp. n., female: (35) head in dorsal view; (36) antenna; (37) scutellum and propodeal carinae in lateral view; (38) metasoma in dorsal view.

wing with marginal cilia one-third the width of wing; female metasoma 0.8× as long as rest of body.

Description:

Female.

Body length 0.60 mm. Black, T1 brown; A1–A6, mandibles, tegulae and legs more or less light brownish, apical third of hind tibiae and last segment of tarsi darkened; A7–A10 dark brownish. Head from above (Fig. 35) 1.95× as wide as long, 1.15× as wide as mesosoma; occiput transversely reticulate-coriaceous; hyperoccipital carina distinct and complete but low; vertex distinctly reticulate-coriaceous; frons with very weak, slightly transverse meshes. OOL very short, lateral ocelli almost touching inner orbits. Eyes bare. Head in frontal view 1.1× as wide as high. Antenna (Fig. 36) with A1 0.8× as long as height of head, 1.15× as long as distance between inner orbits; A8–A9 each slightly transverse. Mesosoma 1.5× as long as width across tegulae, 1.2× as high as wide. Sides of pronotum with weak rugosity on about anterior one-third, rest smooth. Mesoscutum with few setae, most of them along imaginary notaulic courses, weakly reticulate-coriaceous, without notauli; hind margin with a very small prolongation medially, at each side having about six setae over narrow scuto-scutellar grooves. Mesopleuron smooth. Scutellum (Fig. 37) slightly more setose than mesoscutum, with a small, light brownish tooth behind. Metapleuron medially smooth and bare in more than anterior half, with sparse pilosity along upper and lower margins. Propodeal carinae close together. Fore wing fully 0.9× as long as entire body (33:36), 2.8× as long as wide, almost clear, with moderately fine and rather sparse microtrichia; marginal cilia one-third of the width of wing. Hind wing 10× as long as wide; marginal cilia 1.4× width of wing. Metasoma (Fig. 38) 0.8× as long as head and mesosoma combined, longer than mesosoma (16:15), and as wide. T1 inconspicuously pubescent, with two longitudinal carinae. T2 with distinct, roundish basal foveae which are hardly 0.2× as long as tergite, rest of T2 smooth. Apical tergites combined hardly one-third as long as T2, with very fine reticulation, virtually bare.

Comparison: Most similar to *L. microcera* Buhl, 2003, but that species has head 1.3× as wide as mesosoma and 1.3× as wide as high, A5–A6 and A8–A9 narrower and more cylindrical than in *L. togoensis*, mesosoma 1.7× as long as wide, mesoscutum with scattered setae, marginal cilia of fore wing fully 0.4× width of wing, and metasoma 1.1× as long as mesosoma but narrower, with T3–T6 combined being 0.4 as long as T2. The body colour of *L. microcera* is dark brown and the legs are yellowish overall.

Holotype: ♀ TOGO: Région des Plateaux, E of Ounabe at the border between Préf. D'Amou and Préf. de Wawa, NW of Témédja, NW of Atakpamé, at creek Ofê (07°32'35"N 00°59'59"E), 19.iv.2008, 705 m, remains of secondary rainforest at creek with coffee plantation, dense understorey, swept, M. von Tschirnhaus.

Leptacis trilineata sp. n.

Figs 39–42

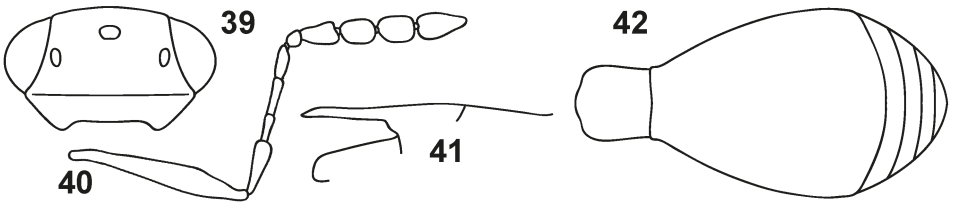
Etymology: From Latin *tres* (three) and *linea* (lines); in reference to the three distinct lines of setae on mesoscutum.

Diagnosis: A middle-sized species with distinct hyperoccipital carina; female A4 fully 3.0× as long as wide, 1.$\overline{3}$× as long as A3 and 1.2× as long as A5; A8–A9 each about 1.$\overline{3}$× as long as wide; mesoscutum with three longitudinal rows of setae; fore wing 3.7× as long as wide, with marginal cilia nearly 0.3× width of wing; scutellum with a thin spine as long as propodeum; female metasoma 0.85× as long as rest of body.

Description:

Female.

Body length 1.1 mm. Body unevenly reddish brown, lower half of head yellowish brown, and scutellum lighter brown; A1–A6, mandibles, tegulae and legs including coxae light brownish yellow, A7–A10 dark brown. Head from above (Fig. 39) 1.8× as wide as long, 1.1× as wide as mesosoma, smooth except for faint traces of transverse reticulation on lower half of frons; hyperoccipital carina distinct and complete. OOL slightly shorter than diameter of lateral ocellus. Eyes bare. Head in frontal view 1.1× as wide as high. Antenna (Fig. 40) with A1 shorter than height of head (14:15), 1.4× as long as distance between inner orbits. Mesosoma 1.95× as long as wide, 1.25× as high as wide. Sides of pronotum smooth, each with only about 10 fine setae, most of them along upper margin. Mesoscutum with setae only just inside tegulae and in three distinct, parallel longitudinal rows: two complete ones near imaginary notaulic courses, one along middle but only present in anterior two-thirds; disc smooth, without notauli; hind margin with a very inconspicuous, small prolongation medially, at each side with about six short setae at anterior margin of two small scuto-scutellar grooves which contain more short setae. Mesopleuron smooth. Scutellum (Fig. 41) almost smooth, rather densely setose, with a thin, straight spine reaching end of propodeal carinae. Metapleuron smooth and bare over most of surface, with dense white pilosity along hind margin. Propodeal carinae high, light brown, fused. Fore wing very slightly longer than entire body (about 67:65), 3.7× as long as wide, weakly infuscated, with fine and very dense microtrichia; marginal cilia nearly 0.3× width of wing (5:18). Hind wing 11.4× as long as wide; length of marginal cilia equal to width of wing. Metasoma (Fig. 42) 0.85× as long as head and mesosoma combined, slightly longer than mesosoma (30:29), and about as wide. T1 swollen in most of anterior half, smooth behind, medially bare, with a longitudinal row of setosity on each side. T2 with two distinct tufts of pubescence basally to 0.15 of length. T3–T6 with weak reticulation along hind margin, having some very inconspicuous setae.



Figs 39–42. *Leptacis trilineata* sp. n., female: (39) head in dorsal view; (40) antenna; (41) scutellum and propodeal carinae in lateral view; (42) metasoma in dorsal view.

Comparison: This species is most similar to *L. papei* Buhl, 2011, and it runs to that species in Buhl's (2011*b*) key, but *L. papei* has A4 fully 4.0× as long as wide, 1.7× as long as A3, mesoscutum evenly setose, mesopleuron with wrinkles in upper third, and fore wing only 3.2× as long as wide and with unusually thick microtrichia.

Holotype: ♀ TOGO: Région des Plateaux, NE of Badou, at creek Okpabè (07°35'19"N 00°07'17"E), 20.iv.2008, 370 m, creek bank in remains of secondary rainforest, swept, M. von Tschirnhaus.

Leptacis tschirnhausiana sp. n.

Fig. 43

Etymology: Named after the collector, M. von Tschirnhaus.

Diagnosis: A most characteristic species on account of slender body with mesosoma twice as long as wide and female metasoma 1.3–1.4× as long as rest of body; scutellar spine very small.

Description:

Female.

Body length 1.0–1.1 mm. Black; A1–A2, mandibles and legs including coxae light brownish; apex of hind femora and last segment of all tarsi slightly darkened; A3–A10 and tegulae dark brownish. Head from above (Fig. 43) 1.75× as wide as long, 1.15× as wide as mesosoma, distinctly reticulate-coriaceous, above antennal insertions transversely so; hyperoccipital carina rather conspicuous and complete. OOL shorter than diameter of lateral ocellus. Eyes with very few, inconspicuous setae. Head in frontal view 1.05× as wide as high. Antenna (Fig. 43) with A1 slightly more than 0.9× as long as height of head, 1.6× as long as distance between inner obits; A2 1.15× as long as A3–A4 combined; A4 one and two-thirds as long as A3, about as long as A5; A6 slightly smaller than A2; A7–A10 forming a clava; A7 1.75× as long as wide; A8–A9 each about as long as wide. Mesosoma (Fig. 43) 2.0× as long as wide, 1.$\overline{3}$× as high as wide. Sides of pronotum distinctly reticulate-coriaceous (not longitudinally so), in upper 0.6 smooth in slightly less than posterior half. Mesoscutum slightly unevenly and moderately densely setose, finely and almost uniformly reticulate-coriaceous, without notauli; hind margin straight in front of scutellum; scuto-scutellar grooves absent. Mesopleuron smooth. Scutellum sculptured and setose much as mesoscutum, with a very small, slightly translucent spine without lamella below. Metapleuron smooth, bare in most of anterior half, the rest with white pilosity which is dense in less than posterior half. Propodeal carinae translucent, fused, only diverging at extreme apex. Fore wing slightly surpassing tip of metasoma, fully 0.8× as long as entire body, 3.5× as long as wide, weakly infuscated, with dense and moderately robust microtrichia; marginal cilia 0.2× width of wing. Hind wing about 10× as long as wide; marginal cilia very slightly shorter than width of wing. Metasoma (Fig. 43) 1.3–1.4× as long as head and mesosoma combined, 0.8× as wide as mesosoma, 1.3× as wide as high. T1 mostly smooth, towards sides sparsely setose, with a weak, transverse depression having a few short crenulae just anterior of midlength of tergite. T2 antero-medially with a distinctly pubescent, slightly transverse depression, which is a little less than half as long as T1. T2 otherwise smooth, except for traces of microsculpture along hind margin. T3–T4 with weak reticulation, T5 almost smooth, T6 smooth. Apical tergites with a few very inconspicuous setae inserted in shallow punctures.

Comparison: This species fits badly into Buhl's (2011*b*) key; among Afrotropical *Leptacis* species, only *L. udzungwensis* Buhl, 2010, has the female metasoma longer (and that species has e.g. A8–A9 elongate, and scutellar spine stronger than in *L. tschirnhausiana*); in the rest of the described species it is distinctly shorter.

Holotype: ♀ TOGO: Région des Plateaux, Manma-Kopé N of Gbadi Nkougna, SE of Badou (07°27'02"N 00°41'59"E), 25.iv.2008, 660 m, plantation (coffee, oilpalm, *Acacia*), swept above sawdust, M. von Tschirnhaus.

Paratype: 1♀ Région des Plateaux, Otandjobo near Zogbégan (SE of Badou), at river Otandjoboli (07°34'42"N 00°41'37"E), 21.iv.2008, 500 m, at river, swept, cocoa plantation, M. von Tschirnhaus.

Leptacis udzungwensis Buhl, 2010

Leptacis udzungwensis: Buhl 2010: 39.

Material examined: 1♀ TOGO, Région des Plateaux, Zogbégan, village part Zogbégan-Carriére (SE of Badou), at creek Elèbè, V-shaped valley near cocoa plantation downstream of village (07°34'50"N 00°40'03"E), 20–25.iv.2008, 650 m, remains of secondary rainforest, swept, M. von Tschirnhaus.

Hitherto only known from the holotype (Tanzania).

Genus *Platygaster* Latreille, 1809

Isorhombus Förster, 1856: 107.
Hypocampsis Förster, 1856: 108.
Polygnotus Förster, 1856: 108.
Coelopelta Ashmead, 1893: 263.
Aneuron Brues, 1910: 49.
Triplatygaster Kieffer, 1913*b*: 178.
Misocyclops Kieffer, 1914: 362.
Parepimeces Kieffer, 1926: 563.
Platygaster: Latreille 1809: 31. Type species: *Scelio ruficornis* Latreille, 1805, by monotypy.

