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New species and new records of the Afrotropical Sciapodinae (Diptera: Dolichopodidae)

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Новые виды и новые находки двукрылых подсем. Sciapodinae (Diptera: Dolichopodidae) из тропической Африки

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Abstract. The following new species of the subfamily Sciapodinae are described: *Bickeliolus bogoria* **sp. nov.** from Kenya, *Amblypsilopus ruchini* **sp. nov.**, *A. korotyaevi* **sp. nov.** and *Chrysosoma negrobovi* **sp. nov.** from Gabon, *Chrysosoma vanbruggeni* **sp. nov.** and *Ch. usherae* **sp. nov.** from Mozambique, *Ch. cooksoni* **sp. nov.** from Zimbabwe. The new synonyms are proposed: *Mascaromyia gerlachi* Meuffels et Grootaert, 2007 with *Bickeliolus alluaudi* (Parent, 1935), **syn. nov.**; *Psilopus bilobatus* Lamb, 1922 and *Sciapus integer* Becker, 1923 with *Ethiosciapus flavirostris* (Loew, 1858), **syn. nov.**; *Sciapus dilectus* Parent, 1935 with *Ethiosciapus inflexus* (Becker, 1923), **syn. nov.** *Chrysosoma ungulatum* Parent, 1941, *Ch. centrale* Becker, 1923 and *Ch. asperum* Parent, 1933 are transferred to the genus *Amblypsilopus* Bigot, 1888 (**comb. nov.**). The following old species described poorly from females are considered here as doubtful (*nomina dubia*): *Chrysosoma arduum* (Parent, 1936) from D.R. Congo, *Ch. benignum* Parent, 1934 from Nigeria, *Ch. laeve* (Bigot, 1891) from Ivory Coast, *Ch. praecipuum* Parent, 1936 from D.R. Congo, *Ch. subfascipennis* (Curran, 1926) from Uganda, and *Ch. trigemmans* (Walker, 1849) (type locality is not given). New records are given for some known species, and new identification keys to males of Afrotropical species of the genera *Bickeliolus* Grichanov and *Ethiosciapus* Bickel, and subgenus *Chrysosoma* (*Chrysosoma*) Guérin-Méneville are compiled.

Key words. Sciapodinae, Afrotropics, new species, new synonym, new combination, key.

Резюме. Описаны следующие новые виды из подсемейства Sciapodinae: *Bickeliolus bogoria* **sp. nov.** из Кении, *Amblypsilopus ruchini* **sp. nov.**, *A. korotyaevi* **sp. nov.** и *Chrysosoma negrobovi* **sp. nov.** из Габона, *Chrysosoma vanbruggeni* **sp. nov.** и *Ch. usherae* **sp. nov.** из Мозамбика, *Ch. cooksoni* **sp. nov.** из Зимбабве. Предложена новая синонимия: *Mascaromyia gerlachi* Meuffels et Grootaert, 2007 с *Bickeliolus alluaudi* (Parent, 1935), **syn. nov.**; *Psilopus bilobatus* Lamb, 1922 и *Sciapus integer* Becker, 1923 с *Ethiosciapus flavirostris* (Loew, 1858), **syn. nov.**; *Sciapus dilectus* Parent, 1935 с *Ethiosciapus inflexus* (Becker, 1923), **syn. nov.** *Chrysosoma ungulatum* Parent, 1941, *Ch. centrale* Becker, 1923 и *Ch. asperum* Parent, 1933 перенесены в род *Amblypsilopus* Bigot, 1888 (**comb. nov.**). Следующие виды, описанные по самкам, считаются сомнительными (*nomina dubia*): *Chrysosoma arduum* (Parent, 1936) из Д.Р. Конго, *Ch. benignum* Parent, 1934 из Нигерии, *Ch. laeve* (Bigot, 1891) из Кот-д'Ивуара, *Ch. praecipuum* Parent, 1936 из Д.Р. Конго, *Ch. subfascipennis* (Curran, 1926) из Уганды и *Ch. rigemmans* (Walker, 1849) (типовое местонахождение не указано). Составлены новые определители (по

самцам) афротропических видов родов *Bickeliolus* Grichanov и *Ethiosciapus* Bickel и подрода *Chrysosoma* (*Chrysosoma*) Guérin-Méneville.

Ключевые слова. Sciapodinae, Тропическая Африка, новый вид, новый синоним, новая комбинация, определитель.

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Introduction

The subfamily Sciapodinae includes 27 extant genera in the world fauna and one extinct genus (known from Baltic amber). Species of almost all genera flourish in the tropical and subtropical belts of the Earth, rarely meeting in the boreal region of the Holarctic Realm (Grichanov, 2021a). Bickel (1994) separated three almost cosmopolitan tribes within this subfamily.

The last catalogue of Afrotropical dolichopodid fauna (Grichanov, 2018, 2020) has included 237 species of Sciapodinae. Later, Grichanov (2021b, 2021c, 2021d, 2021e, 2021f, 2021g, 2021h) has described 23 new species in this subfamily; some species were considered as *nomina dubia*, and some others were replaced or synonymised. Therefore, number of sciapodine is now 251 species (together with described here) of 13 genera (Table), being one of the largest dolichopodid subfamily in Afrotropical Region. See Grichanov and Brooks (2017) for diagnoses and a key to all Afrotropical genera and subgenera of the subfamily Sciapodinae.

Table. Number of known Afrotropical species in Sciapodinae genera

	Genus	Number of species		
		After Dyte, Smith, 1980	After Grichanov, 1997a	Currently
1.	*Amblypsilopus* Bigot, 1888 (including former *Labeneura* Parent, 1937, *Leptorhethum* Aldrich, 1893 and *Sciopolina* Curran, 1924)	8	43	66
2.	*Bickelia* Grichanov, 1996	–	3	2
3.	*Bickeliolus* Grichanov, 1996	–	6	6
4.	*Chrysosoma* Guérin-Méneville, 1831 (including former *Kalocheta* Becker, 1923)	113	71	59
5.	*Condylostylus* Bigot, 1859	11	12	25
6.	*Dytomyia* Bickel, 1994	–	–	6
7.	*Ethiosciapus* Bickel, 1994	–	8	6
8.	*Gigantosciapus* Grichanov, 1997	–	11	13
9.	*Mascaromyia* Bickel, 1994	–	21	31
10.	*Mesorhaga* Schiener, 1868	2	3	9
11.	*Parentia* Hardy, 1935	–	–	7
12.	*Plagiozopelma* Enderlein, 1912	–	17	18
13.	*Sciapus* Zeller, 1842	46	1	3
	Total	172	196	251

As noted by Grichanov (1998), only 65 previously known Afrotropical species had been placed in the sciapodine genera sensu Dyte and Smith (1980), while 107 other species names listed in this Catalog were later replaced, synonymised, declared *nomina dubia* or removed from the Afrotropical region (now ca. 50 and ca. 120 species names, respectively).

A careful sorting of Malaise traps' residues from some collections has revealed overlooked specimens from Gabon, Kenya, Mozambique and Zimbabwe belonging to undescribed species. In this paper,

two new species of the genus *Amblypsilopus*, four species of *Chrysosoma* and one species of *Bickeliolus* are described; four new synonyms, three re-combinations and six *nomina dubia* taxa are proposed; new records are given for some known species, and new identification keys to males of Afrotropical species of the genera *Bickeliolus* and *Ethiosciapus* and subgenus *Chrysosoma* (*Chrysosoma*) are compiled.

Material and methods

The types of the new species and other material examined are housed at the following repositories: Bavarian State Collection of Zoology, Munich, Germany (ZSM); Finnish Museum of Natural History, University of Helsinki, Finland (MZH); Museum National d'Histoire Naturelle, Paris, France (MNHN); Namibian National Insect Collection, National Museum of Namibia, Windhoek, Namibia (NMNW); Natal Museum, Pietermaritzburg, KwaZulu-Natal, South Africa (NMSA); National Museum, Bloemfontein, South Africa (BMSA); Royal Belgian Institute of Natural Sciences, Brussels, Belgium (RBINS); Royal Museum for Central Africa, Tervuren, Belgium (RMCA); Swedish Museum of Natural History, Stockholm, Sweden (NHRS); Steinhardt Museum of Natural History, School of Zoology, Tel Aviv University, Israel (SMNHTAU); Zoological Institute, Kiel University, Germany (ZIUK); Zoological Institute of RAS, St. Petersburg, Russia (ZISP); Zoological Museum of Moscow State University, Moscow, Russia (ZMMU); Zoological Museum, Natural History Museum of Denmark, University of Copenhagen (ZMUC). New distribution records presented in this paper are marked with an asterisk (*).

Specimens have been studied and photographed with a ZEISS Discovery V–12 stereo microscope and an AxioCam MRc5 camera. Morphological terminology and abbreviations follow Cumming and Wood (2017) and Grichanov and Brooks (2017). The lengths of the podomeres are given in millimetres. Body length is measured from the base of the antenna to the tip of abdominal segment 6. Wing length is measured from the base to the wing apex. The figures showing the hypopygium in lateral view is oriented as it appears on the intact specimen, with the morphologically ventral surface of the genitalia facing upwards, dorsal surface downwards, anterior end facing right and posterior end facing left.

Taxonomic part

Subfamily Sciapodinae Becker, 1917

Tribe Mesorhagini Bickel, 1994

Genus *Mesorhaga* Schiner, 1868

Type species: *Mesorhaga tristis* Schiner, 1868 (by original designation).

Mesorhaga demeyeri Grichanov, 1998

Material examined. SOUTH AFRICA. *KwaZulu-Natal*: 4 females, Ndumo Game Reserve, main camp area at 26°54.652′ S, 32°19.719′ E, 1060 m, Malaise trap, broad-leafed decidouous woodland, 27–30.XI.2009 (A.H. Kirk-Spriggs leg.) (BMSA).

Distribution. D.R. Congo, Madagascar (type locality: Ambatondrazaka), South Africa.

Tribe Sciapodini Becker, 1917

Genus Condylostylus Bigot, 1859

Type species: *Psilopus bituberculatus* Macquart, 1842 (by original designation).

Condylostylus skufjini Grichanov, 1997

Material examined. MADAGASCAR. *Atsinanana Region*: 2 males, "Foulpointe" [Mahalevona], 2.XI.1991 (A. Pauly leg.) (RMCA). *Alaotra-Mangoro Region*: 1 male, Didy, III.1992 (A. Pauly leg.) (RBINS).

Distribution. Madagascar (type locality: Fénérive [Fenoarivo-Atsinanana district in Analanjirofo Region]).

Tribe Chrysosomatini Becker, 1918

Genus *Amblypsilopus* Bigot, 1888

Type species: *Psilopus psittacinus* Loew, 1861 (by original designation).

Remarks. The Afrotropical genus *Amblypsilopus* has been recently revised by Grichanov (2021b, 2021f), who has provided keys to males of 35 recognizable species known from continental Africa and 28 species from Madagascar and adjacent islands.

Chrysosoma ungulatum Parent, 1941 from Príncipe was described with almost straight, only slightly convex wing vein dm-m and must be transferred to *Amblypsilopus* (**comb. nov.**). Male of this species has enlarged claws, similar to those in *A. bipectinatus* (Parent, 1934) and *A. cuthbertsoni* (Parent, 1937). *Chrysosoma centrale* Becker, 1923 from Tanzania also has straight wing vein dm-m, modified fore tarsus, being very close in habitus to *A. steelei* Grichanov, 1996, and must also be transferred to *Amblypsilopus* (**comb. nov.**). *Chrysosoma asperum* Parent, 1933, described by Parent (1934) from South Africa has the same characters, is almost identical to South African *Amblypsilopus bevisi* (Curran, 1927) and also transferred here to *Amblypsilopus* (**comb. nov.**).

Afrotropical species groups are defined mainly by MSSC on body, head, wings or legs (the *A. auratus* group, *A. fasciatus* group, *A. lenga* group, *A. mufindiensis* group, *A. pallidicornis* group and *A. stuckenbergi* group). Nevertheless, several ungrouped species of the genus always bear rows of peculiar setae on some segments of fore tarsus, such as two new species described below.

Amblypsilopus korotyaevi sp. nov.

http://zoobank.org/803F3095-0764-4677-915A-EDAB10DEBEF1

Figs 1–6

Type material. *Holotype*: male, GABON, *Ogooué-Maritime Province*, Gamba, 2°42′ S, 10°01′ E, alt. 25 m, 21.I.2002, old secondary forest (Syssou, Ngoma, Moussavou leg.); specimen dried from ethanol and mounted on the insect pin (ZISP).

Description. *Male* (Fig. 1). Strongly lightened due to long-term storage in ethanol. Body mostly yellow-brown with blackish brown major bristles; antenna and legs mostly yellow.

Head (Fig. 2). Frons metallic violet, weakly pollinose; 1 anterior fine vertical seta; 1 strong and long postvertical bristle; upper postocular setae blackish, short; lateral postocular setae white, uniserial; ventral postcranium covered with long irregular white setae; face whitish pollinose, slightly bulging, 1.4 times as wide as high, under antennae about 5.0 times as wide as postpedicel; clypeus whitish pollinose, projected, about as wide as high, separated from eyes; antenna nearly half as long as body, scape simple; pedicel rounded, with ring of short bristles, 1 long dorsal bristle; postpedicel small, conoid, as long as high, with short setulae; arista-like stylus brown, dorso-apical, glabrous, bi-segmented; length (in mm) of scape, pedicel, postpedicel, stylus (segments 1 and 2) = 0.1/0.08/0.08/0.17/2.49; proboscis and palpus with white and brown fine setae.

