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Monograph

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A review of the Afrotropical *Thinophilus* Wahlberg, 1844 (Diptera: Dolichopodidae), with the descriptions of ten new species

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Abstract. Ten new species of *Thinophilus* Wahlberg, 1844 from the Afrotropical region are described and illustrated: *T. saegeri* sp. nov. from the Democratic Republic of the Congo, *T. medvedevi* sp. nov., *T. longicercus* sp. nov., *T. cataractae* sp. nov. and *T. manambato* sp. nov. from Madagascar, *T. gallagheri* sp. nov. and *T. deemingi* sp. nov. from Oman, *T. sigwalti* sp. nov. from Senegal, *T. subpalpatus* sp. nov. from South Africa, and *T. fluvialis* sp. nov. from Tanzania. Type material for 13 previously described Afrotropical species is examined. The genus *Paralleloneurum* Becker, 1902 is newly synonymized with *Thinophilus* (syn. nov.). As a result, the following new combinations are here established: *Thinophilus cilifemoratus* (Becker, 1902) comb. nov. and *T. pygmaeus* (De Meijere, 1916), comb. nov. The following new synonyms are proposed: *Thinophilus annulitarsis* Parent, 1936 with *T. calopus* Loew 1852; *T. bipunctatus* Curran, 1926 and *T. maculatus* Parent, 1929 with *T. indigenus* Becker, 1902. New records are given for some known species. *Thinophilus argyropalpis* Becker, 1910 and *T. spinitarsis* Becker, 1907 are reported from the Afrotropical Region for the first time. The number of species of the genus, known from continental Africa, Oman, Yemen and Madagascar, has increased to 30. An identification key to 29 Afrotropical species is compiled. *Thinophilus versutus* Haliday, 1851 and *T. cilifemoratus* (Becker, 1902), type species of the former genera *Schoenophilus* Mik, 1878 and *Paralleloneurum* Becker, 1902, are subsequently also included into the key, because the two species inhabit northern Africa.

Keywords. Hydrophorinae, *Thinophilus*, Afrotropical, new species, identification key.

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Introduction

The genus *Thinophilus* Wahlberg, 1844 belongs to the subfamily Hydrophorinae Lioy, 1864, tribe Thinophilini Aldrich, 1905, and is known from all realms with ca 140 species worldwide (Grootaert 2018). The genus is very diverse in tropical and subtropical bands of the Old World, but so far insufficiently studied (Negrobov *et al.* 2016; Grootaert 2018). Species of *Thinophilus* are confined mainly to sea coastlands as well as fresh and salt lake shores in warm and torrid regions of the World. Freshwater species are not numerous (Grootaert 2017) and may belong to species with a wide ecological amplitude (ubiqvist), as they have no morphological peculiarities. Larvae of the Nearctic *T. frontalis*

Van Duzee, 1914 live in tidal oligohaline marshes and feed on oligochaetes and nematodes (La-Salle & Bishop 1990). Larvae of central Asian desert species of *Thinophilus* live and predate upon their preys in sand along salt lake shores (Stackelberg 1948). Emerging adults, pupae and larvae of Culicidae Meigen, 1818 (*Anopheles* Meigen, 1818 and *Aedes* Meigen, 1818) and Ephydridae Zetterstedt, 1837 are known as preys of adult species of *Thinophilus* (Ulrich 2005 and references cited therein). Adults of this genus are small to large flies with short rounded antennal pedicel, bearing a usually dorsal arista-like stylus; prominent subtriangular palps; thorax with acrostichal setae absent; 4–6 dorsocentral setae present; scutellum with 2 or 4 strong setae; and tibia usually with strong setae (Grichanov & Brooks 2017). The Afrotropical species were practically never revised. The latest key to the Afrotropical species of the genus was published by Vanschuytbroeck (1951). Grichanov (1997) provided an identification key to Afrotropical and Palaearctic species of *Thinophilus*. Both keys are now outdated, as follows from my study of type specimens and new material during the last 25 years (Grichanov 2018; see also text below).

In this paper, ten new species of the genus *Thinophilus* from the Afrotropical Region (including Oman and Yemen) are described, three species names are synonymized, 20 recognized species and one subspecies are listed and reviewed, new records are given for known species, and a revised identification key to Afrotropical species is provided.

Material and methods

Specimens were studied and photographed with a ZEISS Discovery V-12 stereo microscope and an AxioCam MRc5 camera. Preparations of the male genitalia were photographed with a ZEISS Axiostar stereo microscope and an AxioCam ICc3 camera, and are stored in glycerol in a microvial attached to the insect pin. Morphological terminology and abbreviations follow Cumming & Wood (2017) and Grichanov & 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 are 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. New distribution records presented in this paper are marked with an asterisk (*).

Institutional abbreviations

The types of the new species and other material are mounted on pins (except as noted below) and housed at the following repositories:

BMNH	=	Natural History Museum, London, UK [NHMUK, former British Museum of Natural History]
BMSA	=	National Museum, Bloemfontein, South Africa
I.R.Sc.N.B.	=	Royal Belgian Institute of Natural Sciences
MNHN	=	National Museum of Natural History, Paris, France
NMSA	=	KwaZulu-Natal Museum, Pietermaritzburg, South Africa
NMNW	=	Namibian National Insect Collection, National Museum of Namibia, Windhoek, Namibia
NMWC	=	National Museum of Wales, Cardiff, UK
RBINS	=	Royal Belgian Institute of Natural Sciences, Brussels, Belgium
RMCA	=	Royal Museum for Central Africa, Tervuren, Belgium
ZIN	=	Zoological Institute of the Russian Academy of Sciences, St Petersburg, Russia
ZMUM	=	Zoological Museum of Moscow State University, Moscow, Russia
ZSM	=	Bavarian State Collection of Zoology, München, Germany

Further abbreviations

MSSC = male secondary sexual characters
St. ORSTAM = Station d'Office de la recherche scientifique et technique outre-mer

Results

Taxonomy

Class Insecta Linnaeus, 1758
Order Diptera Linnaeus, 1758
Superfamily Empidoidea Latreille, 1804
Family Dolichopodidae Latreille, 1809
Subfamily Hydrophorinae Lioy, 1864
Tribe Thinophilini Aldrich, 1905

Genus ***Thinophilus*** Wahlberg, 1844

Thinophilus Wahlberg, 1844: 37. Type species: *Rhaphium flavipalpe* Zetterstedt, 1843 (monotypy).
Thinophilus Schiødte, 1844: 44 (nec Wahlberg, 1844). Type species: *Rhaphium flavipalpe* Zetterstedt, 1843 (monotypy).
Schoenophilus Mik, 1878: 9. Type species: *Thinophilus versutus* Haliday, 1851 (original designation).
Pseudacropsilus Strobl, 1899: 122. Type species: *Pseudacropsilus maculipennis* Strobl, 1899 [= *Thinophilus versutus* (Haliday, 1851)] (designation by Negrobov 1991: 38).
Paralleloneurum Becker, 1902: 51. Type species: *Paralleloneurum cilifemoratum* Becker, 1902 (monotypy), syn. nov.
Parathinophilus Parent, 1932: 161. Type species: *Parathinophilus expolitus* Parent, 1932 (monotypy).

Notes

See diagnosis and discussion in Negrobov (1979) and Grootaert (2018).

Grootaert & Meuffels (1984, 1998) distinguished three subgenera of *Thinophilus* in the Australasian and Oriental Regions, i.e., *Thinophilus* s.s., *Parathinophilus* Parent, 1832 and *Schoenophilus* Mik, 1878, and noted that the differences between them are rather poor. Negrobov (1979) and Grootaert & Meuffels (1998) described *Paralleloneurum*, originally described from Egypt and known also from the Oriental Region. The authors provided only one reliable character, the presence of four pairs of strong dorsocentrals on the mesonotum, to distinguish this genus from *Thinophilus* with five or more dorsocentrals, either nearly equal in length or greatly decreasing in length anteriorly. Later, a lot of Oriental species of *Thinophilus* with four pairs of dorsocentrals were described by Grootaert and his co-authors (Grootaert *et al.* 2015; Samoh *et al.* 2017, 2019; Grootaert 2018); with some of these species having apical or dorsoapical arista on postpedicel. Nevertheless, the status of *Paralleloneurum* Becker, 1902, *Parathinophilus* and *Schoenophilus* was not discussed.

Negrobov (1979) described also *Thinophilus versutus* Haliday, 1851 in the genus *Schoenophilus* that was considered a subgenus or synonym of *Thinophilus* by some authors before and after 1979. He distinguished *Schoenophilus* from *Thinophilus* by the presence of only four pairs of dorsocentrals on the mesonotum and from *Thinophilus* and *Paralleloneurum* by apical or subapical arista on postpedicel.

Both *Paralleloneurum* and *Schoenophilus* are regarded here as synonyms of *Thinophilus* (see also Discussion section). Therefore, the following new combinations are here established: *Thinophilus cilifemoratus* (Becker, 1902), comb. nov. and *T. pygmaeus* (De Meijere, 1916), comb. nov. The latter species is known only from type locality in Indonesia (Java) (De Meijere, 1916). The status of the

Australian subgenus *Parathinophilus* needs further study. As a result, the tribe Thinophilini includes now only two genera, *Thinophilus* and *Machaerium* Haliday, 1832 with three known species in the latter genus. Incompletely described *Thinophilus aquaticus* Becker, 1914 known by females from Kenya (Tiwi), is not included into the key below. *Thinophilus atritarsis* Parent, 1929 and *T. tinctus* Parent, 1929 known by females from South Eastern Desert of Egypt were included into the Afrotropical Catalog (Grichanov 2018), but they are excluded here from the Region. The Palaearctic *T. quadrimaculatus* Becker, 1902 is also excluded from the Afrotropical fauna (see below). *Thinophilus atritarsis*, *T. tinctus* and *T. quadrimaculatus* are inserted into the key to West and Central Palaearctic species of *Thinophilus* (Grichanov 2022).

Key to Afrotropical species of *Thinophilus* Wahlberg, 1844 (males)

North African *Thinophilus versutus* and *T. cilifemoratus* comb. nov. are included in square brackets. See discussion for species groups and subgroups.

1. Mesonotum with four strong dorsocentrals of almost equal length; body length less than 2.5 mm 2
– Mesonotum with at least five dorsocentrals, usually greatly decreasing in length anteriorly; body usually longer than 3 mm 7

2. Body and legs with only whitish yellow bristles (Fig. 6A); body: 1.7 mm (*T. gallagheri* group) ..... ***T. gallagheri*** sp. nov.
– Body and legs with mainly black bristles (*T. versutus* group) 3
3. Palp brown-black; propleural bristles black (Negrobov 1979: 436); body: 1.7–2.5 mm .... [***T. versutus*** Haliday, 1851]
– Palp yellow; propleural bristles white 4

4. Male cercus long, reaching almost to base of abdomen (Fig. 3H); body: 2.0–2.5 mm .... ***T. prudens*** Curran, 1926
– Male cercus short, about as long as tergite 5 5
5. Male fore femur with long ventral setae, 2 × as long as femur height; legs yellow; cercus yellow (Fig. 7A); body: 2.0 mm ..... ***T. sigwalti*** sp. nov.
– Male fore femur with short ventral setae, not longer or slightly longer than femur height; legs and cercus yellow or dark 6

6 Legs mostly brownish yellow, with femora mostly brown; cercus black (Fig. 8A); body: 2.2 mm .. .. ***T. saegeri*** sp. nov.
– Legs mostly light yellow; cercus yellow (Negrobov 1979: 437); body: 1.5–2.0 mm .... [***T. cilifemoratus*** (Becker, 1902)]

7. Scutellum with two pairs of almost equal in length bristles; palp with white setae; body: 6.0 mm (female only) ..... ***T. quadrisetus*** Parent, 1936
– Another combination of characters 8
8. Pedicel long, with broad distodorsal and narrow distoventral lobes (Negrobov 1978: figs 1384–1385); sternite 4 of male abdomen with lateral groups of bristles (Dawah *et al.* 2020: fig. 5c); body: 5.0–5.5 mm ..... ***T. promotus*** Becker, 1910
– Pedicel without such lobes; sternite 4 of male abdomen with at most long hairs 9

9. Sternites 3 and 4 of male abdomen with tuft of long hairs (e.g., Fig. 3G) (*T. imperialis* group) ... 10
– Sternites 3 and 4 of male abdomen without tuft of long hairs 12

10. Cercus flat and short, band-like (lateral view), pointed on apex, reaching apex of surstylus; Surstylus with one midventral process (Fig. 3C); sternites 3 and 4 of abdomen with tuft of white hairs; body: 6–7 mm ..... ***T. ciliventris*** Grichanov, 1997
– Cercus very long, extending to base of abdomen, broad on basal third, filiform distally; sternites 3 and 4 of abdomen with tuft of mainly black hairs 11

11. Fore tibia with 3–4 dorsal bristles, not longer than tibia width; surstylus at middle 2 × as wide as that at base (lateral view) (Fig. 3F); body: 5.5 mm ..... ***T. imperialis*** (Curran, 1924)
– Fore tibia with 3–4 dorsal bristles, 2 × as long as tibia width; surstylus at middle slightly wider than that at base (lateral view) (Fig. 9E); body: 6.3 mm ..... ***T. longicercus*** sp. nov.

12. Mesonotum with distinct dark lateral spot at notopleura (e.g., Dawah *et al.* 2020: fig. 5a) (*T. indigenus* group) 13
– Mesonotum monochrome, or with longitudinal stripes dorsally, without dark lateral spots, rarely with postalar dark spot 16

13. Mesonotum with additional spot in front of scutellum 14
– Mesonotum without spot in front of scutellum 15
14. Fore basitarsus without ventral spines, with simple setulae only (Dawah *et al.* 2020: fig. 5a); male genitalia as in Negrobov (1978: figs 1371–1373); body: 2.5–3.0 mm ..... ***T. indigenus*** Becker, 1902
– Fore basitarsus with row of very short spinules (Vanschuytbroeck 1951: fig. 20); body: 5.2–5.8 mm ..... ***T. splendidus*** Vanschuytbroeck, 1951

15. Mesonotum with five dorsocentrals; legs mostly yellow; fore femur without ventral comb of setae; mid tibia curved at middle (Bezzi 1906: 302); body: 4 mm ..... ***T. setulipalpis*** Bezzi, 1906
– Mesonotum with at least six dorsocentrals; legs mostly black; fore femur with ventral rows of black setae (Curran, 1926: fig. 14); mid tibia simple; body: 5.0–5.5 mm ..... ***T. rex*** Curran, 1926

16. Scutellum with 3 to 8 pairs of strong marginal spines in addition to one pair of long bristles; tarsomeres 1 and 2 of hind tarsus annulate with yellow and black (*T. quadrisetus* group, in part) 17
– Scutellum with at most two pairs of bristles; hind tarsomeres variously coloured 18

17. Fore coxa with black setae and pale hairs; fore femur with a few long black ventral hairs in basal third; scutellum with 6 to 8 pairs of spines (Fig. 4C); body: 4.5–5.0 mm .... ***T. munroi munroi*** Curran, 1926
– Fore coxa and femur with pale hairs only; scutellum with 3 to 5 pairs of spines (Fig. 5C); body: 4.5–4.7 mm ..... ***T. munroi setiscutellatus*** Grichanov, 1997

18. Male hind coxa with long straight apical spine (Dawah *et al.* 2020: fig. 5b); body: 4.0–4.5 mm ..... ***T. ochripalpis*** Becker, 1910
– Male hind coxa without spine 19

19. Male fore basitarsus with nearly right-angled bend; mid femur with posteroventral setae in middle part, at least half as long as femur diameter; male genitalia as in Negrobov (1978: figs 1378–1380), Grichanov (1997: fig. 1); body: 3.9–5.5 ..... ***T. mirandus*** Becker, 1907
– Male fore basitarsus straight or fairly curved; mid femur with short or long setae in middle part 20

20. Palp with black setae; tarsi gradually darkened towards tarsomere 5 (*T. indigenus* group mainly) 21
– Palp with white setae; tarsomeres often more or less distinctly annulated (*T. calopus* group) 28

21. Fore basitarsus with ventral row of short but strong black spines, at least half as long as article diameter 22
– Fore basitarsus without ventral spines, with simple setulae only 23

22. Fore tarsomere 4 with strong dorsal bristle, as long as or longer than tarsomeres 4 and 5 combined; male genitalia as in Negrobov (1978: figs 1393–1396); body: 3.7–5.4 mm .... ***T. spinitarsis*** Becker, 1907
– Fore tarsomere 4 with short setae; body: 4 mm ..... ***T. spinulosus*** Parent, 1929

23. Wing crossvein dm-m half as long as distal part of M_4 (Fig. 10F); fore tibia ⅓ longer than fore tarsus ($^4/_3$) (Fig. 10D–E); body: 1.8 mm (*T. deemingi* group) ..... ***T. deemingi*** sp. nov.
– Wing crossvein dm-m as long as or ⅔ as long as distal part of M_4; fore tibia not longer than fore tarsus 24

24. Antenna almost entirely yellow, brownish dorsally; femora with 2 more or less full rows of ventral setae, nearly half as long as femur height; cercus broad in middle, narrowed towards apex; dm-m as long as distal part of M_4 (Grichanov 2012: fig. 24); body: 3.5 mm ..... ***T. palpatus*** Parent, 1929
– Antenna distinctly black dorsally; other features various 25

25. Fore coxa with mainly white setae, with at most 2–3 black apical bristles; mid coxa with white setae and 1 black bristle; cerci dorsally adjoined, leaflike (Fig. 11G); body: 4.3 mm .... ***T. manambato*** sp. nov.
– Fore coxa with mainly black bristles and setae; mid coxa with black bristle and setae; cerci various..... 26

26. Wing crossvein dm-m ⅔ as long as distal part of M_4; cercus gradually narrowed towards apex (Fig. 3E); body: 4–5 mm ..... ***T. capensis*** Curran, 1926
– Wing crossvein dm-m as long as distal part of M_4; cercus leaflike 27

27. Antenna almost entirely black; palp black-brown on basal half; cerci dorsally widely separated, elongate-ovate, with narrow finger-like apex (Fig. 13F); body: 3.8 mm (*T. versutus* group, in part) ..... ***T. cataractae*** sp. nov.
– Antenna black dorsally, yellow ventrally; palp entirely yellow; cerci dorsally adjoined, leaflike (Fig. 12F); body: 3.1 mm ..... ***T. fluvialis*** sp. nov.