Platygaster danyiensis sp. n.

Figs 44, 45

Etymology: Named after the type locality, the Danyi plateau.

Diagnosis: A species slightly more than 1 mm long with head rounded, finely transversely reticulate-striate behind; female A9 1.15× as long as wide; mesosoma 1.15× as high as wide with evenly convex scutellum; notauli absent; female metasoma 1.4–1.5× as long as rest of body, 2.2× as wide as high, T2 striated in basal foveae to 0.4 of length, medially to 0.2.

Description:

Female.

Body length 1.05–1.30 mm. Black; A1, mandibles and legs including coxae yellowish brown; A2–A10, tegulae and last segment of tarsi dark brown. Head from above (Fig. 45) 2.0× as wide as long, 1.35× as wide as mesosoma; occiput finely transversely reticulate-striate, slightly margined in front but without a distinct hyperoccipital carina among the fine striation; vertex finely transversely striated behind ocelli, rest faintly reticulate-coriaceous (not transversely so); frons in upper half smooth, in lower half with very weak, oblique reticulation. OOL = 1.6 LOL. Head in frontal view 1.25× as wide as high. Antenna (Fig. 44) with A1 0.8× as long as height of head, about as long as distance between inner orbits; A9 1.15× as long as wide. Mesosoma (Fig. 45) 1.6× as long as

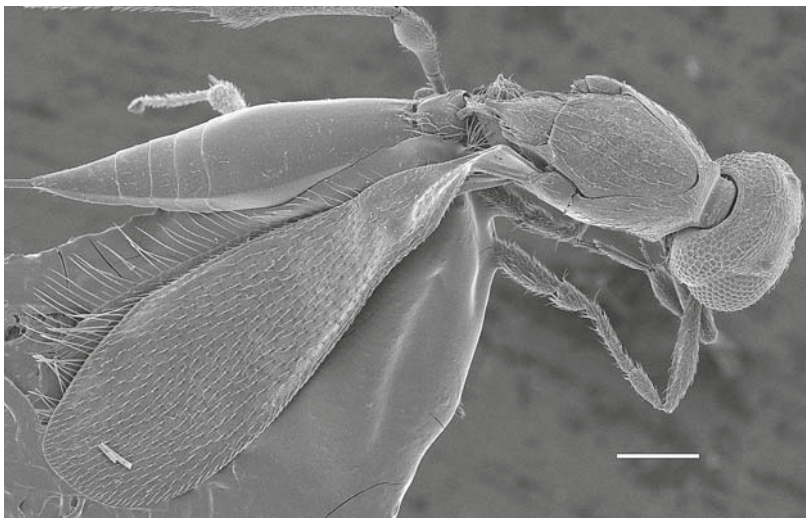
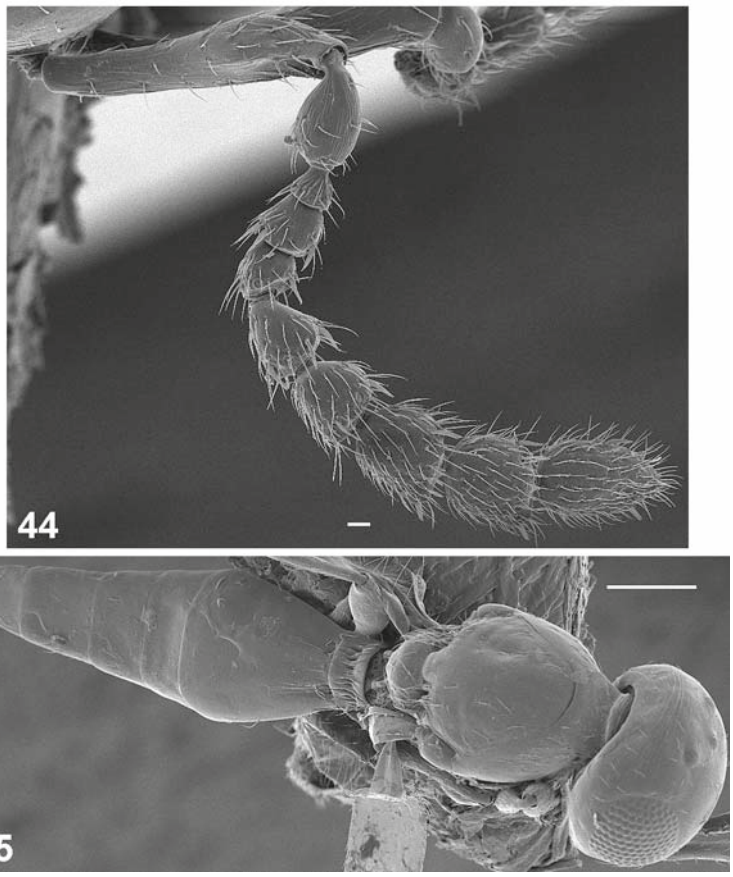


Fig. 43. *Leptacis tschirnhausiana* sp. n., female body obliquely in dorsal view. Scale bar = 100 μm.

wide, 1.15× as high as wide. Sides of pronotum longitudinally reticulate-coriaceous in about anterior 0.4, the rest smooth. Mesoscutum with few setae, most of them along imaginary notaulic courses and sides; disc smooth, with slight rugosity along sides and at anterior ends of imaginary notaulic courses; notauli absent; mid lobe posteriorly blunt, slightly prolonged to base of scutellum, brownish here, at each side with dense, whitish setae over scuto-scutellar grooves. Mesopleuron in upper third with about five weak longitudinal wrinkles, the rest smooth. Scutellum with only a few setae except along sides, and smooth. Metapleuron with pilosity all over. Propodeal carinae very slightly diverging, area between them distinctly transverse and shiny. Fore wing reaching base or apex of T6, 2.95× as long as wide, almost clear, with fine and dense microtrichia; marginal cilia 0.09× width of wing. Hind wing 6.3× as long as wide, with two hamuli; marginal cilia 0.3× width of wing. Metasoma (Fig. 45) 1.4–1.5× as long as head and mesosoma combined, 0.85× as wide as mesosoma, 2.2× as wide as high. 2nd sternite without convexity. T1 with six even, longitudinal carinae. T2 longitudinally striated in narrow basal foveae to almost 0.4 length of tergite, medially with fine striation to 0.2 of length, rest of tergite as well as the following tergites smooth, only T6 with a few spots of fine microsculpture. Apical tergites with a few setae in shallow punctures: about six around midlength on each of T3–T4, about five along each side on each of T5–T6.

Comparison: This species is most similar to South African *P. applanata* Buhl, 2001, and it runs to this species in Buhl's (2011*b*) key to Afrotropical species of *Platygaster*, but *P. applanata* has mesosoma fully 1.1× as wide as high and a less convex scutellum, fore wings only 2.6× as long as wide and with sparse setae, and female metasoma hardly 1.1× as long as rest of body, only 1.8× as wide as high, with T2 striated to 0.4 of entire width.

Holotype: ♀ TOGO: Région des Plateaux, Plateau de Danyi, road from Atigba to Danyi–Apéyémé, at a tributary creek of river Danyi (07°11'04"N 00°41'31"E), 14.iv.2008, 710 m, creek bank and below shrubs and bamboo, plantation, swept, M. von Tschirnhaus.



Figs 44, 45. *Platygaster danyiensis* sp. n., female: (44) antenna, scale bar = 10 µm; (45) body in dorsal view, scale bar = 100 µm.

Paratype: 1♀ Région des Plateaux, Plateau de Danyi, near Dzogbégan, Monastière de l'Ascension, at river/creek Danyi (07°14'30"N 00°40'45"E), 14.iv.2008, 725 m, abandoned plantation ground with three dominant plants (*Eleusine indica*, *Rhynchelytrum repens*, *Cyperus* sp.), swept, M. von Tschirnhaus.

Platygaster kwamgumiensis Buhl, 2011

Fig. 46

Platygaster kwamgumiensis: Buhl 2011*b*: 99, 101.

Material examined: 2♀ TOGO, Région des Plateaux, Kodjo-Kopé N of Badou, at creek Djodji (07°38'56"N 00°35'43"E), 24.iv.2008, cocoa and oilpalm plantation, swept, M. von Tschirnhaus.

These specimens differ from the holotype *P. kwamgumiensis* only in having head 1.3× as wide as mesosoma, LOL = 1.33 OOL, and because of slight differences in antennal measuments. The characteristic dorsal view of mesosoma is illustrated in Fig. 46.

Platygaster liga sp. n.

Figs 47–50

Etymology: Named in honour of Latvian artist Liga Puķīte (Mainz).

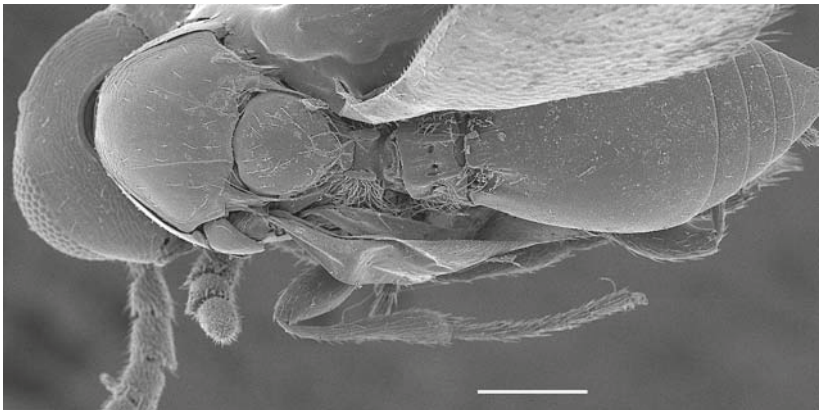


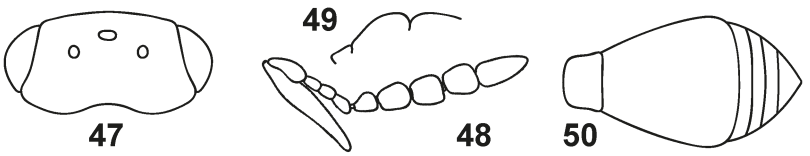
Fig. 46. *Platygaster kwamgumiensis* Buhl, 2011, female body in dorsal view. Scale bar = 100 µm.

Diagnosis: A small species with head nearly 1.4× as wide as mesosoma, without hyperoccipital carina, transversely reticulate-coriaceous behind, entire frons finely obliquely striated; female A9 very slightly longer than wide; notauli faintly indicated in posterior half of mesoscutum, mid lobe just reaching base of scutellum, this being evenly convex; fore wing 2.85× as long as wide; female metasoma only 0.8× as long as rest of body, T1 with two strong and complete carinae, T2 striated in and between basal foveae to 0.5.

Description:

Female.