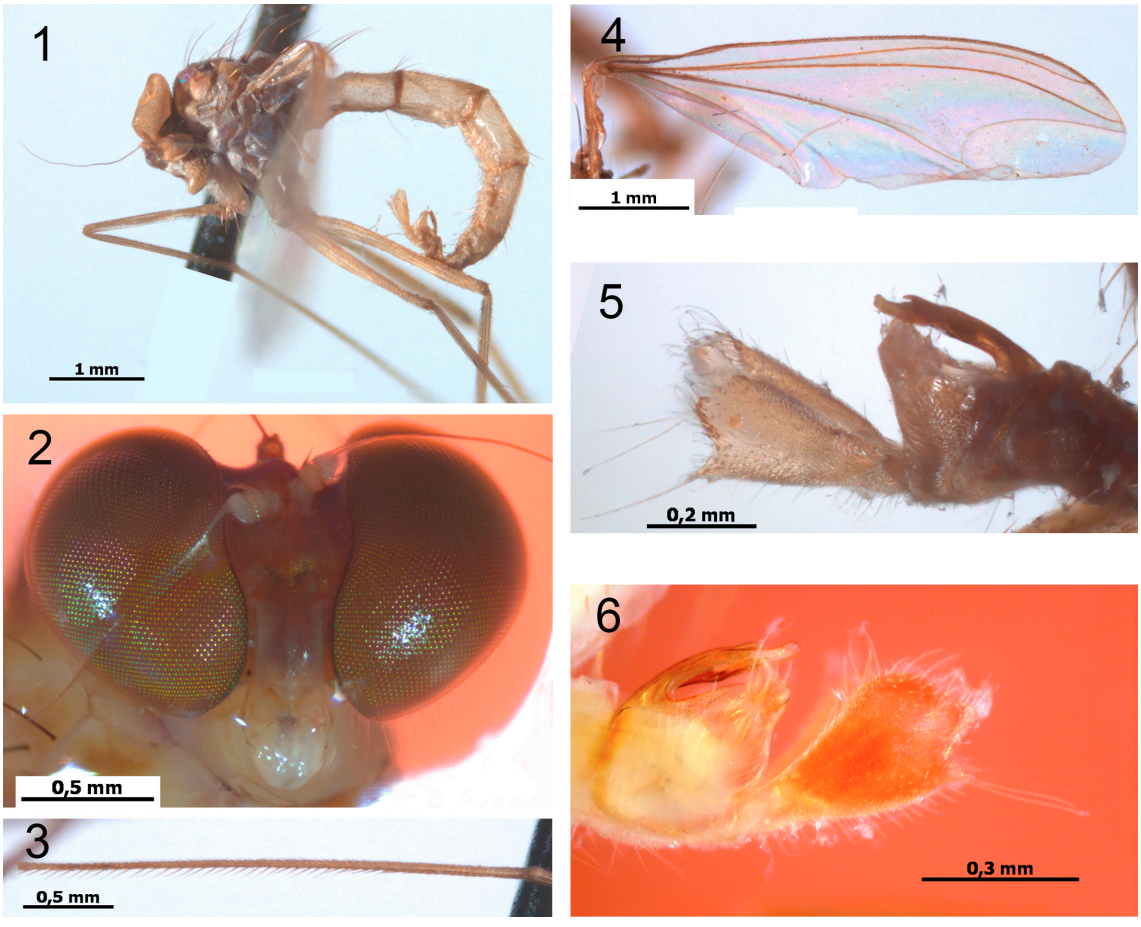
Thorax. Mesonotum and scutellum brown with metallic blue reflection; pleura brown, white pollinose; 2 strong posterior dorsocentral bristles and 3 hair-like setae anteriorly; acrostichals long and strong, 3 pairs; scutellum with 2 strong bristles and 2 minute setae laterally.

Legs including coxae yellow; tarsi brownish to brown from tip of basitarsi; fore and mid coxae with white setae and 2–3 brownish subapical bristles; hind coxa with 1 strong bristle and few fine yellow setae at middle; fore femur with few fine long setae at base; fore basitarsus (Fig. 3) with posteroventral row of semi-erect setulae, as long as tarsomere wide; mid and hind legs simple, without remarkable setae; mid tibia with 3 short anterodorsals and 1 short posterodorsal setae, not longer than podomere width; mid and hind tarsi simple, cylindrical; tarsomere 5 of mid and hind tarsi slightly flattened; femur, tibia and tarsomere (from first to fifth) length ratio (in mm): fore leg = 1.51/1.76/2.89/0.82/0.78/0.4/0.17, mid leg = 1.91/2.92/2.42/0.72/0.56/0.25/0.17, hind leg = 2.13/3.81/1.45/0.89/0.5/0.31/0.16.

Wing (Fig. 4) widened distally, hyaline; R_{4+5} gently curved to M_1 on apical third; M_{1+2} almost straight; M_1 with strong elbow, forming right angle with M_{1+2}; ratio of parts of costa between R_{2+3} and R_{4+5} to those between R_{4+5} and M_1 = 49/12; crossvein dm-m straight; ratio of crossvein dm-m to apical part of M_{1+2} (fork-handle) to apical part of M_4 = 69/108/32; anal vein and lobe indistinct; lower calypter with fan of white setae; halter yellow with brownish knob.

Abdomen slender, 1.9 times as long as head and thorax combined, with short white setae at base and long black marginal setae; segments 1–4 yellow, brown along sutures; segments 5–7 and hypopygium distinctly darker; segment 8 with short setae; hypopygium (Figs 5, 6) with cercus (Fig. 6) yellow, as large as epandrium, obovoid, with small middorsal tooth bearing 2 long setae, broader apically, narrow at base, with short white setae, longer distally; surstylus projected, broad and relatively short, subrectangular, with few long dorsal and distal setae; 1 long and 2 short epandrial setae.

Measurements. Body length 7.1 mm; antenna length 3.1 mm; wing length 5.8 mm; wing width 1.6 mm.



Figs 1–6. *Amblypsilopus korotyaevi* **sp. nov.** (holotype, male). 1 – habitus, lateral view; 2 – head, in ethanol, front view; 3 – fore basitarsus; 4 – wing; 5 – hypopygium, dried from ethanol, left lateral view; 6 – hypopygium, in ethanol, right lateral view.

Female. Unknown.

Diagnosis. *Amblypsilopus korotyaevi* **sp. nov.** is distinguished by normal *vs* disturbed wing venation (in *A. fasciatus* and *A. lenga* groups of species), simple *vs* modified seta on fore tibiae and practically simple *vs* usually modified fore taromeres (in *A. pallidicornis* group), relatively broad *vs* narrow male face (in *A. stuckenbergi* group), entirely or almost entirely yellow *vs* black coxae (in *A. abruptus* group). The new species keys to either *A. barkalovi* Grichanov, 1998 from D.R. Congo (Grichanov, 1998, 2021f), or *A. kaplanae* Grichanov, 1999 from Madagascar (Grichanov, 2021b), differing from these and other close species in metallic blue mesonotum, fore basitarsus bearing posteroventral row of semi-erect setulae, cercus as large as epandrium, obovoid, with small middorsal tooth bearing 2 long setae, broader apically, narrow at base. The other similar species has various, but different shape of cercus.

Etymology. The name of the new species is dedicated to the Russian entomologist Dr. B.A. Korotyaev (ZISP).

***Amblypsilopus ruchini* sp. nov.**

http://zoobank.org/00F592DE-E003-4A24-B89F-323F93E7C3D8

Figs 7–8

Type material. *Holotype*: male, GABON, *Ogooué-Maritime Province*, Gamba, 2°42′ S, 10°01′ E, alt. 25 m, 1.VII.2002, cultivated garden (Tchignoumba, Tobi, Ditona leg.); specimen in glycerol in a microvial attached to the insect pin (ZISP).

Description. *Male*. Discolorated due to long-term storage in ethanol. Body yellow with brown major bristles; antenna and legs light yellow.

Head. Frons shining; 1 fine vertical seta and 1 strong postvertical bristle; upper and lateral postocular setae uniserial; ventral postcranium covered with irregular setae; face broad, slightly bulging under antennae, about as high as wide under antennae, at clypeus 3.0 times as wide as postpedicel; clypeus large, as high as wide, separated from eyes; antenna nearly half as long as height of head; scape not widened, simple; pedicel wider than postpedicel, with ring of short setae, with 1 longer bristle dorsally; postpedicel conoid, as long as high; arista-like stylus apical, with rather short segment 1, filiform; length (in mm) of scape, pedicel, postpedicel, stylus = 0.08/0.07/0.09/1.78; palpus with 2 bristles; proboscis with white setae.

Thorax. Mesonotum with 5 strong dorsocentral bristles; 3 pairs of strong acrostichals; scutellum with 1 pair of strong bristles.

Legs with fore and mid coxae with fine setae and 3–4 subapical bristles; hind coxa with 2 setae of different length; fore femur with 2 ventral setae at base, at most as long as diameter of femur; mid femur with 3 short posteroventral subapical setae; fore tibia without distinct setae; fore basitarsus with ventral row of about 5 fine setae, slightly longer than diameter of segment, in addition to ordinary setulae; mid and hind tibiae with several short dorsal and ventral setae; tarsomere 5 of mid and hind tarsi distinctly flattened; femur, tibia and tarsomere (from first to fifth) length ratio (in mm): fore leg = 1.14/1.26/0.99/0.37/0.29/0.16/0.13, mid leg = 1.44/2.16/1.64/0.44/0.35/0.2/0.15, hind leg = 1.63/2.61/1.11/0.53/0.33/0.18/0.15.

Wing widest at middle; costa with simple setulae; R_{4+5} gently curved to M_1 in apical third; M_{1+2} almost straight; M_1 with strong elbow, forming nearly right angle with M_{1+2}; ratio of parts of costa between R_{2+3} and R_{4+5} to those between R_{4+5} and M_1 = 2.7/1; crossvein dm-m almost straight, slightly convex; ratio of crossvein dm-m to apical part of M_{1+2} (fork-handle) to apical part of M_4 = 0.63/0.81/0.24; anal vein weak; anal lobe and alula developed; lower calypter with light cilia; halter light yellow.

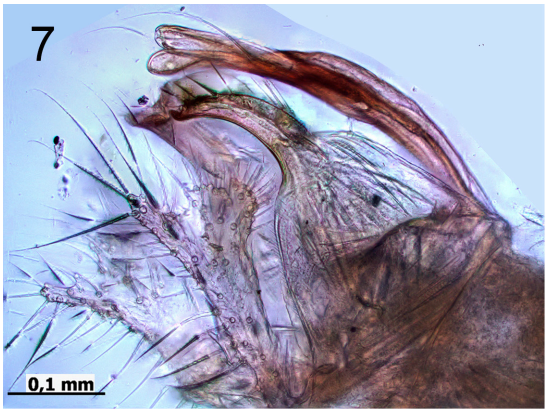
Abdomen thin, about 2.0 times as long as thorax; segment 7 short, with setae; hypopygium (Figs 7, 8) with left basolateral foramen; cercus as long as epandrium, bifurcated at apex, with unequal lobes, densely covered with long setae; left and right cerci look asymmetrically; surstylus flattened, projected, with few short setae at apex; epandrial lobe small, with 1 long and 2 short apical setae; 1 short epandrial seta.

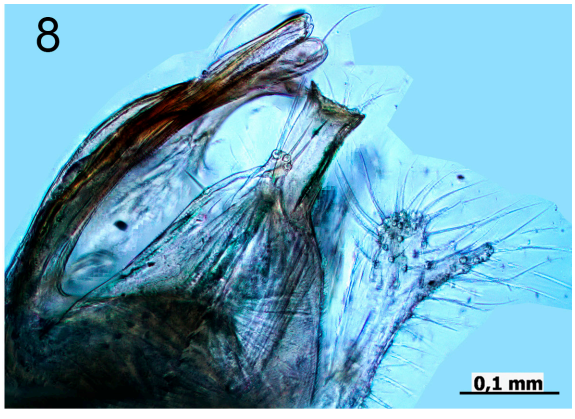
Measurements. Body length 4.5 mm; antenna length 2.0 mm; wing length 4.3 mm; wing width 1.3 mm.

Female. Unknown.

Diagnosis. *Amblypsilopus ruchini* **sp. nov.** is distinguished by: normal *vs* disturbed wing venation (in *A. fasciatus* and *A. lenga* groups of species), simple *vs* modified seta on fore tibiae and practically simple *vs* usually modified fore taromeres (in *A. pallidicornis* group), relatively broad *vs* narrow male face (in *A. stuckenbergi* group). It differs from dark-legged species of *A. abruptus* group in absence of long ventral setae on femora and practically simple last segments of hind tarsus. Males of the *A. abruptus* group usually with long ventral setae on femora, having also flattened last two or three tarsomeres of hind tarsus. The new species differs from the rest of Afrotropical *Amblypsilopus* species in unmodified podomeres and morphology of male cercus. The ungrouped species have various modifications and ornamentations on male fore and mid legs. The cercus of *A. ruchini* **sp. nov.** is somewhat similar to bifurcated at apex cercus in *A. gorodkovi* Grichanov, 1996 from Tanzania and *A. steelei* Grichanov, 1996 from Kenya (Grichanov, 1996a: Figs 1 and 5), differing in presence of rows of rather long dense setae. *A. gorodkovi* is remarkable in fore femur wearing ventral brush of long dense curved setae and modified segments 4 and 5 of mid tarsus. *A. steelei* differs from the new species in distinctly widened and flattened fore basitarsus.

Etymology. The name of the new species is dedicated to the Russian zoologist Dr. A.B. Ruchin (Joint Directorate of the Mordovian Nature Reserve and National Park "Smolnyi", Saransk, Republic of Mordovia).





Figs 7–8. *Amblypsilopus ruchini* **sp. nov.** (holotype, male, in glycerol). 7 – hypopygium, left lateral view; 8 – hypopygium, right lateral view.

