

## Discovery of the genus *Griphophanes* Grootaert et Meuffels in Cameroon (Diptera: Dolichopodidae)

### Обнаружение рода *Griphophanes* Grootaert et Meuffels в Камеруне (Diptera: Dolichopodidae)

I.Ya. Grichanov  
И.Я. Гричанов

All-Russian Institute of Plant Protection, Podbelskiy roadway 3, St. Petersburg–Pushkin 196608, Russia. E-mail: grichanov@mail.ru  
Всероссийский институт защиты растений, шоссе Подбельского, 3, Санкт-Петербург–Пушкин 196608, Россия.

KEY WORDS: Diptera, Dolichopodidae, Peloropecinae, *Griphophanes*, taxonomy, new species, key, Tropical Africa.

КЛЮЧЕВЫЕ СЛОВА: Diptera, Dolichopodidae, Peloropecinae, *Griphophanes*, таксономия, новый вид, определитель, Тропическая Африка.

ABSTRACT: The mainly Oriental genus *Griphophanes* Grootaert et Meuffels, 1998, is reviewed in the Afrotropical Region. Description of a new species *Griphophanes cameroonensis* Grichanov **sp.n.** from Cameroon is provided. The new species differs from other representatives of the genus in morphology of male genitalia mainly. A key to species of Afrotropical *Griphophanes* is compiled.

РЕЗЮМЕ: Преимущественно ориентальный род *Griphophanes* Grootaert et Meuffels, 1998 в Афротропическом регионе представлен тремя видами. Дано описание нового вида *Griphophanes cameroonensis* Grichanov **sp.n.** из Камеруна. Новый вид отличается от других представителей рода главным образом морфологией гениталий самца. Составлен определитель видов афротропических *Griphophanes*.

The genus *Griphophanes* Grootaert et Meuffels, 1998 (nom. nov. for *Griphomyia* Grootaert et Meuffels, 1997) was described by single species *G. gravicaudatus* (Grootaert et Meuffels, 1997) from Thailand. Later, Grichanov [2010] described two species of *Griphophanes* from the Afrotropical realm (north-eastern Democratic Republic of the Congo). The authors included the genus into the subfamily Peloropecinae, where it was placed in by the ‘World catalog of Dolichopodidae’ [Yang et al., 2006] that has provided diagnostic characters for the subfamily. Grootaert, Meuffels [2012] described additional four species from Malaysia (Pahang), and Naglis, Grootaert [2012] found ten new species of *Griphophanes* in Sri Lanka, with nine species included into the *G. congoensis* group defined by biserrate acrostichal setae, and a short subovate cercus.