Body length 0.80 mm. Dark brown, T1 reddish brown; A1–A6, mandibles, tegulae and legs including coxae light yellowish brown; A7–A10 and last segment of tarsi darkened. Head from above (Fig. 47) 2.2× as wide as long, almost 1.4× as wide as mesosoma, rounded behind; occiput dull, transversely finely reticulate-coriaceous; vertex shiny, between ocelli with transverse reticulation, laterally unevenly reticulate-coriaceous; frons obliquely finely reticulate-striate all over. OOL=1.5 LOL. Head in frontal view almost 1.4× as wide as high. Antenna (Fig. 48) with A1 0.8× as long as height of head, shorter than distance between inner orbits (11:12); A9 very slightly longer than wide (hardly 1.1×). Mesosoma 1.4× as long as wide, 1.1× as high as wide. Sides of pronotum longitudinally finely reticulate-coriaceous except along narrow margins. Mesoscutum weakly reticulate-coriaceous, becoming almost smooth in posterior third and inside tegulae, with very few setae; notauli faintly indicated in about posterior half, well separated behind; mid lobe slightly prolonged to base of scutellum; scuto-scutellar grooves each with only two fine setae. Mesopleuron smooth except for 3–4 short, weak longitudinal wrinkles just below tegula. Scutellum (Fig. 49) very sparsely setose, smooth, evenly convex. Metapleuron dull, with pilosity all over. Propodeal carinae parallel; area between them slightly transverse, smooth and shiny. Fore wing 0.8× as long as entire body, 2.85× as long as wide, almost clear, with fine and dense microtrichia; marginal cilia 0.08× width of wing. Hind wing 6.4× as long as wide, with two hamuli; marginal cilia one-third of the width of wing. Metasoma (Fig. 50) about 0.8× as long as head and mesosoma combined, 0.85× as wide as mesosoma. T1 with several short longitudinal carinae along anterior margin (in at most anterior third), but with only two strong and



Figs 47–50. *Platygaster liga* sp. n., female: (47) head in dorsal view; (48) antenna; (49) scutellum and propodeal carinae in lateral view; (50) metasoma in dorsal view.

complete longitudinal carinae. T2 striated in and between basal foveae to about half of its length. Apical tergites with faint traces of reticulation, and each tergite, except the bare T3, having eight shallow punctures with setae.

Comparison: This species runs to *P. malaisei* Buhl, 2005, in Buhl's (2011*b*) key, but that species is larger and has head only 1.2× as wide as mesosoma, OOL:LOL=6:5, fore wing only 2.2× as long as wide, and metasoma as long as rest of body with T1 evenly crenulated and T2 only very shortly striated medially.

Holotype: ♀ TOGO: Région des Plateaux, S of Ahassomé near river/brook Mono, NW of Tado (NW of Tohoun) (07°11'12"N 01°28'54"E until 07°11'12"N 01°32'14"E), 7.iv.2008, 95 m, teak forest (*Tectona grandis*) and path to river bank with Cyperaceae, Icacinaceae, *Tridax procumbens* (L.), partly swampy ground, swept, M. von Tschirnhaus.

Platygaster lobata sp. n.

Figs 51–54

Etymology: Derived from Latin *lobus* (lobe); in reference to the characteristic long mid lobe of mesoscutum.

Diagnosis: Female A9 1.15× as long as wide; notauli absent; mid lobe of mesoscutum extended over anterior 0.4 of scutellum; propodeal carinae strongly diverging; female metasoma slightly longer than rest of body.

Description:

Female.

Body length 0.9 mm. Dark reddish brown with blackish head, A1–A5, mandibles and legs rather uniformly yellowish brown, last segment of all tarsi slightly darkened; A6–A10 dark reddish brown. Head from above (Fig. 51) 2.2× as wide as long, 1.25× as wide as mesosoma, rather dull due to very fine reticulate microsculpture; occiput also with weak, semi-circular transverse striation over most of width; vertex and frons without other sculpture (vertex with a few transverse elements postero-medially); occiput margined anteriorly but without a distinct carina. OOL=LOL. Head in frontal view 1.25× as wide as high. Antenna (Fig. 52) with A1 0.85× as long as height of head, longer than distance between (measured at midlength of frons) inner orbits (about 12:11); A9 about 1.15× as long as wide. Mesosoma 1.4× as long as wide, 1.05× as high as wide. Sides of pronotum smooth, with sparse setation over most of surface. Mesoscutum bare along middle, the rest with sparse and slightly unevenly distributed setae; disc with very fine microsculpture, almost smooth all over; notauli absent; hind margin with a wide prolongation medially, covering anterior 0.4 of scutellum, at each side with about seven long setae over scuto-scutellar grooves. Mesopleuron smooth. Scutellum (Fig. 53) with only a few setae, at level of mesoscutum, evenly sloping down

Figs 51–54. *Platygaster lobata* sp. n., female: (51) head in dorsal view; (52) antenna; (53) scutellum and propodeal carinae in lateral view; (54) metasoma in dorsal view.

from end of mesoscutal prolongation. Metapleuron with pilosity all over. Propodeal carinae short, markedly diverging; area between them smooth, as long as the width between carinae at their anterior end. Fore wing hardly surpassing tip of metasoma, 0.7× as long as entire body, 2.5× as long as wide, almost clear, with fine and dense microtrichia; length of marginal cilia 0.08× width of wing. Hind wing 5.7× as long as wide, with two hamuli; marginal cilia nearly 0.4× width of wing. Metasoma (Fig. 54) slightly longer than head and mesosoma combined (28:27), 0.9× as wide as mesosoma. T1 with weak longitudinal crenulation and three slightly more prominent longitudinal carinae. T2 with weak longitudinal striation in basal foveae to 0.4× length of tergite, between basal foveae are four longitudinal carinae reaching hardly 0.2 length of tergite. T3–T6 almost smooth, each with a transverse row of setae inserted in shallow punctures: six on each of T3–T4, eight on each of T5–T6.

Comparison: This species is somewhat similar to *P. sonnei* Buhl, 2011, and *P. tricarinata* sp. n., because of the prolonged mid lobe of mesoscutum. It runs to *P. sonnei* in Buhl's (2011*b*) key, but that species has A5 distinctly shorter and narrower than A4 (in *P. lobata*, A5 is fully as long and as wide as A4), A9 as wide as long, propodeal carinae parallel, less elongate wings with sparse microtrichia, and metasoma only 0.9× as long as rest of body, as wide as mesosoma, with slightly longer striation on base of T2. *P. tricarinata* has A9 as wide as long, longer notauli, shorter prolongation over base of scutellum, and parallel propodeal carinae. Cf. also description of *P. tricarinata* below.

Holotype: ♀ TOGO: Région des Plateaux, Akloa, at creek Domi coming from the Cascades d'Akloa (07°30'46"N 00°36'36"E), 22.iv.2008, 280 m, cocoa and avocado plantation, swept, M. von Tschirnhaus.

Platygaster otandjoboliensis sp. n.

Figs 55–58

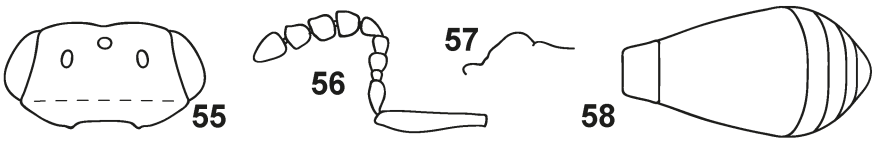
Etymology: Named after the Otandjoboli river at the type locality.

Diagnosis: Head almost 1.4× as wide as mesosoma, hyperoccipital carina weak but complete; female A4 and A9 each as long as wide; scutellum evenly convex, sparsely setose; female metasoma 0.8× as long as rest of body, striated to 0.4 of length, medially to 0.25.

Description:

Female.

Body length 1.0 mm. Black; A1–A5, mandibles and legs including coxae medium-dark brown; trochanters, apical half of fore femora, most of fore tibiae, base of mid and hind tibiae, and segments 1–4 of all tarsi light brown; A6–A10 blackish brown. Head from above (Fig. 55) 2.1× as wide as long, almost 1.4× as wide as mesosoma



Figs 55–58. *Platygaster otandjoboliensis* sp. n., female: (55) head in dorsal view; (56) antenna; (57) scutellum and propodeal carinae in lateral view; (58) metasoma in dorsal view.

(22:16); occiput almost smooth, with traces of weak transverse wrinkling and about 20 seta-implantations on central part of occiput (behind ocellar area); hyperoccipital carina weak but complete; vertex finely reticulate (not transversely so), with three weak and incomplete transverse carinae just in front of hyperoccipital carina; frons with weak reticulate sculpture, in lower two-thirds becoming fan-like out from a smoother impressed midline, with transverse wrinkles just above antennal insertions. Eyes virtually bare. OOL = 1.1 LOL. Head in frontal view 1.1× as wide as high. Antenna (Fig. 56) with A1 0.85× as long as height of head, shorter than distance between inner orbits (13:14); A9 as long as wide. Mesosoma slightly more than 1.4× as long as wide (23:16), 1.15× as high as wide. Sides of pronotum smooth, with sparse, long setae (approximately 20). Mesoscutum smooth, with few setae, most of them situated laterally and along imaginary notaulic courses; notauli restrictively evident at hind margin; mid lobe posteriorly blunt, slightly but distinctly extended to base of scutellum; scuto-scutellar grooves each with about seven long setae. Mesopleuron smooth. Scutellum (Fig. 57) evenly convex, smooth, sparsely setose. Metapleuron reticulate, with moderately dense pilosity all over. Propodeal carinae parallel, well separated, in area between them very slightly transverse. Fore wing 0.8× as long as entire body, 2.4× as long as wide, almost clear, with fine and dense microtrichia; length of marginal cilia 0.07× width of wing. Hind wing 5.3× as long as wide, with two hamuli; length of marginal cilia 0.25× width of wing. Metasoma (Fig. 58) 0.8× as long as head and mesosoma combined, 0.9× as wide as mesosoma. T1 with seven longitudinal carinae, three of them (the two lateral ones and the medial one) slightly more strongly developed than the rest. T2 with two basal foveae which are finely striated to 0.4× length of tergite, between foveae striated to 0.25 of length. T3–T5 smooth, with setae inserted in rather deep punctures: 10 on each of T3–T4, 12 on T5. T6 with fine rugosity and 10 setae in punctures that are not quite as deep.

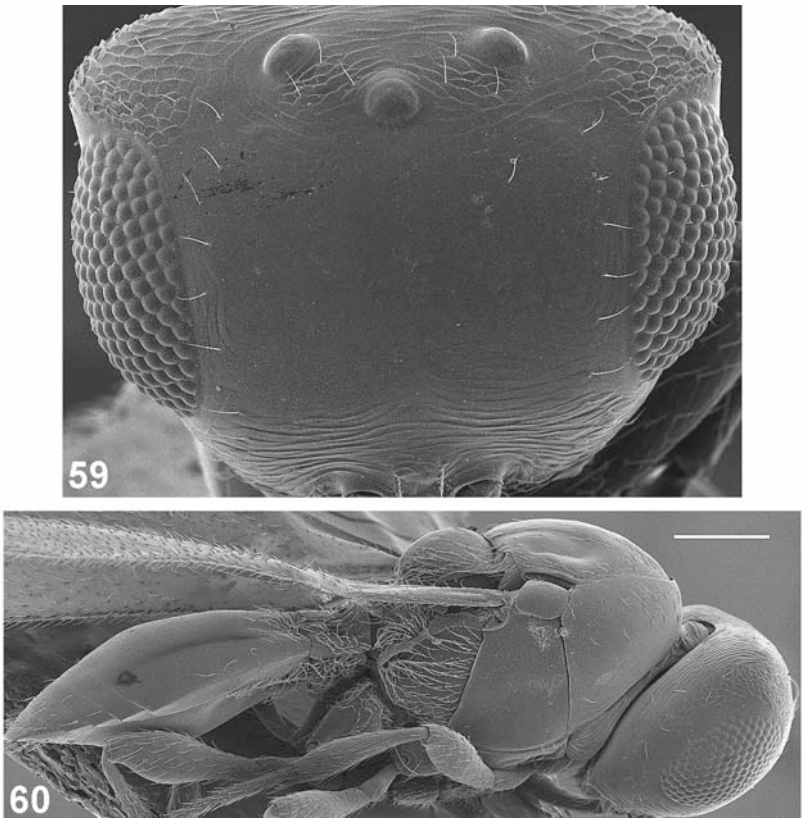
Comparison: This species runs to *P. nigeriana* Buhl, 2004, or *P. terco* Sundholm, 1970, in Buhl's (2011*b*) key, but both these species have the head only 1.2× as wide as mesosoma; the first-mentioned species also has longer basal flagellar segments, a more setose and lower scutellum and longer and more pointed metasoma than *P. otandjoboliensis*. *P. terco* also has more slender antennae and LOL more than twice as long as OOL.