Amblypsilopus knorri Grichanov, 1999

Material examined. CAMEROON. *South Region*: 1 male, Ebolowa-Nkuemwone, 22.VIII.1967, Champs semenciers (L. Matile leg.) (MNHN).

Distribution. Cameroon (type locality: Muell), Ivory Coast.

Amblypsilopus nartshukae Grichanov, 1996

Material examined. IVORY COAST. *Abidjan District*: 1 male, Côte d'Ivoir, Adiopodoumé, 15.IV.1975 (G. Couturier leg.) (MNHN).

Distribution. Type locality: Angola (type locality: 2 miles S Luanda), Gabon, *Ivory Coast.

Amblypsilopus stuckenbergorum (Irwin, 1974)

Material examined. SOUTH AFRICA. *Free State*: 9 males, RSA, Harrismith Scotland Farm, 27°28.595′ S, 29°37.098′ E, 10–12.XI.2009 (A.H. Kirk-Spriggs leg.), Malaise traps, dense Leucosedea dominated scrub (BMSA).

Distribution. South Africa (type locality: Natal, Pietermaritzburg, Town Bush).

Genus *Bickeliolus* Grichanov, 1996

Type species: *Ethiosciapus* (*Bickeliolus*) *maslovae* Grichanov, 1996 (by original designation).

Remarks. The *Bickeliolus* is an Afrotropical genus of the tribe Chrysosomatini that was separated from *Ethiosciapus* by Grichanov (1996b). An identification key to seven species was provided by Grichanov (1998); but subsequently *Chrysosoma lutescens* Vanschuytbroeck, 1952 was removed from *Bickeliolus* (Grichanov, 1999) and *Mascaromyia gerlachi* Meuffels & Grootaert, 2007 was transferred to this genus (Grichanov, 2011).

Species of *Bickeliolus* are known from continental Afrotropics, except for West African countries as well as on some Indian Ocean (Madagascar and Seychelles) islands. *Bickeliolus* species are poorly represented in museum collections and often described from a small type series. *Bickeliolus haemorhoidalis* (Becker, 1923) was originally described by one male and four females syntypes from Abyssinia ("Djerer", or Jerer, river valley near Jijiga City in eastern Ethiopia), Uganda and South Africa (Becker, 1923). It was later reported from the central Africa only, but specimens from Ethiopia and South Africa belongs probably to different species. In this paper a new species of *Bickeliolus* from Kenya is described and a new key to Afrotropical species is provided.

Key to the Afrotropical species of the genus *Bickeliolus* (males)

1. Mid trochanter with ventral fringe of setae; cercus broadened distally and with subtriangular basoventral process (Curran, 1924: Fig. 5) in addition to basal hook-shaped process. Body length 4.5 mm (Malawi, Mozambique, Namibia, South Africa) ..... *B. trochanteralis* (Curran, 1924)
– Mid trochanter without fringe; cercus various shapes, usually tapering 2
2. Antenna yellow-orange, postpedicel blackish dorsally; cercus broad at base, then rather thin, with apical setae at most 0.3 as long as cercus. Body length 4.0–4.2 mm (Seychelles) (Lamb, 1922: Fig. 2) .... *B. lasiophthalmus* (Lamb, 1922)
– Antenna black, at most postpedicel dusky brown; cercus different shape, broad, with apical setae at least half as long as cercus 3
3. Cercus broadened distally (lateral view); basoventral process of cercus elongate-ovate (Parent, 1935a: Fig. 26; Meuffels, Grootaert, 2007: Fig. 7, as for *Mascaromyia gerlachi*). Body length 2.9–3.5 mm (Madagascar, Seychelles) ..... *B. alluaudi* (Parent, 1935)
– Cercus broadest at base or at middle (lateral view); basoventral process of cercus various 4
4. Cercus with two basoventral processes 5
– Cercus with one basoventral process 6
5. Cercus with triangular ventral projection at distal 0.3 (Fig. 13). Body length 3.9 mm (Kenya) .... *B. bogoria* **sp. nov.**
– Distal part of cercus evenly broad, without distoventral projection (Becker, 1923: Fig. 17). Body length 4.0–4.5 mm (Burundi, D.R. Congo, Uganda) ..... *B. haemorhoidalis* (Becker, 1923)

6. Basoventral process of cercus subtriangular or rounded, with long setae (Parent, 1935b: Fig. 17; Grichanov, 1996b: Fig. 2). Body length 4.5 mm (D.R. Congo, Rwanda, Tanzania, Uganda) .... *B. lamellatus* (Parent, 1935)

– Basoventral process of cercus beak-shaped, with short setae (Grichanov, 1996b: Fig. 1). Body length 3.4–3.6 mm (Angola, Botswana) ..... *B. maslovae* (Grichanov, 1996)

***Bickeliolus bogoria* sp. nov.**

http://zoobank.org/092D326C-9649-4F68-93ED-DFAD75C0AE83

(Figs 9–14)

Type material. *Holotype*: male, KENYA. *Baringo County*: Baringo #64, Lake Bogoria National Reserve, 00°11′ N, 36°08′ E, 1100 m, South end, 21.XI.1992, Fig tree camp site (J. Londt, A. Whittington leg.) (NMSA).

Description. *Male* (Fig. 9). Head (Fig. 10). Frons metallic bluish green, shiny; strong anterior vertical bristle; strong postvertical bristle; upper postocular setae black, short; ventral postcranium covered with irregular white setae; face shining green, weakly white pollinose, broad, under antennae 5.0 times wider than postpedicel, 1.4 times wider than high; bulging clypeus as wide as high; with dusting of white pruinosity, separated from margin of eyes; antenna (Fig. 11) black, as long as height of head; pedicel with short bristles, with 1 longer dorsal bristle; postpedicel rounded-triangular, as long as high, with short setulae; arista-like stylus dorso-apical, microscopically setulose; length (in mm) of scape, pedicel, postpedicel, stylus (segments 1 and 2) = 0.04/0.03/0.04/0.03/0.65; proboscis and palpus yellow, with white setae; palpus with 2 black setae.

Thorax. Mesonotum and scutellum metallic green; pleura bronze-green, whitish pollinose; 4 dorsocentral bristles decreasing in size anteriorly with posterior pair long and anterior pair rather short; acrostichals absent; scutellum with 2 pairs of strong setae.

Legs. Mostly yellow; fore coxa yellow; mid and hind coxae black with yellow distal apex; fore tarsomere 5 black; mid and hind tarsi brown from tip of basitarsus; fore and mid coxae with yellow setae and 2–3 yellow subapical bristles; hind coxa with 1 yellow bristle at base and few short setae; fore femur with few short erect yellow ventral setae at base; mid femur with several yellow ventral setae at base, at most as long as height of femur; fore basitarsus (Fig. 12) distinctly swollen, ventrally flattened and bearing pile, with elongate setulae along flattening; mid tibia with 2 short anterodorsal and 3 short apical setae; hind tibia with rather small dorsal, ventral and apical setae; tarsomere 5 of all tarsi flattened; femur, tibia and tarsomere (from first to fifth) length ratio (mm): fore leg = 1.06/1.06/0.91/0.4/0.19/0.14/0.13, mid leg = 1.14/1.55/1.15/0.45/0.3/0.176/0.15, hind leg = 1.44/2.05/0.93/0.5/0.3/0.19/0.14.

Wing typical of the genus, simple, hyaline, veins brown; both wings twisted in holotype; lower calypter brownish, with fine black cilia; halter yellow with brownish stem.

Abdomen not thin and long, metallic greenish blue, with short black setae and marginal bristles; segment 1 with short white setae; segments 7 and 8 shining dark green, with short black setae; pregenital segments combined 1.7 times as long as thorax; postabdomen (Fig. 13) 0.3 times as long as body; hypopygium black; cercus yellow, nearly 2.0 times longer than epandrium, covered with short setae, with brush of long apical setae, with rounded apex, triangular ventral projection at distal 0.3, 2 basoventral processes (Fig. 14); surstylus with strong apical spines; epandrial lobe reduced.

Measurements. Body length 3.9 mm; antenna length 0.9 mm; wing length 3.3 mm.

Female. Unknown.

Diagnosis. *Bickeliolus bogoria* **sp. nov.** is close to *B. haemorhoidalis*, differing from the latter species in the cercus bearing triangular ventral projection at distal 0.3 (distal part of cercus evenly broad and without distoventral projection in *B. haemorhoidalis*).

Etymology. The species is named for the type locality, Lake Bogoria.

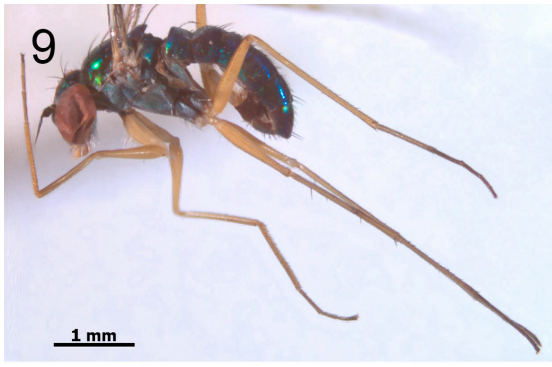
***Bickeliolus alluaudi* (Parent, 1935)**

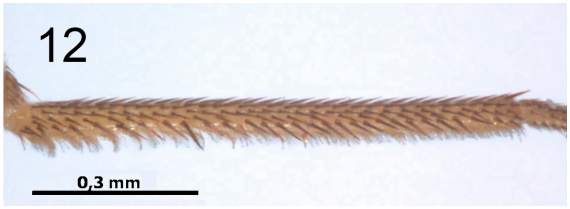
= *Mascaromyia gerlachi* Meuffels et Grootaert, 2007: 41, **syn. nov.** (Type locality: Seychelles: North Island); Grichanov, 2011: 23 (as *Bickeliolus gerlachi*).

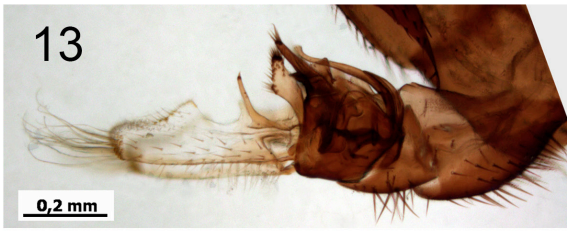
Material examined. MADAGASCAR. *Anosy Region*: 1 male, Analamatsaky, 47 km W of Tolagnaro, 25°01′ S, 46°37′ E, 115 m, spiny forest, 21.X.2007 (L. Friedman leg.); 1 female, Tolagnaro (= Fort Dauphin), Hotel Fort Dauphin, 20–23.X.2007 (L. Friedman leg.); *Atsimo-Andrefana Region*: 1 male, Berenty, 24°59.8′ S, 46°17.5′ E, sisal factory, 22.X.2007 (L. Friedman leg.) (all in SMNHTAU).

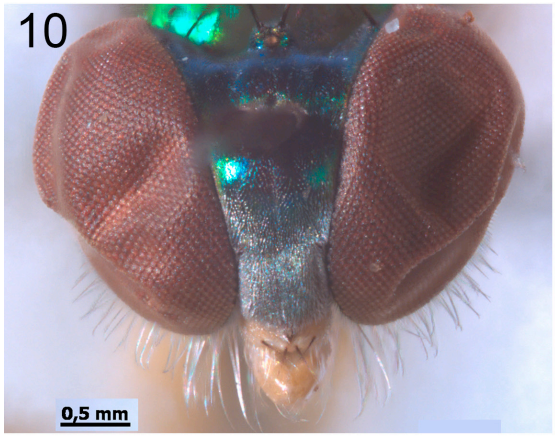
Distribution. Madagascar (type locality: [Fitovinany Region] Forêt Tanala, Région d'Ikongo, Ankarimbelo), Seychelles (Aldabra, D'Arros, North Island).

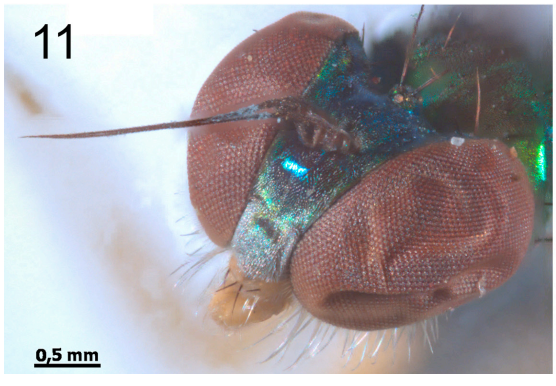
Remarks. I have not found differences between the description and hypopygium picture of *Mascaromyia gerlachi* and examined material (including the holotype) of *Bickeliolus alluaudi*.

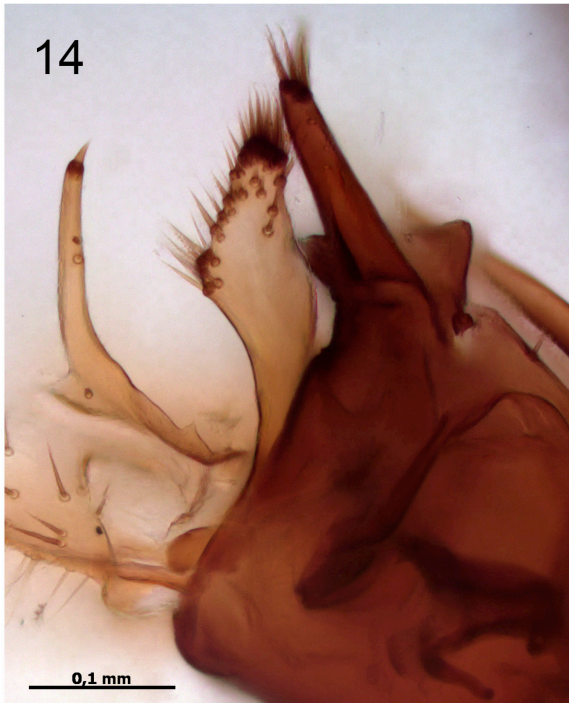












Figs 9–14. *Bickeliolus bogoria* **sp. nov.** (holotype, male). 9 – habitus, lateral view; 10 – head, front view; 11 – head, dorsolateral view; 12 – fore basitarsus; 13 – postabdomen, left lateral view; 14 – surstylus and basoventral processes of cercus, left lateral view.