28. Fore coxa anteriorly and fore femur ventrally with mainly black hairs; hind femur poorly setose; cercus 1.5 × as long as tergite 5 (Fig. 3D); body: 6 mm ..... ***T. virgatus*** Curran, 1926
– Fore coxa and femur with almost exclusively white hairs; hind femur with or without long setae; male cercus at most as long as tergite 5 29

29. Hind femur with ventral rows of black setae, about 2 × as long as femur height (Fig. 2C); all tarsomeres annulate with black and white (Fig. 2A); body: 4–5 mm ..... ***T. calopus*** Loew, 1852
– Hind femur with ventral rows of short white hairs or glabrous; tarsi not annulate 30

30. All tarsi entirely black or brownish at base (Fig. 1A); surstylus straight, slightly narrowed distally (Fig. 1E); body: 2.5–3.3 mm ..... ***T. argyropalpis*** Becker, 1910
– All tarsi mostly yellow, with last segments dark or dark at apices (*T. quadrisetus* group, in part) 31

31. Mid femur with row of ventral setae on distal half, 2 × as long as femur height; tarsi gradually darkened towards tips (Fig. 15A); surstylus bilobate, with narrow lobes (Fig. 15F); cerci free, evenly broad to apex (Fig. 15E); body: 4 mm ..... ***T. subpalpatus*** sp. nov.
– Mid femur with rows of ventral setae, half as long as femur height; tarsomere 5 of all tarsi deep black (Fig. 14D); tarsomeres 1–4 of fore and mid tarsi yellow (Fig. 14A); tarsomeres 1–4 of fore tarsus ventrally with silvery shine; surstylus one-lobed, widened distally (lateral view); cerci dorsally fused at base, free and narrow distally (Fig. 14G); body: 5.5 mm ..... ***T. medvedevi*** sp. nov.

Thinophilus argyropalpis Becker, 1910
Fig. 1

Thinophilus argyropalpis Becker, 1910: 139. Type locality: Egypt, Port Said.

Material examined

SENEGAL • ♂ (with apparently washed pruinosity); "M'Bour; St. ORSTOM; [14°24′ N, 16°57′ W]; Piège de Malaise [Malaise trap]; 11 Dec. 1980; B. Sigwalt leg."; MNHP.

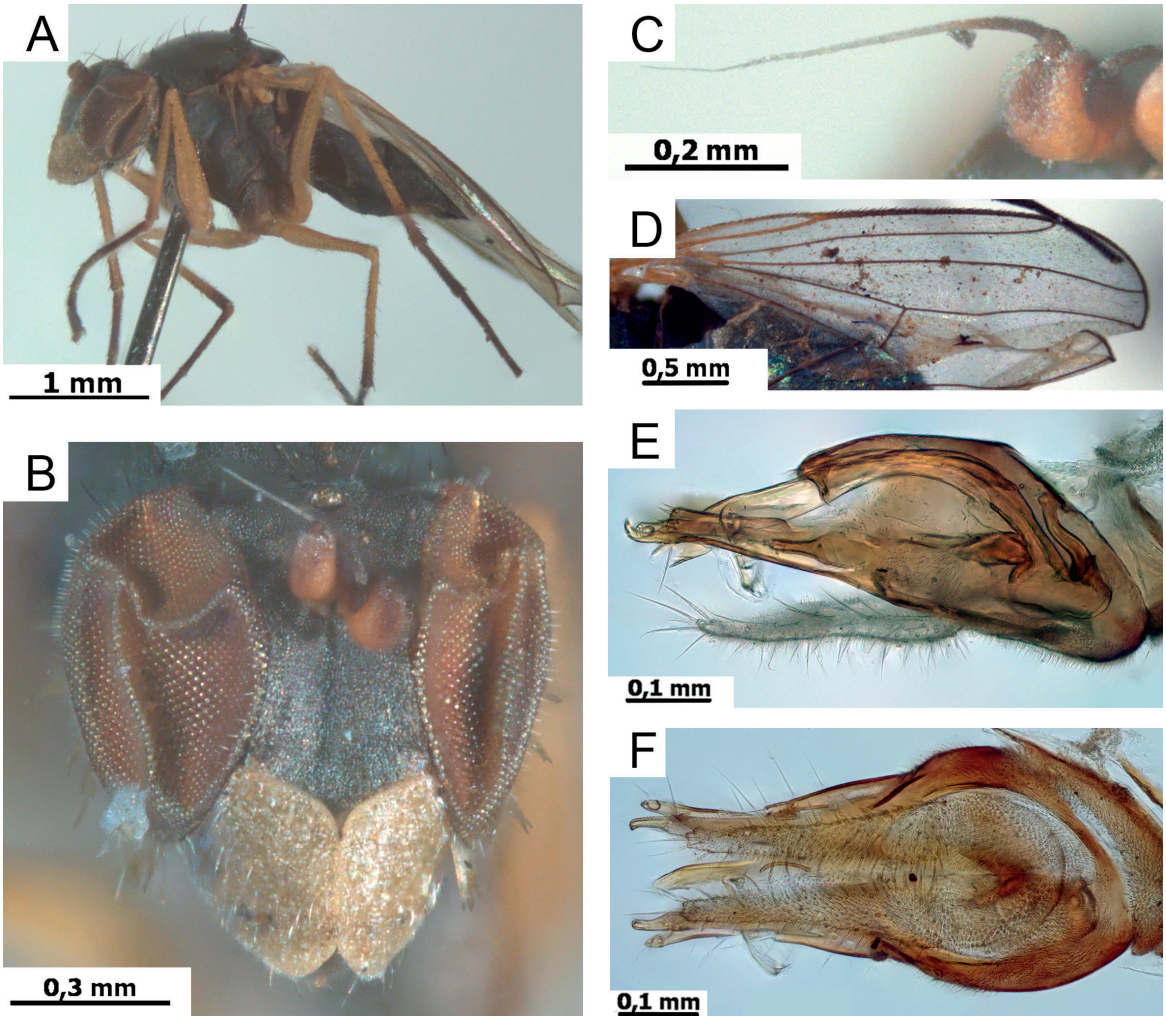

Fig. 1. *Thinophilus argyropalpis* Becker, 1910, ♂ (MNHP). **A**. Habitus. **B**. Head. **C**. Antenna. **D**. Wing. **E**. Hypopygium after maceration, lateral view. **F**. Hypopygium after maceration, dorsal view.

Diagnosis

Thinophilus argyropalpis Becker, 1910 keys to *T. subpalpatus* sp. nov. and *T. medvedevi* sp. nov., differing from the latter in entirely black tarsi and black apices of tibiae; surstylus straight, slightly narrowed distally. *Thinophilus subpalpatus* sp. nov. and *T. medvedevi* sp. nov. have entirely yellow tibiae and mostly yellow tarsi; surstylus different. The male from Senegal is conspecific with the material collected from Central Asia and south-eastern Europe (see Negrobov 1979; Grichanov 2022). They have some minor differences in colouration mainly; therefore, I describe the species based on the Senegalese specimen.

Description

Male (Fig. 1A)

Measurements. Body length 3.2 mm; antenna length 0.7 mm; wing length 3.2 mm; wing width 1.1 mm.

Head (Fig. 1B). Postcranium black; frons bluish black; face and clypeus black, pollinose; face under antennae 2 × as wide as height of postpedicel; clypeus 0.4 × as long as epistoma, 2 × as wide as long; palp yellow, bearing white bristly hairs; proboscis black; 2 diverging ocellars; 1 vertical, 1 postvertical, much stronger and longer than, and not in row with upper postoculars; upper postoculars uniseriate, black; middle and lower postoculars multiseriate, white, long; antennal scape, pedicel and postpedicel blackish dorsally, orange-yellow ventrally (Fig. 1C); scape with scale-like inner projection; pedicel simple, convex on inner side; postpedicel apically browned, rounded, with short pubescence, slightly higher than long (13/10); arista-like stylus dorsal, black and thick basally, white and thin distally, shortly pubescent; length ratio of scape to pedicel to postpedicel to stylus, 0.07/0.05/0.10/0.53.

Thorax. Bluish black; no acrostichals; 6 dorsocentrals decreasing in length anteriorly; scutellum with 2 strong marginals and 2 minute laterals; 2–3 upper and 5–6 lower, white propleural bristles of different length.

Legs. Coxae black, yellow at apex; femora yellow; tibiae yellow, black at distal apices; tarsi entirely black.

Fore leg. Coxa with white setae and bristles; femur simple, with rather short fine white ventral setae; tibia and tarsus simple, without remarkable setae; segment 5 weakly thickened; length of femur, tibia and tarsal segments (in mm): 1.04/0.94/0.47/0.17/0.17/0.14/0.18.

Mid leg. Coxa with white setae and bristle; femur with rather short fine white ventral setae; 1 preapical anterior and 1 preapical posteroventral short setae; tibia bearing 3 anterodorsal; 3 posterodorsal, 4 apical short bristles; tarsal segment 5 inconspicuously thickened; length of femur, tibia and tarsal segments (in mm): 1.11/1.23/0.71/0.27/0.27/0.17/0.18.

Hind leg. Coxa with 1 white exterior bristle; femur with rather short fine white ventral setae, ⅓ as long as femur height; 1 preapical anterior and 1 preapical posteroventral short setae; tibia bearing 4 anterodorsal, 5 posterodorsal bristles, 4 apicals; segment 5 inconspicuously thickened; length of femur, tibia and tarsal segments (in mm): 1.37/1.48/0.45/0.28/0.23/0.18/0.18.

Wing (Fig. 1D). Hyaline, without darker shades; veins yellow-brown, more yellowish at base; distal part of M_{1+2} convex; tip of R_{4+5} parallel with M_{1+2}; ratio of part of costa between R_{2+3} and R_{4+5} to that between R_{4+5} and M_{1+2} (in mm), 0.67/0.22; crossvein dm-m straight; ratio of dm-m to distal part of M_4, 0.32/0.32; anal vein distinct; halter yellow; lower calypter yellow, with white cilia.

Abdomen. Black; setae and hind-marginal bristles on tergites black dorsally and white laterally, short; sternites with short setae. Hypopygium (Fig. 1E) black, cercus yellow; epandrial lobe narrow, fingerlike, with strong apical bristle; hypandrium short, apically concave; phallosoma narrow, almost reaching apex of surstyli; phallus coiled, long and simple; surstylus straight, thin with long thick bristle and long process at tip, with long dorsal preapical bristle and few short setae at apex; cerci dorsally fused at base, free and narrow distally, with long marginal bristles (Fig. 1F).

Distribution

Palaearctic: Algeria, Egypt, Iraq, Iran, Kazakhstan, Kyrgyzstan, Mongolia, Russia (Volgograd), Tunisia, Turkmenistan, Ukraine (Odessa), Uzbekistan. First record from Senegal and Afrotropical Region.

Thinophilus aquaticus Becker, 1914

Thinophilus aquaticus Becker, 1914: 125. Type locality: Kenya, Tiwi.

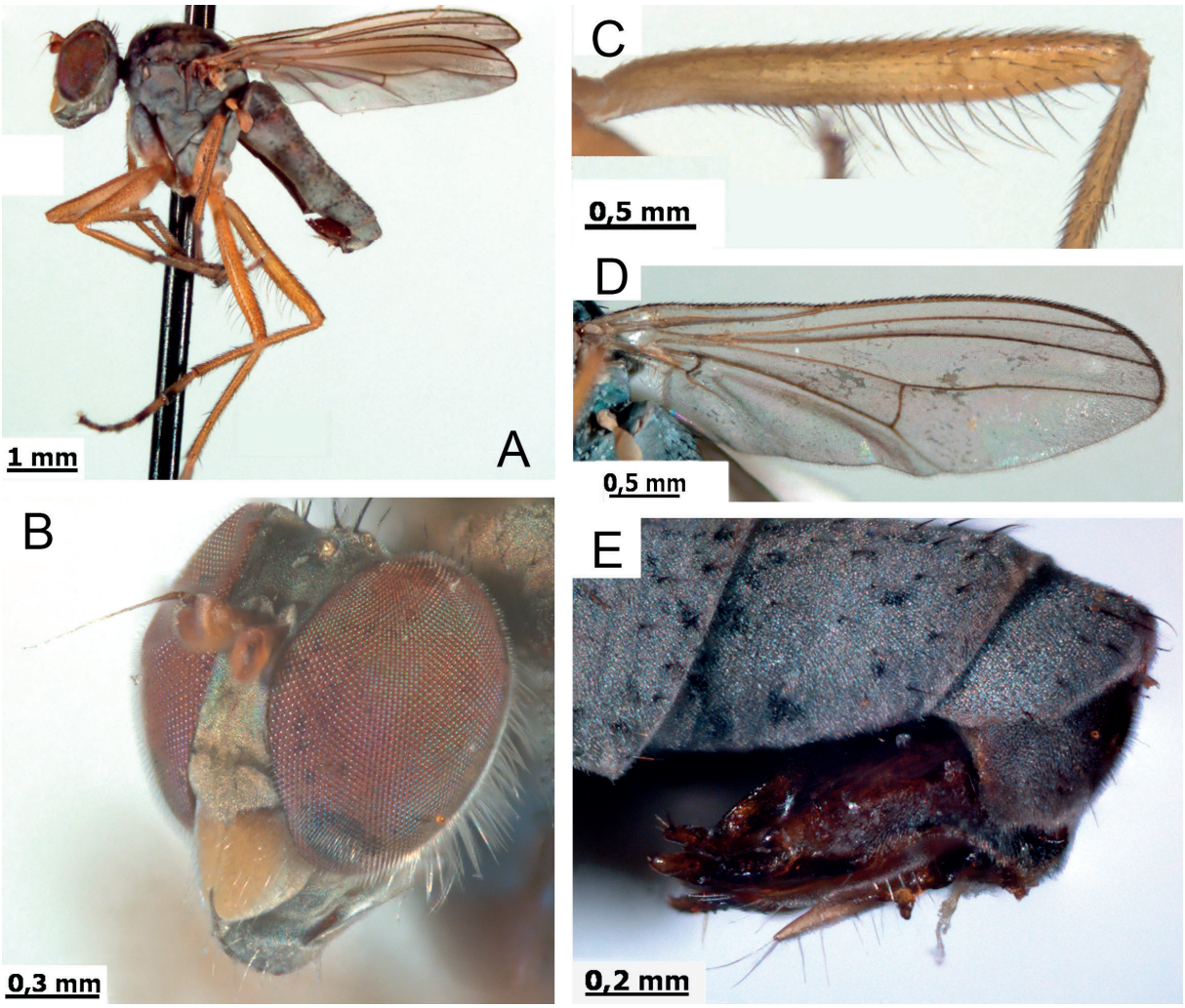

Fig. 2. *Thinophilus calopus* Loew, 1852, ♂ (ZMUM). **A**. Habitus. **B**. Head. **C**. Hind femur. **D**. Wing. **E**. Last segments of abdomen and hypopygium, dry, lateral view.

Notes

The species is known by two female types from Kenya. Only one indeterminable female from Madagascar was found in the RMCA collection under the label "*Thinophilus aquaticus*, det. Vanschuytbroeck". The record from Madagascar (Vanschuytbroeck 1957) is most probably a misidentification.

Distribution

Kenya.

Thinophilus calopus Loew, 1852
Fig. 2

Thinophilus calopus Loew, 1852: 659; 1862: 18. Type locality: Mozambique, Inhambane.

Thinophilus annulitarsis Parent, 1936: 323. Type locality: Tanzania, Dar Es Salam, **syn. nov.**

Material examined

Holotype

TANZANIA • ♀; "Musée du Congo; Dar Es Salam; Apr. 1931; sur plage saltonneuse, à fond de lame; Dr M. Bequart leg.; R. Det. O 3092; *Thinophilus annulitarsis* n. sp. Type ♀ O. Parent"; RMCA.

Other material

TANZANIA • 1 ♂; Unguja [= Zanzibar] Is., Michamvi beach; 30 Dec.–2 Jan. 2021; M. Grichanov and O. Grichanova leg.; ZIN • 1 ♂, 1 ♀; Mtwara env.; 7.40° S, 36.99° E; 21–22 Dec. 2015; mangrove; N. Vikhrev leg.; ZMUM.

Notes

Types of *Thinophilus calopus* were collected from a sea coast; later the species was once reported from the National Park Albert (= Virunga), DR Congo, at a height about 1000 m above sea level, by Vanschuytbroeck (1951), far from the sea coast. RMCA collection contains three females identified by Vanschuytbroeck as *T. calopus*: two of them belong to the genus *Tachytrechus* and one specimen to an indeterminable species of *Thinophilus*. I think the species must be excluded from the fauna of the Democratic Republic of the Congo.

Thinophilus annulitarsis was described from a female collected on a beach at Dar Es Salam. It has never been recorded again. A male examined from Zanzibar's beach, close to the type locality of *T. annulitarsis*, is identical to the female holotype (examined) and original species description (Parent 1936) and to the detailed description of *T. calopus* by Loew (1862). One more male of this species was found at the site Mtwara, close to the Tanzania-Mozambique border. Therefore, I consider the two names as synonyms.

Distribution

Mozambique, *Tanzania.

Thinophilus capensis Curran, 1926
Fig. 3E

Thinophilus capensis Curran, 1926: 26. Type locality: South Africa, Eastern Cape, East London.

Material examined

Holotype

SOUTH AFRICA • ♂; "East London [33°00′ S, 27°53′ E], 2.2.[19]25; H.K. Munro leg."; NMSA.

Paratypes

SOUTH AFRICA • 16 ♀♀; same collection data as for holotype; "2, 22, 26 Feb., 1 May 1925"; NMSA • 1 ♂, 1 ♀; "Musée du Congo; S. Afr.: East London, 1.5.25, 22.2.25 (Munro leg.); Ex coll. Curran; R. Det. M 1284; Paratype, *Thinophilus capensis* Curran"; RMCA.

Notes

Four males from the National Park Albert (= Virunga), DR Congo, were found in the RMCA collection under the label "*Thinophilus capensis*, det. Vanschuytbroeck"; two of them belong to *Thinophilus imperialis* (Curran, 1924) and two to *T. splendidus*. The species once reported from this country by Vanschuytbroeck (1951) must be excluded from the fauna of the Democratic Republic of the Congo.

Distribution

South Africa.

Thinophilus ciliventris Grichanov, 1997
Fig. 3A–C

Thinophilus ciliventris Grichanov, 1997: 142. Type locality: South Africa, R. Magalakwena.

Material examined

SOUTH AFRICA • 1 ♂; Ndumu Reserve, Ingwavuma District, Tongaland; 1–10 Dec. 1963; B. and P. Stuckenberg leg.; NMSA.

Distribution

Angola, Botswana, Nigeria, South Africa.

Thinophilus imperialis (Curran, 1924)
Fig. 3F–G

Nematoproctus imperialis Curran, 1924: 228. Type locality: South Africa, Mpumalanga, Barberton.

Thinophilus imperialis – Curran 1926: 27.

Material examined

Holotype

SOUTH AFRICA • ♂; "Barberton [25°47′ S, 31°02′ E], Aug. 1913; L.S.H.; H.K. Munro leg."; NMSA.

