

***Gigantosciapus* (Diptera: Dolichopodidae), a new genus from Tropical Africa**

IGOR YA. GRICHANOV

Grichanov, I. Ya. 1997. *Gigantosciapus* (Diptera: Dolichopodidae), a new genus from Tropical Africa. *Int. J. Dipterol. Res.*, 8(2): 79—83.

Gigantosciapus, a new genus of the dolichopodid subfamily Sciapodinae is described. Catalogue and a key to 11 species of the genus including *G. oldroydi* sp. n. from Cameroun are given.

I. Ya. Grichanov, All-Russian Institute of Plant Protection, Podbelskogo 3, St. Petersburg-Pushkin, 189620, Russia.

Key words. Diptera, Dolichopodidae, *Gigantosciapus* gen. n., Tropical Africa.

Introduction

Beautiful and large sized species (from 7 to 14 mm, with length of antenna upto 5 mm), included here into the new genus were originally described within the old broad concepts of *Psilopus* Meigen, *Chrysosoma* Guérin-Meneville and *Megistostylus* Bigot. Parent (1933) gave a key to 5 species of the Group I inside the genus *Chrysosoma*. Two of them as well as 3 new related species were included by Vanschuytbroeck (1966) into the key to the species of *Megistostylus*. Bickel (1994) synonymized *Megistostylus* with *Chrysosoma*, but most Afrotropical species were transferred to *Plagiozopelma* Enderlein. Bickel listed 10 species of the "gemmarium Group" of *Chrysosoma* and supposed that they should be referred to *Plagiozopelma* or made a separate genus. Most of those species were briefly or incompletely described. Some of them are known from females, others — only from males. Authors in their descriptions often omitted important characters regarded now as having generic level. While processing unidentified material from the collection of the Natural History Museum (London), a male and a female of the new species of "gemmarium Group" were found, that permitted to establish the new genus of Sciapodinae. All the species of the new genus are known from the tropics of West and Equatorial Africa as well as from Madagascar. In this paper a first attempt to draw up a key to all known species of the genus is made.

Holotype and paratype of the new species are conserved in the Natural History Museum (London).

***Gigantosciapus* gen. n.**

Type-species: *Gigantosciapus oldroydi* sp. n., here designated.

Description. Head wider than high; vertex deeply excavated. Occiput not concave, grey pollinose. Frons slightly concave, shining metallic, narrow, one fourth as wide as head width. One pair of strong ocellar; proclinate vertical bristles absent in both sexes; lateral frons bare. Two pairs of strong postvertical setae present, not in line with postocular series. Upper postocular bristles black, in one row. Ventral postcranium covered with irregular pale hairs. Eyes bare, not joined across face. Face and clypeus narrow, from 1/5 to 1/10 of head width, female face wider, with slightly indicated suture in the middle of face, densely pollinose; clypeus bulging, come down eyes, but adjacent to margin of eyes. Cheeks undeveloped. Palpi short, proboscis one third as long as head height. Antenna mostly yellow, nearly thrice as long as head height, inserted in the upper third of head; scape bare, often swollen, pedicel sphaeroidal, with short subapical setae, without appendices. First flagellomere bare, very long, shorter in females, at least thrice as long as its height. Arista apical, long, simple, bare. Thorax mostly yellow. Mesonotum sometimes partly