Bickeliolus lasiophthalmus (Lamb, 1922)

Material examined. SEYCHELLES. *Mahé*: 1 male, Illes Séchelles, Mahé Sud, Bougainville, 26–31.VIII.1972 (Miss. zool. belg. aux Séchelles, P.L.G. Benoit, J.J. van Mol) (MRCA).

Distribution. Seychelles (type locality: "Silhouette, Mare aux Cochons plateau; Long Island"; *Mahé I.).

Bickeliolus maslovae (Grichanov, 1996)

Material examined. NAMIBIA. *Kavango East region*: 4 males, 1 female, Mukwe district, Divuju, Okavange River, 18°04′04″ S, 21°28′51″ E, 1.I.1999, Malaise trap (Kirk-Spiggs, Marais, Mann) (NMNW); *Kunene Region*: 1 male, Opuwo district, Ruacana Area, 17°26′ S, 14°09′ E, 14.III.1997, Malaise trap (F. Koch) (NMNW); all specimens in ethanol.

Distribution. Angola (type locality: Bruco), Botswana, *Namibia.

***Bickeliolus trochanteralis* (Curran, 1924)**

Material examined. NAMIBIA. *Erongo Region* or *Kunene Region*: 3 males, Damara[land] (De Vulder) (ZMUC). SOUTH AFRICA. *KwaZulu-Natal Province*: 1 male, Ndumo Game Res., Shokwe area at 26°52.125′ S, 32°13.731′ E, 1060 m, Malaise trap, Ficus forest, 30.XI–4.XII.2009 (A.H. Kirk-Spriggs) (BMSA).

Distribution. Malawi, Madagascar, Mozambique, Namibia, South Africa (type locality: KwaZulu-Natal: New Hanover).

Remarks. D.R. Congo was erroneously listed in the distribution for this species in some papers and Catalog (Grichanov, 2018).

Genus *Chrysosoma* Guérin-Méneville, 1831

Type species: *Chrysosoma fasciata* Guérin-Méneville, 1831 (designated by Enderlein, 1912).

Remarks. The *Chrysosoma* sensu Bickel (1994) is the type genus of the tribe Chrysosomatini of Sciapodinae, known from Afrotropical, Australasian and Oriental regions and comprising ca 250 species, although ca 35 names are considered *nomina dubia* or unrecognized species (Bickel, 1994; Grichanov, 2021a; Bickel, Martin, 2020). In Australasia, ten species inhabit mainly northern Australian areas and New Guinea (Bickel, 1994). The Oriental region is the most diverse, with ca 140 recognized species (with 37 species known from China); the widely distributed *Ch. globiferum* (Wiedemann, 1830) reached the Palaearctic provinces of China (Beijing, Hebei, Henan and Tianjin), as well as Hawaiian Islands; the Oriental *Ch. crinicorne* (Wiedemann, 1824) was probably introduced to Brazil and Hawaiian Islands (Bickel, 1994; Yang et al., 2018; Grichanov, 2021a).

Regarding the Afrotropical fauna, Bickel (1994) proposed five species groups, considering them related to the Oriental fauna. Grichanov (1998) separated *Chrysosoma passiva* group sensu Bickel with five species as the subgenus *Kalocheta* Becker, 1923 of *Chrysosoma*. Grichanov (1999) separated *Chrysosoma senegalense* group sensu Bickel as the subgenus *Mesoblepharius* Bigot, 1859 and included 28 species into this group. Both *Kalocheta* and *Mesoblepharius* are endemic groups for humid tropics of Africa, being very close to each other in hypopygium morphology. The *Chrysosoma gemmarium* group sensu Bickel was described as a new Afrotropical genus *Gigantosciapus* by Grichanov (1997b) with 13 included species. Bickel (1994) considered *Ch. leucopogon* (Wiedemann, 1824) widely distributed in Australasian and Oriental regions as a single Afrotropical representative of the *Chrysosoma leucopogon* group; nevertheless, Grichanov (1998, 2018) distinguished the former synonym *Ch. snelli* Curran, 1927 from *Ch. leucopogon* and excluded the latter from the Afrotropics. *Chrysosoma snelli* is remarkable in its distribution from coasts of Tanzania and Kenya across Madagascar, Reunion, Mauritius, Aldabra, Rodriguez, Seychelles, Chagos Archipelago and Maldives to western Indian coast (Goa). This species has no relatives in Afrotropical fauna and belongs to *Chrysosoma leucopogon* group.

The other Afrotropical species of the genus together with nine Oriental species were united into the *Chrysosoma vittatum* group (Bickel, 1994). Grichanov (2018) excluded from Afrotropics the Australasian *Ch. lacteimicans* Becker, 1923 known from Samoan Islands, considered *Ch. carum* (Walker, 1849) and *Ch. flexum* (Loew, 1858) described by females as doubtful species, and listed 64 Afrotropical species as true *Chrysosoma*, including 27 species treated here in the subgenus *Chrysosoma*. The last key to the known Afrotropical *Chrysosoma* species was published by Grichanov (1998). Later, three new species of the subgenus *Chrysosoma* were described from the Afrotropical continent, and *Ch. micantifrons* (Speiser, 1910) was transferred to *Plagiozopelma* Enderlein, 1912 (Grichanov, 1999, 2003). *Chrysosoma ungulatum*, *Ch. centrale* and *Ch. asperum* are transferred here to *Amblypsilopus* (see above).

Subgenus *Chrysosoma* Guérin-Méneville, 1831

Remarks. Afrotropical species of the subgenus *Chrysosoma* belong to the *Chrysosoma leucopogon* group (*Ch. snelli* Curran, 1927 only) and probably polyphyletic *Chrysosoma vittatum* group (with 27 recognizable species). See Bickel (1994) for discussion and diagnosis of these groups. Females of closely related species are generally indistinguishable morphologically (Bickel, 1994; Grichanov, 1998, 1999, 2003; Bickel, Martin, 2020). Therefore, the following old species described poorly from females must be considered

doubtful (*nomina dubia*): *Chrysosoma arduum* (Parent, 1936) from D.R. Congo, *Ch. benignum* Parent, 1934 from Nigeria, *Ch. laeve* (Bigot, 1891) from Ivory Coast, *Ch. praecipuum* Parent, 1936 from D.R. Congo, *Ch. subfascipennis* (Curran, 1926) from Uganda, and *Ch. trigemmans* (Walker, 1849) (type locality is not given).

Species with weakly sinuate wing vein dm-m (*Chrysosoma ituriense* Parent, 1933 and *Ch. negrobovi* **sp. nov.**) can be misidentified as *Amblypsilopus* species. Nevertheless, those species of *Chrysosoma* have wing vein M_1 with gentle arc, forming obtuse angle with M_{1+2}, not as sharply elbowed as in *Amblypsilopus*. In addition, *Ch. ituriense* and *Ch. negrobovi* **sp. nov.** have absolutely simple fore legs in males, while Afrotropical *Amblypsilopus* males are distinct, always with modified male fore tarsus, often with thin elongated tarsomeres 1 and 2, sometimes with fore tarsomeres 4–5 flattened, white or bearing long setae, with remarkable setae on some podomeres (Grichanov, 2021b, 2021f).

Key to Afrotropical species of the subgenus *Chrysosoma* (males)

Remarks. A key to Afrotropical species of the subgenera *Kalocheta* and *Mesoblepharius* (Grichanov, 1998: 123, couplets 1 to 29) is suitable for species identification.

1. Wing vein dm-m weakly sinuate, almost straight; wing almost hyaline 2
– Wing vein dm-m strongly sinuate; wing often maculated 3
2. Wing costa distinctly setulose, with setae longer than width of costa; mid tibia with erect pectination on all sides, setae half as long as tibia diameter; mid tarsomeres 1 to 4 with mostly dorsal erect setae; cercus with median constriction, rounded in apical third, with longer middorsal setae and short setae (Parent, 1933a: Fig. 43). Body length 5.5 mm (D.R. Congo, Malawi) .... *Ch. ituriense* Parent, 1933
– Wing costa with setae not longer than width of costa; mid tibia and tarsus without distinct erect setae; cercus narrow to apex, wider at base, with 2–3 strong subapical ventral bristles (Fig. 25). Body length 6.0 mm (Gabon) ..... *Ch. negrobovi* **sp. nov.**
3. At least fore coxa yellow 4
– All coxae black, only sometimes fore coxa yellow at apex 15
4. All coxae yellow 5
– Only fore coxa yellow 6
5. Abdomen entirely metallic; fore leg without remarkable setae; cercus with middorsal tubercle and narrow apex (Parent, 1934: Fig. 5). Body length 5.0 mm (Gambia, Nigeria) .... *Ch. aestimabile* Parent, 1933
– Abdomen partly yellow; fore basitarsus with 14 long setae increasing in length distally; cercus broad and flat to apex, with distal emargination (Grichanov, 2003: Fig. 9). Body length 8.3 mm (Cameroon) ..... *Ch. nguemba* Grichanov, 2003
6. Antenna yellow-brownish; wing brownish with round white spots in middle and along posterior margin (Becker, 1923: Fig. 3). Body length 4.0 mm (Sierra Leone) ..... *Ch. marginatum* Becker, 1923
– Antenna black; wing variously coloured 7
7. Wing brown, with two windows and hyaline posterior margin (Parent, 1930: Fig. 7). Body length 5.0 mm (Burundi, Cameroon, Guinea, Ivory Coast) ..... *Ch. alboguttatum* Parent, 1930
– Wing hyaline, monochrome or evenly darkened only along costa 8
8. Mid tibia and tarsus with erect pubescence 9
– Mid tibia and tarsus without erect pubescence 10
9. Wing partly brown; femora without fine erect white ventral pilosity; postpedicel not longer than high; hypopygium (see: Parent, 1933b: Fig. 5). Body length 5.5 mm (D.R. Congo) .... *Ch. singulare* Parent, 1933
– Wing without spots; all femora with fine erect white ventral pilosity; postpedicel 1.5 times longer than high; hypopygium (see: Parent, 1935a: Fig. 30). Body length 6.0 mm (Zambia) .... *Ch. woodi* Parent, 1935
10. Cercus short, with 3 or 4 lobes; 4 or 5 dorsocentral setae (Negrobov, Grichanov, 1998: Figs 3, 4). Body length 5.1 mm (D.R. Congo, Equatorial Guinea, Malawi, Tanzania, Zambia) .... *Ch. praelatum* Becker, 1923
– Cercus simple or bifurcated; 2 or 3 dorsocentral setae 11

11. Cercus bifurcated 12
– Cercus not bifurcated 14
12. Cercal arms less than half as long as cercus (Negrobov, Grichanov, 1998: Figs 6, 7). Body length 5.0–6.0 mm (Cameroon, D.R. Congo, Equatorial Guinea) ..... *Ch. minusculum* Becker, 1923
– Cercal arms more than half as long as cercus 13
13. Cercus with dorsal arm longer than ventral arm; ventral arm with 5 long narrow spines apically (Parent, 1933a: Fig. 34). Body length 5.5 mm (D.R. Congo, Malawi) ... *Ch. corruptor* Parent, 1933
– Cercus with dorsal arm shorter than ventral arm; ventral arm split into 2 lobes, with 2–3 thick bristles on each lobe of ventral arm (Fig. 34). Body length 5.7 mm (Mozambique) ..... *Ch. usherae* **sp. nov.**
14. Cercus digitiform, with short tooth in middle (Parent, 1933a: 45). Body length 5.5 mm (D.R. Congo) ..... *Ch. pauperculum* Parent, 1933
– Cercus subtriangular, evenly cut or convex at apex (Grichanov, 1997c: Fig. 7). Body length 6.1 mm (Kenya, Uganda) ..... *Ch. stubbsi* Grichanov, 1997
15. Wing hyaline, but with a brown round spot at apex (Curran, 1927a: Fig. 6); hypopygium (see: Curran, 1927a: Fig. 7). Body length 5.0 mm (Cameroon, Congo, D.R. Congo, Nigeria, Senegal, Uganda) ... . *Ch. tenuipenne* Curran, 1927
– Wing with another type of maculation 16
16. Lower calypter with pale cilia 17
– Lower calypter with black cilia 25
17. Hind tibia with basal ring-shaped callus; fourth tarsomere of mid tarsus white; cercus with dorsal arm longer than ventral, without median projection (Curran, 1927b: Figs 2–4). Body length 5.5–6.3 mm (from coasts of Tanzania and Kenya across Indian Ocean islands to western Indian coast) .... *Ch. snelli* Curran, 1927
– Legs without such characters; cercus various 18
18. Femora yellow, sometimes yellow-brownish, rarely (*Ch. bicoloratum*) black at base 19
– At least hind femur black 23
19. Mid tarsus with simple setulae 20
– Mid tarsus with erect pectination and/or white setae 21
20. Mid tibia with short posterodorsal erect setulae; cercus with 2 narrow arms, with 2 simple apical setae on ventral arm (Grichanov, 1997c: Fig. 8). Body length 5.2 mm (Zambia) .... *Ch. kuznetzovi* Grichanov, 1997
– Mid tibia with 5–6 short posterodorsal setae; cercus simple, without arms, 2.0 times broader on distal half than on basal half, with 3–4 thick bristles along distoventral emargination (Fig. 21). Body length 6.0 mm (Zimbabwe) ..... *Ch. cooksoni* **sp. nov.**
21. Antenna brownish; mid tarsomeres 2 to 5 with squamous dorsal comb of white setae; mid tibia and tarsus without erect pectination; cercus not bifurcated (Curran, 1927b: Fig. 5). Body length 7.5 mm (Cameroon, Nigeria) ..... *Ch. pomeroyi* Curran, 1927
– Antenna black; mid tarsomeres 2 to 5 without white setae; mid tibia and tarsus with erect pectination 22
22. Cercus with subequal in length and width arms, with long dorsal setae from base to apex of dorsal arm (Parent, 1934: Fig. 12); mid leg with short dorsal ciliation along entire length, becoming erect apicad. Body length 6.0 mm (D.R. Congo, Malawi) ..... *Ch. cilifemoratum* Parent, 1933
– Cercus with dorsal arm longer and narrower than ventral arm, with short dorsal setae (Grichanov, 1999: Fig. 9); mid leg with poorly developed semierect setulae on mid tibia and basitarsus. Body length 4.4 mm (D.R. Congo) ..... *Ch. bicoloratum* Grichanov, 1999
23. Mid tibia and tarsus with irregular erect setulae; hypopygium with simple cercus (Parent, 1930: Fig. 5); wing hyaline (Parent, 1930: Fig. 6). Body length 5.0 mm (Cameroon) .... *Ch. gromieri* Parent, 1929
– Mid tibia and tarsus without erect setulae; hypopygium with bifurcated cercus; wing various 24
24. Wing hyaline; mid tarsus with only black setae; dorsal arm of cercus 0.6 times as long as ventral arm (Fig. 40). Body length 5.5 mm (Mozambique) ..... *Ch. vanbruggeni* **sp. nov.**