Other material

ETHIOPIA • 1 ♂; Ambo, Gadissa Farm; 9 Oct. – 12 Nov. 2011; L. Rybalov leg.; neighbour cowshed; Malaise trap; ZMUM.

GUINEA • 1 ♂, 2 ♀♀; "N′Zérékoré; 3 Sep. 1980 and 14 Aug. 1981; sur les rives des rivières Wéalon et Tilé; C. Bakary leg."; ZIN.

TANZANIA • 8 ♀♀; Bagamoyo env., Ruvu River; 6.47965° S, 38.8293° E; 10 Sep. 2012; D. Gavryushin leg.; ZMUM • 2 ♂, 1 ♀; Mikumi village; 7.40° S, 36.99° E; 5–7 Dec. 2015; N. Vikhrev leg.; ZMUM • 1 ♂; Nyasa Lake, Matema; 9.50° S, 34.01° E; 15 Dec. 2015; N. Vikhrev leg.; ZMUM • 1 ♂, 1 ♀; Pwani Province, Rufiji River; 7.99° S, 38.97° E; 30 Dec. 2015; N. Vikhrev leg.; ZMUM.

Distribution

Botswana, DR Congo, *Ethiopia, Ghana, *Guinea, Namibia, Nigeria, Republic of the Congo, South Africa, *Tanzania.

Thinophilus indigenus Becker, 1902

Thinophilus indigenus Becker, 1902: 48. Type locality: Egypt, Kairo, Assiur, Luxor, Assuan, Fayum, and Suez.

Thinophilus bipunctatus Curran, 1926: 27. Type locality: South Africa, Mpumalanga, Middelburg, **syn. nov.**

Thinophilus maculatus Parent, 1929a: 50. Type locality: Egypt, South Eastern Desert, Bir Abraq, **syn. nov.**

Material examined

Holotype

SOUTH AFRICA • ♂; "Middelburg [25°47′ S, 29°28′ E]; 13.2.[19]25; H.K. Munro leg.; *Thinophilus* ♂ *bipunctatus* Curran"; NMSA.

Paratypes

EGYPT • 2 ♂♂, 2 ♀♀; "Bir Abraq, South Eastern Desert; 3 Mar. 1938; Efflatoun leg., Egypte; *Thinophilus maculatus* Par. Cotype; Paratype"; MNHN.

SOUTH AFRICA • 1 ♂, 1 ♀; "Middelburg [25°47′ S, 29°28′ E], 13.2.[19]25; H.K. Munro leg.; Paratype, *Thinophilus* ♂ *bipunctatus* Curran"; NMSA • 1 ♀; "Musée du Congo; S. Afr.: Dohne, 1/5/25, Woodridge Farm (Munro leg.); Ex coll. Curran; R. Det. H 1284; Paratype, *Thinophilus* ♂ *bipunctatus* Curran"; RMCA.

Other material

COMOROS • 6 ♂♂, 2 ♀♀ (in ethanol; 1 ♂ dried and mounted on pin); Moheli, Dziani Boundouni See; 12°22′ S, 43°50′ E; alt. 600–800 m; 18 Apr. 2002; M. Kotrba leg.; ZSM.

DR CONGO • 1 ♂; "Congo Belge, PNG [Parc National Garamba]; Miss. H. De Saeger; Mt. Moyo; 29 Jul. 1952; 3844; H. De Saeger leg."; RMCA.

ETHIOPIA • 1 ♂; Oromia, Langano Lake; 7.646° N, 38.706° E; alt. 1590 m; 13–15 Mar. 2012; N. Vikhrev leg.; ZMUM • 1 ♂; Amhara, Blue Nile; alt. 1070 m; 10.08° N, 38.19° E, 31 Jul. 2012; N. Vikhrev leg.; ZMUM.

GABON • 1 ♂ (in ethanol); Ntoum; Oct. 1985; A. Pauly leg.; yellow pan trap; plantation sur brûlis [on fire-site]; RBINS.

MADAGASCAR • 2 ♂♂; Toliara Region, Toliara env.; 23.20° S, 43.62° E; 12–19 Nov. 2012; A. Medvedev leg.; ZMUM.

MALAWI • 1 ♀; Chinteche; 10 Apr. 1978; R. Jocqué leg.; RMCA.

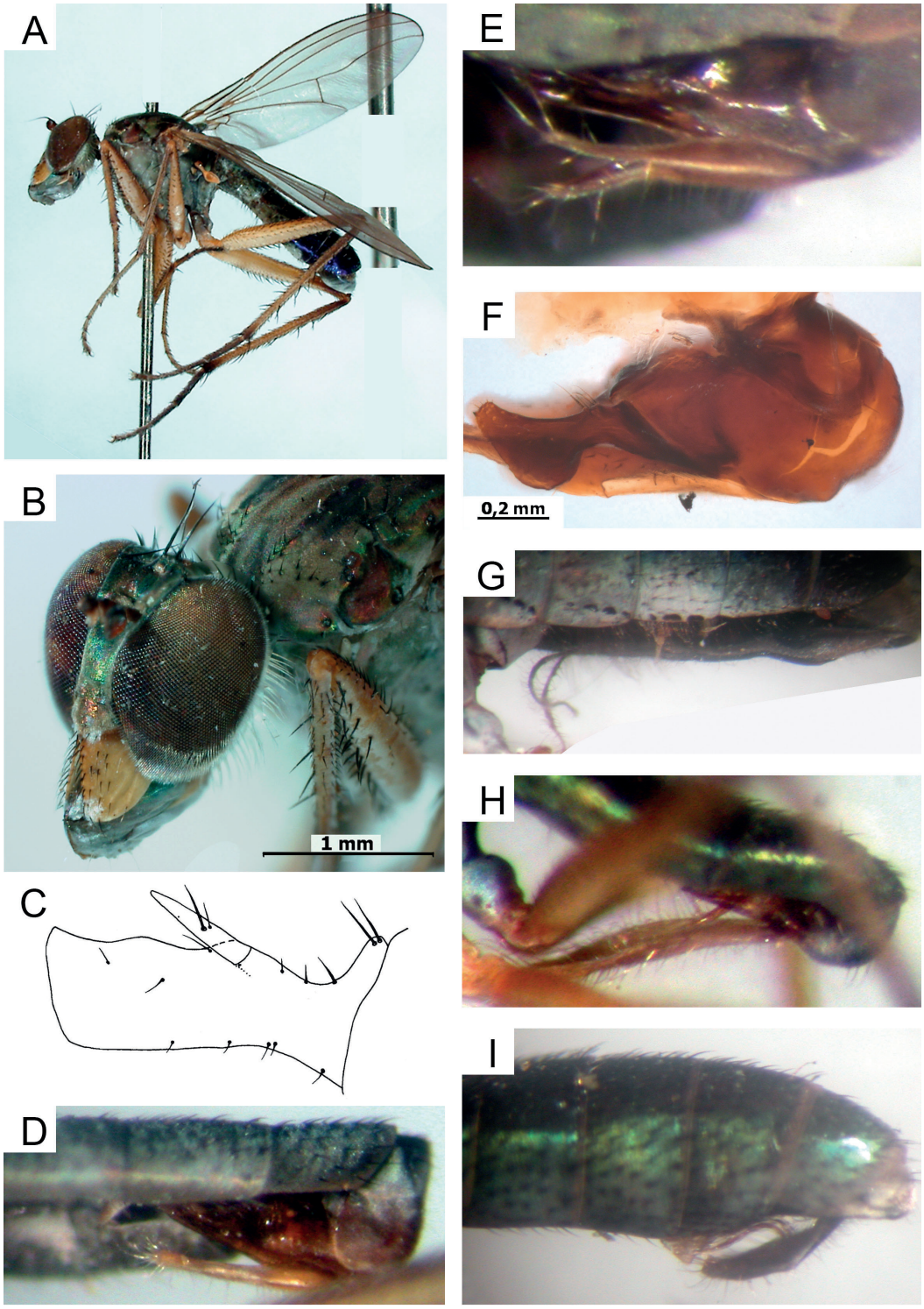

Fig. 3. *Thinophilus* sp., ♂♂. **A**. *T. ciliventris* Grichanov, 1997 (NMSA), habitus. **B**. *T. ciliventris* (NMSA), head. **C**. *T. ciliventris*, surstylus (after Grichanov 1997). **D**. *T. virgatus* Curran, 1926, holotype (NMSA), abdomen, dry, lateral view. **E**. *T. capensis* Curran, 1926, holotype (NMSA), hypopygium, dry, lateral view. **F**. *T. imperialis* (Curran, 1924) (ZIN), hypopygium with basal part of cercus, after maceration, lateral view. **G**. *T. imperialis*, holotype (NMSA), ventral part of abdomen with cercus, lateral view. **H**. *T. prudens* Curran, 1926, holotype (NMSA), hypopygium, dry, lateral view. **I**. *T. rex* Curran, 1926, holotype (NMSA), abdomen, dry, lateral view.

NAMIBIA • 1 ♀; Katima Mulilo District; Mavunje campsite, Kwando River floodplain; 17°55.141′ S, 23°19.073′ E; alt. 945 m; 22–26 Nov. 2012; A.H. Kirk-Spriggs leg.; Malaise trap; BMSA.

SOUTH AFRICA • 1 ♂; Natal, #15, Hawaan Forest, Umhlanga; 29°43′ S, 31°05′ E; alt. 20 m; 27 Feb. 1992; Barraclough and Whittington leg.; indigenous dune forest near lagoon; NMSA • 1 ♂; Cape Province, Kommandodrifdam, 45 km E Cradock, 3226AA, river below dam wall; 28 Oct. 1978; R. Miller and J. Londt leg.; NMSA • 1 ♂; Cape Province, 8 km W Grootderm Bank of Orange River, 2816DA; 2 Sep. 1983; J. Londt and B. Stuckenberg leg.; NMSA • 1 ♂; Western Cape, Gamkaskloof (Die Hel); 33°21.808′ S, 21°37.650′ E; alt. 336 m; 1618; Oct. 2012; A.H. Kirk-Spriggs leg.; Malaise traps, Karoo and valley Acacia woodland; BMSA • 3 ♀♀; Free State, Brandfort, Florisbad Res. Stat.; 28°46.039′ S, 26°04.234′ E; 4–6 Apr. 2009, A.H. Kirk-Spriggs leg.; *Acacia* savanna; BMSA.

SUDAN • 2 ♂♂, 7 ♀♀; Erkowit; [18°46′0″ N, 37°7′0″ E]; 28 Oct. 1962; S. Panelius leg.; MZHF.

TANZANIA • 1 ♂ (in ethanol); Morogoro Reg., Udzungwa Mt. N. P., Mito Mitatu; 7°50’14.3’′ S, 36°50’46.8’′ E; alt. 1207 m; 14 Jun. 2013; T. Pape and N. Scharff leg; Malaise trap #1; ZIN • 3 ♀♀; Bagamoyo env., Ruvu River; 6.47965° S, 38.8293° E; 10 and 13 Sep. 2012; D. Gavryushin leg.; ZMUM • 1 ♂; Mikumi village; 7.40° S, 36.99° E; 5–7 Dec. 2015; N. Vikhrev leg.; ZMUM • 1 ♂; Nyasa Lake, Matema; 9.50° S, 34.01° E; 15 Dec. 2015; N. Vikhrev leg.; ZMUM • 1 ♂; Morogoro env.; 6.85° S, 37.67° E; 15 Dec. 2015; N. Vikhrev leg.; ZMUM.

Notes

Grichanov & Mostovski (2009) examined male and female types of *Thinophilus bipunctatus* (NMSA) and noted that there are no principal differences from the description of *T. maculatus*, and the two names may be synonyms. *Thinophilus bipunctatus* was previously recorded from DR Congo, Namibia, and South Africa, usually from wet material (in ethanol). Unnoticed in the original description, its types have a distinct prescutellar spot in addition to six lateral spots on the mesonotum. *Thinophilus maculatus* was previously recorded from Gabon, Namibia and South Eastern Desert of Egypt, sometimes from females only. Both species were in fact found in the same countries as widely distributed and common *T. indigenus* Becker, 1902. The key characters formerly used included only colour characters, e.g., the number of dark spots on the mesonotum (Parent 1936; Grichanov 1997). The rather abundant material examined shows that this feature is variable and invisible on wet specimens. The male genitalia examined are identical in all listed specimens, corresponding with the pictures of *T. indigenus* from Iranian Baluchistan published by Negrobov (1978). Therefore, I consider all three names as synonyms.

Thinophilus indigenus was mentioned by Rossi & Leonardi (2018: 111), as a host for the Laboulbeniales fungus *Stigmatomyces ligabuei* W. Rossi, 1986, found in Sierra Leone and Sudan.

Distribution

Afrotropical: Angola, Benin, Cape Verde Is., *Comoros, DR Congo, *Eritrea, Eswatini, Ethiopia, *Gabon, Gambia, Ghana, *Kenya, *Madagascar, *Malawi, Namibia, Nigeria, Seychelles (Aldabra), Sierra Leone, South Africa, Sudan, Tanzania, Yemen. Palaearctic: Algeria, Egypt, Iran, Israel, Mongolia, Morocco, Saudi Arabia, Turkey. Oriental: China, India, Nepal, Malaysia, Philippines, Sri Lanka, Thailand. First reliable records from Ethiopia and the Democratic Republic of the Congo.

Thinophilus mirandus Becker, 1907

Thinophilus mirandus Becker, 1907a: 112. Type locality: Algeria, "bei Hammam Salahin bei Biskra".

Notes

This species was firstly reported from the Afrotropical Region by Grichanov (1997).

Distribution

Afrotropical: Tanzania; Palaearctic: Algeria, Iraq, Morocco, Spain.

Thinophilus munroi munroi Curran, 1926
Fig. 4

Thinophilus munroi munroi Curran, 1926: 20. Type locality: South Africa, Eastern Cape, East London.

Material examined

Holotype

SOUTH AFRICA • ♂; "East London [33°00′ S, 27°53′ E]; 1 Dec. [19]25; H.K. Munro leg."; NMSA.

Paratypes

SOUTH AFRICA • 7 ♂♂, 1 ♀; same collection data as for holotype; NMSA • 1 ♂, 1 ♀; "Musée du Congo; S. Afr.: East London; 1 Feb. [19]25, 1 May [19]25 (Munro), Ex coll. Curran; R. Det. G 1284; Paratype, *Thinophilus munroi* Curran"; RMCA.

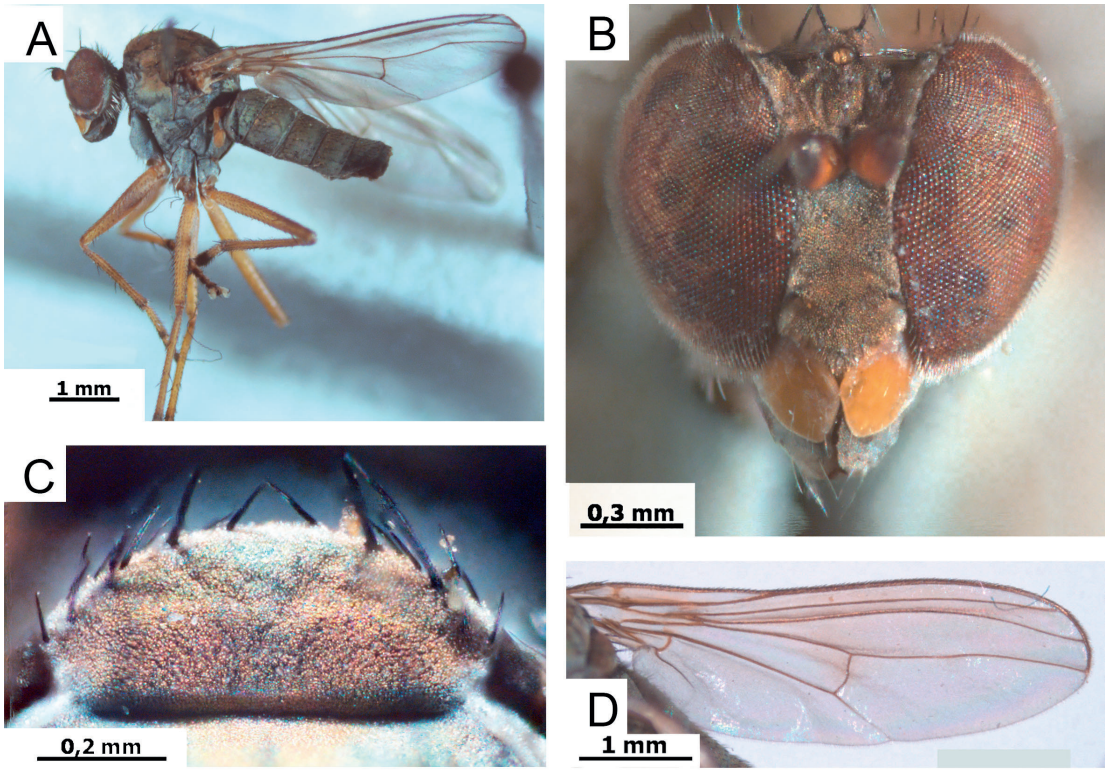

Fig. 4. *Thinophilus munroi munroi* Curran, 1926, ♂ (BMSA). **A**. Habitus. **B**. Head. **C**. Scutellum, dorsal view. **D**. Wing.

Other material

SOUTH AFRICA • 1 ♂; Western Cape, West Coast Nat. Reserve; 33°07.606′ S, 18°03.556′ E; alt. 6 m; 6 Sep. 2013; A.H. Kirk-Spriggs leg.; sweeping shoreline vegetation; BMSA.

Distribution

South Africa (Eastern Cape, Western Cape).

Thinophilus munroi setiscutellatus Grichanov, 1997
Fig. 5

Thinophilus munroi setiscutellatus Grichanov, 1997: 141. Type locality: Namibia, Swakopmund.

Material examined

Paratype

NAMIBIA • 1 ♂; "S.W. Africa (25); Swakopmund; 26–30.1.1972; Southern African Exp. B.M. 1972-1"; ZIN, ex coll. BMNH.