Holotype: ♀ TOGO: Région des Plateaux, Otandjobo near Zogbégan (SE of Badou), at river Otandjoboli (07°34'42"N 00°41'37"E), 21.iv.2008, 500 m, at river, swept, cocoa plantation, M. von Tschinhaus.

Platygaster planivertex sp. n.

Figs 59, 60

Etymology: Derived from Latin *plana* (flat) as well as *vertex* (top of head); in reference to the characteristic flattened vertex.



Figs 59–60. *Platygaster planivertex* sp. n., female: (59) head in frontal view, scale bar = 10 μm; (60) body in lateral view, scale bar = 100 μm.

Diagnosis: Head characteristically flat above, with vertex projecting over eyes; female A8–A9 each hardly longer than wide.

Description:

Female.

Body length 0.90–1.20 mm. Black, T1 medium brown; A1–A6 and legs including coxae yellowish brown; mandibles, tegulae, A7–A10 and last segment of tarsi medium-dark brown. Head from above 2.15× as wide as long, fully 1.25× as wide as mesosoma (23:18); occiput transversely finely striated just around opening of neck, antero-medially with fine and dense oblique striation, towards sides finely and densely longitudinally striated; hyperoccipital carina absent; vertex behind ocelli transversely finely reticulate-striated, the rest reticulate-coriaceous (at most slightly transversely so); frons in about upper half smooth, along eyes weakly transversely reticulate-coriaceous, in lower half distinctly and transversely reticulate-striate. OOL = 1.6 LOL. Head in frontal view (Fig. 59) fully 1.25× as wide as high (23:18), characteristically flat above with vertex extended over eyes, angular there. Antenna with A1 0.9× as long as height of head, longer than distance between inner orbits (16:15); A2 0.9× as long as A3–A4 combined; A4 1.6× as

long as wide, about 1.15× as long as A5; A6–A10 forming a clava, A8–A9 each hardly noticeably longer than wide. Mesosoma (Fig. 60) 1.5× as long as wide, slightly more than 1.1× as high as wide. Sides of pronotum distinctly reticulate-striated longitudinally, smooth in large upper hind corners. Mesoscutum with very few setae, smooth except for slight rugosity along margins, anteriorly and along notauli, this being weak, not present in anterior 0.3; mid lobe posteriorly blunt, hardly extended but reaching base of scutellum, at each side with about seven moderately long setae over scuto-scutellar grooves. Mesopleuron smooth. Scutellum evenly convex, smooth and bare along middle, towards sides moderately densely setose. Metapleuron with pilosity all over. Propodeal carinae divergent, area between carinae about as long as its posterior width. Fore wing 0.85× as long as entire body, 2.7× as long as wide, almost clear, with fine and dense microtrichia; marginal cilia 0.12× width of wing. Hind wing 6.2× as long as wide, with two hamuli; marginal cilia 0.4× width of wing. Metasoma (Fig. 60) about 0.9× the length of head and mesosoma combined, 0.8× as wide as mesosoma. T1 with a transverse depression around midlength, with fine longitudinal crenulation in front of it, smooth behind it. T2 without striation, in anterior 0.35 with two elongate basal foveae and a few setae, the following tergites also almost smooth, with setae in rather shallow punctures: four on T4, eight on T5, and about six on T6.

Comparison: Similar to *P. hedayati* Buhl, 2010, from Tanzania in respect of head shape but with more transverse head, much shorter antennae, smoother T2, and lighter-coloured body appendages.

Holotype: ♀ TOGO: Région des Plateaux, Plateau de Danyi, road from Atigba to Danyi–Apéyémé, at a tributary creek of river Danyi (07°11'04"N 00°41'31"E), 14.iv.2008, 710 m, creek bank and below shrubs and bamboo, plantation, swept, M. von Tschirnhaus.

Platygaster subanguliceps sp. n.

Figs 61, 62

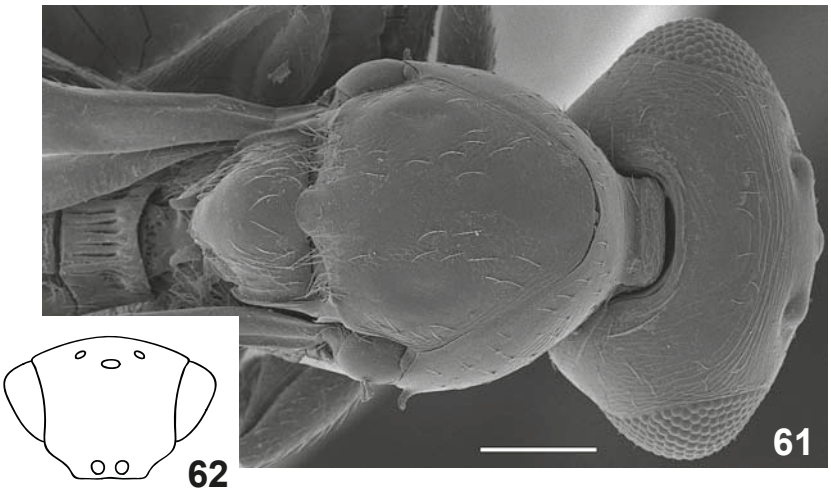
Etymology: Derived from Latin *sub* (almost), *angulus* (angle) and *cephalus* (head); in reference to the characteristically shaped head which is almost angled,

Diagnosis: Head fully 1.5× as wide as mesosoma, 2.4× as wide as long, unusually narrowed towards mouth, outer upper margin of eyes more or less angled; female A9 1.5× as long as wide; mesosoma 1.4× as long as wide; female metasoma 0.85× as long as rest of body.

Description:

Female.

Body length 1.1 mm. Black; mandibles, propodeal carinae and area between these, and T1 dark reddish brown; A1–A5 and legs including coxae light brownish yellow; A6–A10 medium dark brown. Head from above (Fig. 61) 2.4× as wide as long, fully 1.5× as wide as mesosoma; occiput finely and half-circularly reticulate-striated, with two longitudinal crenulae postero-medially; hyperoccipital carina absent but anterior part of occiput and posterior part of vertex with fine transverse striation and carinae, rest of vertex finely and weakly reticulate-coriaceous (not transversely so); most of frons faintly and transversely reticulate-striated, with a few more obvious transverse wrinkles just above antennal insertions. LOL half as long as OOL. Head in frontal view (Fig. 62) slightly more than 1.4× as wide as high, unusually narrowed towards mouth, outer upper



Figs 61, 62. *Platygaster subanguliceps* sp. n., female: (61) head and mesosoma in dorsal view; (62) head in frontal view. Scale bar = 100 μm.

margin of eyes almost angled. Antenna with A1 0.8× as long as height of head, 0.9× as long as distance between inner orbits; A2 as long as A3–A4 combined, A4 1.5× as long as A3; A9 1.5× as long as wide. Mesosoma (Fig. 61) 1.4× as long as wide, 1.05× as high as wide.Sides of pronotum with very faint rugosity in upper anterior part, in about lower 0.6 having distinct longitudinal microstriation, smooth along wide hind and upper margins. Mesoscutum with few setae, most of them near margins and along imaginary notaulic courses; disc smooth, towards sides and anteriorly faintly reticulate-coriaceous; notauli poorly visible in at most, posterior one-third; mid lobe blunt behind, slightly projecting to base of scutellum, at each side with about eight long setae over scutoscutellar grooves. Mesopleuron smooth. Scutellum evenly convex, slightly above level of mesoscutum, smooth, with sparse setae towards sides. Metapleuron almost smooth, with moderately dense pilosity all over. Propodeal carinae very slightly divergent, area between them slightly transverse, smooth and shiny. Fore wing 0.85× as long as entire body, 2.5× as long as wide, almost clear, with moderately fine and dense microtrichia; marginal cilia 0.09× width of wing. Hind wing 5.75× as long as wide, with two hamuli; marginal cilia almost 0.4× width of wing (3:8). Metasoma about 0.85× as long as head and mesosoma combined, 0.9× as wide as mesosoma. T1 with two moderately strong longitudinal carinae, and having four weaker ones between them. T2 striated in basal foveae to about half of length, medially to 0.15 of length. T3–T6 smooth, with setae inserted in moderately deep punctures (about eight on each of T4–T6).

Comparison: The head of the paratype is less angular in frontal view than in the holotype. This species runs to *P. polaszeki* Buhl, 2004, in Buhl's (2011*b*) key, but that species has head only 1.1× as wide as mesosoma, only twice as wide as long, without an angled eye margin, more elongate wings, and a less striated T2 than *P. subanguliceps*. The head shape of *P. subanguliceps* is somewhat similar to that of *P. oculata* Buhl, 2004, from Uganda, but that species has head only twice as wide as long and female A9 hardly longer than wide.

Holotype: ♀ TOGO: Région des Plateaux, E of Ounabe at the border between Préf. D'Amou and Préf. de Wawa, NW of Témédja, NW of Atakpamé, at creek Ofê (07°32'35"N 00°59'59"E), 19.iv.2008, 705 m, remains of secondary rainforest at creek with coffee plantation, dense understorey, swept, M. von Tschirnhaus.

Paratype: 1♀ same data as holotype.

Platygaster tricarinata sp. n.

Figs 63–65

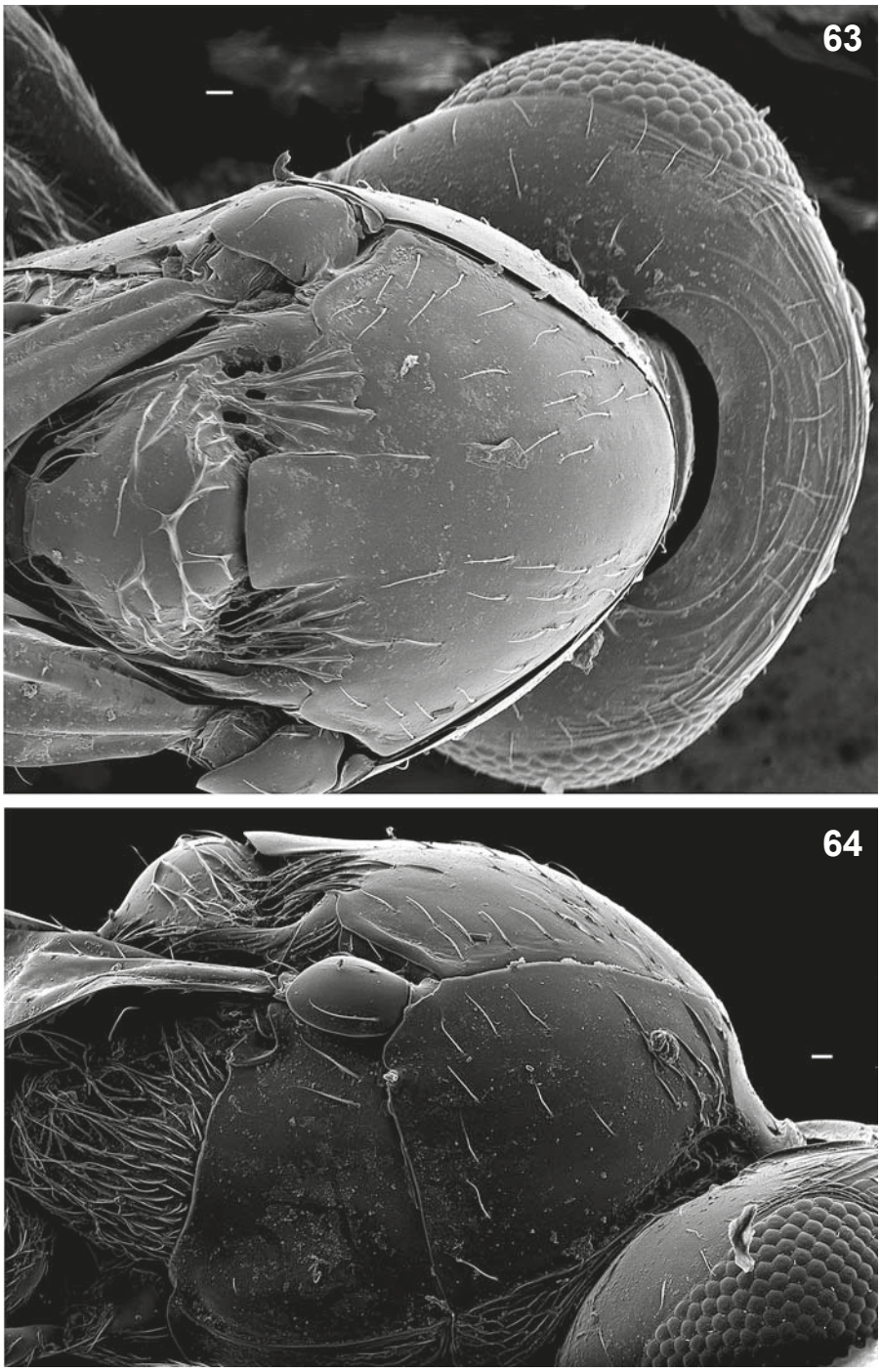
Etymology: Derived from Latin *tres* (three) and *carina* (keel); in reference to the three, usually distinct, carinae on the base of T2.