– Wing with brown bands and spots along costa and other veins; mid tarsomeres 4 and 5 with white dorsal setae; dorsal arm of cercus 0.4 times as long as ventral arm (Grichanov, 1997c: Fig. 9). Body length 5.7–6.1 mm (Zambia) ..... *Ch. zaitzevi* Grichanov, 1997

25. Antenna at least partly yellow-red; cercus usually simple 26
– Antenna black; cercus bifurcated 28

26. Cercus with long pointed dorsal apophysis at basal third, thin in middle, slightly enlarged and setosed at apex, with very thin and sharp subapical dorsal hook (Curran, 1927a: Fig. 10); fore and mid femora black except their apical quarters; mid tarsomeres 1–3 brownish. Body length 6.0 mm (D.R. Congo, Gabon) ..... *Ch. norma* Curran, 1927
– Cercus without apophysis; fore femur black in basal quarter, mid femur black in basal 3/5; mid tarsus whitish 27

27. Antenna pale yellow; mid femur with exclusively yellow ventral setae; hind tibia yellow; mid tarsomeres 2–5 with short white dorsal setae; cercus with small middorsal tooth (see: Parent, 1932: Fig. 20). Body length 8.0 mm (Gabon) ..... *Ch. zephyrus* (Bigot, 1858)
– Antenna red-brown; mid femur with black ventral setae in middle; hind tibia black; mid tarsomeres 2–5 with posterodorsal fringe of white flat setae, as long as tarsomeres diameter; cercus simple, tapering, without tooth (Parent, 1933b: Fig. 3). Body length 6.0 mm (D.R. Congo, Uganda) .... *Ch. aequatoriale* Parent, 1933

28. First abdominal segment with snow-white band; mid tarsus without remarkable setae. Body length 5.0–6.0 mm (Cameroon, D.R. Congo, Equatorial Guinea) ..... *Ch. minusculum* Becker, 1923
– Abdomen completely metallic; some mid tarsomeres ornamented with remarkable setae 29

29. Mid tarsus black, densely covered with very short erect setae; hypopygium (Grichanov, 1999: Fig. 10). Wing length 7.0 mm (D.R. Congo) ..... *Ch. kwangense* Grichanov, 1999
– Mid tarsus with tarsomere 1 yellowish, tarsomere 2 whitish; tarsomere 3 with comb of very long black flattened bristles, tarsomere 4 with long black and white flattened setae. Wing length 5.5 mm (Tanzania) ..... *Ch. petersi* Dyte, 1957

***Chrysosoma* (*Chrysosoma*) *cooksoni* sp. nov.**

http://zoobank.org/4FF1033C-178D-45E8-915E-200B535CD93B

(Figs 15–21)

Type material. *Holotype*: male, ZIMBABWE, *Manicaland Province*, **"**S. Rhodesia", N. Vumba [Mountains, ca. 19°04′37″ S, 32°45′36″ E, ~1290 m], 30.X.1963 (D. Cookson leg.) (NMSA).

Description. *Male* (Fig. 15). Head (Fig. 16): Frons shining blue-green; 3–4 white anterior vertical bristles; 1 strong postvertical bristle; upper postocular setae black, short; lateral postocular setae white, uniserial; ventral postcranium covered with long irregular white setae; face shining blue-green, weakly white pollinose on lower half, bulging, broadest under antennae, 1.4 times as wide as high, under antennae 5.4 times as wide as postpedicel; clypeus bulging, shining in middle, white pollinose, projected, about as wide as high, separated from eyes; antenna (Fig. 17) 0.4 times as long as body, black; scape small, vase-like, with 3 light and 1 dark lateral setae, longer than scape; pedicel rounded, with ring of short bristles, 1 longer dorsal bristle; postpedicel conoid, as long as high (13/12), with short setulae; arista-like stylus apical, filiform; length (in mm) of scape, pedicel, postpedicel and stylus (segments 1 and 2) = 0.08/0.07/0.15/0.06/2.16; proboscis yellow, with white setae; palpus yellow, with white setulae and 2 black setae.

Thorax. Mesonotum and scutellum metallic bluish green; pleura green-black, white pollinose; 2 pairs of strong posterior dorsocentral bristles, 3 hair-like dorsocentrals anteriorly; acrostichals strong, about as long as dorsocentrals, 3 pairs; scutellum with 2 strong bristles.

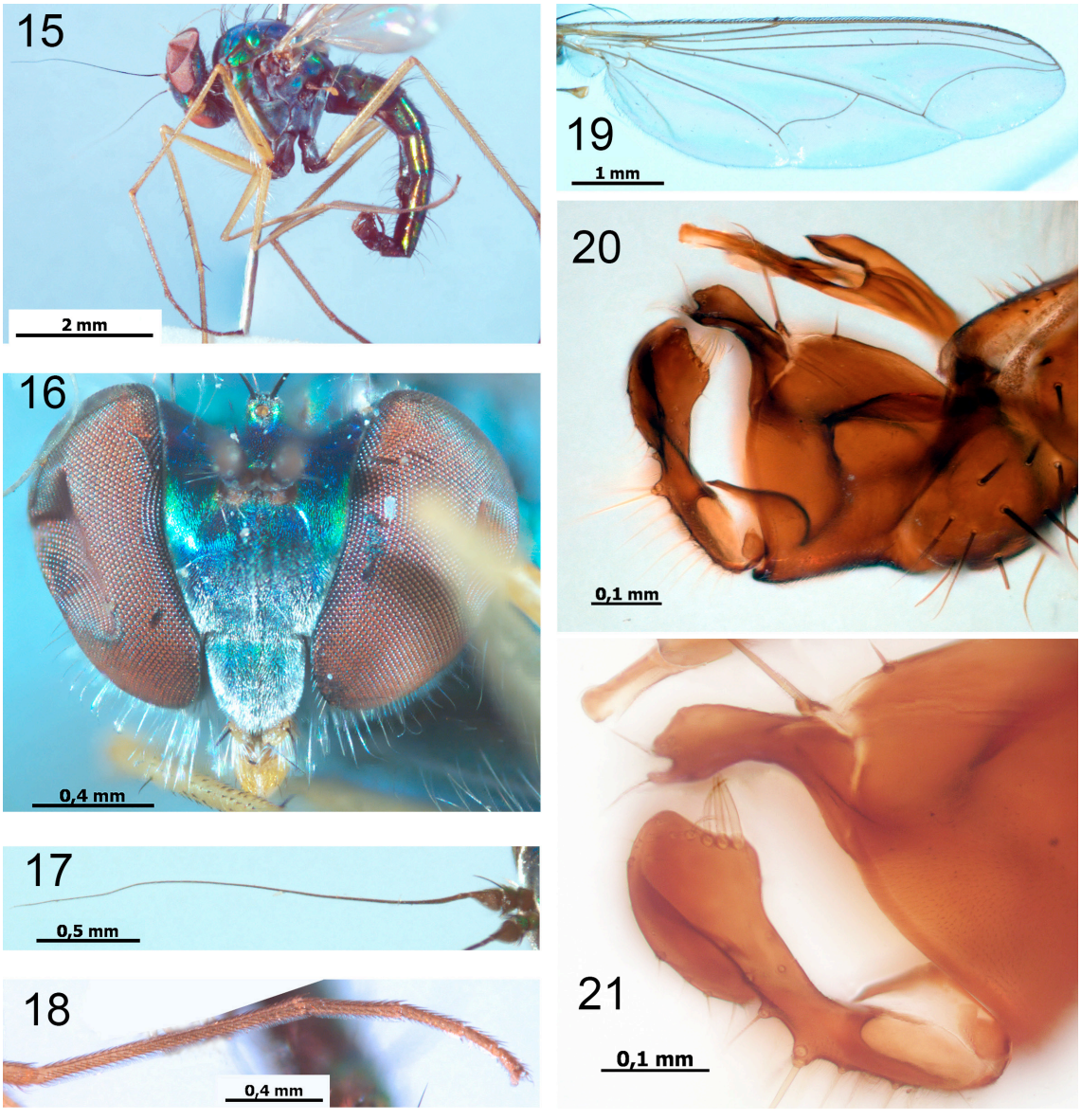
Legs mostly yellow; all coxae, mid and hind trochanters black; fore tarsomere 5, mid and hind basitarsi from tip of basitarsus brown; fore and mid coxae with white setae and 2–3 white subapical bristles; hind coxa with 4 yellow bristles and 3–4 yellow setae; fore and mid femora with 2 rows of white ventral setae decreasing in length distally, becoming black on distal third, at most 2.0 times as long as height of femora; hind femur with slightly shorter ventral setae, white on basal half and black on distal half; fore tibia with short setae: 2–3 posterodorsals, 2–3 fine ventrals, 2–3 apicals; fore basitarsus (Fig. 18) ventrally flattened, with ventral pile; fore tarsomeres 2–5 each with ventral pile of microscopic setulae; mid tibia with 2 simple anterodorsals, about 5 fine posterodorsals, with 2–3 short apical setae; mid tarsomeres 2–5 with somewhat elongate setulae; hind tibia with several short dorsal and ventral setae; tarsomere 5 of all tarsi flattened; femur, tibia and tarsomere (from first to fifth) length ratio (in mm): fore leg = 1.37/1.53/1.15/0.4/0.26/0.17/0.15, mid leg = 1.7/2.44/1.94/0.63/0.41/0.22/0.15, hind leg = 2.14/3.12/1.44/0.68/0.41/0.21/0.15.

Wing (Fig. 19) widened at middle, almost hyaline, veins brown; R_{4+5} gently curved to M_1 on apical third; M_{1+2} almost straight; M_1 gently bowed, forming obtuse angle with M_2; ratio of parts of costa between R_{2+3} and R_{4+5} to those between R_{4+5} and M_1 = 5/1; crossvein dm-m moderately sinuate; ratio of crossvein dm-m to apical part of M_{1+2} (fork-handle) to apical part of M_4 = 98/76/38; anal vein and lobe distinct; anal angle acute; alula present; lower calypter mostly yellow, with fan of white setae; halter with brownish stem and yellow knob.

Abdomen 1.6 times as long as head and thorax combined, with black setae and long black marginal bristles; segment 1 and ventrum with white setae; pregenital segments shining bluish green, with black sutures; segments 7 and 8 small, black, with black cilia; hypopygium and its appendages (Fig. 20) black; cercus as long as epandrium, 2.0 times broader on distal half than on basal half, with dorsal row of pedunculate bristles on basal half (Fig. 21), with 3–4 thick bristles along distoventral emargination; surstylus projected, moderately short and narrow, with short apical process and 2 long apical setae; epandrial lobe reduced to 1 long and 1 short pedunculate setae; 1 short epandrial seta.

Measurements. Body length 6 mm; antenna length 2.5 mm; wing length 5.8 mm; wing width 1.7 mm.

Female. Unknown.



Figs 15–21. *Chrysosoma* (*Chrysosoma*) *cooksoni* **sp. nov.** (holotype, male). 15 – habitus, lateral view; 16 – head, front view; 17 – antenna; 18 – fore tarsus, lateral view; 19 – wing; 20 – postabdomen after maceration, left lateral view; 6 – surstylus and cercus, left lateral view.

Diagnosis. *Chrysosoma cooksoni* **sp. nov.** is close to *Ch. kuznetzovi* Grichanov, 1997, differing from the latter in mid tibia with 5–6 short posterodorsal setae; cercus simple, with 3–4 thick bristles along distoventral emargination. *Ch. kuznetzovi* male has mid tibia with short posterodorsal erect setulae; cercus deeply bifurcated, with 2 simple apical setae on ventral arm.

Etymology. The name of the new species is dedicated to the collector of the holotype, the South African naturalist David Montagu Cookson (1914–1966).