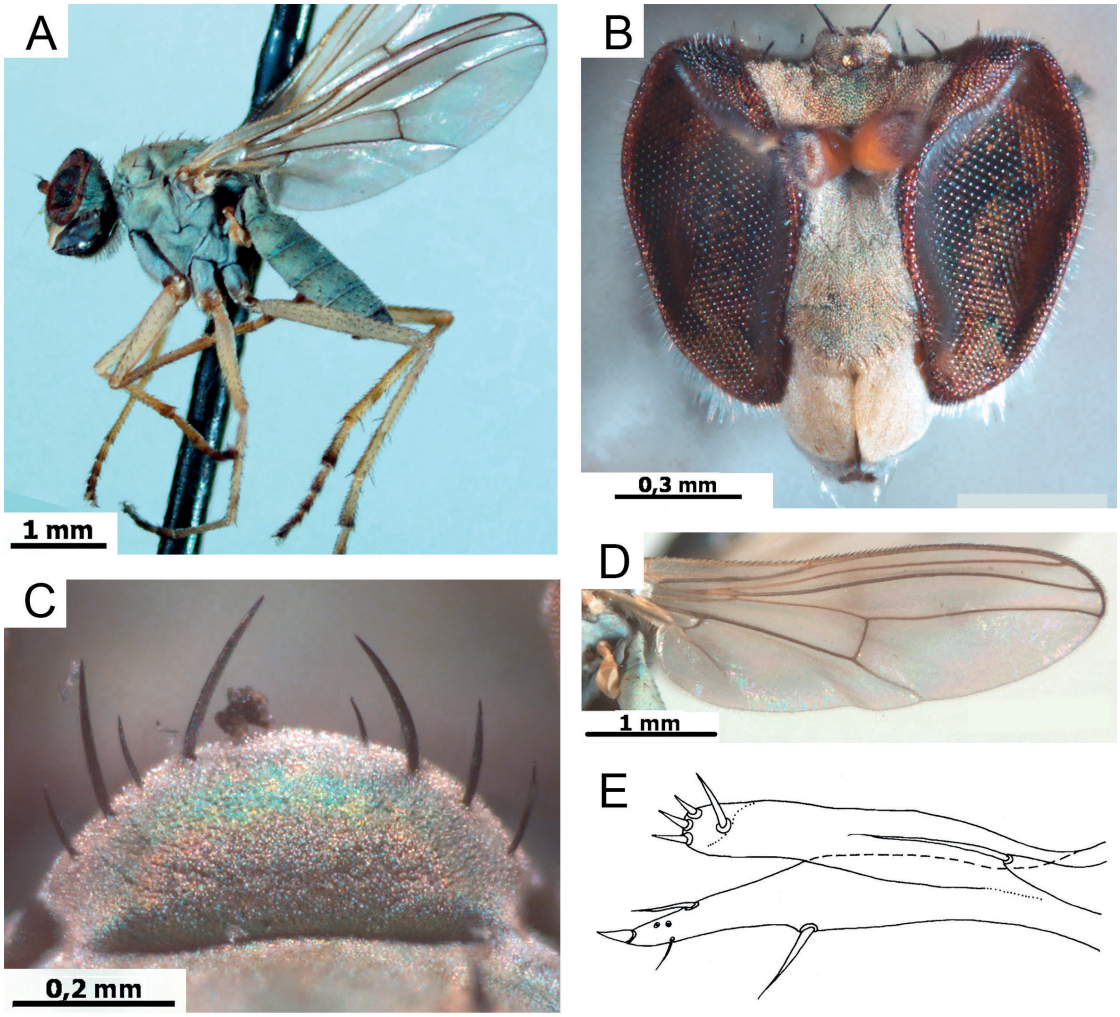

Fig. 5. *Thinophilus munroi setiscutellatus* Grichanov, 1997, ♂ (ZMUM). **A**. Habitus. **B**. Head. **C**. Scutellum, dorsal view. **D**. Wing. **E**. Surstylus (after Grichanov 1997).

Other material

NAMIBIA • 3 ♂♂, 2 ♀♀; Walvis Bay env.; 22.97° S, 14.54° E; 5–9 Dec. 2018; N. Vikhrev leg.; ZMUM.

Distribution

Namibia (Erongo Region, Karas Region).

Thinophilus ochripalpis Becker, 1910

Thinophilus ochripalpis Becker, 1910: 139. Type locality: South Yemen, "von Aden, Makallaebene".

Material examined

OMAN • 1 ♂; Azauba Creek; 23°37′ S, 58°18′ E; 30 May 1995, M.D. Gallagher leg.; at light; NMWC • 4 ♂♂, 7 ♀♀; Barr Al-Hikman peninsula; ~300 km S of Muskat; 20.74° N, 58.696° E; 19–24 Nov. 2011; P.S. Tomkovich leg.; Yellow Pan trap; ZMUM.

TANZANIA • 1 ♂, 4 ♀♀; Lindi Province, Kilwa env.; 8.9° S, 39.5° E; 27–29 Dec 2015; N. Vikhrev leg.; ZMUM.

Distribution

Afrotropical: *Oman, Somalia, *Tanzania, Yemen; Palaearctic: Saudi Arabia.

Thinophilus palpatus Parent, 1929

Thinophilus palpatus Parent, 1929b: 180 (in key), 1930: 101 (description). Type locality: Ethiopia, Ogaden, Vallée du Dakhatto, Teurfadaédi.

Material examined

IVORY COAST • 1 ♂; Lamto [Ecological Station, Toumodi; 6°12′45″ N, 5°00′44″ W]; Jul.–Aug. 1968; C. Gerard leg.; MNHN.

NAMIBIA • 1 ♂; Kaokoland, Ondorusu Falls, SE 1713 bd; 23–26 Aug. 1973; NMNW • 2 ♀♀; Katima Mulilo Distr., Kalizo Lodge area; alt. 941 m; 17°32.426′ S, 24°33.961′ E; 14–17 Nov. 2012; A.H. Kirk-Spriggs leg.; BMSA.

SENEGAL • 5 ♂♂, 1 ♀; N′Dangane; 14°05′ N, 16°42′ W; 6 Mar. 2007; N. Vikhrev leg.; ZMUM • 5 ♂♂; Sine Saloum; 14°11′ N, 16°15′ W; 2–6 Mar. 2007; N. Vikhrev leg.; ZMUM.

SIERRA LEONE • 14 ♂♂, 13 ♀♀ (in ethanol; 1 ♂ dried and mounted on pin); Western Area, Sussex; 27 Jan. 2012; W. Rossi leg.; ZIN.

Distribution

Angola, Botswana, Ethiopia, *Ivory Coast, Namibia, Nigeria, *Senegal, Sierra Leone, South Africa.

Thinophilus promotus Becker, 1910

Thinophilus promotus Becker, 1910: 138. Type locality: South Yemen, Aden.

Distribution

Afrotropical: Djibouti, Yemen; Palaearctic: Egypt, Saudi Arabia.

Thinophilus prudens Curran, 1926
Fig. 3H

Thinophilus prudens Curran, 1926: 30. Type locality: South Africa: Eastern Cape: East London.

Material examined

Holotype
SOUTH AFRICA • ♂; "East London [33°00′ S, 27°53′ E]; 1.2.[19]25; H.K. Munro leg."; NMSA.

Paratypes
SOUTH AFRICA • 1 ♂, 1 ♀; same collection data as for holotype; NMSA • 1 ♂; 1 ♀; "Musée du Congo; S. Afr.: East London; 1 May [19]25; (Munro leg.); Ex coll. Curran; R. Det. L 1284; Paratype, *Thinophilus prudens* Curran"; RMCA.

Other material
SENEGAL • ♂; "M'Bour, St. ORSTOM; [14°24′ N, 16°57′ W]; Piège lumineux [light trap]; 6 Oct. 1981; B. Sigwalt leg."; MNHP.

SOUTH AFRICA • 1 ♂; Free State, Brandfort, Florisbad Res. Stat.; 28°46.039′ S, 26°04.234′ E; 4–6 Apr. 2009; A.H. Kirk-Spriggs leg.; Acacia savanna; BMSA.

TANZANIA • 2 ♂♂, 1 ♀; Mtera Reservoir; 7.13° S, 36.00° E; alt. 680 m; 14 Feb 2017; N. Vikhrev leg.; ZMUM.

Notes

Grichanov (1997) described and figured genitalia of a male from Angola under the name *T. prudens*, but noted that it differs from the original description of the latter species and from a male collected from Senegal in much shorter cercus, about as long as surstylus. The Angolan male belongs most probably to the new species described here as *T. sigwalti* sp. nov. So, Angola is excluded from the species area.

Distribution

DR Congo, Ghana, Namibia, Senegal, South Africa, *Tanzania.

Thinophilus quadrisetus Parent, 1936

Thinophilus quadrisetus Parent, 1936: 324. Type locality: Tanzania, Dar Es Salam.

Material examined

Holotype
TANZANIA • ♀; "Musée du Congo; Dar Es Salam; Apr. 1931; sur plage saltonneuse, à fond de lame; Dr. M. Bequart leg.; R. Det. O 3092; *Thinophilus quadrisetus* n.sp., Type ♀ O. Parent"; RMCA.

Notes

The species is known only from type female, which is remarkable in bearing two pairs of almost equal in length bristles on the scutellum. Two males and three females from the National Park Albert (= Virunga), DR Congo, were found in the RMCA collection under the label "*Thinophilus quadrisetus*, det. Vanschuytbroeck"; one male belongs to *T. splendidus* and other material to *T. imperialis*. The species once reported from this country by Vanschuytbroeck (1951) must be excluded from the fauna of the Democratic Republic of the Congo.

Distribution

Tanzania.

Thinophilus rex Curran, 1926
Fig. 3I

Thinophilus rex Curran, 1926: 23. Type locality: South Africa: Eastern Cape: East London.

Material examined

Holotype

SOUTH AFRICA • ♂; "East London [33°00′ S, 27°53′ E]; 1 Feb. [19]25; H.K. Munro leg."; NMSA.

Paratypes

SOUTH AFRICA • 1 ♀; same collection data as for holotype; NMSA • 1 ♂; "Musée du Congo; S. Afr.: East London, 26 Feb. [19]25 (Munro leg.); Ex coll. Curran; R. Det. I 1284; Paratype, *Thinophilus rex* Curran"; RMCA

Other material

SOUTH AFRICA • 2 ♂♂, 2 ♀♀; Natal, Umlalazi Nature Reserve, 2831DD, dune forest and edges; 2–10 Oct. 1982; J.G.H. Londt leg.; NMSA.

Notes

A female reported by Vanschuytbroeck (1952) from the Upemba National Park (DR Congo) was found in the RMCA collection under the label "*Thinophilus rex*"; it belongs to indeterminable species of *Thinophilus*. The species must be excluded from the fauna of the Democratic Republic of the Congo.

Distribution

South Africa.

Thinophilus setulipalpis Bezzi, 1906

Thinophilus setulipalpis Bezzi, 1906: 302. Type locality: Eritrea, Keren.

Notes

Material from the National Park Albert (= Virunga), DR Congo, found in the RMCA collection under the label "*Thinophilus setulipalpis*" and published by Vanschuytbroeck (1951) belongs to *Thinophilus prudens*. The species must be excluded from the fauna of the Democratic Republic of the Congo. It is known only from type locality.

Distribution

Eritrea.

Thinophilus spinitarsis Becker, 1907

Thinophilus spinitarsis Becker, 1907b: 315. Type locality: China: "O. Zaidam [= eastern Qaidam Basin], im nord-Osu; Tibet, Kurlyk am Fl. Baingol [= Korla city near Bayingol River]".

Material examined

SENEGAL • 1 ♂; Bandia Reserve; 28 Feb. 2007; N. Vikhrev leg.; ZMUM.

Distribution

Oriental: China (Taiwan), India (Gujarat); Palaearctic: China (Qinghai, Xinjiang), Iran, Israel, Tajikistan, Turkmenistan, "Ukraine" (Kherson). First record from Senegal and Afrotropical Region.

Thinophilus spinulosus Parent, 1929

Thinophilus spinulosus Parent, 1929a: 48. Type locality: Halaib (Red Sea coast).

Material examined

Paratype

EGYPT • 1 ♂; "Halaib, Red Sea Coast; 3 Mar. to end Apr. 1928; Coll. Efflatoun, Egypte; *Thinophilus spinulosus* Par. Cotype; Paratype"; MNHN.

Distribution

Afrotropical: Nigeria, Somalia; Palaearctic: Egypt (South Eastern Desert), Saudi Arabia.

Thinophilus splendidus Vanschuytbroeck, 1951

Thinophilus splendidus Vanschuytbroeck, 1951: 80. Type locality: DR Congo, National Park Albert, May-ya-Moto.

Material examined

Holotype

DR CONGO • ♂; "Congo Belge, P.N.A, May ya Moto; alt. 950 m; 15 Nov. 1934; G.F. de Witte leg., 758; Coll. Mus. Congo (ex coll. RBINS); P. Vanshuytbroeck det., 1950, *Thinophilus splendidus* n. sp."; RMCA.

Paratypes

DR CONGO • 25 ♂♂, 72 ♀♀; "Congo belge: P.N.A. Maya ya Moto; alt. 950 m; XI.1934; G.F. de Witte leg.; Paratype; P. Vanshuytbroeck det., 1951, *Thinophilus splendidus* n. sp."; RBINS

Other material

DR CONGO • 1 ♂; "Kisenyi (Kivu); 5 Feb. 1936; Dr. H. Damas leg.; Parc Nat. Albert, 116; P. Vanschuytbroeck det., 1950, *Hercostomus stroblianus* Becker"; RBINS.

ETHIOPIA • 2 ♂♂, 2 ♀♀; Oromia, Langano Lake; 7.646° N, 38.706° E; alt. 1590 m; 13–15 Mar. 2012; N. Vikhrev leg.; ZMUM • 1 ♀; Amhara, Jara River; alt. 1650 m; 11.381° N, 39.642° E; 6. Aug. 2012; N. Vikhrev leg.; ZMUM • 2 ♀♀; Amhara, Tana Lake env.; alt. 1800 m; 11.54° N, 37.39° E; 2–4 Aug. 2012; N. Vikhrev leg.; ZMUM • 2 ♀♀; Amhara, Blue Nile; alt. 1070 m; 10.08° N, 38.19° E; 31 Jul. 2012; N. Vikhrev leg.; ZMUM • 2 ♀♀; Afar; alt. 570 m; 9.971° N, 40.539° E; 9 Aug. 2012; I. Gomyranov leg.; ZMUM.

KENYA • 3 ♂♂; Nakuru Co, Elmentaita Lake; 0.477° S, 36.266° E; alt. 1780 m; 17 Dec. 2013; N. Vikhrev leg.; ZMUM.

Notes

Four males among the paratypes examined belong to the genera *Afropelastoneurus* Grichanov, 2006, *Hercostomus* Loew, 1857 and *Tachytrechus* Haliday in Walker, 1851.

Distribution

DR Congo, *Ethiopia, *Kenya.

Thinophilus virgatus Curran, 1926
Fig. 3D

Thinophilus virgatus Curran, 1926: 22. Type locality: South Africa: Eastern Cape: East London.

Material examined

Holotype

SOUTH AFRICA • ♂; "East London [33°00′ S, 27°53′ E], 22 Feb. [19]25; H.K. Munro leg."; NMSA.

Paratype

SOUTH AFRICA • 1 ♀; same collection data as for holotype; NMSA:

Distribution

South Africa.

Species of Thinophilus excluded from the Afrotropical Region

Thinophilus atritarsis Parent, 1929

Thinophilus atritarsis Parent, 1929a: 53. Type locality: Bir Abraq (South Eastern Desert of Egypt).

Notes

This species is known only from the type locality from a female.

Thinophilus flavipalpis (Zetterstedt, 1843)

Rhaphium flavipalpe Zetterstedt, 1843: 472. Type locality: Sweden, Gottlandia, Bursviken.

Notes

The Palaearctic *Thinophilus flavipalpis* was included by Vanschuytbroeck (1951: 39) into the key to Afrotropical species of the genus. No material was found in European and African museums for *T. flavipalpis* collected in the Afrotropics. The species was excluded from this Region by Grichanov (2018).

Thinophilus quadrimaculatus Becker, 1902

Thinophilus quadrimaculatus Becker, 1902: 49. Type locality: Egypt, Cairo. Palaearctic: Algeria, Egypt, Iran, Israel, Tajikistan, Tunisia.

Notes

The Palaearctic *Thinophilus quadrimaculatus* was once reported from DR Congo by Vanschuytbroeck (1951). One male and one female from this country were found in the RMCA collection under the label "*Thinophilus quadrimaculatus*, det. Vanschuytbroeck"; the male belongs to *Thinophilus splendidus*, and the female belongs to *Pelastoneurus* sp. The species must be excluded from the Afrotropical fauna.

Thinophilus tinctus Parent, 1929

Thinophilus tinctus Parent, 1929a: 51. Type locality: Bir Abraq (South Eastern Desert of Egypt).

Notes

Material found in the RBINS and RMCA collection under the label *Thinophilus tinctus* and published by Vanschuytbroeck (1952, 1957) belongs to *Thinophilus cataractae* sp. nov., *Hercostomus* sp. and *Diaphorus* sp. The species must be excluded from the Afrotropical fauna. It is known only from type locality from a female.

Description of new species

Thinophilus gallagheri sp. nov.

urn:lsid:zoobank.org:act:F59EED4D-AAFA-4E55-B79A-252B2CCD63A4

Fig. 6

Diagnosis

Thinophilus gallagheri sp. nov. is remarkable in bearing only whitish yellow bristles and setae on body and legs, differing from all other Old World species bearing black major bristles. Body completely grey pollinose; antenna light yellow; arista-like stylus nearly apical, yellow basally, and white distally; mesonotum with 4 dorsocentrals of almost equal length; scutellum with 2 marginals; tibiae with short bristles; fore and mid tarsomeres shortened; distal part of vein M_4 2.4 × as long as dm-m; surstylus bilobed; cerci separated, short, stick-shaped.

Etymology

The specific epithet is dedicated to the collector of the types, Dr M.D. Gallagher (Oman Natural History Museum, Sultanate of Oman).

Material examined

Holotype

OMAN • ♂ (in glycerin in a vial, mounted on pin); "Shinass; 24°43′ N, 56°28′ E; 9 Jun. 1994; leg.; at light in mangrove creek"; NMWC.

Paratypes

OMAN • 2 ♀♀ (on one pin); same colection data as for holotype; NMWC.

Description

Male (Fig. 6A)

Measurements. Body length 1.7 mm; antenna length 0.5 mm; wing length 1.7 mm; wing width 0.7 mm.

Head (Fig. 6B). With all bristles yellowish white; postcranium, frons and face greenish black, densely grey pollinose; face almost parallel-sided, 1.5 × as wide as height of postpedicel; clypeus broad, very low, almost invisible; palp yellow, bearing yellow bristly hairs; proboscis black; 2 diverging ocellars; 1 vertical, 1 postvertical, nearly as long as vertical, stronger and longer than, and not in row with upper postoculars; upper postoculars uniseriate; middle and lower postoculars biseriate, as long as upper postoculars; antenna (Fig. 6C) light yellow; scape small, with short inner projection; pedicel simple, convex on inner side; postpedicel rounded, with short pubescence, higher than long (12/9); arista-like stylus nearly apical, yellow and thick basally, white and thin distally, shortly pubescent; length ratio of pedicel to postpedicel to stylus, 0.07/0.09/0.42.

Thorax. Bluish black, densely grey pollinose, with all bristles yellowish white; metepimeron yellow; no acrostichals; 4 dorsocentrals of almost equal length; scutellum with 2 strong marginals; no laterals; few upper and lower propleural bristles of different length.