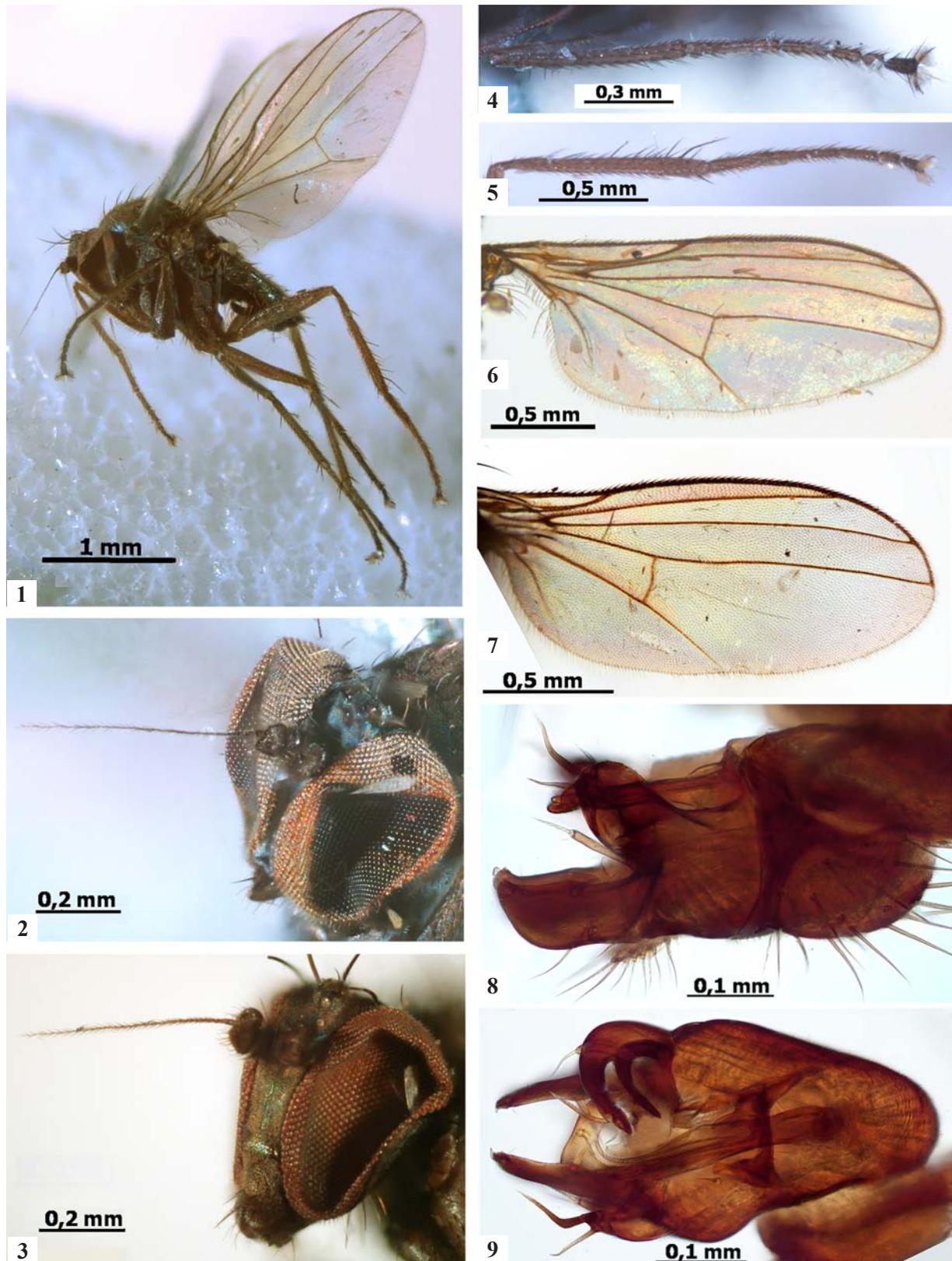
Grichanov, Brooks [2017] provided a key to all Afrotropical genera of Dolichopodidae including Peloropecinae.

Treating collections of the National Museum, Bloemfontein, South Africa (BMSA), I have found two males of a new *Griphophanes* species from Cameroon, thus extending the genus area more than 1000 km westward. A key to Afrotropical species of this genus is also presented.

The type material of the new species is housed at the BMSA collection. The specimens were studied and illustrated with ZEISS Discovery V–12 stereomicroscope and AxioCam MRc5 camera. Genitalia preparations have been photographed with a ZEISS Axiostar stereo microscope and an AxioCam ICc3 camera. Morphological terminology and abbreviations follow Cumming, Wood [2017] and Grichanov, Brooks [2017]. The relative lengths of the antennomeres and podomeres should be regarded as representative ratios and not measurements. 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 and its appendages in lateral view are oriented as they appear in the intact specimen, with the morphologically ventral surface of the genitalia facing upwards, dorsal surface downwards, anterior end facing left and posterior end facing right.

*Griphophanes cameroonensis* Grichanov, **sp.n.**  
Figs 1–9.

MATERIAL. Holotype ♂, Cameroon, Northwest Reg., Mezam, Bafut village at 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). Holotype in good condition. Paratype: 1♂,



Figs 1–9. *Griphophanes cameroonensis*, **sp.n.**, male holotype (1–2, 4–9), female (3, 7): 1 — habitus; 2–3 — head; 4 — fore tibia and tarsus, dorsal view; 5 — hind tibia and tarsus, lateral view; 6–7 — wing; 8–9 — hypopygium (8 — left lateral view; 9 — ventral view).