***Chrysosoma* (*Chrysosoma*) *negrobovi* sp. nov.**

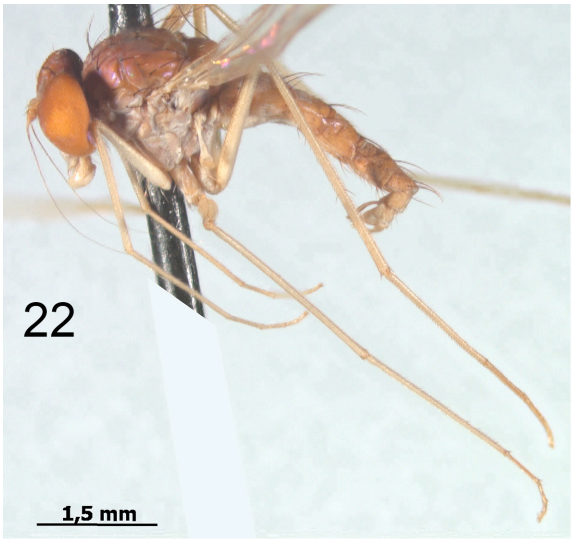
http://zoobank.org/D287120F-2E75-4626-9CF0-037CC72190E9

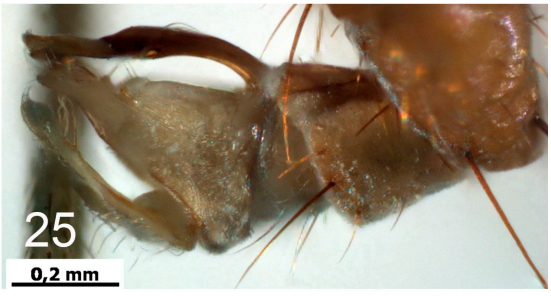
(Figs 22–26)

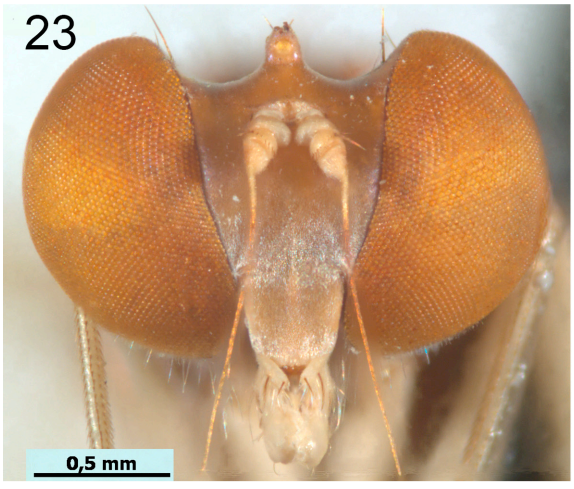
Type material. *Holotype*: male, GABON, *Ogooué-Maritime Province*, Gamba, 2°42′ S, 10°01′ E, alt. 25 m, 8.VII.2002, young secondary forest (Syssou, Ngoma, Moussavou leg.); specimen dried from ethanol and mounted on the insect pin (ZISP).

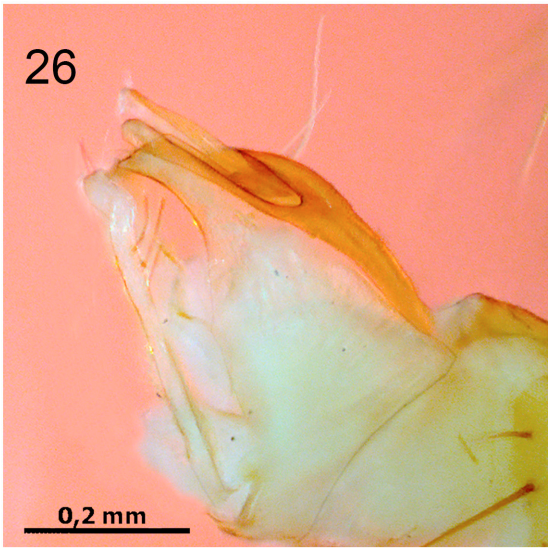
Paratype. 1 male, same locality and data as for holotype; teneral specimen dried from ethanol and mounted on the insect pin (ZISP).

Description. *Male* (Fig. 22). Discolorated due to long-term storage in ethanol. Body yellow-brown; antenna and legs light yellow.









Figs 22–26. *Chrysosoma* (*Chrysosoma*) *negrobovi* **sp. nov.** (holotype, male). 22 – habitus, lateral view; 23 – head, front view; 24 – wing; 25 – postabdomen, dried from ethanol, left lateral view; 26 – hypopygium, in ethanol, left lateral view.

Head (Fig. 23). Frons shining, weakly pollinose; 1 fine vertical seta and 1 strong postvertical bristle present; upper postocular setae black, short, uniserial; ventral postcranium covered with long irregular white setae; face and clypeus metallic blue-green; face with weak white pruinosity below, broad, bulging, under antennae 1.2 times wider than high, narrowed downward, 1.5 times as high as clypeus; clypeus with dusting of white pruinosity, small, slightly wider than high, separated from margin of eyes; antenna with scape slightly swollen, pedicel small, with ring of short setae, 1 longer dorsal bristle; postpedicel small, conoid, slightly longer than high; arista-like stylus brown, apical, filiform; length (in mm) of scape, pedicel, postpedicel, stylus = 0.11/0.1/0.15/3.48; palpus with white setulae and 2 black setae; proboscis with white setae.

Thorax. Dark, shining blue; pleura with weak white pruinosity; setae black; 6 dorsocentrals with 2 strong bristles posteriorly and 3 hair-like setae behind anterior strong bristle; 3 pairs of strong acrostichals; scutellum with 2 strong bristles.

Legs. Fore and mid coxae with white setae and 3 yellow subapical bristles; hind coxa with 1 yellow bristle and several setae; fore femur with few short setae at base, half as long as diameter of femur; mid femur with short posteroventral seta at apex; fore and mid tibiae and tarsi simple, without strong or remarkable setae; hind tibia with several short dorsal, ventral and apical setae; hind tarsomere 5 slightly flattened; femur, tibia and tarsomere (from first to fifth) length ratio (mm): fore leg = 1.4/1.76/1.48/0.42/0.27/0.16/0.15, mid leg = 1.68/2.7/2.23/0.66/0.41/0.21/0.2, hind leg = 2.15/3.36/1.79/0.78/0.29/0.26/0.17.

Wing (Fig. 24). Widest at middle, hyaline; costa with simple setulae; R_1 long; R_{4+5} gently curved to M in apical third; ratio of parts of costa between R_{2+3} and R_{4+5} to those between R_{4+5} and M_1 = 0.44/0.12; M_{1+2} almost straight; M_1 with gentle arc, forming obtuse angle with M_{1+2}; crossvein dm-m rather weakly sinuate; ratio of crossvein dm-m to apical part of M_{1+2} (fork-handle) to apical part of M_4 = 0.68/0.83/0.23; anal vein fold-like; anal lobe and alula weakly developed; anal angle acute; lower calypter with white cilia; halter light yellow.

Abdomen. About 2.0 times as long as thorax; mostly brown, metallic blue, yellow at base, with black marginal setae; tergum 1 with white setae; segment 7 short, with setae; hypopygium discolorated (Figs 25, 26); hypandrium basoventral, long; epandrium subtriangular; cercus stick-shaped, reaching apex of surstylus, slightly swollen at apex, with dorsal row of setae on basal half, 2 long ventral bristles at distal quarter and 1 short apical spine; surstylus thin, long, with several long setae, small subapical tooth; epandrial lobe small, with 1 long and 1 short epandrial setae; 1 short epandrial seta.

Measurements (holotype). Body length 6.0 mm; antenna length 3.8 mm; wing length 5.5 mm; wing width 1.8 mm.

Female. Unknown.

Diagnosis. *Chrysosoma negrobovi* **sp. nov.** is close to *Ch. ituriense* Parent, 1933, both differing from other Afrotropical species of the subgenus in weakly sinuate wing vein dm-m. Male of the new species has wing costa with setae not longer than width of costa; mid tibia and tarsus without distinct erect pectination; cercus narrow to apex, wider at base, with 2–3 strong subapical ventral bristles. Male of *Chrysosoma ituriense* has distinctly setulose wing costa, with setae longer than width of costa; mid tibia with erect pectination on all sides, with setae half as long as tibia diameter; mid tarsomeres 1 to 4 with mostly dorsal pectination; cercus with median constriction, rounded in apical third, with longer middorsal setae and short setulae.

Etymology. The name of the new species is dedicated to the famous Russian entomologist and ecologist Prof. Oleg Pavlovich Negrobov (1941–2021).

Chrysosoma (*Chrysosoma*) *usherae* sp. nov.

http://zoobank.org/8B6721B7-C57A-4130-BFC4-3458D088B088

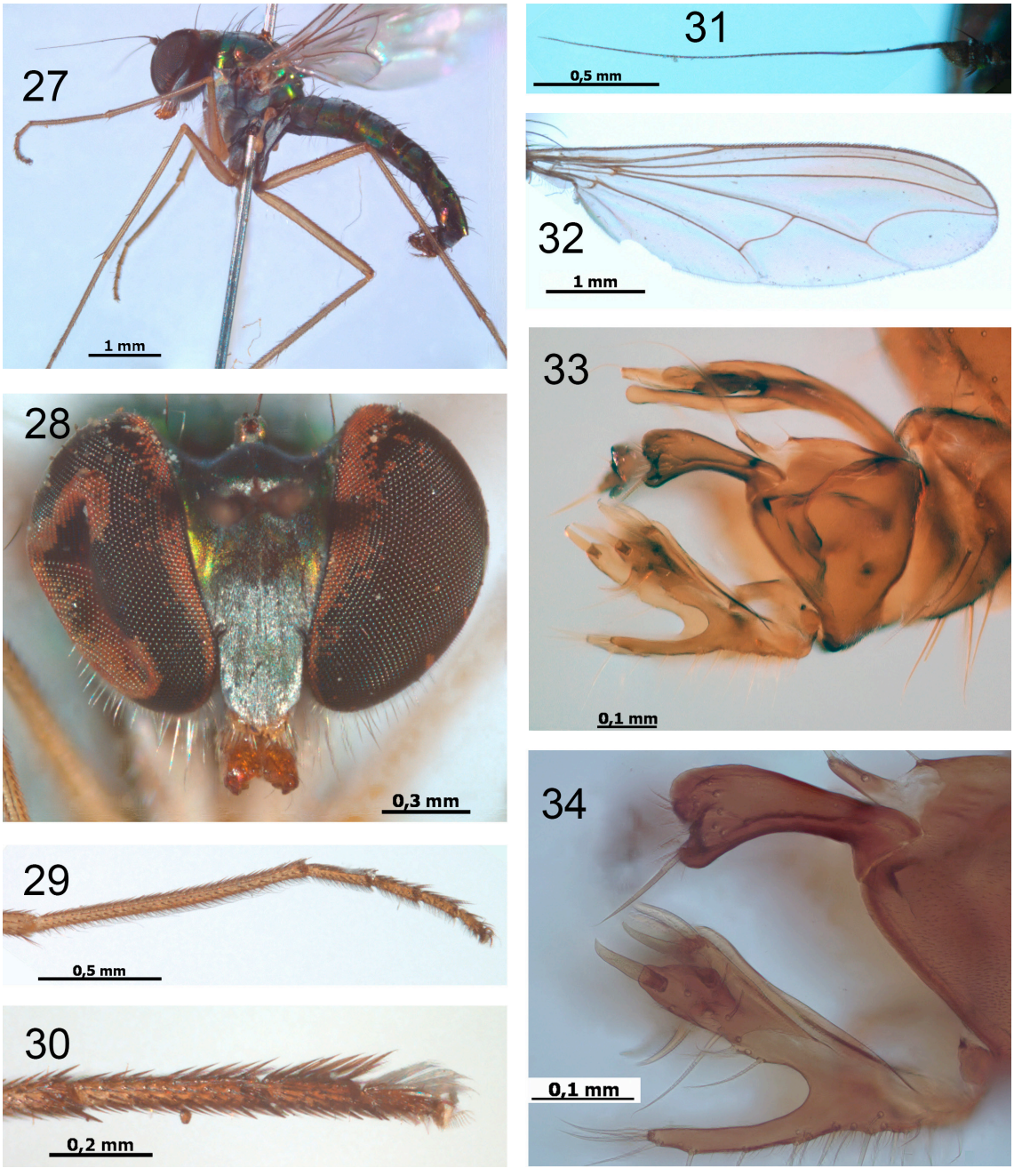
(Figs 27–34)

Type material. *Holotype*: male, MOZAMBIQUE, *Zambezi Province*, Luabo, [Lower Zambezi River], I.1956 (P. Usher leg.) (NMSA).

Description. *Male* (Fig. 27). Head (Fig. 28). Frons shining violet-green, weakly pollinose; 1 fine white anterior vertical bristle; 1 strong black postvertical bristle; upper postocular setae black, short; lateral postocular setae white, uniserial; ventral postcranium covered with long irregular white setae; face shining blue-green on upper half, white pollinose on lower half, broadest under antennae, 1.4 times as wide as high, under antennae 4.6 times as wide as postpedicel; clypeus bulging, densely covered with white pruinosity, projected, about as wide as high, separated from eyes; antenna (Fig. 31) 0.3 times as long as body, black; scape small, vase-like; pedicel rounded, with ring of short bristles, 1 longer dorsal bristle; postpedicel conoid, slightly longer than high (15/11), with short setulae; arista-like stylus apical, filiform; length (in mm) of scape, pedicel, postpedicel, stylus (segments 1 and 2) = 0.08/0.08/0.10/0.06/1.6; proboscis orange-yellow, with white setae; palpus dirty yellow, with white setulae and 2 black setae.

Thorax. Mesonotum and scutellum metallic green-violet; pleura blue-black, grey pollinose; 2 pairs of strong posterior dorsocentral bristles, 3 hair-like dorsocentrals anteriorly; acrostichals strong, about as long as dorsocentrals, 3 pairs; scutellum with 2 strong bristles.