Legs. Almost entirely light yellow, with all bristles and setae yellowish white; mid coxa partly brownish; claws black. Fore leg (Fig. 6D) with elongated setulae. Coxa with setae and bristles; femur simple, with ventral row of bristles, as long as femur height; tibia and tarsus simple, without strong bristles; segment 5 weakly flattened; length of femur, tibia and tarsal segments (in mm): 0.47/0.44/0.14/0.08/0.09/0.08/0.09.

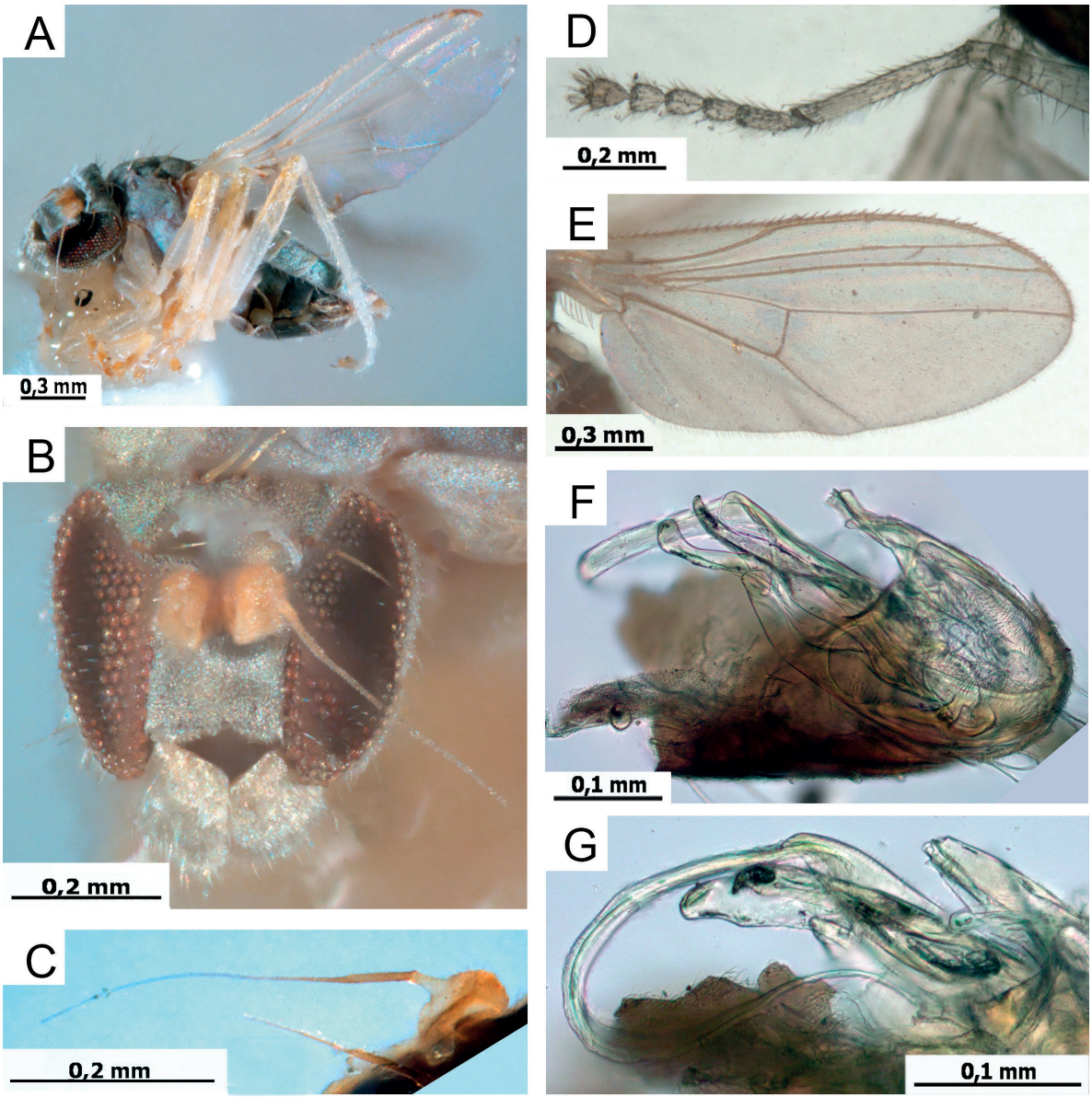

Fig. 6. *Thinophilus gallagheri* sp. nov., holotype, ♂ (NMWC). **A**. Habitus. **B**. Head. **C**. Antenna. **D**. Fore leg. **E**. Wing. **F**. Hypopygium after maceration, lateral view. **G**. Distal appendages of hypopygium after maceration, ventral-lateral view.

Mid leg. With elongated setulae. Coxa with setae; femur with ventral rows of setae, mainly half as long as femur height, somewhat longer on distal ⅓; tibia bearing rather short dorsals and apicals; tarsal segments 3–5 inconspicuously thickened; length of femur, tibia and tarsal segments (in mm): 0.59/0.58/0.21/0.12/0.11/0.09/0.11. Hind leg with elongated setulae. Coxa with 1 exterior bristle; femur with ventral rows of short setae, with several anterior bristles on distal ⅓, ⅔ as long as femur height; tibia bearing short dorsals and apicals; segment 5 inconspicuously thickened; length of femur, tibia and tarsal segments (in mm): 0.73/0.68/0.17/0.13/0.12/0.09/0.09.

Wing (Fig. 6E). Hyaline, inconspicuously dark at dm-m; veins yellow; distal part of M_{1+2} almost straight; R_{4+5} nearly parallel with M_{1+2}; ratio of part of costa between R_{2+3} and R_{4+5} to that between R_{4+5} and M_{1+2} (in mm), 0.15/0.16; crossvein dm-m straight; ratio of dm-m to distal part of M_4, 0.15/0.36; anal vein fold-like; halter yellow; lower calypter yellow, with white cilia.

Abdomen. Bluish black, densely grey pollinose, with all setae and bristles yellowish white, short; sternites with short setae. Hypopygium (Fig. 6F) black, appendages light yellow; epandrial lobe broad, rounded at apex with short apical bristle; hypandrium short, apically concave; phallosoma narrow, not reaching apex of surstyli; phallus long and simple, strongly curved at apex of phallosoma (Fig. 6G); surstylus bilobed, with almost straight arms bearing few preapical setulae; dorsal arm narrow, with small apical spine; ventral arm somewhat swollen at apex, with strong dorsal seta at middle; cerci (partly broken during maceration) separated, short, stick-shaped, with long light bristles.

Female

Similar to male except lacking male secondary sexual characters (MSSC). Terga 9+10 divided medially into 2 hemitergites, each bearing 4 short thick brown spines.

Notes

Thinophilus sp. with the same label as types was mentioned by Rossi & Leonardi (2018: 111), as a host for the Laboulbeniales fungus *Stigmatomyces ligabuei* W. Rossi, 1986.

Thinophilus sigwalti sp. nov.
urn:lsid:zoobank.org:act:60A32348-A78F-4766-8A32-90FA4AEA1395
Fig. 7

Thinophilus prudens Grichanov, 1997: 137, nec Curran, 1926.

Diagnosis

Thinophilus sigwalti sp. nov. is similar to *T. prudens*, differing in short cercus, about as long as surstylus, short dorsal setae on fore tibia, about as long as tibia width, yellow ventral bristles and setae on fore femur and tibia, wing with distal part of M_4 at least 2 × as long as dm-m. The male of *T. prudens* has a very long cercus, about 2 × as long as the surstylus, a very strong posterodorsal bristle on the fore tibia, more than 2 × as long as the tibia width, partly dark or black ventral bristles and setae on the fore femur and tibia, wing with distal part of M_4 about as long as dm-m.

Both *T. sigwalti* sp. nov. and *T. prudens* are also close to *T. cilifemoratus*, differing in the following characters: fore coxa mostly yellow, black at base; mid and hind coxae black, yellow at apex; male fore femur with long ventral bristles, 2 × as long as femur height; hind tibia with anterior, ventral and posterior rows of elongated setulae and 1 preapical dorsal seta. Males of *Thinophilus cilifemoratus* were described with all coxae yellow; fore femur with hairs ("Haaren", nec "Borsten"), longer than femur height; fore tibia with only 2 posterodorsal bristles; mid femur ventrally with only light hairs; hind tibia with only ventral row of elongated setulae and 1 dorsal seta at basal ⅓, without apical setae; wing with

distal part of M_4 about 1.5 × as long as dm-m; male cercus short, stick-shaped (Becker 1902; Negrobov 1979).

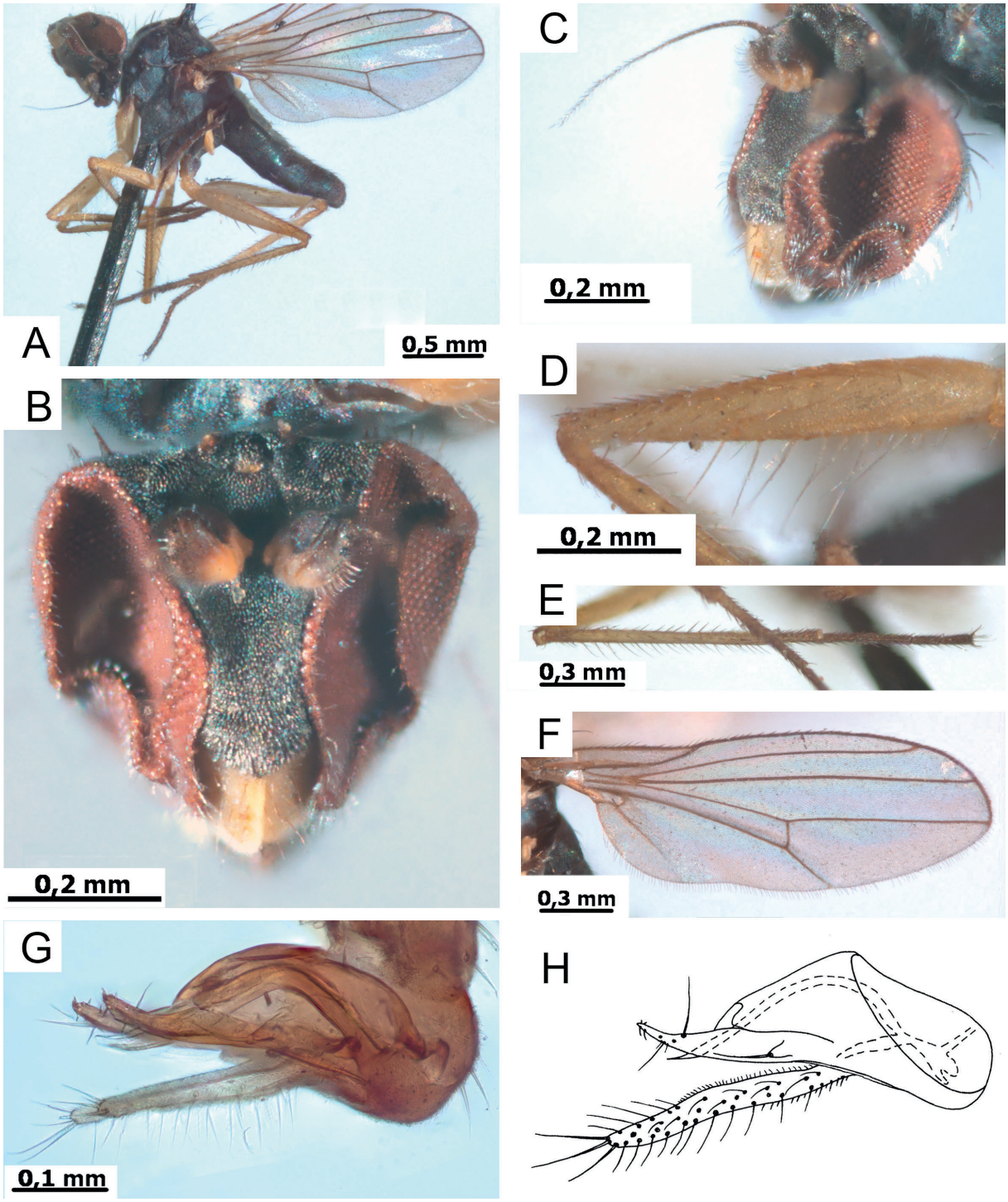

Fig. 7. *Thinophilus sigwalti* sp. nov., holotype, ♂ (MNHP). **A**. Habitus. **B**. Head, anterior view. **C**. Head and antenna. **D**. Fore femur, posterior view. **E**. Hind tibia and tarsus, dorsal view. **F**. Wing. **G**. Hypopygium after maceration, lateral view. **H**. Hypopygium (after Grichanov 1997: fig. 5; as in *T. prudens* Curran, 1926).

Etymology

The specific epithet is dedicated to the collector of the holotype, the French hymenopterist, Dr B. Sigwalt (MNHP).

Material examined

Holotype

SENEGAL • ♂ (with apparently washed pruinosity); "M'Bour; St. ORSTOM; [14°24′ N, 16°57′ W]; Piège de Malaise [Malaise trap]; 18 Dec. 1980; B. Sigwalt leg."; MNHP.

Description

Male (Fig. 7A)

Measurements. Body length 2.0 mm; antenna length 0.6 mm; wing length 1.9 mm; wing width 0.6 mm.

Head (Fig. 7B). Postcranium and frons black; face and clypeus black, pollinose; face under antennae 1.4 × as wide as height of postpedicel; clypeus 0.6 × as long as epistoma, 1.4 × as wide as long; palp yellow, bearing brown bristly hairs; proboscis black; 2 diverging ocellars; 1 vertical, 1 postvertical, half as long as vertical, stronger and longer than, and not in row with upper postoculars; upper postoculars uniseriate, black; middle and lower postoculars multiseriate, white, relatively long; antennal scape, pedicel and postpedicel black dorsally, orange-yellow ventrally (Fig. 7C); scape small, with short inner projection; pedicel simple, convex on inner side; postpedicel apically black, rounded, with short pubescence and apicodorsal tubercle, higher than long (12/9); arista-like stylus dorsal, black, thick basally, thin distally, pubescent; length ratio of pedicel to postpedicel to stylus, 0.07/0.09/0.45.

Thorax. Bluish black; no acrostichals; 4 dorsocentrals of almost equal length; scutellum with 2 strong marginals; no laterals; 3–4 upper and 3–4 lower, white propleural bristles of different length.

Legs. Fore coxa mostly yellow, black at base; mid and hind coxae black, yellow at apex; legs mostly yellow; fore tibia on distal half and base of basitarsus brownish; tarsi brown-black from tip of basitarsus.

Fore leg. Coxa with white setae and bristles; femur simple, with anteroventral row of short white setae, half as long as femur height, with posteroventral row of several long white bristles, 2 × as long as femur height; tibia and tarsus simple (Fig. 7D); tibia with 2 anterodorsal, 2 posterodorsal bristles, short apicals, ventral row of elongated setulae; segment 5 weakly widened; length of femur, tibia and tarsal segments (in mm): 0.62/0.6/0.2/0.09/0.07/0.06/0.09.

Mid leg. Coxa with white setae; femur with anteroventral row of dark setae on distal ⅓ and posteroventral row of sparse dark setae, at most as long as femur height; tibia bearing 1 anterodorsal and 1 posterodorsal bristles at basal ¼, very short apicals; tarsal segments 3–5 inconspicuously thickened; length of femur, tibia and tarsal segments (in mm): 0.7/0.76/0.3/0.13/0.1/0.08/0.1.

Hind leg. Coxa with 1 fine white exterior bristle; femur with several dark ventral bristles, ⅔ as long as femur height; tibia (Fig. 7E) with anterior, ventral and posterior rows of elongated setulae, 1 preapical dorsal seta; segment 5 inconspicuously thickened; length of femur, tibia and tarsal segments (in mm): 0.82/0.81/0.18/0.21/0.1/0.11/0.11.

Wing (Fig. 7F). Hyaline, without darker shades; veins yellow-brown, more yellowish at base; distal part of M_{1+2} straight; R_{4+5} parallel with M_{1+2}; ratio of part of costa between R_{2+3} and R_{4+5} to that between R_{4+5} and M_{1+2} (in mm), 0.28/0.18; crossvein dm-m straight; ratio of dm-m to distal part of M_4, 0.12/0.25; anal vein distinct; halter yellow; lower calypter yellow, with white cilia.

Abdomen. Black; setae and hind-marginal bristles on tergites black, short; sternites with short setae. Hypopygium (Fig. 7G–H) black, cercus yellow; epandrial lobe at base of syrstylus, fingerlike, with strong apical bristle; hypandrium short, apically concave; phallosoma narrow, concealed; phallus simple, weakly projected distally (Fig. 7H); surstylus straight and narrow, with 3 long preapical bristles and several short setae at apex (Fig. 7G); cerci fused at base, narrow, with long marginal bristles.

Female

Unknown.