Diagnosis: A rather small species with head fully 1.2× as wide as mesosoma, occiput finely striated over whole width, without a hyperoccipital carina; female as well as male A9 as wide as long; notauli absent or weak, only present in posterior half; mid lobe broadly and slightly projecting over base of scutellum, this being low and evenly sloping; propodeal carinae parallel; female metasoma 0.85× as long as rest of body; T2 striated to 0.45 of length, medially with three more or less distinct longitudinal carinae to almost 0.3× length of tergite; legs partly darkened.

Description:

Female.

Body length 0.7–1.0 mm. Black; A1–A2, mandibles and legs medium-dark brown with trochanters, most of fore tibiae, basal half of mid and hind tibiae, and segments 1–4 of all tarsi light brown; A3–A10 dark brown. Head from above (Fig. 63) 2.05× as wide as long, fully 1.2× as wide as mesosoma; occiput finely but distinctly semi-circularly striated over whole width on a smooth background, slightly margined anteriorly but without a distinct carina; vertex laterally smooth, finely and transversely reticulate-striate between ocelli; frons smooth in most of upper half, rest with fine oblique striation, smoother towards middle, with transverse striation just above antennal insertions. OOL and LOL about equal. Head in frontal view 1.25× as wide as high. Antenna (Fig. 65) with A1 0.8× as long as height of head, 0.95× as long as distance between inner orbits; A9 as wide as long. Mesosoma (Figs 63 and 64) 1.3× as long as wide, 1.1× as high as wide. Sides of pronotum smooth, with sparse setation over most of surface. Mesoscutum rather sparsely and evenly setose, smooth except for weak microsculpture at anterior ends of notaulic courses; notauli weak, fading out in anterior half, sometimes entirely absent; mid lobe broad behind, slightly but distinctly prolonged over base of scutellum, at each side with about 4–7 long setae over scuto-scutellar grooves. Mesopleuron smooth. Scutellum more densely setose than mesoscutum, at level thereof, smooth, evenly sloping behind. Metapleuron with pilosity all over. Propodeal carinae short, parallel; much of the transverse area between them smooth. Fore wing 0.8× as long as entire body, 2.4× as long as wide, surpassing tip of metasoma by a distance equal to two-thirds of the length of T2, faintly yellowish, with fine and dense microtrichia; marginal cilia 0.07× width of wing. Hind wing 6.0× as long as wide, with two hamuli; marginal cilia 0.4× width of wing. Metasoma 0.85× as long as head and mesosoma combined, 0.85× as wide as mesosoma. T1 with five rather even longitudinal carinae on central area. T2 with two finely striated basal foveae reaching 0.45× length of tergite, between basal foveae with three longitudinal carinae to almost 0.3 length of tergite. T3–T6 smooth,



Figs 63, 64. *Platygaster tricarinata* sp. n., female head and mesosoma in (63) dorsal and (64) lateral view. Scale bars = 10 μm.

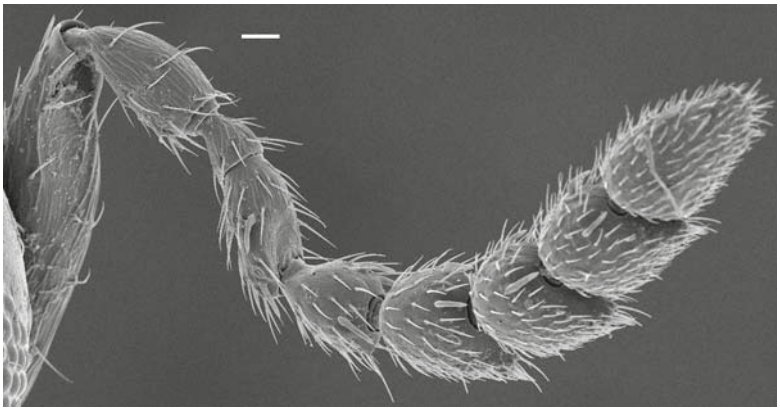


Fig. 65. *Platygaster tricarinata* sp. n., female antenna. Scale bar = 10 μm.

each with a transverse row of setae inserted in shallow punctures (about six on each of T3–T4 and eight on each of T5–T6).

Male.

Body length 0.70–0.75 mm. A4 inconspicuously widened; A8–A9 each about as long as wide. Metasoma about 0.8× as long as head and mesosoma combined.

Comparison: Generally similar to *P. lobata* sp. n. (see above). The most important characters separating the two species are length of mid lobe over scutellum and conformation of propodeal carinae. *P. tricarinata* could run to two species in Buhl's (2011*b*) key. However, *P. malaisei* Buhl, 2005, has a more transverse head, mid lobe of mesoscutum shorter, propodeal carinae slightly divergent, and female metasoma as long as rest of body. *P. baezi* Buhl, 2003, has a more convex scutellum with shorter mid lobe (and a very different conformation of male antennae).

Holotype: ♀ TOGO: Région des Plateaux, Akloa, at creek Domi coming from the Cascades d'Akloa (07°30'46"N 00°36'36"E), 22.iv.2008, 280 m, cocoa and avocado plantation, swept, M. von Tschirnhaus.

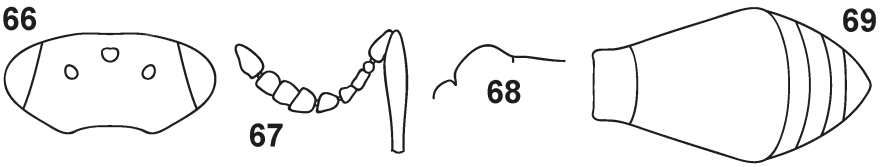
Paratypes: 3♀ 2♂ Région des Plateaux, N of Kessibo-Wawa, at the border to Ghana (N of Badou), at river Wawa (07°42'11"N 00°35'26"E), 24.iv.2008, 180 m, forest understorey, cocoa plantation sun-exposed vegetable fields, some Cyperaceae, swept; 1♀ Région des Plateaux, Plateau de Danyi, near Atigba (07°09'52"N 00°41'33"E), 14.iv.2008, 775 m, remains of secondary rainforest, underwood, forest plantation, road side with much *Sida acuta*, swept; 1♀ Région des Plateaux, Anonoè, at brook Okpabè (07°33'40"N 00°36'10"E), 22.iv.2008, 280 m, swept along bank and in cocoa plantation. All M. von Tschirnhaus.

Platygaster tschirnhausi sp. n.

Figs 66–69

Etymology: Named after the collector, M. von Tschirnhaus.

Diagnosis: Head 2.25× as wide as long, rather strongly striated behind, with an inconspicuous hyperoccipital carina among the striae; female A3 not longer than wide, A4 slightly less than twice as long as wide, A5 very slightly longer than wide, A7–A9 each at most as long as wide; notauli absent; mid lobe in front of scutellum short; scutellum distinctly and evenly convex; female metasoma 0.9× as long as rest of body; T2 striated for half of its length, medially to hardly 0.2.



Figs 66–69. *Platygaster tschirnhausi* sp. n., female: (66) head in dorsal view; (67) antenna; (68) scutellum and propodeal carinae in lateral view; (69) metasoma in dorsal view.

Description:

Female.

Body length 1.05 mm. Black, tegulae and T1 with dark brownish tint; A1–A6 and legs yellowish brown; A7–A10, mandibles, coxae and last segment of tarsi darker, medium-dark brown. Head from above (Fig. 66) 2.25× as wide as long, fully 1.25× as wide as mesosoma; occiput rather markedly, half-circularly striated all over, with an inconspicuous hyperoccipital carina mixed with the striation; vertex finely reticulate-coriaceous, with weak transverse striation behind ocelli and a few weak transverse wrinkles lateral to ocelli; frons smooth in most of upper half, with faint transverse reticulation along inner orbits, in lower half finely and obliquely reticulate all over, only very few wrinkles just above antennal insertions transverse. OOL = 1.25 LOL. Head in frontal view fully 1.$\overline{3}$× as wide as high. Antenna (Fig. 67) with A1 0.8× as long as height of head, shorter than distance between inner orbits (13:14); A9 about as long as wide. Mesosoma almost 1.4× as long as wide, fully 1.05× as high as wide. Sides of pronotum smooth, with rugosity only in upper anterior corner and having scattered setae. Mesoscutum bare along middle, towards sides sparsely setose, smooth, with slight rugosity only at anterior ends of imaginary notaulic courses; notauli absent; hind margin medially very slightly pointed to base of scutellum; scuto-scutellar grooves narrow, each covered by about eight moderately strong setae. Mesopleuron with 4–5 distinct longitudinal wrinkles in upper 0.3, the rest smooth. Scutellum (Fig. 68) evenly convex, smooth, bare along middle, rather densely setose towards sides. Metapleuron with pilosity all over. Propodeal carinae parallel; area between them hardly wider than long, smooth. Fore wing 0.8× as long as entire body, 2.3× as long as wide, faintly infuscated and with fine and dense microtrichia; marginal cilia 0.1× width of wing. Hind wing 5.6× as long as wide, with two hamuli; marginal cilia hardly 0.3× width of wing. Metasoma (Fig. 69) 0.9× as long as head and mesosoma combined, 0.9× as wide as mesosoma. T1 with numerous, rather even longitudinal carinae. T2 finely striated from basal foveae to half of length, medially to hardly 0.2 of length, rest of tergite as well as following tergites smooth; apical tergites with setae inserted in shallow punctures (about 12 on each of T3–T5, 10 on T6).

Comparison: Runs to *P. baezi* Buhl, 2003, in Buhl's (2011*b*) key, but *P. baezi* has head only twice as wide as long, about 1.1× as wide as mesosoma, occiput less markedly striated, frons transversely striated, most of sides of pronotum finely reticulate-striate, T1 lighter and body appendages more darkly coloured than in *P. tschirnhausi*. If a hyperoccipital carina is considered to be present, *P. tschirnhausi* runs to *P. nigeriana* Buhl, 2004, in the key mentioned above, but that species has the occiput mostly smooth, basal flagellar segments more elongate, and scutellum lower than in *P. tschirnhausi*.

Holotype: ♀ TOGO: Région des Plateaux, Plateau de Danyi, near Atigba (07°09'52"N 00°41'33"E), 14.iv.2008, 775 m, remains of secondary rainforest, underwood, forest plantation, road side with much *Sida acuta*, swept, M. von Tschirnhaus.

Genus *Synopeas* Förster, 1856

Sactogaster Förster, 1856: 108.
Ectadius Förster, 1856: 108.
Polymecus Förster, 1856: 144.
Dolichotrypes Crawford & Bradley, 1911: 124.
Haustagaster Szabo, 1979: 178.
Synopeas: Förster 1856: 108. Type species: *Synopeas inermis* Thomson, 1859; designated by Muesebeck & Walkley (1951).

Synopeas basipubens sp. n.