Рис. 1–9. *Griphophanes cameroonensis*, **sp.n.**, голотип, самец (1–2, 4–9), самка (3, 7): 1 — внешний вид; 2–3 — голова; 4 — передняя голень и лапка, сверху; 5 — задняя голень и лапка, сбоку; 6–7 — крыло; 8–9 — гипопигий (8 — слева сбоку; 9 — снизу).

same data as holotype; terminalia dissected and stored in glycerin in microvial pinned with the specimen (BMSA).

ADDITIONAL MATERIAL. 1♀, same data as holotype (BMSA).

DESCRIPTION. **Male** (Fig. 1). Head (Fig. 2). Frons and face with black ground colour; frons brownish pollinose; face whitish pollinose; one vertical seta at upper corner of frons; one hairlike postvertical seta positioned behind vertical seta; ocellar setae long; two short fine postocellars; postocular setae all dark, slightly increasing in length downward; eyes with short ommatrichia; face under antennae 1.5 times as wide as height of postpedicel, slightly narrowing towards clypeus; antenna black, slightly longer than head height; scape small, vase-like; pedicel larger, globular, with ring of short setulae and 1–2 elongate apicodorsal setae; postpedicel triangular, as long as high at base, densely haired; stylus middorsal, nearly 4× as long as main segments of antenna combined, pubescent, with short thick segment 1 and filiform segment 2; ratio of lengths of scape to pedicel to postpedicel to stylomere 1 to stylomere 2, 4/4/8/4/5/4; palpus and proboscis small, blackish-brown, palpus oval, with black seta and dark pubescence.

Thorax. Bluish-black, grey pollinose, with dark bristles; mesonotum flattened posteriorly; 6 (2+4) dorsocentrals, with 6<sup>th</sup> seta shifted towards lateral margin and 1<sup>st</sup> seta rather small; short acrostichals in two regular rows; scutellum with one pair of strong setae and one pair of lateral setae; upper propleuron without setae; proepisternum with 1 strong seta.

Legs. Mostly black; knees, tibiae and basitarsi blackish brown; all tarsi simple, with 5<sup>th</sup> segment flattened dorso-ventrally, with well developed pulvilli and claws; fore and mid coxae with dark anterior and apical setae; hind coxa with 1 dark bristle at middle; fore leg (Fig. 4) without strong setae; fore femur ventrally, fore tibia dorsally and ventrally, fore tarsus dorsally and laterally with rows of elongate setulae, nearly as long as diameter of corresponding podomeres; length ratio of fore tibia to tarsus (segments from first to fifth), 66/32/16/11/8/12. Mid femur simple, bearing 1 strong but short anterior subapical bristle and 2 rows of ventral hairs, half as long as height of femur; mid tibia simple, with 1 anterodorsal and 1 posterodorsal setae at basal third, 1 posterodorsal seta at distal third and 5 apical setae; no ventral setae; mid tarsus simple; segments 1–4 each with short apical spinules; segments 4–5 with elongate setulae; length ratio of mid tibia to tarsus (segments from first to fifth), 87/40/22/13/8/8; hind femur with 1 anterior subapical bristle, with elongate dorsal setae on basal half; hind tibia (Fig. 5) simple, with 1 strong anterodorsal bristle at basal third, dorsal row of 6–8 short setae and with strong and long, curved subapical dorsal bristle, 3/4 as long as hind basitarsus; hind basitarsus with 1 short apicoventral seta, with very small basal tooth posteriorly; length ratio of hind tibia to tarsus (segments from first to fifth), 91/27/28/17/10/11.

Wing (Fig. 6). Hyaline, with greyish tinge, veins dark brown; costa simple, with simple costal setulae; ratio of part of costa between  $R_{2+3}$  and  $R_{4+5}$  to that between  $R_{4+5}$  and  $M_{1+2}$ , 5/4;  $R_{2+3}$  and  $R_{4+5}$  slightly diverging towards wing apex;  $R_{4+5}$  and  $M_{1+2}$  slightly convex anteriorly, parallel in distal half; ratio of  $dm-m$  to apical part of  $M_4$ , 21/35; anal vein distinct, not reaching wing margin; anal lobe well developed; lower calypter small, brown, with black setae; halter knob yellow.