metallic; 1 *ph*, 2 *ntpl*, 1 *sa*, 1 *pa*. Two pairs of strong posterior dorsocentral bristles, with a few hairlike setae in front of them, not sexually dimorphic; short biseriate acrostichals in anterior half of mesonotum. Scutellum with two strong bristles and usually with one pair of marginal hairs. Postnotum developed. Propleuron without setae. Legs mostly yellow, usually simple. Fore coxa with sparse hairs and 2—3 apical bristles, middle and hind coxae with strong bristle. Femora without strong bristles or spines. Tibiae and first tarsomeres with developed bristles in both sexes. Male fore tibia and basitarsomere often ornamented. Wings elongate, slightly darkened, not sexually dimorphic. Veins simple. Costa reaches M_1 before apex; M_1 and R_{4+5} strongly converged; M_1 almost straight, M_2 straight, very short; crossvein *m-cu* straight or slightly convex, placed in apical third of wing, making a right angle with *M* vein. Anal vein usually reduced. Anal lobe small or undeveloped. Anal angle lost in both sexes. Lower calipter often reduced in both sexes. Abdomen long and thin, cylindrical, partly yellow-brown, unmodified segments together nearly twice as long as mesonotum. Male 7th abdominal tergite short but well developed. Epandrium attached to the tip of 7th tergite. Hipandrium arising from the base of epandrium; aedeagus dorsally with 1 or 2 denses. Surstylus and cercus comparatively long and broad, simple; epandrial lobe with numerous setae. Oviscap of *Austrosapius* type.

Diagnosis. The new genus has some similarities with *Plagiozopelma* and *Chrysosoma* as well as with *Austrosapius*, *Amesorrhaga* and *Tenuopus* (Neurigoninae), but has many differences such as follows. Vertical setae or hairs absent in both sexes; two pairs of strong postvertical setae placed far from line of postocular series. Face and frons narrow. First flagellomere very long, tapering into the long apical arista. Acrostichals short and weak; 2 strong dorsocentral bristles and 3 or 4 weak hairs anteriorly in both sexes. All tibiae and basitarsomeres usually with strong bristles in both sexes. Wing vein *m-cu* straight or slightly convex, anal lobe and lower calipter usually reduced. Aedeagus dorsally with a few denses; surstylus greatly developed; epandrial lobe prominent, but not prolonged and curved, with numerous setae; cercus and surstylus long and broad, simple. *Gigantosciapus* should be included in the key to world genera of Sciapodinae (Bickel, 1994) as follows:

11. Crossvein *m-cu* straight or slightly convex, pleura usually yellow, legs elongate, male fore leg often ornamented; cercus unbranched . . . 11a
— Crossvein *m-cu* sinuous; tibiae often with major setae; cercus usually deeply forked . . . 12
11a. Vertical setae absent in both sexes, acrostichals

short; all tibiae and basitarsomeres with strong bristles in both sexes *Gigantosciapus*
— Verticals weak in males and strong in females, 2 or 3 long acrostichal setae present; male fore tibia usually with strong curved posterior subapical seta, otherwise legs usually devoid of strong setae *Amblypsilopus*

pallidicornis Group

Etymology. *Gigantosciapus* is formed adding the Greek prefix "giganto-" referring to large size of including species to *Sciapus*, the type-genus of the subfamily.

Included species (for references see Dyte & Smith, 1980):

- africanus* Parent, 1933: 16 (*Chrysosoma*) — Zaire, n. comb.
anomalipes Parent, 1935: 112 (*Chrysosoma*) — Zaire, Ghana, n. comb.
decellei Vanschuytbroeck, 1966: 202 (*Megistostylus*) — Ivory Coast, n. comb.
gemmarius Walker, 1849: 645 (*Psilopus*) — Sierra Leone, Congo, Ghana, Zaire, Ivory Coast, Liberia, Cameroun, n. comb.
= *fulvicinctus* Bigot, 1891: 372 (*Psilopodius*)
inversus Curran, 1927: 249 (*Chrysosoma*) — Sierra Leone, Liberia, n. comb.
kamerunensis Becker, 1927: 27 (*Chrysosoma*) — Cameroun, Zaire, Madagascar, n. comb.
meyeri Vanschuytbroeck, 1962: 353 (*Megistostylus*) — Nigeria, n. comb.
oldroydi sp. n. — Cameroun.
pseudogemmarius Parent, 1934: 118 (*Chrysosoma*) — Congo, n. comb.
saegeri Vanschuytbroeck, 1959: 9 (*Megistostylus*) — Zaire, n. comb.
tuberculatus Curran, 1927: 246 (*Chrysosoma*) — Ghana, Ivory Coast, n. comb.