Legs mostly yellow; mid and hind coxae black; distal three segments of mid and hind tarsi brown-black; fore and mid coxae with white setae and 2–3 yellow subapical bristles; hind coxa with 1 yellow bristle and 4–5 yellow setae; fore femur with



Figs 27–34. *Chrysosoma* (*Chrysosoma*) *usherae* **sp. nov.** (holotype, male). 27 – habitus, lateral view; 28 – head, front view; 29 – fore tarsus, lateral view; 30 – mid tarsomeres 3–5, lateral view; 31 – antenna; 32 – wing; 33 – postabdomen after maceration, left lateral view; 34 – surstylus and cercus, left lateral view.

2 rows of ventral setae at base, at most as long as height of femora; mid and hind femora with ventral setae at base, at most half as long as height of femora; fore tibia with few fine semi-erect posteroventral setae on distal half, not longer than diameter of tibia, 2–3 apicals; fore basitarsus (Fig. 29) ventrally flattened, with ventral pile of curved setae; fore tarsomeres 2–5 each with short ventral pile and 2 apicodorsal setae; mid tibia with short setae not longer than diameter of tibia: 3 anterodorsals, 2 posterodorsals, 3 fine ventrals, 3–4 apicals; mid tarsomere 4 with dorsal fringe of black flattened setae; mid tarsomere 5 with dorsal fringe of white flattened setae (Fig. 30); hind tibia with several short dorsal and ventral setae; tarsomere 5 of all tarsi flattened; femur, tibia and tarsomere (from first to fifth) length ratio (in mm): fore leg = 1.51/1.62/1.06/0.24/0.18/0.16/0.13, mid leg = 1.6/2.27/1.65/0.49/0.35/0.18/0.16, hind leg = 1.96/2.96/1.24/0.6/0.36/0.2/0.16.

Wing (Fig. 32) widened at middle, almost hyaline, veins brown; R_{4+5} gently curved to M_1 on apical third; M_{1+2} almost straight; M_1 gently bowed, forming obtuse angle with M_2; ratio of parts of costa between R_{2+3} and R_{4+5} to those between R_{4+5} and M_1 = 3/0.8; crossvein dm-m moderately sinuate; ratio of crossvein dm-m to apical part of M_{1+2} (fork-handle) to apical part of M_4 = 66/76/39; anal vein and lobe distinct; anal angle acute; alula present; lower calypter mostly yellow, with fan of white setae; halter yellow.

Abdomen 1.5 times as long as head and thorax combined, with black setae and long black marginal bristles; segment 1 and ventrum with white setae; pregenital segments shining green-violet, with black sutures; segments 7 and 8 small, black, with black cilia; hypopygium and its appendages (Fig. 33) black; cercus (Fig. 34) as long as epandrium, trilobate; dorsal arm narrow, with dorsal row of simple setae; median lobe 2.0 times broader than dorsal arm, with 1 apical and 2 preapical thick bristles; ventral arm of cercus with 2 apical thick bristles; surstylus projected, moderately long and narrow, with several short setae, with thick apical process bearing 1 long bristle; epandrial lobe small, finger-like, with 1 very long and 1 short setae; 1 short epandrial seta.

Measurements. Body length 5.3 mm; antenna length 1.9 mm; wing length 5.0 mm; wing width 1.4 mm.

Female. Unknown.

Diagnosis. *Chrysosoma usherae* **sp. nov.** is close to *Ch. corruptor* Parent, 1933, differing in hypopygium morphology. The new species has male cercus with dorsal arm not longer than ventral arm; ventral arm split at apex, with 2 thick bristles on each lobe of ventral arm. On the other side, *Ch. corruptor* has cercus with dorsal arm longer than ventral arm; ventral arm with 5 long narrow spines apically.

Etymology. The name of the new species is dedicated to the collector of the holotype, the South African dipterist Pamela Jean Stuckenberg (née Usher).

Chrysosoma (*Chrysosoma*) *vanbruggeni* sp. nov.

http://zoobank.org/F5801AC7-E44E-4419-9B97-DB377BDDE2BC

(Figs 35–40)

Type material. *Holotype*: male, MOZAMBIQUE, *Manica Province*, "Port. East Africa", Amatongas Forest near Gondola, 1700 ft. [~518 m], 4.II.1959 (A.C. Van Bruggen leg.) (NMSA).

Description. *Male* (Fig. 35). Head (Fig. 36). Frons shining blue-green; 3–4 strong black anterior vertical bristles; 1 strong postvertical bristle; upper postocular setae black, short; lateral postocular setae white, uniserial; ventral postcranium covered with long irregular white setae; face shining blue-green, broadest under antennae, 1.25 times as wide as high, under antennae 4.0 times as wide as postpedicel; clypeus bulging, densely covered with short white setulae, projected, about as wide as high, separated from eyes; antenna (Fig. 37) 0.3 times as long as body, black; scape small, vase-like; pedicel rounded, with ring of short bristles, 1 longer dorsal bristle; postpedicel conoid, as long as high (13/12), with short setulae; arista-like stylus apical, filiform; length (in mm) of scape, pedicel, postpedicel, stylus (segments 1 and 2) = 0.09/0.08/0.12/0.05/1.28; proboscis black, with white setae; palpus orange-yellow, with white setulae and 2 black setae.

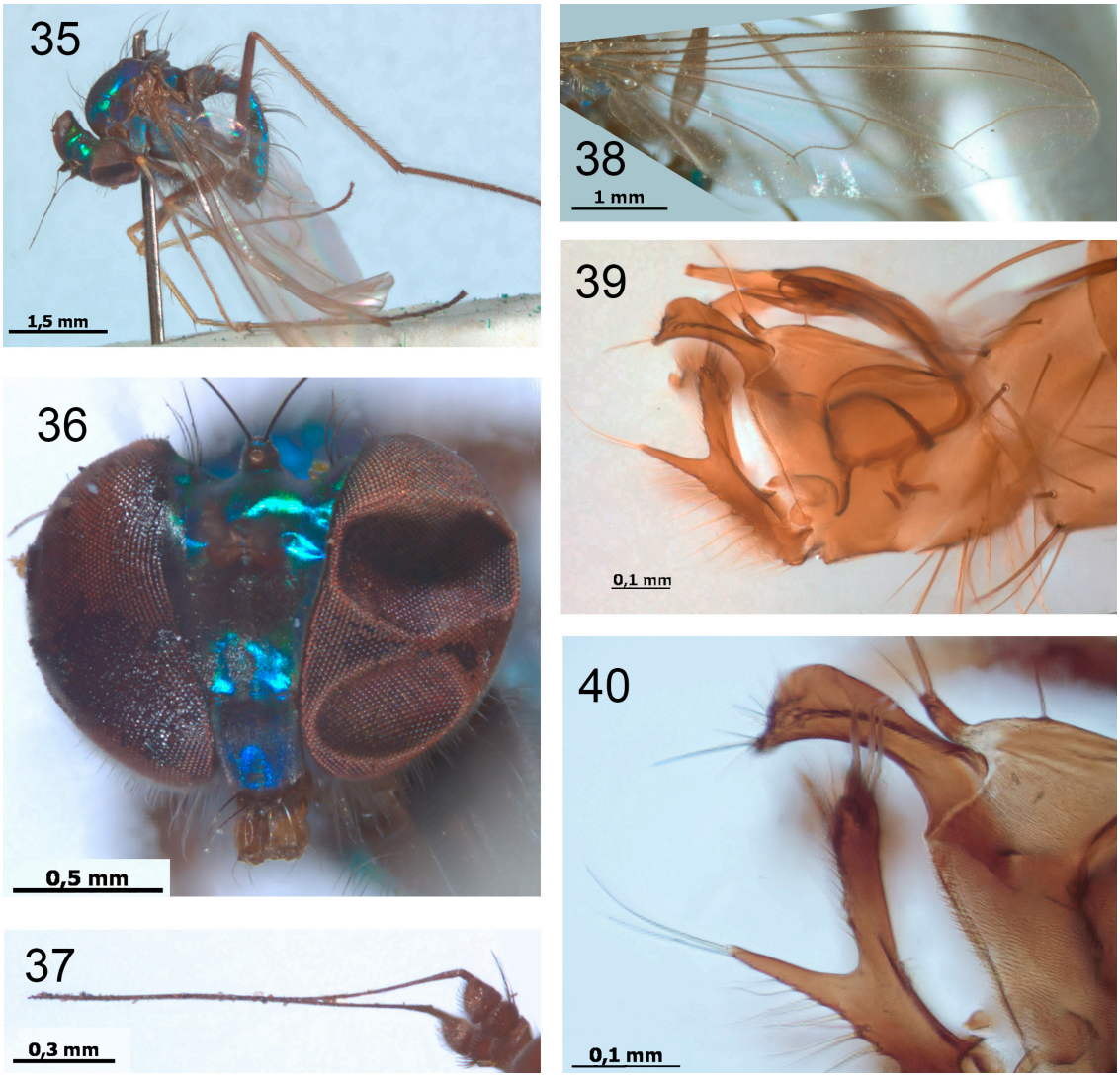
Thorax. Mesonotum and scutellum metallic green-blue; pleura blue-black, white pollinose; metepimeron yellow; 2 pairs of strong posterior dorsocentral bristles, 3–4 hair-like dorsocentrals anteriorly; acrostichals strong, about as long as dorsocentrals, 3 pairs (mostly broken); scutellum with 2 strong bristles.

Legs including coxae mostly black; distal tips of fore and mid femora, tibiae, fore and mid basitarsi except tips yellow; hind tibia at apex and hind basitarsus except apex orange-brown; fore and mid coxae with white setae and 2–3 black subapical bristles; hind coxa with 1 black bristle and 4–5 yellow setae; fore and mid femora on basal two–thirds and hind femur on basal half with 2 rows of long ventral setae, at most 2.0 times as long as height of femora; fore tibia with short setae: 1 dorsal pair at base, 2 dorsals at middle, 3 fine ventrals, 2–3 apicals; fore tarsomeres with somewhat elongated setulae at distal apices; mid tibia with 3–5 anterodorsals, 2.0 times longer than diameter of tibia, about 5 fine posterodorsals, with 0–1 short midventral seta; hind tibia with several short dorsal and ventral setae; tarsomere 5 of all tarsi flattened; femur, tibia and tarsomere (from first to fifth) length ratio (in mm): fore leg = 1.41/1.69/1.27/0.39/0.24/0.13/0.14, mid leg = 1.75/2.72/2.09/0.58/0.4/0.19/0.14, hind leg = 2.2/3.16/1.52/0.62/0.39/0.17/0.17.

Wing (Fig. 38) widened at middle, almost hyaline, veins brown; R_{4+5} gently curved to M_1 on apical third; M_{1+2} almost straight; M_1 gently bowed, forming obtuse angle with M_2; ratio of parts of costa between R_{2+3} and R_{4+5} to those between R_{4+5} and M_1 = 3/1; crossvein dm-m moderately sinuate; ratio of crossvein dm-m to apical part of M_{1+2} (fork-handle) to apical part of M_4 = 88/92/44; anal vein and lobe distinct; anal angle acute; alula present; lower calypter black, with fan of white setae; halter brownish-black.

Abdomen 1.3 times as long as head and thorax combined, with black setae and long black marginal bristles; segment 1 and ventrum with white setae; pregenital segments shining bluish green; segments 7 and 8 small, black, with black cilia; hypopygium and its appendages (Fig. 39) black; cercus (Fig. 40) bifurcated, shorter than epandrium, with dorsal row of setae on basal half; dorsal arm shorter than ventral arm, narrow, pointed, with 2 long apical simple setae; ventral arm with short simple setae, small apical lobe and 3 thick bristles at apex; surstylus projected, moderately long and narrow, with short apical process bearing 1 long seta; with several short setae; epandrial lobe small, finger-like, with 1 very long and 1 short setae; 1 short epandrial seta.

Measurements. Body length 5.5 mm; antenna length 1.6 mm; wing length 5.9 mm; wing width 1.7 mm.



Figs 35–40. *Chrysosoma* (*Chrysosoma*) *vanbruggeni* **sp. nov.** (holotype, male). 35 – habitus, lateral view; 36 – head, front view; 37 – antenna; 38 – wing; 39 – postabdomen after maceration, left lateral view; 40 – surstylus and cercus, left lateral view.

Female. Unknown.

Diagnosis. *Chrysosoma vanbruggeni* **sp. nov.** is close to *Ch. zaitzevi* Grichanov, 1997, differing in hyaline wing and mid tarsus with only black setae. *Chrysosoma zaitzevi* male has wing with brown bands and spots along costa and other veins, mid tarsomeres 4 and 5 with white dorsal setae. Additionally, dorsal arm of cercus 0.6 times as long as ventral arm in the new species and only 0.4 times ventral arm in *Ch. zaitzevi.*

Etymology. The name of the new species is dedicated to the collector of the holotype, the Dutch zoologist A.C. Van Bruggen (Leiden).

Chrysosoma (*Chrysosoma*) *alboguttatum* Parent, 1930

Material examined. IVORY COAST. *Montagnes District*: 1 male, NW of Man, Mont Tonkoui, 1000–1200 m, 7°21′ N, 7°36′ W, 9.II.1998 (Kassebeer & Hilger leg.); 4 males, 7 females, N of Man, Zogualé, Cascades, Mont la Den, 7°25′ N, 7°34′ W, 16.II.1998 (Kassebeer & Hilger leg.) (all in ethanol and in ZIUK).

Distribution. Burundi, Cameroon (type locality: [West Region], Reg. de Dschang), Guinea, *Ivory Coast.

***Chrysosoma* (*Chrysosoma*) *petersi* Dyte, 1957**

Material examined. TANZANIA. *Njombe Region*: 2 males, Njombe env., 9.396° S, 34.823° E, 19–21.II.2017 (N. Vikhrev leg.) (ZMMU).

Distribution. Tanzania (type locality: Tanganyika, Njombe).