Figs 70, 71

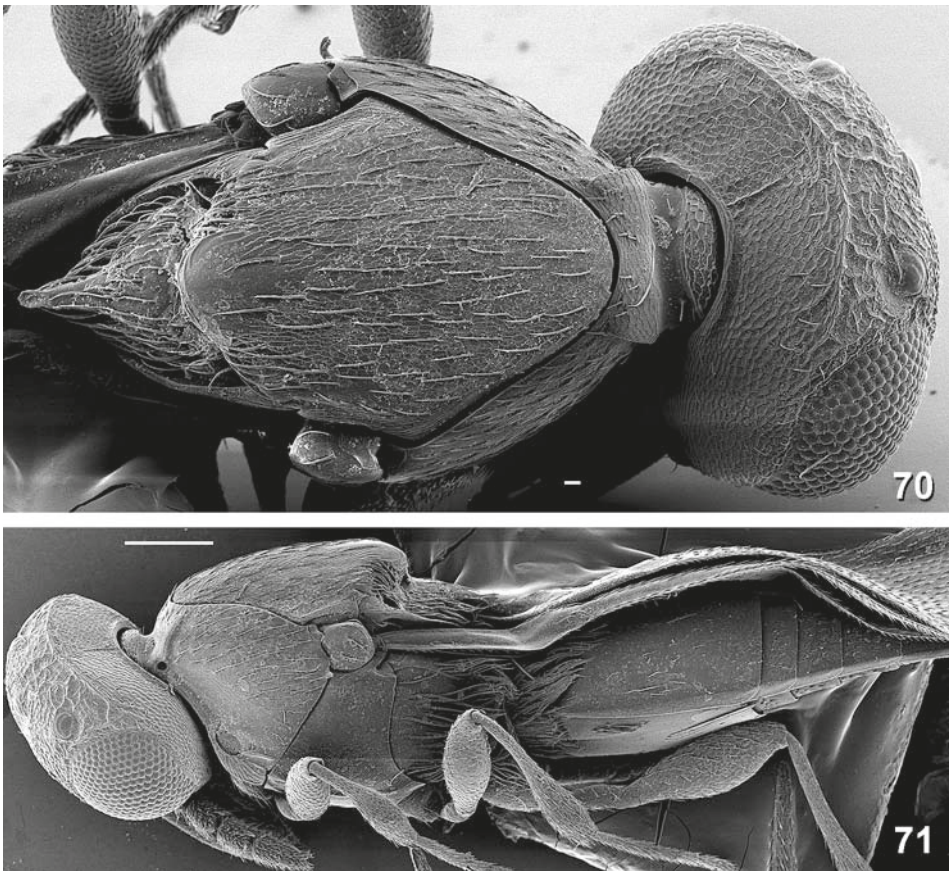
Etymology: From Latin *basis* and *pubescens* (covered with hairs basally); in reference to the unusually strongly pubescent junction of T1–T2.

Diagnosis: Female A5 distinctly longer and wider than A4; notauli absent; scutellum much below level of mesoscutum, with a short tooth; female metasoma 1.1× as long as rest of body.

Description:

Female.

Body length 1.1–1.4 mm. Black, A1–A6 and legs light brown; A7–A10, mandibles and coxae dark brown. Head from above (Fig. 70) 1.75× as wide as long, 1.$\overline{3}$× times as wide as mesosoma, dull, finely reticulate-coriaceous, in lower half of frons with weak transverse elements; hyperoccipital carina absent, head smoothly rounded, but margin just behind eyes sometimes slightly spinose in dorsal view. LOL = 1.75 OOL. Head in frontal view 1.15× as wide as high. Antenna with A1 0.8× as long as height of head, longer than distance between inner orbits (14:13); A2 slightly longer than A3–A4 combined; A4 about 1.75× as long as A3 and 1.75× as long as wide; A5 distinctly wider than A4 and 1.2–1.6× as long; A6 small; A7–A10 forming a clava, A9 1.2–1.4× as wide as long. Mesosoma (Figs 70–71) 1.9× as long as wide, 1.3× as high as wide. Sides of pronotum finely reticulate-coriaceous (not longitudinally so), smooth along wide hind margin. Mesoscutum evenly and rather sparsely setose, finely and uniformly reticulate-coriaceous except postero-medially; notauli absent; hind margin medially with a transverse, blunt and slightly brownish prolongation over base of scutellum, having dense whitish setosity at each side. Mesopleuron smooth. Scutellum dull and bare medially, densely setose towards sides, with a distinct, short tooth with a translucent lamella below. Metapleuron smooth, with long whitish pilosity except along narrow anterior and upper margins. Propodeal carinae dark and fused. Fore wing 0.7× as long as entire body, just reaching tip of metasoma, 2.75× as long as wide, almost clear, with fine and dense microtrichia; marginal cilia absent. Hind wing 6.1× as long as wide; marginal cilia about 0.25× width of wing. Metasoma (Fig. 71) 1.1× as long as head and mesosoma combined, slightly wider than mesosoma (16:15), 1.25× as wide as high. T2 smooth, except for a few short longitudinal crenulae behind the large basal tufts of pubescence. T3–T5 almost smooth, T6 dull towards sides, but apical tergites with numerous deep punctures: about 18 in



Figs 70, 71. *Synopeas basipubens* sp. n., female: (70) head and mesosoma in dorsal view, scale bar = 10 μm; (71) body in lateral view, scale bar = 100 μm.

one transverse row on T3, approximately 22 more scattered on T4, about 26 scattered on T5, about 16 on T6.

Male.

Body length 0.9–1.0 mm. Antenna with preapical antennal segments each about as long as wide; flagellar pubescence short. Metasoma 0.80–0.95× as long as head and mesosoma combined.

Comparison: There is a graded series of specimens towards "strongly developed" ones with a more spinose margin behind eyes, longer and wider A5 and more transverse A8–A9. This species runs to *S. dentilamellatum* Buhl, 2011, in Buhl's (2011*b*) key to Afrotropical species of *Synopeas*, but that species has more slender preapical female antennal segments, scutellum at level of mesoscutum, female metasoma more flattened, is less pubescent anteriorly, and apical tergites are more sculptured.

Holotype: ♀ TOGO: Région du Centre, Montagne Gabongala, Forêt du Mont Balat (Balam) between Diguina and Gassi Gassi, NW of Diguina Konta (08°11'47"N 00°55'19"E), 28.iv.2008, 440 m, sparsely forested mountain slope and top of mountain range (above the mountain foot with the above coordinates)

with dry forest, fire-influenced ground, violet flowers of *Kaemperia aethiopica* (Schweinf.) Benth., within herb stratum, swept, M. von Tschirnhaus.

Paratypes: 1♀ Région des Plateaux, main road between Agbanon and Agoté, at brook Tomezuitoe (07°15'53"N 00°47'51"E) 15.iv.2008, 360 m, brook bank at teak forest (*Tectona grandis*), shady cocoa plantation, swept; 1♀ Région des Plateaux, Anonoè, at creek Okpabè (07°33'40"N 00°36'10"E), 22.iv.2008, 280 m, swept along bank and in cocoa plantation; 1♀ Région des Plateaux, N of Ayagba, at river Kpélékoun (07°46'13"N 00°47'48"E), 23.iv.2008, 340 m, grass and shrubs along river, swept; 6♂ Région des Plateaux, Plateau de Danyi, near Atigba (07°09'52"N 00°41'33"E), 14.iv.2008, 775 m, remains of secondary rainforest, underwood, forest plantation, road side with much *Sida acuta*, swept; 2♀ Région des Plateaux, Ouvêtsévé near Kpélé Élé (07°21'27"N 00°51'12"E), 15.iv.2008, 345 m, creek bank within forest, diverse herb vegetation, swept; 1♀ Région des Plateaux, Abriwa-Nko, about 5 km N of Badou, at creekÈgnulu–Agbadja (07°37'18"N 00°36'13"E), 24.iv.2008, 310 m, swept in cocoa and avocado plantation. All M. von Tschirnhaus.

Synopeas ciliarissimum Buhl, 2011

Synopeas ciliarissimum: Buhl 2011*b*: 108, 112.

Material examined: 1♂ TOGO, Région des Plateaux, N of Kessibo-Wawa, at the border to Ghana (N of Badou), at river Wawa (07°42'11"N 00°35'26"E), 24.iv.2008, 180 m, forest understorey, cocoa plantation and sun-exposed vegetable fields, some Cyperaceae, swept, M. von Tschirnhaus.

Synopeas dentilamellatum Buhl, 2011

Synopeas dentilamellatum: Buhl 2011*b*: 108, 113.

Material examined: 1♀ TOGO, Région des Plateaux, Forêt d'Amakpavé NE of Amakpavé (NE of Gamé) (06°48'47"N 01°11'21"E), 6.iv.2008, 115–130 m, teak forest (*Tectona grandis*) with much *Panicum maximum* and Portulacaceae, swept; 1♀ Région des Plateaux, Cascades de Yô NW of Yô (NW of Kpalimé), edge of road N13 (06°57'05"N 00°35'51"E), 17.iv.2008, 370 m, secondary rainforest remains, banana and cocoa, bank vegetation, swept; 1♀ Région des Plateaux, Abriwa-Nko, about 5 km N of Badou, at creekÈgnulu–Agbadja (07°37'18"N 00°36'13"E), 24.iv.2008, 310 m, swept in cocoa and avocado plantation. All M. von Tschirnhaus.

Synopeas dorsale Buhl, 2011

Fig. 72

Synopeas dorsale: Buhl 2011*b*:109, 114.

Material examined: 3♀ 1♂ TOGO, Région des Plateaux, N of Kessibo-Wawa, at the border to Ghana (N of Badou), at river Wawa (07°42'11"N 00°35'26"E), 24.iv.2008, 180 m, forest understorey, cocoa plantation and sun-exposed vegetable fields, some Cyperaceae, swept, M. von Tschirnhaus.

Slightly smaller than the type material from Tanzania (♀ 0.70–0.85 mm, ♂ 0.70 mm). The material from Togo differs in a few details from the type material. e.g. in the head being 1.2× as wide as mesosoma, fore wings without marginal cilia, and female metasoma only 1.$\overline{3}$× as wide as high. The characteristic mesoscutum of this species is illustrated in Fig. 72.

Synopeas meieri sp. n.

Figs 73–76

Etymology: Named after the dipterologist Dr Rudolf Meier, who first brought me in contact with Dr von Tschirnhaus.

Diagnosis: A small species with head 1.2× as wide as mesosoma, with a distinct hyperoccipital carina; female A4 1.3× as long as A5, A9 1.3× as wide as long; scutellum ending in a tiny, low lamella; female metasoma about as long as rest of body, 1.2× as wide as high.