Gigantosciapus oldroydi sp. n.

(Fig. 1)

Holotype. Male, B. Cameroons, Nyasoso, 3.XI.1949, H. Oldroyd. B.M. 1950—2.

Paratype. Female with the same label as holotype.

Description. Frons shining metallic blue-green, bare, longer than wide. Two pairs of postvertical bristles present on the back slope of the vertex. Face grey pollinose, narrow, somewhat narrowed in the middle; ratio of its width in the middle to epistome to clypeus length — 10 : 43 : 33. Clypeus bulging, beak-like, coming down eyes, but adjacent to mar-

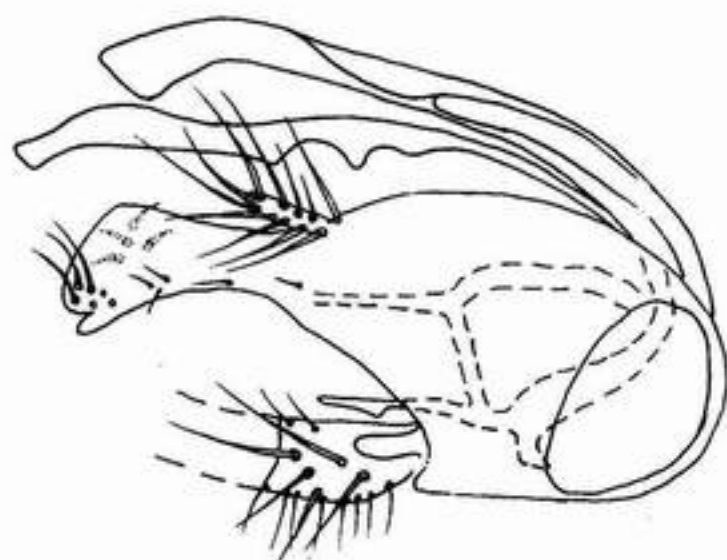


Fig. 1. *Gigantosciapus oldroydi* sp. n., hypopygium.

gin of eyes except apex. Palpi and proboscis yellow, not very long, covered with small light and dark hairs, palpus also with a pair of black bristles. Scape and pedicel yellow; first flagellomere except base and arista brown; pedicel with a ring of short setae, first flagellomere slightly pubescent, tapering, 7 times as long as height at base. Arista apical, bare, simple. Length ratio of scape to pedicel to first flagellomere to arista (first and second articles) — 11 : 6 : 45 : 85 : 180. Thorax mostly yellow, hind half of mesonotum and scutellum mostly metallic blue-green, other parts of mesonotum brownish as well as stripe coming down of haltere. Two dorso-central bristles with at least 5 hair-like setae in front of them; a few short acrostichals in two rows, restricted in anterior part of mesonotum. Scutellum with two strong bristles and two very short hairs from the outside. Coxae and trochanters mostly yellow, hind coxa partly brownish; fore femora and basal half of middle femora yellow, fore tibia, fore basitarsomere and middle tibia brown; other podomeres broken. Fore coxa from the front with short dark hairs and with two or three black apical bristles. Middle coxa from the front with a few dark hairs and a few longer black apical hairs. Hind coxa with one long black external bristle, with several dark apical hairs. Fore and middle femora with short fine dark ventral hairs, usually shorter than femora diameter. Fore tibia with three dorsal and three ventral bristles. First tarsomere with one strong posteroventral bristle in apical fifth and two hairlike posteroventral setae in the middle. Length ratio of fore coxa to femora to tibia to basitarsomere — 6.2 : 7.8 : 12.0 : 8.6. Middle tibia with three strong dorsal, three posterior, four ventral, three or four apical bristles. Length ratio of middle coxa to femora to tibia — 3.5 : 12.0 : 18.5. Hind legs broken. Wings slightly darkened, brownish between *C* and *R*₄₊₅ in apical