***Chrysosoma* (*Mesoblepharius*) *senegalense* (Macquart, 1834)**

Material examined. IVORY COAST. *Montagnes District*: 1 male, NW of Man, Idessa Bachlauf, 1000–1200 m, 20.II.1998, 7°21′ N, 7°36′ W (Kassebeer & Hilger leg.); in ethanol (ZIUK).

Distribution. Cameroon, Congo, D.R. Congo, Gabon, Ivory Coast, Nigeria, Senegal (type locality: "Senegal"), Sierra Leone.

***Chrysosoma* (*Chrysosoma*) *snelli* Curran, 1927**

Material examined. TANZANIA. *Dar es Salaam Region*: 1 male, Dar es Salaam, 22–25.XII.1973 (H. Silfverberg leg.) (MZH); 1 male, Dar es Salaam, Kigamboni, 6.854° S, 39.364° E, 1.I.2016 (N. Vikhrev leg.) (ZMMU); *Morogoro Region*: 1 male, Morogoro env., 6.85° S, 37.67° E, 2–3.XII.2015 (N. Vikhrev leg.) (ZMMU); 1 male, Morogoro env., 6.85° S, 37.67° E, 26–28.II.2017 (N. Vikhrev leg.) (ZMMU); *Njombe Region*: 1 male, Nyasa Lake, Matema, 9.60° S, 34.01° E, 15.XII.2015 (N. Vikhrev leg.) (ZMMU).

Distribution. Afrotropical region: Kenya, Madagascar, Mauritius, Réunion, Rodriguez, Seychelles (Aldabra, Mahé), Tanzania (type locality: Zanzibar, Pemba I.); Oriental region: Chagos Archipelago, India (Goa), Maldives.

***Chrysosoma* (*Mesoblepharius*) *tractatum* Becker, 1923**

Material examined. IVORY COAST. *Montagnes District*: 1 male, 15 km N of Man, Cascades, 5–300 m, 7°30′ N, 7°30′ W, 20.II.1998 (Kassebeer & Hilger leg.); 1 male, 1 female, N of Man, Zoguale, Casscade Mont la Den, 7°25′ N, 7°34′ W, 16.II.1998 (Kassebeer & Hilger leg.) (all in ethanol and in ZIUK).

Distribution. Ghana, *Ivory Coast, Nigeria, Togo (type locality: "Bismarckburg" [= Konkoa]).

***Chrysosoma* (*Kalocheta*) *villiersi* (Vanschuytbroeck, 1970)**

Material examined. KENYA. *Kakamega and Nandi County*: 2 females, Kakamega Forest, 0°22′ N, 34°50′ E, 1600 m, 7–11.II.1999, Th. Wagner leg., in ethanol (NMSA).

Distribution. Congo (type locality: Odzala [National Park]), D.R. Congo, Kenya, Tanzania, Uganda.

Genus *Ethiosciapus* Bickel, 1994

Type species: *Psilopus bilobatus* Lamb, 1922 (= *Psilopus flavirostris* Loew, 1858) (by original designation).

Remarks. See Grichanov and Brooks (2017) for diagnosis of the genus. All species of *Ethiosciapus* are known from continental Afrotropics, as well as on some Atlantic (St. Helena) and Indian Oceans (Madagascar and Seychelles) islands. Unfortunately, old descriptions and keys used largely colour characters, highly variable in individuals, as it have been shown e.g. for *Ethiosciapus inflexus* Becker, 1923 (Grichanov, 1998). Since publication of my old key to species of the genus (1998) I studied types of eight described species (Grichanov, 1999, 2003). None type specimen of two species described by Becker (1923) was found in European museums keeping Becker's collections, being most probably lost. As a result of my research, new synonyms were published, and some more are proposed below. It seems that the genus contains only six widely distributed species with high extent of individual variability.

Key to the Afrotropical species of the genus *Ethiosciapus* (males)

1. Femora mostly black. – Hypopygium (Becker, 1923: Fig. 18; Parent, 1935a: Fig. 33). Body length 4.5 mm (Burundi, D.R. Congo, Kenya, Madagascar, St. Helena, South Africa, Tanzania, Uganda) ... . *E. inflexus* (Becker, 1923)
– Femora mostly yellow 2
2. Male cercus with short dorsal and apical setae 3

– Male cercus with long dorsal and apical setae, at least half as long as cercus 5

3. Femora mainly yellow, fore femora black ventrally in basal half, hind femora black on apex. – Hypopygium (Parent, 1933a: Fig. 56). Body length 4.5 mm (D.R. Congo, Kenya, Uganda, Tanzania) ..... *E. exarmatus* (Parent, 1933)

– Femora entirely yellow 4

4. Sternum 3 of abdomen with 3 pairs of strong setae; femora with black ventral cilia slightly longer than femora diameter; halter yellow; hypopygium (Parent, 1930: Fig. 8). Body length 4 mm (Madagascar, Tanzania) ..... *E. latipes* (Parent, 1929)

– Sternum 3 of abdomen with 1 pair of strong setae; femora with black ventral cilia 1.5–2.0 times as long as femora diameter; halter black; hypopygium (Parent, 1939: Fig. 11; Grichanov, 1998: Fig. 14). Body length 4.5–5.0 mm (D.R. Congo, Kenya, Malawi, South Africa, Tanzania, Uganda) .... *E. finitimus* (Parent, 1939)

5. Male mid femur with row of shorter black ventral setae, usually half as long as femur diameter; male cercus with apical setae nearly as long as cercus (Lamb, 1922: Fig. 3c; Curran, 1924: Fig. 6). Body length 3.5–4.0 mm (Madagasgar, Malawi, Mozambique, Seychelles, South Africa) .... *E. flavirostris* (Loew, 1858)

– Mid femur with row of longer black ventral setae, usually 1.5 times longer than femur diameter; male cercus with apical setae, approximately half as long as cercus (Parent, 1933a: Fig. 54; Grichanov, 2011: Fig. 249). Body length 4.0–5.0 mm (Burundi, D.R. Congo, Ethiopia, Kenya, Uganda, St. Helena, Tanzania) ..... *E. bicalcaratus* (Parent, 1933)

Ethiosciapus bicalcaratus (Parent, 1933)

= *Ethiosciapus setifrons* (Parent, 1937)

Material examined. ETHIOPIA. *Amhara Region*: 1 male, Shewa, Gendo Wenet, 2100 m, 29.I.2000 (A. Freidberg and I. Yarom leg.) (SMNHTAU). TANZANIA. *Morogoro Region*: 1 male, Udzungwa Mts., Mwanihana Forest above Sanje, 1000 m, 01.VIII.1981 (M. Stoltze and N. Scharff leg.) (ZMUC); 1 male, Morogoro env., Uluguru Mnt., 6.84593° S, 37.692° E, 853 m, 17.IX.2012 (D. Gavryushin leg.) (ZMMU).

Distribution. Burundi, D.R. Congo (type locality: Ituri: Mont Wago), *Ethiopia, Kenya, St. Helena (introduced ?), *Tanzania, Uganda.

Remarks. Comores and Madagascar were in error listed for the species in some papers (e.g. Grichanov, 1998) and Catalog (Grichanov, 2018). *Ethiosciapus bicalcaratus* and *E. flavirostris* are very close to each other, being possible only subspecies of one species.

Ethiosciapus exarmatus (Parent, 1933)

Material examined. KENYA. *Taita–Taveta County*: about 50 males and females, [Taita Hills], Mbololo forest, Plantation, 3–11.II.1998, Malaise trap; Mbololo Shamba site, 3–10.IX.1998; Mbololo, 11–18.IX.1998; Mbololo, forest, 15–25.II.1999, Malaise trap; Macha, 11–15.IV.1999, site 3, Malaise trap; Macha, 21–28.III.1999, site 1, Malaise trap; Mdiwenyi, 6–22.I.1999; Mdiwenyi, 17–20.III.1999, Malaise trap, site 2; Ngangao, 9–16.III.1998; Ngangao, 2–7.IV.1998; Chawia, 2–8.X.1998; Rouge forest, 26.II–3.III.1999, site 1, Malaise trap; Ngangao mixed forest, 21.II–8.III.1999, 03°22′013″ S, 38°20′609″ E, Malaise trap (R. Mwakodi leg.) (all in RMCA).

Distribution. D.R. Congo (type locality: Ituri: Missa Moke (Faradji)), Kenya, Uganda, Tanzania.

Ethiosciapus flavirostris (Loew, 1858)

= *Psilopus bilobatus* Lamb, 1922: 372, **syn. nov.** (Type locality: Seychelles: "Dennis I., Silhouette, Mare aux Cochons plateau and near Potà-aux; Mahé, at Anse aux Pins; Félicité, near Morne Blanc, and Cascade Estate").

= *Ethiosciapus bilobatus*: Bickel, 1994: 142.

= *Sciapus integer* Becker, 1923: 47, **syn. nov.** [Type locality: Tanzania: "Nyassa-See, Langenburg" (Rungwe District in Mbeya Region)].

= *Ethiosciapus integer*: Grichanov, 1996: 226.

Material examined. COMOROS. *Grande Comore*: 1 male, 2 females, bergauf von Bahani, 12.IV.2002 (M. Kotrba leg.); 1 male, 1 female, Oussoudjou, 800–1070 m, 12.IV.2002 (M. Kotrba leg.); 4 females, Hang des Katala bei Boboni, 23.IV.2002 (M. Kotrba leg.) (all in ethanol and in ZSM). MADAGASCAR. *Anosy Region*: 1 male, Tolagnaro [= Fort

Dauphin], 25°1.6′ S, 47°0′ E, 24.X.2007 (L. Friedman leg.) (SMNHTAU); 2 males, 10 km W Fort Dauphin, 25°0.77′ S, 46°54.9′ E, 20 m, 20.X.2007 (A. Freidberg leg.) (SMNHTAU).

Distribution. *Comoros, Madagascar, Mozambique, *Seychelles, South Africa (type locality: "Caffrerei"), *Tanzania.

Remarks. A record of *E. flavirostris* from Ethiopia (Dyte, Smith, 1980) belongs probably to *E. bicalcaratus.* Malawi was in error recorded as distribution area for *Sciapus integer* (Grichanov, 2018). Parent (1929) noted in his key a possible synonymy of *Sciapus flavirostris* and *Sciapus integer.* I have not found differences between *Psilopus flavirostris* holotype (NHRS, examined) and descriptions of *Psilopus bilobatus* by Lamb (1922) and *Sciapus integer* by Becker (1923) and consider all these names as synonyms.

Ethiosciapus inflexus (Becker, 1923)

= *Sciapus dilectus* Parent, 1935a: 84, **syn. nov.** Type locality: Tanganyika.

= *Ethiosciapus dilectus*: Bickel, 1994: 142.

Material examined. MADAGASCAR. *Fitovinany Region*: 1 male, 3 females, Ranomafana Forest, 21°15′ S, 47°27′ E, 932 m, 26–29.X.2007 (L. Gahanama leg.) (SMNHTAU); *Alaotra-Mangoro Region*: 1 male, Madagascar: Manahambahiny, II.1995 (A. Pauly leg.) (RMCA).

Distribution. Burundi, D.R. Congo, Kenya, Madagascar, St. Helena (introduced?), South Africa, Tanzania, Uganda.

Remarks. I have not found differences between *Sciapus dilectus* holotype (MNHN, examined) and description of *Sciapus inflexus* by Becker (1923) and consider these names as synonyms. Type locality of *Ethiosciapus inflexus* is not given in description.

Ethiosciapus latipes (Parent, 1929)

Material examined. TANZANIA. *Morogoro Region*: 2 males, Morogoro env., Uluguru Mnt., 6.84593° S, 37.692° E, 853 m, 17.IX.2012 (D. Gavryushin leg.) (ZMMU).

Distribution. Madagascar (type locality: "Madagascar"), *Tanzania.

Genus *Gigantosciapus* Grichanov, 1997

Type species: *Gigantosciapus oldroydi* Grichanov, 1997 (by original designation).

Gigantosciapus nataliae Grichanov, 1998

Material examined. CAMEROON, *Northwest Region*: 4 males, Mezam, Bafut village, 6°05.026′ N, 10°07.442′ E, 1060 m, Malaise trap, cultivated plot and degraded forest, 17–19.VIII.2013 (A.H. Kirk-Spriggs leg.) (BMSA). CENTRAL AFRICAN REPUBLIC. *Lobaye Prefecture*: 2 males, 2 females, La Maboké (Tai), 15, 26, 28 and 29.IX.1970 (L. Matile leg.) (1 male with additional label: Forêt dense, sempervirente) (MNHN).

Distribution. D.R. Congo (type locality: Kasai, Terr. de Bekese Itanda), Cameroon, *Central African Republic.

Genus *Plagiozopelma* Enderlein, 1912

Type species: *Plagiozopelma spengeli* Enderlein, 1912 [= *Psilopus appendiculatus* Bigot, 1890] (by original designation).

Plagiozopelma njalense (Parent, 1934)

Material examined. IVORY COAST. *Abidjan District*: 1 male, "Côte d'Ivoir, Adiopodoumé", 13.IV.1975 (G. Couturier leg.) (MNHN); 2 males, 2 females, Banco National Park, N. Abidjan, S. side, 23 and 27.IV.1989, 05°22′ N, 04°03′ W, edges of wide track in forest (J.G.H. Londt leg.) (NMSA).

Distribution. Ivory Coast, Sierra Leone (type locality: Njala).

Plagiozopelma pallidicorne (Curran, 1927)

Material examined. KENYA. *Taita-Taveta County*: 1 male, Mbololo forest, plantations, 3–11.II.1999, Malaise trap (R. Mwakodi leg.) (RMCA).

Distribution. D.R. Congo, Kenya (type locality: "Kabete, British East Africa"), Tanzania.

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