Thinophilus saegeri sp. nov.
urn:lsid:zoobank.org:act:983B1BFE-4584-431B-BA98-C9CB86C0C58F
Fig. 8

Diagnosis

Thinophilus saegeri sp. nov. is very close to the Palaearctic *Thinophilus versutus*, differing in the following characters: palp yellow; antenna black; arista-like stylus dorsal; upper and lower propleural bristles white; wing without distinct dark spots; ratio of dm-m to distal part of M_4, 0.2/0.25; hypopygium with black cercus. *Thinophilus versutus* male has the following characters: palp black; antenna brown-black, yellow ventrally; arista-like stylus apical; upper and lower propleural bristles black; wing with

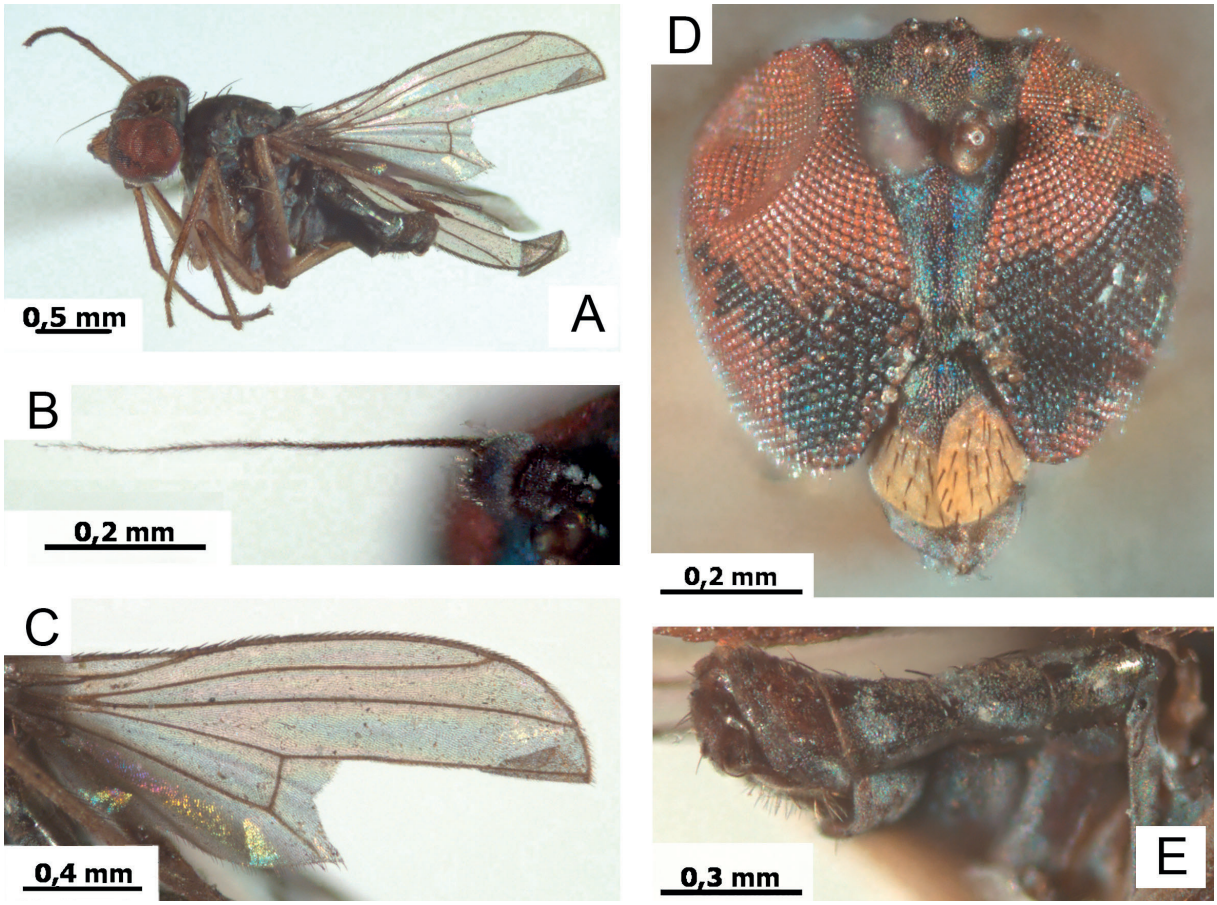

Fig. 8. *Thinophilus saegeri* sp. nov., holotype, ♂ (RMCA). **A**. Habitus. **B**. Antenna. **C**. Wing. **D**. Head. **E**. Abdomen, ventral-lateral view, dry.

distinct dark spots on dm-m and M_{1+2}; dm-m about half as long as distal part of M_4; hypopygium with yellow cercus (Parent 1938; Negrobov 1979).

Thinophilus saegeri sp. nov. is also close to the *Thinophilus cilifemoratus* complex, differing in the following characters: femora mostly brown; coxae with black setae and bristles; fore femur with few short black setae at base, half as long as femur height; hypopygium with black cercus. *Thinophilus cilifemoratus* male has the following characters: femora yellow; coxae with yellow setae and bristles; fore femur with partly doubled ventral setae, longer than femur height; hypopygium with yellow cercus (Becker 1902; Negrobov 1979; Grootaert & Meuffels 1998).

Etymology

The specific epithet is dedicated to the holotype collector, the Belgian entomologist Dr Henry De Saeger (RMCA).

Material examined

Holotype

DR CONGO • ♂; "Congo Belge; P.N.G. [Parc National Garamba]; Miss. H. De Saeger; II/hd/4; 23 Mar. 1951; H. De Saeger leg.; 1444"; RMCA.

Description

Male (Fig. 8A)

Measurements. Body length 2.2 mm; antenna length 0.7 mm; wing length 2.2 mm; wing width 0.8 mm.

Head (Fig. 8D). Postcranium and frons, face and clypeus bluish black, grey pollinose; face under antennae 1.8 × as wide as height of postpedicel; clypeus half as long as epistoma, as wide as long; palp yellow, bearing black bristly hairs; proboscis black; 2 diverging ocellars; 1 vertical, 1 postvertical (all broken), not in row with upper postoculars; upper postoculars uniseriate, black; middle and lower postoculars biseriate, white, relatively long; antenna black (Fig. 8B); scape small, with short inner projection; pedicel simple, convex on inner side; postpedicel rounded, with short pubescence, higher than long (10/7); arista-like stylus dorsal, black, thick basally, thin distally, pubescent; length ratio of scape to pedicel to postpedicel to stylus, 0.08/0.06/0.07/0.56.

Thorax. Bluish black; no acrostichals; 4 dorsocentrals of almost equal length; scutellum with 2 strong marginals; no laterals; few white upper and lower propleural bristles of different length.

Legs. Fore coxa brownish yellow; mid and hind coxae black; legs mostly brownish yellow; femora darker and tibiae lighter; tarsi brown-black from tip of basitarsus.

Fore leg. Coxa with black setae and bristles; femur simple, with few short black setae at base, half as long as femur height; tibia and tarsus simple; tibia with 1 anterodorsal, 3 short apicals; segment 5 weakly widened; length of femur, tibia and tarsal segments (in mm): 0.73/0.71/0.33/0.18/0.15/0.11/0.10.

Mid leg. Coxa with black setae; femur with anteroventral row of dark setae, at most half as long as femur height, and few posteroventrals at apex; tibia bearing 1 anterodorsal and 2 posterodorsal bristles, 3 apicals; tarsal segment 5 inconspicuously thickened; length of femur, tibia and tarsal segments (in mm): 0.83/0.95/0.49/0.23/0.18/0.1/0.11.

Hind leg. Coxa with 1 black exterior bristle; femur with anteroventral row of setae, ⅓ × as long as femur height; tibia with rather short setae; segments 3–5 broken; length of femur, tibia and tarsal segments (in mm): 0.96/0.97/0.28/0.28/-/-/-.

Wing (Fig. 8C). Fumose, without darker shades; veins yellow-brown; distal part of M_{1+2} straight; R_{4+5} almost parallel with M_{1+2}; ratio of part of costa between R_{2+3} and R_{4+5} to that between R_{4+5} and M_{1+2} (in mm), 0.36/0.17; crossvein dm-m straight; ratio of dm-m to distal part of M_4, 0.2/0.25; anal vein distinct; halter with yellow stem and brown knob; lower calypter dirty yellow, with white cilia.

Abdomen (Fig. 8E). Black, grey pollinose; setae and hind-marginal bristles on tergites black, short; sternites with short setae. Hypopygium (lost during maceration) black, cercus black, short, as long as tergite 5, covered with light setae.

Female

Unknown.

Thinophilus longicercus sp. nov.

urn:lsid:zoobank.org:act:812BFAC4-FB3B-4F00-BD46-86BC4CDCFD4C

Fig. 9

Diagnosis

Thinophilus longicercus sp. nov. keys to *T. imperialis* (see key above), both species having male cercus very long, thin distally, extending to the base of abdomen, and sternites 3 and 4 of abdomen with tuft of mainly black hairs. Fore tibia bears 3–4 dorsal bristles, not longer than tibia width in *T. imperialis*, but fore tibia with 3–4 dorsal bristles, 2 × as long as tibia width in *T. longicercus*; surstylus shape is different in the two species.

Etymology

The specific epithet '*longicercus*' (Latin) refers to the 'long *cercus*' of the male hypopygium.

Material examined

Holotype

MADAGASCAR • ♂ (partly covered with mould); "Lagoon shore; Fenerive [= Fenoarivo Atsinanana; 17°22′ S, 49°25′ E]; Dec. 1955; B. Stuckenberg leg.; *Hydrophorus bisetus* Loew; P. Vanschuytbroeck det. 1957; I.R.Sc.N.B. I.G. 20938"; RBINS.

Description

Male (Fig. 9A)

Measurements. Body length 6.3 mm; antenna length 1.1 mm; wing length 5.2 mm; wing width 1.6 mm.

Head. Postcranium bluish black, grey pollinose; frons bluish black, weakly pollinose; face and clypeus greenish black, brownish grey pollinose; face under antennae 1.8 × as wide as height of postpedicel; clypeus half as long as epistoma, 1.6 × as wide as long; palp yellow, bearing black bristly hairs; proboscis black; 2 diverging ocellars; 1 vertical, 1 postvertical, much stronger and longer than, and not in row with upper postoculars; upper postoculars uniseriate, black; lower postoculars multiseriate, white, long; antennal scape, pedicel and postpedicel black dorsally, orange ventrally; scape invisible; pedicel simple, convex on inner side; postpedicel rounded, with short pubescence, slightly higher than long (18/14); arista-like stylus dorsal, black, thick basally, thin distally, shortly pubescent.

Thorax. Metallic bluish black, grey dusted; mesonotum darker, with matt black postalar spot; no acrostichals; 6–7 dorsocentrals decreasing in length anteriorly; scutellum with 2 strong marginals and 2 minute laterals; few upper and lower, white propleural bristles of different length.

Legs. Fore coxa brown-black; mid and hind coxae black, orange-yellow at apex, grey pollinose; legs mostly dirty yellow, darker at knees; tibiae and tarsomeres 1–3 brown or black at tips; tarsomeres 4–5 brown-black. Fore leg (Fig. 9B). Coxa with long black setae and apical bristles; femur thickened, with ventral and posteroventral rows of strong bristles, about half as long as femur height; tibia bearing 3–4 long erect dorsal bristles, ventral row of short thick spinules, posteroventral row of elongate setulae, 2 long apicoventral bristles, devoid of black setulae anteriorly; basitarsus with ventral row of short thick spinules and posteroventral row of elongate setulae; segment 5 weakly widened and flattened; length of femur, tibia and tarsal segments (in mm): 1.63/1.42/0.64/0.29/0.19/0.16/0.17.

Mid leg. Coxa with black setae and bristles; femur with 2 ventral rows of short setae, at most ⅓ as long as femur height; tibia bearing 3 anterodorsal; 2 posterodorsal, 3 anteroventral, 2 posteroventral, 4 apical bristles; segment 5 inconspicuously widened; length of femur, tibia and tarsal segments (in mm): 1.89/1.97/1.02/0.34/0.26/0.22/0.22.

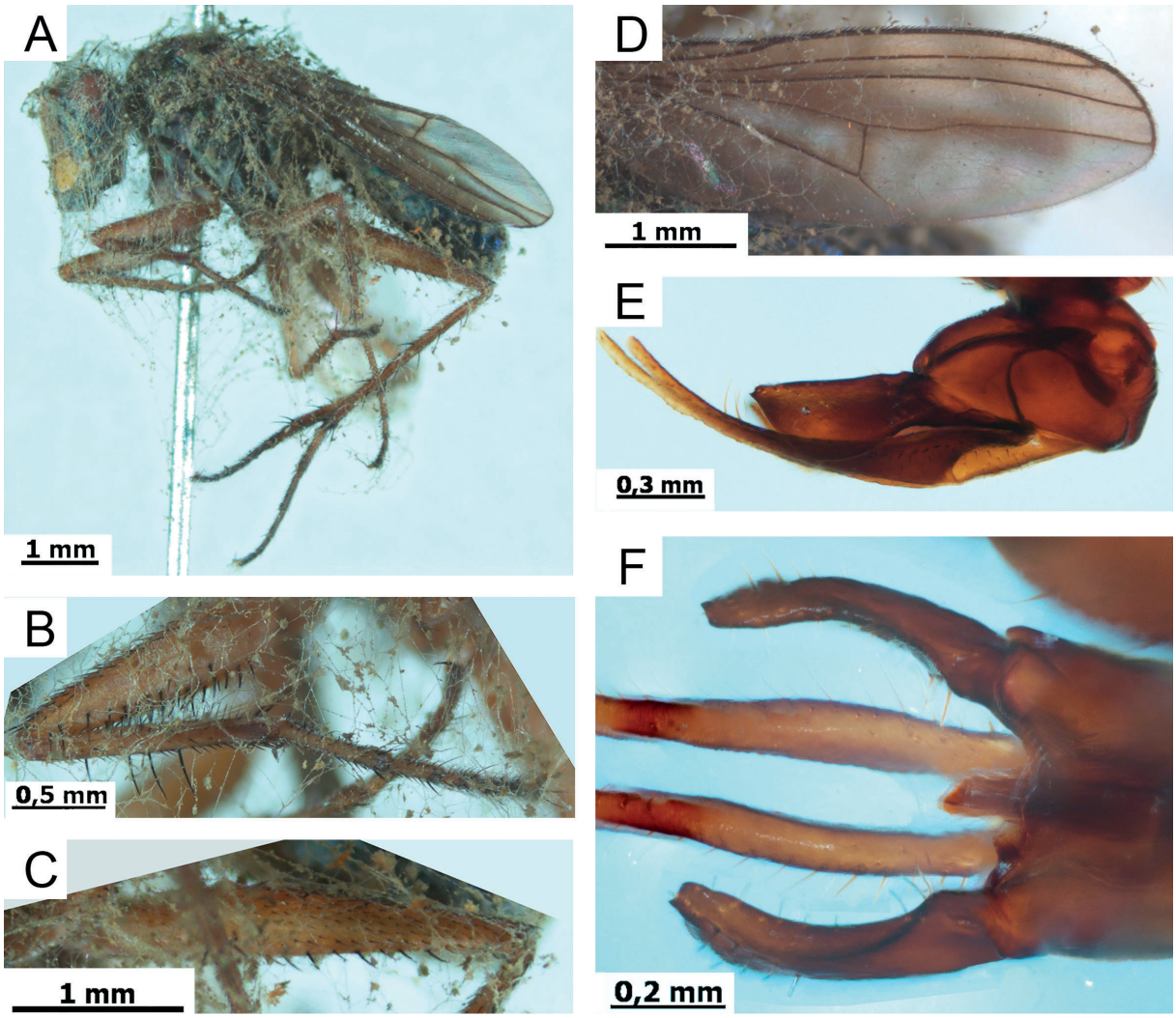

Fig. 9. *Thinophilus longicercus* sp. nov., holotype, ♂ (RBINS). **A**. Habitus. **B**. Fore leg, posterior view. **C**. Hind femur. **D**. Wing. **E**. Hypopygium after maceration with basal half of cercus, lateral view. **F**. Distal appendages of hypopygium after maceration, ventral view.

Hind leg. Coxa with 1 black exterior bristle; femur (Fig. 9C) ventrally with anteroventral row of bristles, about femur height; 3 anterodorsal bristles; tibia bearing 4 anterodorsal, 4 posterodorsal bristles, 2 anteroventral, 3 posteroventral, 4 apicals; segment 5 inconspicuously widened; length of femur, tibia and tarsal segments (in mm): 2.73/2.8/0.67/0.54/0.37/0.24/0.26.

Wing (Fig. 9D). Fumose, without distinct dark spots; veins brown; distal part of M_{1+2} convex; tip of R_{4+5} parallel with M_{1+2}; ratio of part of costa between R_{2+3} and R_{4+5} to that between R_{4+5} and M_{1+2} (in mm), 0.5/0.28; crossvein dm-m straight; ratio of dm-m to distal part of M_4, 0.4/0.58; anal vein distinct; halter dirty yellow; lower calypter dirty yellow, with white and brown cilia.

Abdomen. Shining green-black dorsally, weakly dusted; shining blue-violet laterally; tergites 2–4 ventrally whitish pollinose; setae and hind-marginal bristles black, short; sternites 3 and 4 of male abdomen with tuft of mainly black long hairs. Hypopygium (Fig. 9E–F) black with black appendages; epandrial lobe reduced to small subtriangular projection, glabrous; hypandrium short, fused with epandrium, apically concave; phallosoma narrow, weakly projected; phallus long and simple, concealed; surstylus flat and broad, at middle slightly wider than at base (lateral view), with several short inner and ventral bristles at base, with few short outer bristles at apex; cerci dorsally separated, very long, extending to base of abdomen, broad on basal third, filiform distally, with marginal bristles (Fig. 9E; distal half of cercus broken).

Female

Unknown.

Notes

The holotype bears an identification label by P. Vanschuytbroeck, "*Hydrophorus bisetus* Loew". The latter species was reported from Madagascar from 4 specimens (Vanschuytbroeck 1957), but only one male was found in RBINS collection, belonging to the new species described here. *Hydrophorus bisetus* was excluded from the Afrotropical Region by Dyte & Smith (1980).

Thinophilus deemingi sp. nov.
urn:lsid:zoobank.org:act:E987D48E-1FB1-4E86-801C-44BACFAB7907
Fig. 10

Diagnosis

The small-sized *Thinophilus deemingi* sp. nov. is remarkable, having modified fore tarsus with basitarsus thick at apex; tarsal segments 2–4 short, triangular, with black lateral setae; segment 5 rounded, widened and flattened. As a whole, fore tibia ⅓ × as long as fore tarsus. In addition, wing crossvein dm-m ½ × as long as distal part of M_4. Other species of the *Thinophilus indigenus* group have practically simple fore tarsus, longer than fore tibia; wing crossvein dm-m as long as or ⅔ × as long as distal part of M_4.

Etymology

The specific epithet is dedicated to the collector, the British dipterist Dr J.C. Deeming (NMWC)

Material examined

Holotype

OMAN • ♂; "Muscat, Qurum Beach; [23°37′ N, 58°28′ E]; 23 oct. 1990; J.C. Deeming leg."; NMWC.

Description

Male (Fig. 10A)

Measurements. Body length 1.8 mm; antenna length 0.5 mm; wing length 1.8 mm; wing width 0.6 mm.

Head (Fig. 10B). Postcranium bluish black, whitish pollinose; frons, face and clypeus greenish black, grey pollinose; face under antennae about 2 × as wide as height of postpedicel; clypeus half as long as epistoma, 1.6 × as wide as long; palp yellow, bearing black bristly hairs; proboscis dark brown; 2 diverging ocellars; 1 vertical, 1 postvertical, stronger and longer than, and not in row with upper postoculars; upper postoculars uniseriate, black; middle and lower postoculars multiseriate, white, long; antennal scape, pedicel and postpedicel blackish dorsally, yellow ventrally (Fig. 10C); scape with scale-like inner projection; pedicel simple, convex on inner side; postpedicel apically browned, rounded, with short pubescence, as high as long; arista-like stylus dorsal, black and thick basally, thin distally, shortly pubescent; length ratio of scape to pedicel to postpedicel to stylus, 0.05/0.04/0.08/0.2.

Thorax. Metallic, grey dusted; mesonotum greenish blue-black; pleura bluish black; no acrostichals; 6 dorsocentrals decreasing in length anteriorly; scutellum with 2 strong marginals and 2 minute laterals; few upper and lower, white propleural bristles of different length.