third, veins brown. Costa with short simple setulae, posterior border with short hairs. *M*₁ and *M*₂ strongly diverged; crossvein m-cu slightly convex, forming right angle with *M*₁₊₂. Anal vein and lobe absent. Haltere stem long and thin, yellow, knob brownish. Lower calipter reduced, without setae. Abdomen thin and long, cylindrical, with short dark hairs and black bristles. 1st segment mostly yellow-brownish with metallic reflection from above, other segments metallic bronze-green with mat black bands in basal third. 7th tergum with four pairs of strong marginal bristles; 7th sternum well developed, with short hairs. Hypopygium black-brown, attached to the tip of 7th segment. Hypandrium with left lateral arm, fused with long hypandrial hood, which broadened apicad. Aedeagus with two dorsal angles. Epandrial lobe prominent, with 10—11 long setae. Cerci broken. Surstylus simple, strongly sclerotized, broadened distad, with small apicodorsal dens and a few apico-dorsal setae.

Female. Similar to male except lacking male secondary sexual characters, otherwise as follows: frons shining metallic blue-violet, bare; face greyish-white pollinose, ratio of its width in the middle to epistome to clypeus length — 15 : 37 : 33. First flagellomere thrice as long as height at base. Length ratio of scape to pedicel to first flagellomere to arista — 11 : 7 : 24 : 260. Mesonotum more widely yellow than in male. Middle and hind femora yellow in basal half, orange-brown in apical half. Fore tibia, fore basitarsomere and middle tibia except apical third yellow-brownish; middle tibia in apical third, hind tibia, middle and hind basitarsomeres whitish-yellow; apical segments of tarsi brown. Middle and hind femora with a few apicoventral hairs. Fore tibia with three dorsal, three ventral, one or two apical setae; fore basitarsomere with one dorsal, three antero-ventral and 3 postero-ventral setae. Length ratio of fore coxa to femora to tibia to tarsus (segments from first to fifth) — 6.8 : 8.8 : 10.5 : 7.0 : 2.3 : 1.6 : 1.5 : 1.0. Middle tibia with five antero-dorsal, three or four postero-dorsal, three or four ventral and four or five apical bristles. Middle basitarsomere with two antero-dorsal, one postero-dorsal and one ventral short setae. Length ratio of middle coxa to femora to tibia to tarsus (segments from first to fifth) — 3.9 : 12.0 : 17.5 : 9.2 : 2.5 : 1.7 : 1.1 : 0.6. Hind tibia bears up to eight antero-dorsal, eight postero-dorsal and eight ventral bristles. Hind basitarsomere with one or two dorsal, one or two ventral short setae, with one basal postero-ventral strong bristle. Length ratio of hind coxa to femora to tibia to tarsus (segments from first to fifth) — 3.0 : 14.0 : 19.5 : 8.2 : 2.8 : 1.9 : 1.0 : 0.7. Wing the same as in male. Ratio of parts of costa between *R*₂₊₃ and *R*₄₊₅ to those between *R*₄₊₅ and *M*₁ — 30 : 4. Ratio

of crossvein *m-cu* to apical part of M_{1+2} (fork-handle) to apical part of *CuA* — 70 : 117 : 25. Anal vein and lobe absent. Lower calipter reduced. Venter pale; oviscapt of *Austrosapius* type (Bickel, 1994: fig. 3e), ninth hemitergit with simple setae, without acanthophorites; cercus long, with one long and one shorter apical setae.

Length: body 9.1 mm; body with antenna 13.6 mm; wing-length 8.8 mm; wing-width 2.5 mm.

Distribution. Cameroun.

Diagnosis. *Gigantosciapus oldroydi* is close to *G. pseudogemmarius*, but differs by shorter first flagellomere, which half as long as face height in male, and by other characters. Male cannot be associated with *G. kamerunense* because of first flagellomere partly brown and femora partly dark. It also cannot be associated with *G. meyeri*, *G. decellei* and *C. tuberculatus* because of absense of lower calypter cilia, and presence of long femoral hairs. It differs from *G. anomalipes* and *G. saegeri* in setation of fore tibia and first tarsomere. It differs also from *G. africanus* by mostly yellow middle femora, and from *G. gemmarius* — by partly yellow fore tibia, partly brownish hind coxa, entirely dark 3d—5th abdominal segments and mostly brown first flagellomere.