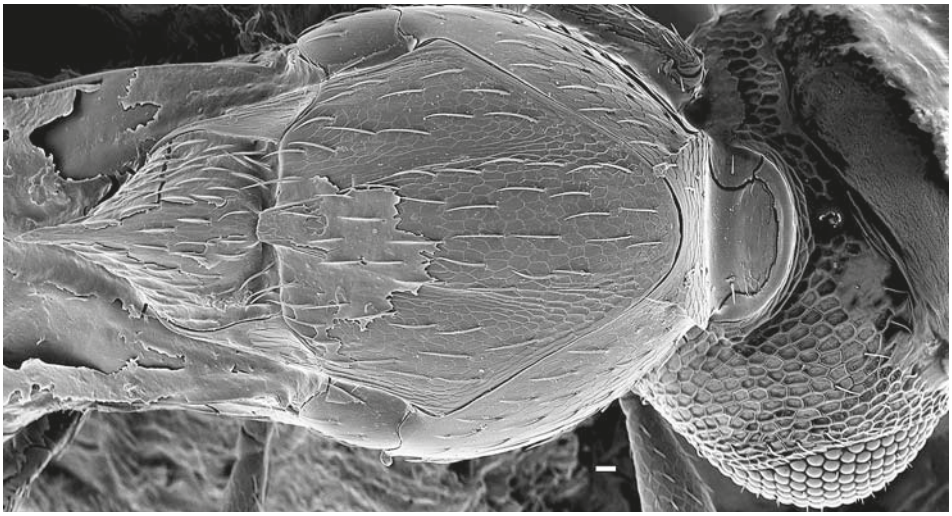
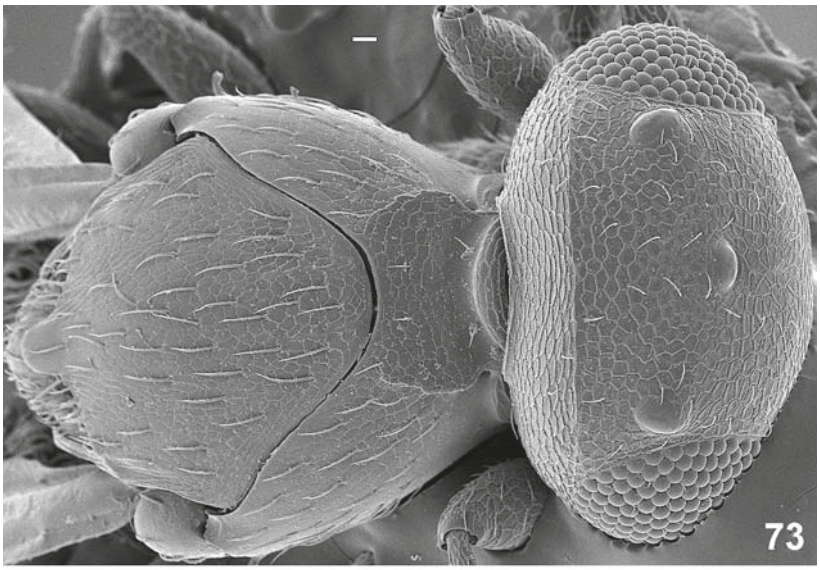


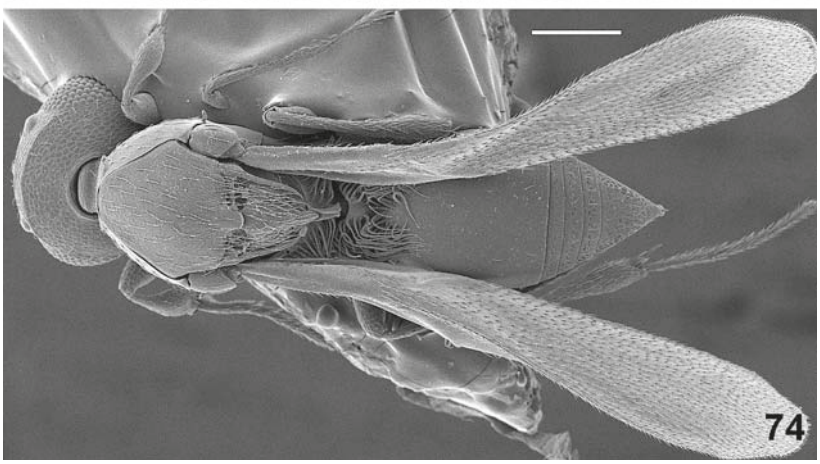
Fig. 72. *Synopeas dorsale* Buhl, 2011, female head and mesosoma in dorsal view. Scale bar = 10 μm.

Description:

Female.

Body length 0.80–0.95 mm. Head black, meso- and metasoma dark brown; A1–A6, mandibles and legs including coxae yellowish brown; A7–A10 dark brown. Head from above (Figs 73–74) 1.9× as wide as long, 1.2× as wide as mesosoma, dull, finely reticulate-coriaceous, on occiput slightly transversely so; hyperoccipital carina distinct and complete but not well developed. OOL hardly as long as diameter of lateral ocellus; LOL=3 OOL. Head in frontal view 1.15× as wide as high. Antenna with A1 0.85× as long as height of head, longer than distance between inner orbits (11:9); A2 about as long as A3–A4 combined; A4 almost twice as long as A3, 1.3× as long as A5; A9 about 1.3× as wide as long. Mesosoma (Figs 73–74) 1.45× as long as wide, 1.1× as high as wide. Sides of pronotum faintly reticulate-coriaceous (not longitudinally so) in upper half, smooth below and along hind margin. Mesoscutum rather sparsely but evenly setose, finely reticulate-coriaceous, without notauli; mid lobe medially with a distinct smooth, flat, slightly brownish prolongation to base of scutellum; the wide scuto-scutellar grooves with dense white setation. Mesopleuron smooth. Scutellum (Fig. 75) densely setose all over, slightly raised along middle, ending behind in a tiny, low, oblique lamella. Metapleuron smooth, with long and dense whitish pilosity, except along narrow anterior margin. Propodeal carinae rounded, light brownish and translucent, fused. Fore wing slightly surpassing tip of metasoma, 0.75× as long as entire body, 2.6× as long as wide, clear, with fine and dense microtrichia; marginal cilia absent. Hind wing 6.6× as long as wide; marginal cilia 0.4× width of wing. Metasoma (Figs 74 and 76) slightly shorter (22:24) to very slightly longer (28:27) than head and mesosoma combined, 0.9× as wide as mesosoma, 1.2× as wide as high. T1 and base of T2 with strong whitish pubescence. T2 smooth except for weak reticulation along narrow hind margin. T3–T6 distinctly reticulate-coriaceous all over, only apex of T6 smooth; apical tergites with very few, inconspicuous setae.





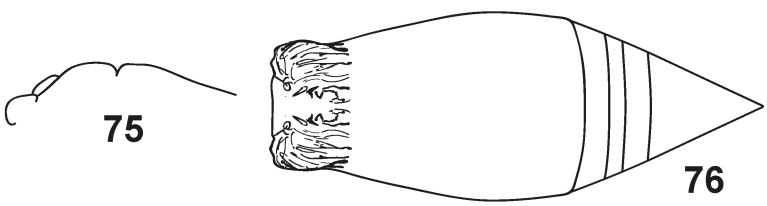


Fig. 73–76. *Synopeas meieri* sp. n., female: (73) head and mesosoma in dorsal view, scale bar = 10 μm; (74) body in dorsal view, scale bar = 100 μm; (75) scutellum and propodeal carinae in lateral view; (76) metasoma in dorsal view.

Comparison: This species runs to *S. mazumbaiense* Buhl, 2011, or to *S. goengeti* Buhl, 1997, in Buhl's (2011*b*) key, but *S. mazumbaiense* is larger (at least 1.2 mm), with head hardly as wide as mesosoma, and metasoma down-curved at apex. *S. goengeti* has head only 1.6× as wide as long, a weak and incomplete hyperoccipital carina, and metasoma

less elongate, wider than mesosoma.

Holotype: ♀ TOGO: Région des Plateaux, Plateau de Danyi, road from Atigba to Danyi–Apéyémé, at a tributary creek of river Danyi (07°11'04"N 00°41'31"E), 14.iv.2008, 710 m, creek bank and below shrubs and bamboo, plantation, swept, M. von Tschirnhaus.

Paratypes: 2♀ Région des Plateaux, Otandjobo near Zogbégan (SE of Badou), at river Otandjoboli (07°34'42"N 00°41'37"E), 21.iv.2008, 500 m, at river, swept, cocoa plantation; 1♀ Région des Plateaux, Klabé–Azafi, at river Gonobè (07°36'00"N 00°43'21"E), 21.iv.2008, 485 m, remains of secondary rainforest at river, rotting oranges, grass along road, swept. All M. von Tschirnhaus.

Synopeas tanzanianum Buhl, 2010

Synopeas tanzanianum: Buhl 2010: 45.

Material examined: 1♂ TOGO, Région des Plateaux, Kpélé-Govie Mlate N of Adéta, Auberge "Yougone"(07°08'33"N 00°43'57"E), 14–15.iv.2008, 285 m, F. Menzel & M. von Tschirnhaus.

Description of the hitherto unknown male: Body length 1.8 mm. Antenna with A4 as long as A2–A3 combined, 2.15× as long as wide, angularly dilated at midlength on inner side; A5 half as long as A4; A6 1.6× as long as A5; A7–A9 almost equal, each very slightly longer and wider than A6, 2.5× as long as wide; A10 1.55× as long as A9; flagellar pubescence 0.6× width of segments. Mesopleuron with fine longitudinal striation in upper third. Metasoma 1.15× as long as head and mesosoma combined, 3.2× as long as wide. T3–T7 combined slightly longer than T1–T2 combined (about 30:28). Otherwise morphologically the same as female.

Synopeas togoense sp. n.

Figs 77–80

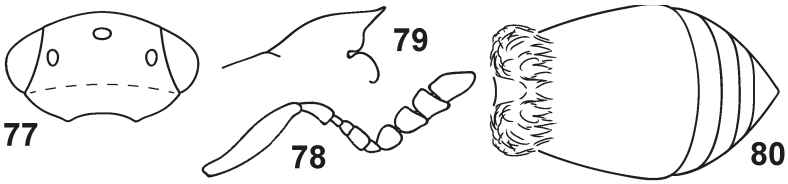
Etymology: Named after the type locality country, Togo.

Diagnosis: A rather small species with female A4 hardly more than half as long as A5; A9 1.5× as wide as long; notauli absent; scutellum with a strong spine, slightly surpassing hind margin of propodeum; female metasoma 0.85× as long as rest of body, 1.25× as wide as high.

Description:

Female.

Body length 0.9 mm. Black, A1–A6, mandibles and legs including coxae light brownish. Head from above (Fig. 77) 1.8× as wide as long, 1.2× as wide as mesosoma, finely but distinctly reticulate-coriaceous (not transversely so); hyperoccipital carina weak and incomplete. Eyes with numerous short setae. LOL=3 OOL. Head in frontal view 1.15× as wide as high. Antenna (Fig. 78) with A1 0.65× as long as height of head, very slightly longer than distance between inner orbits; A5 as long as A3–A4 combined; A9 1.5× as wide as long. Mesosoma 1.5× as long as wide, 1.2× as high as wide. Sides of pronotum smooth, only slightly reticulate-coriaceous in upper anterior corner. Mesoscutum bare along middle, the rest evenly and moderately densely setose, finely and uniformly reticulate-coriaceous, smooth just in front of scutellum; notauli absent; hind margin straight over entire width in front of scutellum; scuto-scutellar grooves small, each with only two inconspicuous setae. Mesopleuron smooth. Scutellum (Fig. 79) bare along middle, towards sides moderately densely setose, finely and uniformly reticulate-coriaceous, in dorsal view narrowed in straight lines into a strong, dark spine, hind margin of scutellum including lower edge of spine slightly translucent. Metapleuron



Figs 77–80. *Synopeas togoense* sp. n., female: (77) head in dorsal view; (78) antenna; (79) scutellum and propodeal carinae in lateral view; (80) metasoma in dorsal view.

smooth, in anterior half with sparse pilosity, in posterior half with very dense and erect whitish pilosity. Propodeal carinae dark brown, fused. Fore wing 0.9× as long as entire body, overreaching tip of metasoma by a distance equal to 1.5× combined length of T3–T6, 2.5× as long as wide, with faint yellowish tint and fine and dense microtrichia; marginal cilia absent. Hind wing 6.1× as long as wide; marginal cilia about 0.4× width of wing. Metasoma (Fig. 80) 0.85× as long as head and mesosoma combined, 1.2× as long as mesosoma and slightly wider (15:14), 1.25× as wide as high. T2 smooth. T3–T5 smooth, with weak reticulate microsculpture along hind margins, T6 with such sculpture all over. T3–T6 with setae inserted in shallow punctures (about 2 setae on T3, 10 on T4, 8 on T5, 6 on T6).

Comparison: This species runs to *S. semihyalinum* Buhl, 2011, in Buhl's (2011*b*) key, but that species has more slender antennae, conformation of scutellum very different with a much smaller scutellar tooth, rather long marginal cilia on fore wings, and longer and more flattened metasoma.