Legs. Fore coxa yellow; mid and hind coxae black, yellow at apex; legs mostly yellow; fore tarsomeres 2–5 and mid and hind tarsomeres 4–5 brown-black.

Fore leg. Coxa with black setae and bristles; femur (Fig. 10D) slightly thickened, with anteroventral row of about 6 black bristles, longer than femur height, with 3 preapical posteroventral setae; tibia bearing 2 anterodorsal, 2 posterodorsal and 3 apical short bristles; basitarsus thick at apex; tarsal segments 2–4 short, triangular, with black lateral setae (Fig. 10E); segment 5 rounded, widened and flattened; length of femur, tibia and tarsal segments (in mm): 0.68/0.55/0.18/0.05/0.05/0.04/0.09.

Mid leg. Coxa with black setae; femur anteroventral row of black bristles, about as long as femur height, with 3 preapical posteroventral setae; tibia bearing 2 anterodorsal; 2 posterodorsal, 4 apical bristles; tarsal segment 5 weakly widened; length of femur, tibia and tarsal segments (in mm): 0.69/0.66/0.36/0.12/0.08/0.06/0.07.

Hind leg. Coxa with 1 black exterior bristle; femur with ventral row of several very short black setae, as long as anterodorsal setae; tibia bearing 2 anterodorsal, 2 posterodorsal bristles, 4 apicals; segment 5 weakly widened; length of femur, tibia and tarsal segments (in mm): 0.78/0.78/0.2/0.19/0.1/0.08/0.07.

Wing (Fig. 10F). Hyaline, without darker shades; veins brown-yellow, more yellowish at base; distal part of M_{1+2} convex; tip of R_{4+5} parallel with M_{1+2}; ratio of part of costa between R_{2+3} and R_{4+5} to that between R_{4+5} and M_{1+2} (in mm), 0.24/0.14; crossvein dm-m straight; ratio of dm-m to distal part of M_4, 0.16/0.27; anal vein distinct; halter yellow; lower calypter yellow, with white cilia.

Abdomen. Bluish black, weakly dusted; setae and hind-marginal bristles on tergites black, short; sternites bearing fungi (Laboulbeniales). Hypopygium (Fig. 10G) brown with yellow appendages; epandrial lobe fingerlike, with strong apical bristle; hypandrium short, apically concave; phallosoma massive, almost reaching apex of surstyli; phallus long and simple, strongly curved at apex of phallosoma, projected; surstylus straight (lateral view) with few longer bristles and several short apical and preapical setae (Fig. 10H); cerci dorsally fused almost to apex, boat-shaped, with marginal bristles (Fig. 10G).

Female

Unknown.

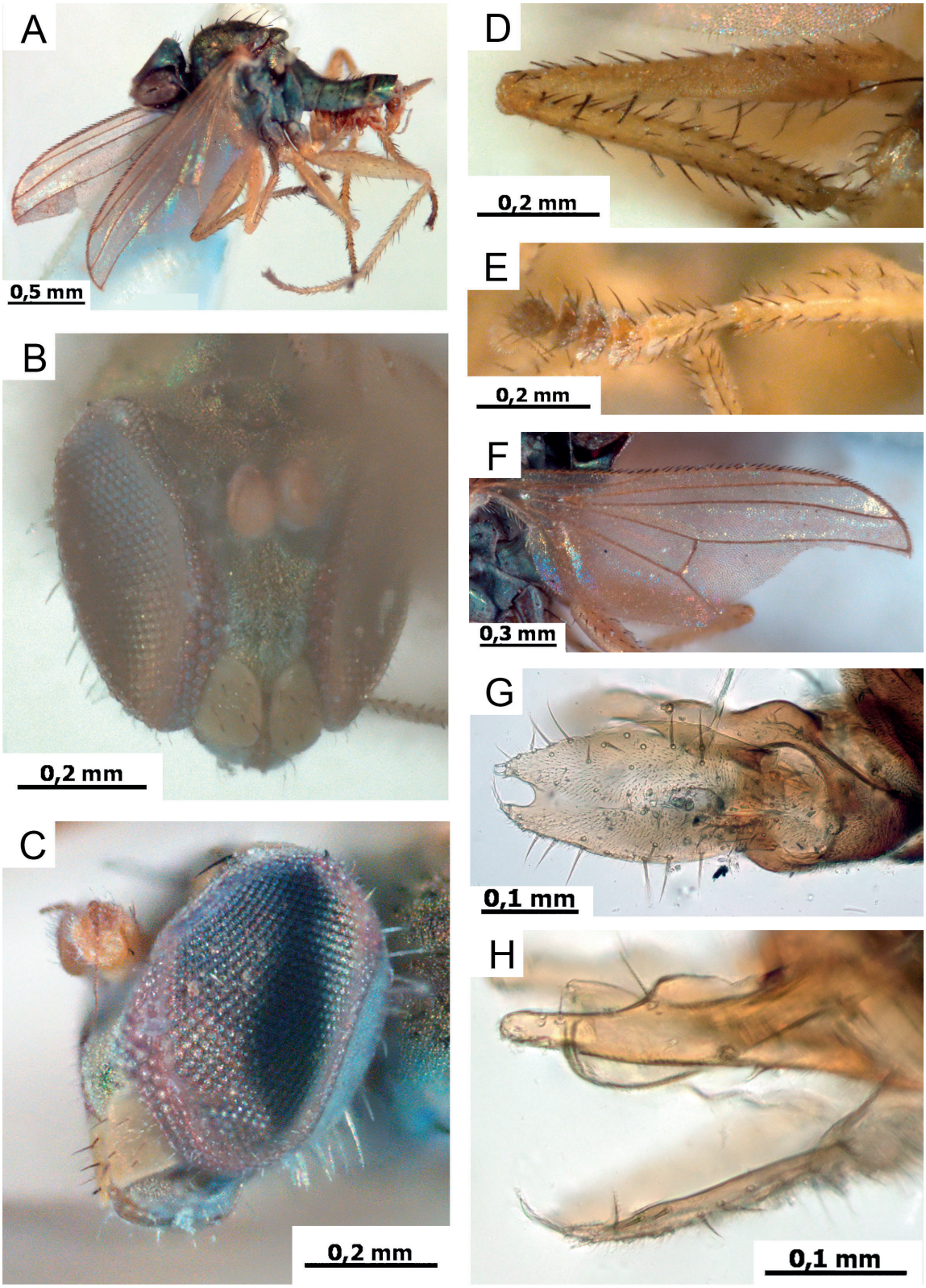

Fig. 10. *Thinophilus deemingi* sp. nov., holotype, ♂ (NMWC). **A**. Habitus. **B**. Head, anterior view. **C**. Head and antenna, lateral view. **D**. Fore femur and tibia, posterior view. **E**. Fore tarsus, dorsal view. **F**. Wing. **G**. Hypopygium after maceration, dorsal view. **H**. Distal appendages of hypopygium after maceration, lateral view.

Thinophilus manambato sp. nov.
urn:lsid:zoobank.org:act:C2866EE5-976A-4775-859C-BBD06301A798
Fig. 11

Diagnosis

Thinophilus manambato sp. nov. is close in habitus to *T. capensis*, *T. cataractae* sp. nov. and *T. fluvialis* sp. nov. (see key above), differing in fore coxa with mainly white setae, with at most 2–3 black apical bristles; mid coxa with white setae and one black bristle. The last three species have fore coxa with mainly black bristles and setae; mid coxa with black bristle and setae. The hypopygium of *T. manambato* is similar to that in *T. fluvialis*, but the surstylus of the latter is thin (lateral view), bearing about seven short spine-like apicoventral setae; the surstylus of *T. manambato* is broad (lateral view), with simple ventral and apical setae.

Etymology

The specific epithet refers to the Manambato village at the Lake Rasoabe near Toamasina city, where the type was collected.

Material examined

Holotype
MADAGASCAR • ♂; "Toamasina Region, Manambato; 18.75° S, 49.15° E; 24–30 Nov. 2012; A.Medvedev leg."; ZMUM.

Paratype
MADAGASCAR • 1 ♂; same collection data as for holotype; ZMUM.

Description

Male (Fig. 11A)
Measurements. Body length 4.3 mm; antenna length 0.9 mm; wing length 3.7 mm; wing width 1.2 mm.

Head (Fig. 11B). Postcranium blackish blue, white pollinose; frons copper green, with violet spot under ocellar tubercle; face greenish blue; clypeus blackish blue, grey pollinose; face under antennae 1.7 × as wide as height of postpedicel; clypeus about ⅓ as long as epistoma, about 2 × as wide as long; palp yellow, bearing black bristly hairs; proboscis dark brown; 2 diverging ocellars; 1 vertical, 1 postvertical, much stronger and longer than, and not in row with upper postoculars; upper postoculars uniseriate, black; middle and lower postoculars multiseriate, white, long; antennal scape, pedicel and postpedicel blackish dorsally, yellow ventrally (Fig. 11C); scape with scale-like inner projection; pedicel simple, convex on inner side; postpedicel apically browned, rounded, with short pubescence, slightly higher than long (15/11); arista-like stylus dorsal, black and thick basally, whitish and thin distally, shortly pubescent; length ratio of scape to pedicel to postpedicel to stylus, 0.1/0.1/0.11/0.7.

Thorax. Metallic, grey dusted; mesonotum blue-green; pleura bluish black; no acrostichals; 6 dorsocentrals decreasing in length anteriorly; scutellum with 2 strong marginals and 2 minute laterals; 7–8 upper and 7–8 lower, white propleural bristles of different length.

Legs. Fore coxa yellow; mid and hind coxae black, yellow at apex; legs mostly yellow; tarsi gradually darkened from tip of basitarsus.

Fore leg. Coxa with mainly white setae, with at most 2–3 black apical bristles; femur simple, with some short fine ventral setae at base; tibia bearing 3 anterodorsal, 2 posterodorsal, 2–3 ventral and 3–4 apical short bristles, glabrous anteriorly on distal ⅓; tarsal segments 1–4 ventrally with short simple setulae;

segments 3–5 with elongate apicodorsal setulae; segment 5 inconspicuously widened; length of femur, tibia and tarsal segments (in mm): 1.24/1.16/0.51/0.25/0.19/0.13/0.17.

Mid leg. Coxa with white setae and 1 black bristle; femur with anteroventral row of short white hairs on basal half; 1 preapical posteroventral; tibia bearing 2 anterodorsal; 2 posterodorsal, 2 ventral short bristles, 4 apicals; tarsal segments 1–4 ventrally with short setae; segment 5 inconspicuously flattened

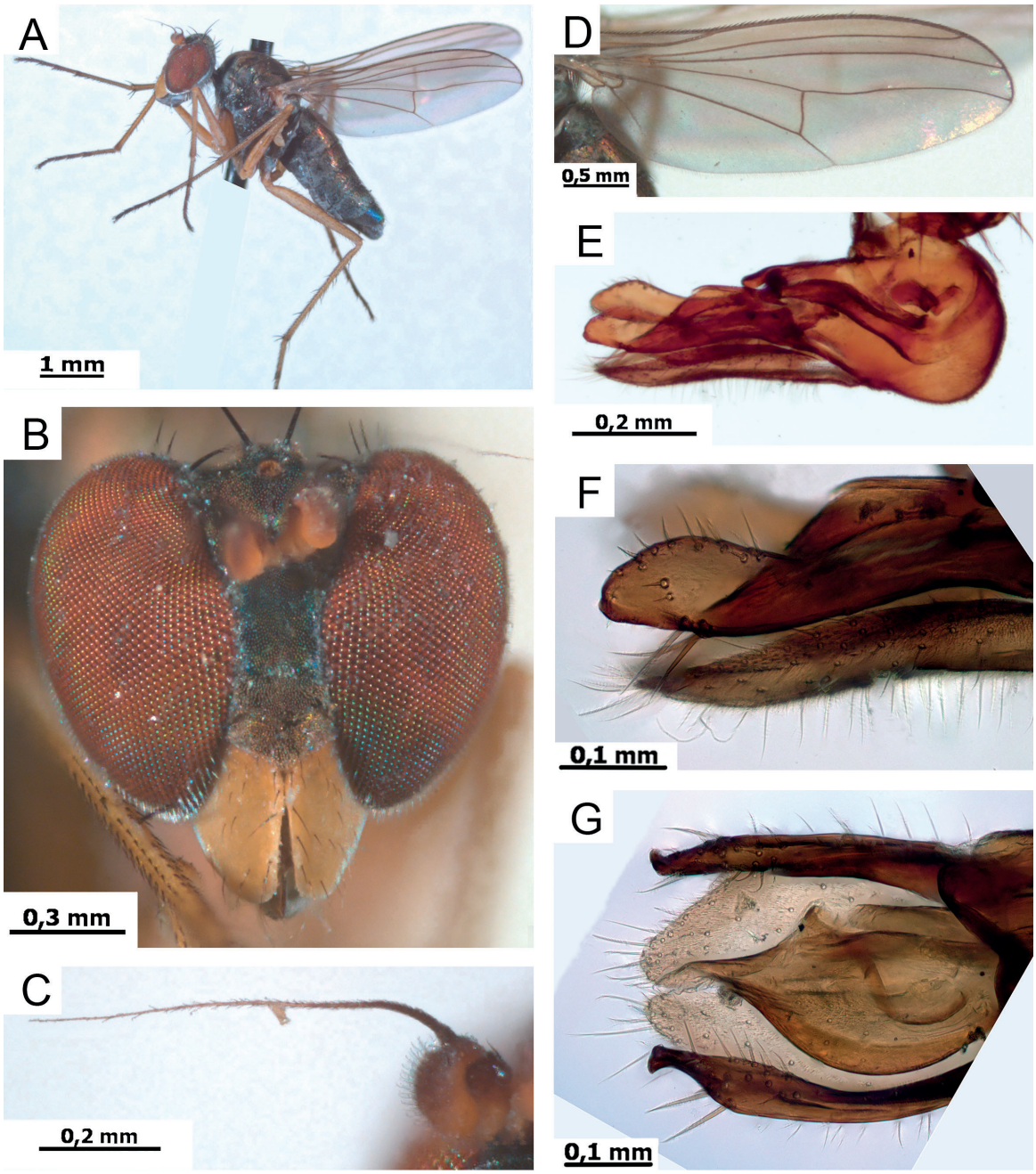

Fig. 11. *Thinophilus manambato* sp. nov. **A–D**. Holotype, ♂ (ZMUM). **E–G**. Paratype, ♂ (ZMUM). **A**. Habitus. **B**. Head. **C**. Antenna. **D**. Wing. **E**. Hypopygium after maceration, lateral view. **F**. Distal appendages of hypopygium after maceration, lateral view. **G**. Distal appendages of hypopygium after maceration, ventral view.

dorso-ventrally and widened; length of femur, tibia and tarsal segments (in mm): 1.44/1.52/0.88/0.35/0.24/0.16/0.17.

Hind leg. Coxa with 1 black exterior bristle; femur ventrally without remarkable setae; 6–7 anterodorsal bristles; tibia bearing 4 anterodorsal, 4 posterodorsal bristles, 3 short ventrals, 4 apicals; tarsal segments 1–4 ventrally with short setae; segment 5 with elongate apicodorsal setulae; segment 5 inconspicuously widened; length of femur, tibia and tarsal segments (in mm): 1.68/1.9/0.61/0.45/0.28/0.21/0.2.

Wing (Fig. 11D). Hyaline, without darker shades; veins yellow-brown, more yellowish at base; distal part of M_{1+2} convex; tip of R_{4+5} parallel with M_{1+2}; ratio of part of costa between R_{2+3} and R_{4+5} to that between R_{4+5} and M_{1+2} (in mm), 0.40/0.26; crossvein dm-m straight; ratio of dm-m to distal part of M_4, 0.33/0.35; anal vein distinct; halter yellow; lower calypter yellow, with white cilia.

Abdomen. Blackish violet, grey dusted; tergite 6 shining blue; setae and hind-marginal bristles on tergites black, short; sternites with short white setae. Hypopygium (Fig. 11E–G) black with black appendages; epandrial lobe reduced; hypandrium fused with epandrium, short and broad, apically concave; phallosoma broad, narrow at apex, not reaching apex of surstyli; phallus short, simple, apically broad, hidden under phallosoma; surstylus straight and broad (lateral view), with 3 long dorsal bristles and several short and long ventral and apical setae (Fig. 11F); cerci dorsally adjoined, leaflike, with long marginal bristles (Fig. 11G).

Female

Unknown.

Thinophilus fluvialis sp. nov.

urn:lsid:zoobank.org:act:07D13005-A8FF-41E2-B35A-EDACC244BAE7

Fig. 12

Diagnosis

Thinophilus fluvialis sp. nov. is close in habitus to *T. manambato* sp. nov., differing in fore coxa with mainly black bristles and setae; mid coxa with black bristle and setae. The last species have fore coxa with mainly white setae, with at most 2–3 black apical bristles; mid coxa with white setae and one black bristle. The hypopygium of *T. manambato* is similar to that in *T. fluvialis*, but the surstylus of the latter is thin (lateral view), bearing about seven short spine-like apicoventral setae; the surstylus of *T. manambato* is broad (lateral view), with simple ventral and apical setae. *Thinophilus fluvialis* keys to *T. cataractae* sp. nov. (see key above), differing in colour of the antenna, palp, and in morphology of hypopygium.

Etymology

The specific epithet refers to the 'riverine' inhabitation of the male type collected.

Material examined

Holotype

TANZANIA • ♂; "Muhuwesi River; 10.85° S, 37.18° E; alt. 540 m; 18 Dec. 2015; N. Vikhrev leg."; ZMUM.

Description

Male (Fig. 12A)

Measurements. Body length 3.1 mm; antenna length 0.7 mm; wing length 2.8 mm; wing width 0.8 mm.

Head (Fig. 12B). Postcranium bluish black, whitish pollinose; frons blackish violet, grey pollinose, with shining spot under ocellar tubercle; face shining violet on upper half; clypeus and adjacent part of face black, grey pollinose; face under antennae about as wide as height of postpedicel; clypeus 0.4 × as long as epistoma, 1.6 × as wide as long; palp yellow, bearing black bristly hairs; proboscis dark brown; 2 diverging ocellars; 1 vertical, 1 postvertical, much stronger and longer than, and not in row with upper postoculars; upper postoculars uniseriate, black; middle and lower postoculars multiseriate, white, long; antennal scape, pedicel and postpedicel blackish dorsally, yellow ventrally (Fig. 12C); scape with scale-like inner projection; pedicel simple, convex on inner side; postpedicel apically browned, rounded, with short pubescence, as high as long; arista-like stylus dorsal, black and thick basally, thin distally, shortly pubescent; length ratio of scape to pedicel to postpedicel to stylus, 0.07/0.07/0.12/0.54.

Thorax. Metallic, grey dusted; mesonotum blue-green; pleura bluish black; no acrostichals; 6 dorsocentrals decreasing in length anteriorly; scutellum with 2 strong marginals and 2 minute laterals; 3 upper and 4 lower, white propleural bristles of different length.