Key to known species of *Gigantosciapus*

1. Antenna entirely yellow, legs entirely pale . . .
 *kamerunensis* Becker
 — First flagellomere at least partly brown-black .
 2
2. Fore basitarsomere enlarged or flattened . . . 3
 — Fore basitarsomere not enlarged 5
3. Fore femora without long ventral hairs
 *meyeri* Vanschuytbroeck
 — Fore femora with long ventral hairs 4
4. Lower calipter with black cilia
 *decellei* Vanschuytbroeck
 — Lower calipter with yellow cilia
 *tuberculatus* Curran
5. First flagellomere brown with yellow base, 7 times
 as long as high at base; coxae yellow, hind
 coxa partly brownish; fore femora and basal
 half of middle femora yellow, apical half of
 middle femora, fore tibia except base, fore
 basitarsomere and middle tibia brown; fore tibia
 with three dorsal and three ventral bristles; fore
 basitarsomere with one strong posteroventral
 bristle in apical fifth and two fine posteroventral
 setae in the middle; lower calipter reduced,
 without cilia *oldroydi* sp. n.
 — Other combination of characters 6
6. Middle tarsus ornamented 7

- At least 3d and 4th tarsomeres of middle tarsus
 simple 8
7. Fore basitarsomere with a bristle in the middle and
 a bristle in basal fifth . . . *anomalipes* Parent
 — Fore basitarsomere with a bristle in the middle
 and a bristle in apical fourth; second tarsomere
 of fore tarsus bulbar at base
 *pseudogemmarius* Parent
8. Fore tibia with six long posterior bristles in apical
 part; male cercus broad
 *saegeri* Vanschuytbroeck
 — Fore tibia with short bristles or fine cilia . . 9
9. Posterior tibia brown at least in basal eighth,
 white beyond the middle 10
 — Posterior tibia entirely whitish or only some-
 what yellowish basally 11
10. Hind femora brown . . *inversus* Curran (female)
 — Hind femora mostly yellow, black in apical fourth
 *gemmarius* Walker
11. Middle and hind femora entirely black; first
 flagellomere entirely black
 *africanus* Parent
 — Middle femora yellow-brown, first flagellomere
 partly pale (females) 12
12. Fore basitarsomere at most with one bristle on
 either side *anomalipes* Parent
 — Fore basitarsomere at least with three bristles
 on either side of lower surface 13
13. Fore basitarsomere with six or seven long bristles
 on either side of lower surface
 *tuberculatus* Curran
 — Fore basitarsomere with only three bristles on
 either side of lower surface 14
14. First flagellomere at least as long as face height
 *pseudogemmarius* Parent
 — First flagellomere at most half as long as face
 height *oldroydi* sp. n.

Acknowledgement

I am sincerely grateful to Dr Brian Pitkin for his kindness in giving me the opportunity to study the collection of the Natural History Museum (London).

References

- Bickel, D. J. 1994. The Australian Sciapodinae (Diptera: Dolichopodidae), with a review of the Oriental and Australasian faunas, and a world conspectus of the subfamily. *Rec. Austral. Mus.*, Suppl. 21: 1—394.
- Dyte, C. E. & K. G. V. Smith. 1980. Family Dolichopodidae. In: R.W. Crosskey (ed.). *Cata-*

- logue of the Diptera of the Afrotropical Region.*
Brit. Mus. (Nat. Hist.), London, p. 443—463.
- Parent, O.** 1933. Etude les Dipteres Dolichopodides
du Musee du Congo (Tiervueren). *Rev. Zool.*
Bot. Afric., **24**(1): 1—49.

- Vanschuytbroeck, P.** 1966. Dolichopodidae de la
Cote d'Ivoire. *Megistostylus decellei* sp. n. *Rev.*
Zool. Bot. Afric., **74**(1—2): 200—204.

Received 05.IV.1996