Holotype: ♀ TOGO: Région du Centre, Tèntkro SE of Yégué (SW of Blitta), at creek Koflo (08°05'20"N 00°45'51"E), 28.iv.2008, 530 m, remains of secondary rainforest, mainly swept above fresh sawdust in shade, M. von Tschirnhaus.

Synopeas tschirnhausi sp. n.

Figs 81–84

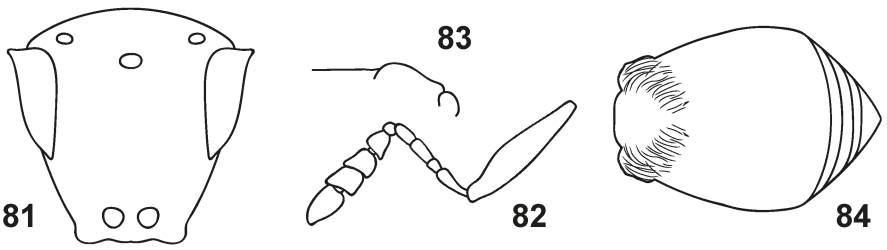
Etymology: Named after the collector, M. von Tschirnhaus.

Diagnosis: A most characteristic species of the genus on account of pointed eyes; head in frontal view only very slightly wider than high.

Description:

Female.

Body length 1.1 mm. Black, mandibles and coxae hardly lighter, A1–A6 and legs more or less light brownish, A1 blackish in basal 0.25; A7–A10 dark brownish. Head from above 1.85× as wide as long, 1.$\overline{3}$× as wide as mesosoma, finely and uniformly reticulate-coriaceous (not transversely so), without hyperoccipital carina. LOL=5 OOL. Upper outer corner of eye pointed. Head in frontal view (Fig. 81) very slightly wider than high (24:23). Antenna (Fig. 82) with A1 0.6× as long as height of head, as long as distance between inner orbits. Mesosoma 1.4× as long as wide, 1.1× as high as wide. Sides of pronotum finely reticulate-coriaceous, smooth in lower third and along hind margin. Mesoscutum evenly and moderately densely setose, uniformly and finely reticulate-coriaceous; notauli short and poorly evident at hind margin; mid lobe slightly and bluntly prolonged to base of scutellum; scuto-scutellar grooves rather narrow, each with about



Figs 81–84. *Synopeas tschirnhausi* sp. n., female: (81) head in frontal view; (82) antenna; (83) scutellum and propodeal carinae in lateral view; (84) metasoma in dorsal view.

seven long setae. Mesopleuron smooth. Scutellum (Fig. 83) slightly and evenly convex, almost smooth, sparsely setose along middle, densely so laterally, without modification behind. Metapleuron smooth, in anterior 0.4 with very sparse pilosity, denser behind. Propodeal carinae high, dark, rounded, fused. Fore wing 0.85× as long as entire body, 2.2× as long as wide, clear, in apical half with fine and dense microtrichia; marginal cilia extremely short. Hind wing 5.4× as long as wide; marginal cilia one-third the width of wing. Metasoma (Fig. 84) two-thirds as long as head and mesosoma combined, about as long as mesosoma and slightly wider (19:18), 1.$\overline{3}$× as wide as high. T1 with a few longitudinal crenulae. T2–T5 smooth, each with a narrow transverse stripe of reticulate microsculpture at hind margin, T6 with such sculpture all over. Apical tergites with a few inconspicuous setae in shallow punctures (eight on T5, fewer on the rest).

Comparison: In respect of unusual shape of head, somewhat similar to *S. acutanguliceps* Buhl, 2011, but that species has the head in frontal view 1.4× as wide as high and eyes not pointed.

Holotype: ♀ TOGO: Région des Plateaux, 1 km downstream of Totamé (07°35'21"N 00°37'55"E), 20.iv.2008, 590 m, mountain slope with scattered forest trees and dense ground vegetation, rotting fruits of avocado, swept, M. von Tschirnhaus.

Synopeas (*Sactogaster*) *ventricosum* Buhl, 1997

Synopeas ventricosus: Buhl 1997: 449.

Material examined: 1♀ TOGO, Région des Plateaux, main road between Agbanon and Agoté, at brook Tomezuitoe (7°15'53"N 0°47'51"E), 15.iv.2008, 360 m, brook bank at teak forest (*Tectona grandis*), shady cocoa plantation, swept; 1♀ Région des Plateaux, Ouvêtsévé near Kpélé Élé (07°21'27"N 00°51'12"E), 15.iv.2008, 345 m, creek bank within forest, diverse herb vegetation, swept. Both M. von Tschirnhaus.

I can find no difference between the abovementioned two specimens and the type material of *S. ventricosum* from the Bismarck Archipelago and the Philippines. Further material of *S. ventricosum* from Sri Lanka was examined as well. Species of the subgenus *Sactogaster* are generally very similar globally, but several platygastrid species of other genera are also supposed to have a more or less cosmopolitan distribution (perhaps spread as a result of human agricultural activities).

Synopeas watsoni sp. n.

Figs 85–88

Etymology: Named in honour of the eminent South African biologist Lyall Watson (1939–2008).

Diagnosis: A small species, with head uniformly isodiametrically reticulate-coriaceous; female A4–A5 of equal length; A9 fully 1.5× as wide as long; notauli absent; scutellum in lateral view slightly below level of mesoscutum and only slightly pointed behind; fore wing 2.5–2.7× as long as wide; female metasoma shorter than mesosoma, 1.5× as long as wide and 1.4× as wide as high.

Description:

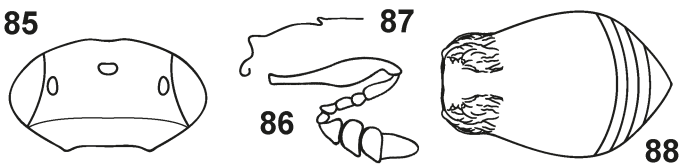
Female.

Body length 0.7–0.8 mm. Black, A1–A6 and legs light brownish, coxae, last segment of tarsi and sometimes apical 0.4 of hind tibiae slightly darker; A7–A10, mandibles and tegulae dark brown. Head from above (Fig. 85) 1.8–1.9× as wide as long, 1.15× as wide as mesosoma, dull, distinctly and uniformly reticulate-coriaceous (not transversely so); hyperoccipital carina distinct and complete. OOL equal to diameter of lateral ocellus; LOL=3 OOL. Head in frontal view 1.15× as wide as high. Antenna (Fig. 86) with A1 0.75× as long as height of head, 1.0–1.1× as long as distance between inner orbits; A9 about 1.55× as wide as long. Mesosoma 1.5× as long as wide, 1.15× as high as wide. Sides of pronotum reticulate-coriaceous, smooth in lower half and along wide hind margin. Mesoscutum evenly and moderately densely setose, finely and uniformly reticulate-coriaceous, without notauli; hind margin medially slightly pointed to base of scutellum, at each side with 5–6 long setae over scuto-scutellar grooves. Mesopleuron smooth. Scutellum (Fig. 87) sculptured much as mesoscutum but more densely setose, slightly pointed behind but without a distinct tooth, dark brown here as are propodeal carinae, these being high and fused. Metapleuron with whitish pilosity all over (sparse in anterior 0.4). Fore wing clear, 2.5–2.7× as long as wide, 0.9× as long as entire body, surpassing tip of metasoma by a distance equal to length of T2, with fine and dense microtrichia; marginal cilia absent. Hind wing 6.8× as long as wide; marginal cilia slightly less than half the width of wing. Metasoma (Fig. 88) hardly 0.9× as long as mesosoma, and 0.9× as wide, 1.4× as wide as high. T2 with a weak, medial longitudinal depression between the two tufts of pubescence, otherwise smooth. T3–T6 with reticulate microsculpture and a few inconspicuous setae inserted in shallow punctures (eight on each of T5–T6, fewer on T3–T4).

Male.

Body length 0.65 mm. Antenna with A4 inconspicuously widened towards apex; A7–A10 forming a clava, A8–A9 each about 1.2× as wide as long; flagellar pubescence only slightly more conspicuous than in female. Metasoma 0.8–0.9× as long as mesosoma.

Comparison: This species does not fit well into Buhl's (2011*b*) key. It is most similar to *S. fibigeri* Buhl, 2011, but *S. fibigeri* has meshes on occiput slightly transverse and more distinct than on rest of head, which in frontal view is 1.25× as wide as high. Moreover, *S. fibigeri* has slightly longer OOL and slightly more elongate flagellar segments than *S. watsoni*, more extensive sculptured sides of pronotum, notauli evident posteriorly, scutellum at level of mesoscutum and having a stronger tooth, propodeal carinae slightly separated, fore wing only 2.35× as long as wide, longer than body, pubescence at base of metasoma hardly 0.25× as long as T1–T2 combined (in *S. watsoni* fully one-third of the length of T1–T2 combined), and it is lighter in colour than *S. watsoni*. Cf. also Buhl (2011*a*).



Figs 85–88. *Synopeas watsoni* sp. n., female: (85) head in dorsal view; (86) antenna; (87) scutellum and propodeal carinae in lateral view; (88) metasoma in dorsal view.

Holotype: ♀ TOGO: Région des Plateaux, main road between Agbanon and Agoté, at creek Tomezuitoe (07°15'53"N 00°47'51"E), 15.iv.2008, 360 m, creek bank at teak forest (*Tectona grandis*), shady cocoa plantation, swept, M. von Tschirnhaus.

Paratypes: 1♀ 2♂ Région des Plateaux, Plateau de Danyi, near Atigba (07°09'52"N 00°41'33"E), 14.iv.2008, 775 m, remains of secondary rainforest, underwood, forest plantation, road side with much *Sida acuta* Burm. F., swept, M. von Tschirnhaus.

CONCLUSIONS

When similar species are recorded or described from widely separated localities, it is always a problem to determine whether they belong to the same species or to ones that look slightly different. In the present paper, new species such as *Amblyaspis tschirnhausi*, *Fidiobia tschirnhausi*, *Inostemma tschirnhausi* and *Synopeas watsoni* are rather similar to already known species described from Tanzania or South Africa. On the other hand, supposed species described earlier and now recorded from Togo, such as *Aceroteta africana*, *Euxestonotus deimos*, *Leptacis acanthia* and *L. fusiformis*, differ slightly from the type material from East and South Africa. Furthermore, species such as *Acerotella tshirnhausi*, *Ceratacis afrotropica* and *Leptacis* cf. *mitratus* are rather similar to species known from other biogeographical regions. A third group of species, such as *Euxestonotus lissogastrus*, *Leptacis cylindrica*, *L. elongaticeps* and *Synopeas tschirnhausi*, are very distinct on a world faunal basis. For all taxa, only further alpha taxonomic work, especially on material from intermediate geographic areas, can elucidate true relationships. Much fundamental research on the biodiversity, from collecting and determination to comparison and description of species, still has to be done before a more complete picture is obtained. Because of the uncertainties of intraspecific variation, many of the Togo specimens in the material at hand remain identified to the generic level only. As Bartlett *et al.* (1999) reason, regional comparisons (faunal list of named species) built up over a long period of time may ultimately be the most important measures of shared diversity. I reiterate my conclusion from Buhl (2011*b*), namely that there seems to be no substitute for alpha taxonomy, i.e. accurate taxonomic description of species, if the goal is just a reasonable understanding of the biodiversity of a poorly studied, diverse group such as Afrotropical platygastrids. However, only detailed investigation of the biology of each supposed species can ultimately reveal their true limits. Of course, the study of platygastrids is still very far from reaching this goal. As Kunz (2012) remarks, even with regard to birds (Aves), it would be easy to defend estimates other than the currently agreed upon number of about 9000 bird species on Earth, resulting in alternative estimates of as many as 27000 species. "The number depends entirely on the weight given to particular delimiting criteria." This uncertainty is naturally far greater in respect of the tiny parasitoid wasps, among which many species are known only from a few dried specimens.

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