Abdomen. Black, cylindrical, with black hairs and marginal setae; tergum 6 setose; sterna 5 and 6 weakly sclerotized. Segment 7 weakly setose, as long as tergum 6, with tergum and sternum distinct; segment 8 black, large, setose, with ventral inverted “Y” shaped sclerotized corner; hypopygium (Figs 8–9) black, with brown cercus; epandrium ovoid, asymmetrical, longer than high, convex ventrally in middle,

somewhat widening distally; foramen lateral, positioned in basal half of epandrium; hypandrium fused with epandrium at base with strongly sclerotized ring, long, cylindrical, with big and broad hook distally; phallus thin and long, concealed within hypandrium; epandrial lobes asymmetrical; left lobe strongly projected distad, flat, leaflike, bearing 2 strong apicoventral setae of unequal length; right epandrial lobe divided into two strong unequal hooks directed inside, with 1 thick and long and 1 short setae at apex of distal hook; additional thin epandrial process with 1 apical seta adjacent both left and right lobes; surstyli symmetrical, adjacent to cerci, with dorsal arm twice shorter than ventral one; dorsal arm finger-like, with 1 dorsal seta and few minute hairs at apex; ventral arm of surstylus broad to apex, with 1 thick and long inner bristle at middle of ventral margin, 1 middorsal seta, few minute hairs at apex and short but thick apical seta; cercus small, elongate-triangular, much shorter than surstylus, regularly covered with long setae and microscopic hairs.

Measurements (mm). Body length 2, antenna length 0.7, wing length 2.3, wing width 0.8, hypopygium length 0.5.

**Female** (Figs 3, 7). Similar to male except lacking male secondary sexual characters. Body length 1.8 mm, antenna length 0.6 mm, wing length 1.9 mm. Face wider than male face, brownish pollinose; postpedicel higher than long (11/7), tibiae and basitarsi yellow; ratio of part of costa between  $R_{2+3}$  and  $R_{4+5}$  to that between  $R_{4+5}$  and  $M_{1+2}$ , 2/1; ratio of  $dm-m$  to apical part of  $M_4$ , 19/42.

ETYMOLOGY: The species is named for the country of origin.

DISTRIBUTION. Cameroon.

DIAGNOSIS. *Griphophanes cameroonensis* Grichanov **sp.n.** is very close to *G. congoensis* Grichanov, differing from the latter in morphology of male genitalia. Ventral arm of male surstylus is angular at middle, pointed apically in *G. congoensis* [Grichanov, 2010: Figs 5–7], whereas ventral arm of surstylus is straight, broad to apex in the new species. Male cercus is rounded in *G. congoensis*, but triangular in *G. cameroonensis*. A female described has striking difference from males in wing vein length ratios and may belong to another species (females of the two other Afrotropical species are currently unknown).

#### KEY TO AFROTROPICAL SPECIES OF *GRIPHOPHANES*

1. Apical part of wing vein  $M_4$  slightly shorter than  $dm-m$ ; male segment 7 nearly as long as terga 4–6 combined ..  
..... *G. garambaensis* Grichanov, 2010
- Apical part of wing vein  $M_4$  at least 1.5 times longer than  $dm-m$ ; male segment 7 reduced, as long as tergum 6 ..... 2
2. Ventral arm of surstylus angular at middle, pointed apically; cercus rounded ..... *G. congoensis* Grichanov, 2010
- Ventral arm of surstylus broad and flat to apex; cercus triangular ..... *G. cameroonensis* **sp.n.**

**Acknowledgments.** The author expresses sincere gratitude to Dr. Ashley H. Kirk-Spriggs (Natural History Museum, London, UK) for his kindness in providing specimens studied in this research. The work was supported by All-Russian Institute of Plant Protection project No. FGEU-2022-0002.

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