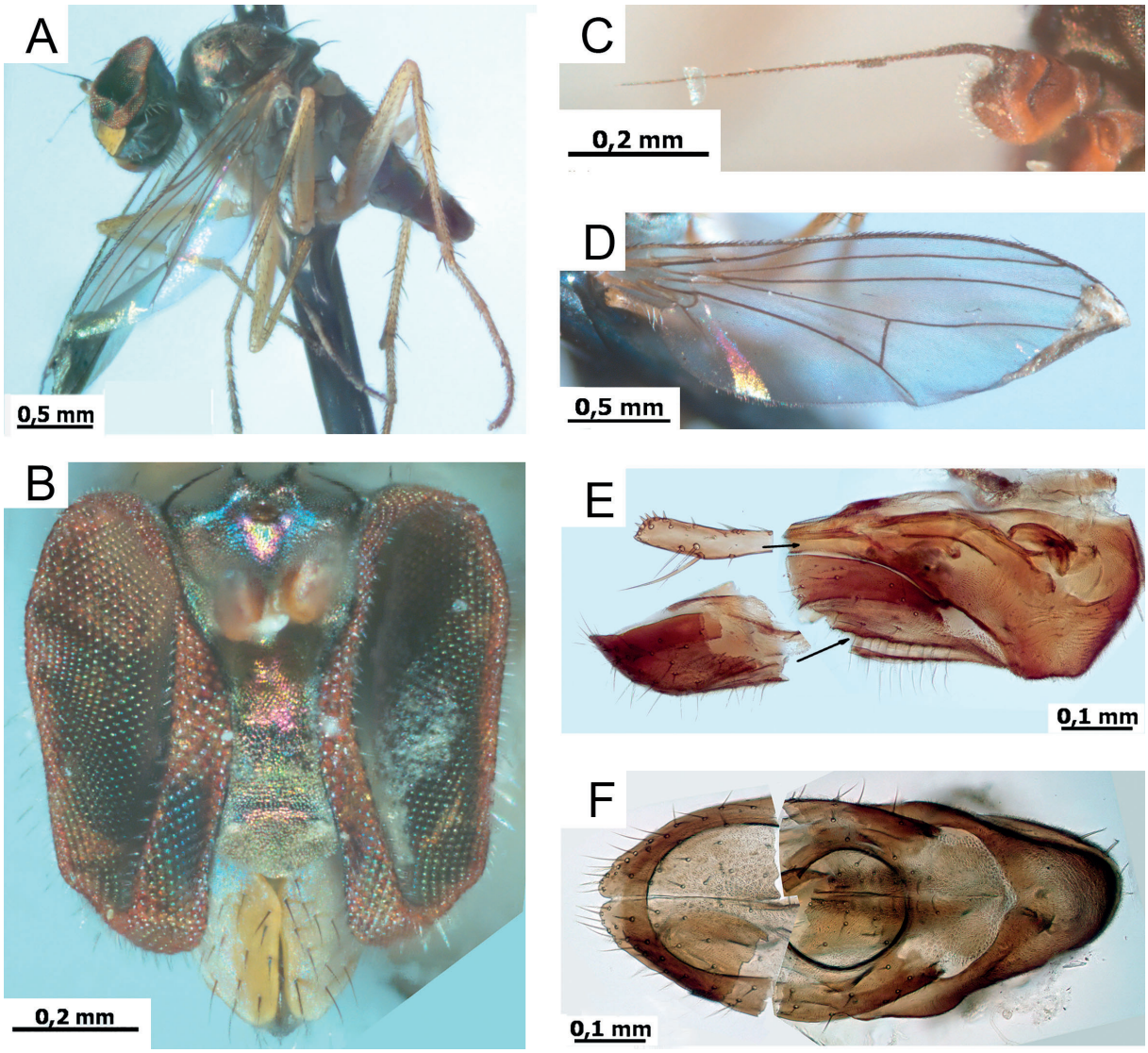

Fig. 12. *Thinophilus fluvialis* sp. nov., holotype, ♂ (ZMUM). **A**. Habitus. **B**. Head. **C**. Antenna. **D**. Wing. **E**. Hypopygium after maceration, lateral view. **F**. Hypopygium after maceration, ventral view.

Legs. Fore coxa yellow; mid and hind coxae black, yellow at apex; legs mostly yellow; tarsi black from middle of segment 3.

Fore leg. Coxa with mainly black setae and bristles, with white hairs at base; femur simple, with few short fine black ventral setae, with 4 preapical posteroventral setae; tibia bearing 2 anterodorsal, 2 posterodorsal and 2 apical short bristles; tarsal segments with short simple setulae; segment 5 weakly widened; length of femur, tibia and tarsal segments (in mm): 0.86/0.8/0.33/0.18/0.13/0.1/0.11.

Mid leg. Coxa with black setae and 1 black bristle; femur with ventral row of several very short black setae; 1 preapical anterior and 1 preapical posteroventral; tibia bearing 2 anterodorsal; 2 posterodorsal, 4 apical bristles; tarsal segment 5 weakly widened; length of femur, tibia and tarsal segments (in mm): 0.98/1.08/0.6/0.2/0.18/0.11/0.12.

Hind leg. Coxa with 1 black exterior bristle; femur with ventral row of several very short black setae; about 5 anterodorsal bristles; tibia bearing 3 anterodorsal, 3 posterodorsal bristles, 2 ventrals, 4 apicals; segment 5 weakly widened; length of femur, tibia and tarsal segments (in mm): 1.16/1.38/0.37/0.26/0.21/0.14/0.13.

Wing (Fig. 12D). Hyaline, without darker shades; veins yellow-brown, more yellowish at base; distal part of M_{1+2} convex; tip of R_{4+5} parallel with M_{1+2}; ratio of part of costa between R_{2+3} and R_{4+5} to that between R_{4+5} and M_{1+2} (in mm), 0.32/0.17; crossvein dm-m straight; ratio of dm-m to distal part of M_4, 0.25/0.27; anal vein distinct; halter yellow; lower calypter yellow, with white cilia.

Abdomen. Copper green dorsally, weakly dusted; shining violet laterally; setae and hind-marginal bristles on tergites black, short; sternites with short setae. Hypopygium (Fig. 12E) black with black appendages (cut); epandrial lobe reduced; hypandrium fused with epandrium, short and broad, apically concave; phallosoma broad, rounded at apex; phallus long, coiled, simple, gradually broadened towards apex; surstylus straight and thin (lateral view), with 3 long dorsal bristles, several short ventral setae and about seven short spine-like apicoventral setae; cerci dorsally adjoined, leaflike, with short marginal bristles (Fig. 12F).

Female

Unknown.

Thinophilus cataractae sp. nov.

urn:lsid:zoobank.org:act:D888F387-9F93-4989-AD30-CC8506F40B0A

Fig. 13

Diagnosis

Thinophilus cataractae sp. nov. keys to *T. fluvialis* sp. nov., strongly differing from the latter in morphology of hypopygium, almost entirely black antenna, and black-brown palp on basal half. *T. fluvialis* male has antenna black dorsally, yellow ventrally; palp entirely yellow (see key above).

Etymology

The specific epithet '*cataractae*'(in Latin) refers to the Niagarakely waterfalls locality in the Niagarakely Forest, where the male type was collected.

Material examined

Holotype

MADAGASCAR • ♂; "Niagarakely Forest [19°09′ S, 48°13′ E]; Moramanga Distr.; Dec. 1955; B. Stuckenberg leg.; *Thinophilus tinctus* Parent; P. Vanschuytbroeck det. 1957; I.R.Sc.N.B. I.G. 20938"; RBINS.

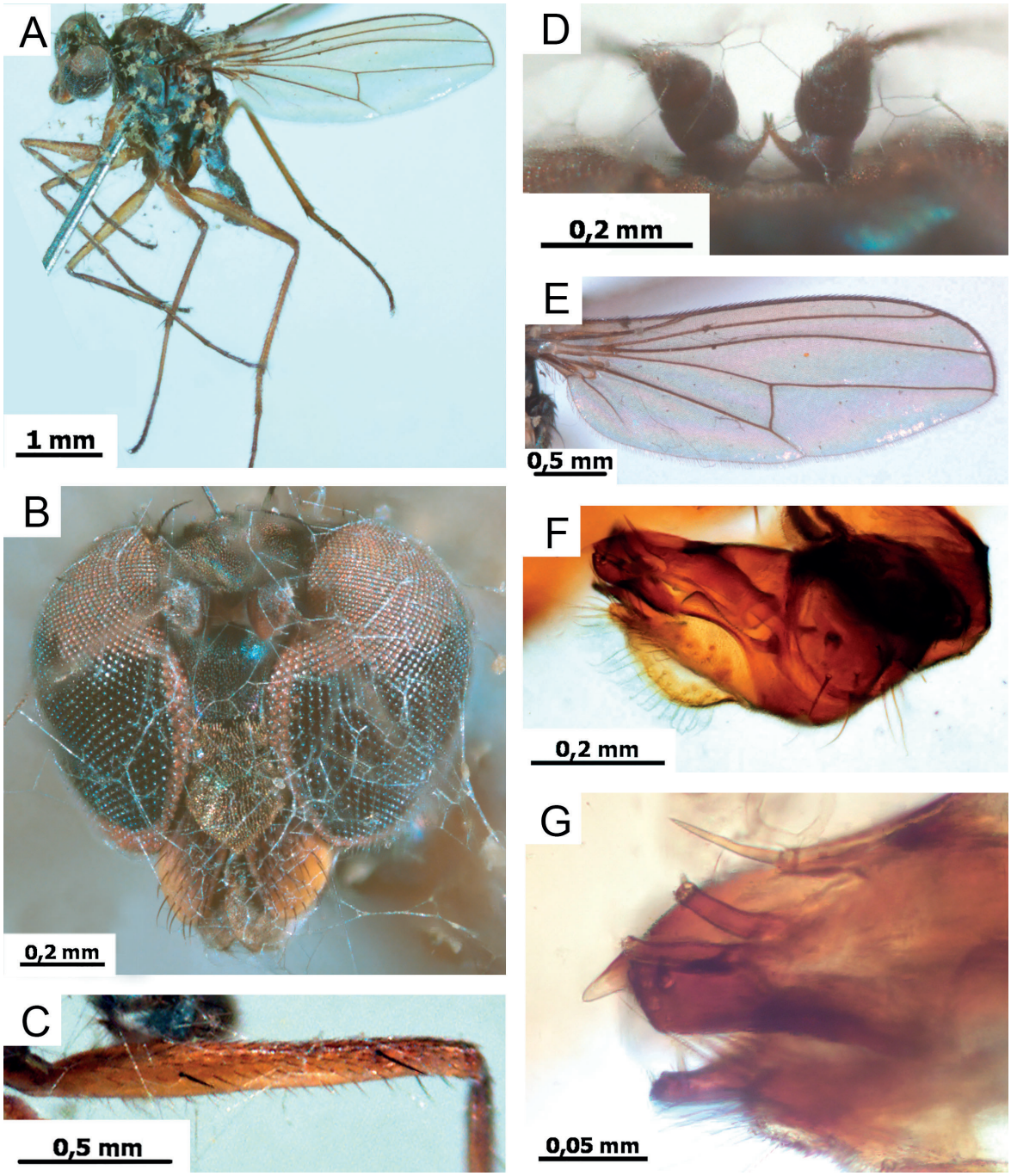

Fig. 13. *Thinophilus cataractae* sp. nov. **A–E**. Holotype, ♂ (RBINS). **F–G**. Paratype, ♂ (RBINS). **A**. Habitus. **B**. Head. **C**. Mid femur, anterior view. **D**. Antenna, dorsal view. **E**. Wing **F**. Hypopygium after maceration, lateral view. **G**. Distal appendages of hypopygium after maceration, lateral view.

Paratype

MADAGASCAR • 1 ♂; same collection data as for holotype; RBINS.

Description

Male (Fig. 13A)

Measurements. Body length 3.8 mm; antenna length 1 mm; wing length 3.5 mm; wing width 1.1 mm.

Head (Fig. 13B). Postcranium bluish black, grey pollinose; frons and face bluish black; clypeus black, grey pollinose; face under antennae about 2 × as wide as height of postpedicel; clypeus about ⅔ as long as epistoma, about as wide as long; palp black-brown on basal half, yellow distally, bearing black bristly hairs; proboscis dark brown; 2 diverging ocellars; 1 vertical, 1 postvertical, somewhat stronger and longer than, and not in row with upper postoculars; upper postoculars uniseriate, black; lower postoculars multiseriate, white, long; antenna black; scape with scale-like inner projection (spine-like from dorsal view; Fig. 13D), as long as scape; pedicel simple, convex on inner side; postpedicel rounded, with short pubescence, as high as long; arista-like stylus dorsal, black and thick basally, thin distally, shortly pubescent; length ratio of scape to pedicel to postpedicel to stylus, 0.07/0.07/0.10/0.84.

Thorax. Metallic, grey dusted; mesonotum black, without matt spots; pleura bluish black; no acrostichals; 5 dorsocentrals of almost equal length; scutellum with 2 strong marginals and 2 minute laterals; 1 dark upper and 1–2 white lower propleural bristles of different length.

Legs. Fore coxa brown; mid and hind coxae black; legs mostly dirty yellow, darker at knees; tarsi black from tip of basitarsus

Fore leg. Coxa with long black setae and apical bristles; femur simple, with some short fine ventral setae at base and 3–4 posteroventral bristles at apex; tibia bearing 2 anterodorsal, 2 posterodorsal bristles and 3–4 short apical setae; tibia and tarsus ventrally with elongate simple setulae; segment 5 inconspicuously widened; length of femur, tibia and tarsal segments (in mm): 1.05/1.04/0.47/0.22/0.18/0.13/0.16.

Mid leg. Coxa with black setae and 1 bristle; femur (Fig. 13C) with anteroventral row of short dark hairs on basal half; 1 preapical anterior and 4–5 preapical posteroventrals; tibia bearing 2 anterodorsal; 2 posterodorsal, 4 apical bristles; segment 5 inconspicuously widened; length of femur, tibia and tarsal segments (in mm): 1.3/1.39/0.8/0.34/0.2/0.13/0.16.

Hind leg. Coxa with 1 black exterior bristle; femur ventrally without remarkable setae; 3 anterodorsal bristles; tibia bearing 2 anterodorsal, 2 posterodorsal bristles, few very short ventrals, 4 apicals; segment 5 inconspicuously widened; length of femur, tibia and tarsal segments (in mm): 1.41/1.55/0.46/0.41/0.28/0.17/0.18.

Wing (Fig. 13E). Fumose, without dark spots; veins brown; distal part of M_{1+2} straight; tip of R_{4+5} parallel with M_{1+2}; ratio of part of costa between R_{2+3} and R_{4+5} to that between R_{4+5} and M_{1+2} (in mm), 0.48/0.25; crossvein dm-m straight; ratio of dm-m to distal part of M_4, 0.32/0.30; anal vein distinct; halter yellow; lower calypter yellow, with white cilia.

Abdomen. Black, grey dusted; tergites 2–4 laterally whitish pollinose; setae and hind-marginal bristles black, short; sternites with short setae. Hypopygium (Fig. 13F) black with black appendages; epandrial lobe fingerlike, with strong apical bristle; hypandrium fused with epandrium, short, apically concave; phallosoma broad, acute apically, projected; phallus coiled, long and flat, band-like; surstylus relatively short and narrow (lateral view), not reaching apex of phallosoma (Fig. 13G), with 2 long wormlike

ventral processes and 2–3 short spine-like apicoventral setae; cerci dorsally widely separated, elongate-ovate, with narrow finger-like apex, covered with long outer bristles.

Female
Unknown.

Thinophilus medvedevi sp. nov.
urn:lsid:zoobank.org:act:EC22CD6D-73BB-4F90-86A9-D84A2BEB8E8A
Fig. 14

Diagnosis

Thinophilus medvedevi sp. nov. is very close in size and habitus to *T. quadrisetus* known by female holotype from Tanzania (Dar Es Salam), differing from the latter in lateral bristles on scutellum, ⅓ to ½ as long as median bristles. The scutellum of *T. quadrisetus* bears two pairs of scutellars of almost equal length (Parent 1936). There are some fine differences between the species in colour characters and leg setation that may relate with individual variability. *Thinophilus medvedevi* keys to *T. subpalpatus* sp. nov., differing in mid femur with rows of ventral setae, half as long as femur height; tarsomere 5 of all tarsi deep black; tarsomeres 1–4 of fore and mid tarsi yellow. The male of *T. subpalpatus* has mid femur with row of ventral setae on distal half, 2 × as long as femur height; tarsi gradually darkened towards tips.

Etymology

The species is named after the collector, Andrey Medvedev (ZMUM).

Material examined

Holotype
MADAGASCAR • ♂; "Toliara Region, near Ifaty; 23.12° S, 43.37° E; 13 Nov. 2012; A. Medvedev leg."; ZMUM.

Paratypes
MADAGASCAR • 1 ♂, 2 ♀♀; same collection data as for holotype; ZMUM • 1 ♂; "Toliara Region, Toliara env.; 23.20° S, 43.62° E; 12–19 Nov. 2012; A. Medvedev leg."; ZMUM.

Description

Male (Fig. 14A)
Measurements. Body length 5.8 mm; antenna length 0.9 mm; wing length 5.0 mm; wing width 1.6 mm.

Head (Fig. 14B). Postcranium blackish blue, white pollinose; frons, face and clypeus green-violet, grey pollinose; face under antennae 2 × as wide as height of postpedicel; clypeus half as long as epistoma, about 2 × as wide as long; palp yellow, bearing black bristly hairs; proboscis dark brown; 2 diverging ocellars; 1 strong vertical, 1 postvertical, stronger and longer than, and not in row with upper postoculars; upper postoculars iniseriate, black; middle and lower postoculars multiseriate, white, long; antenna almost entirely orange-yellow (Fig. 14C); scape subtriangular; pedicel simple, convex on inner side; postpedicel browned at base of arista, rounded, with short pubescence, slightly higher than long (19/15); arista-like stylus dorsal, black and thick basally, white and thin distally, shortly pubescent; length ratio of scape to pedicel to postpedicel to stylus, 0.14/0.07/0.15/0.59.

Thorax. Monochrome, black, whitish grey pollinose. No acrostichals; 7 dorsocentrals decreasing in length anteriorly; scutellum with 2 strong marginals and 2 laterals, ⅓ to ½ as long as median bristles; about 4 upper and about 11 lower, white propleural bristles of different length.

Legs. Fore coxa mostly yellow, black at base; mid and hind coxae black, yellow at apex, whitish grey pollinose; legs mostly yellow; segment 5 almost entirely black; hind tarsomeres 1–3 dark at apex; hind tarsomere 4 brown.

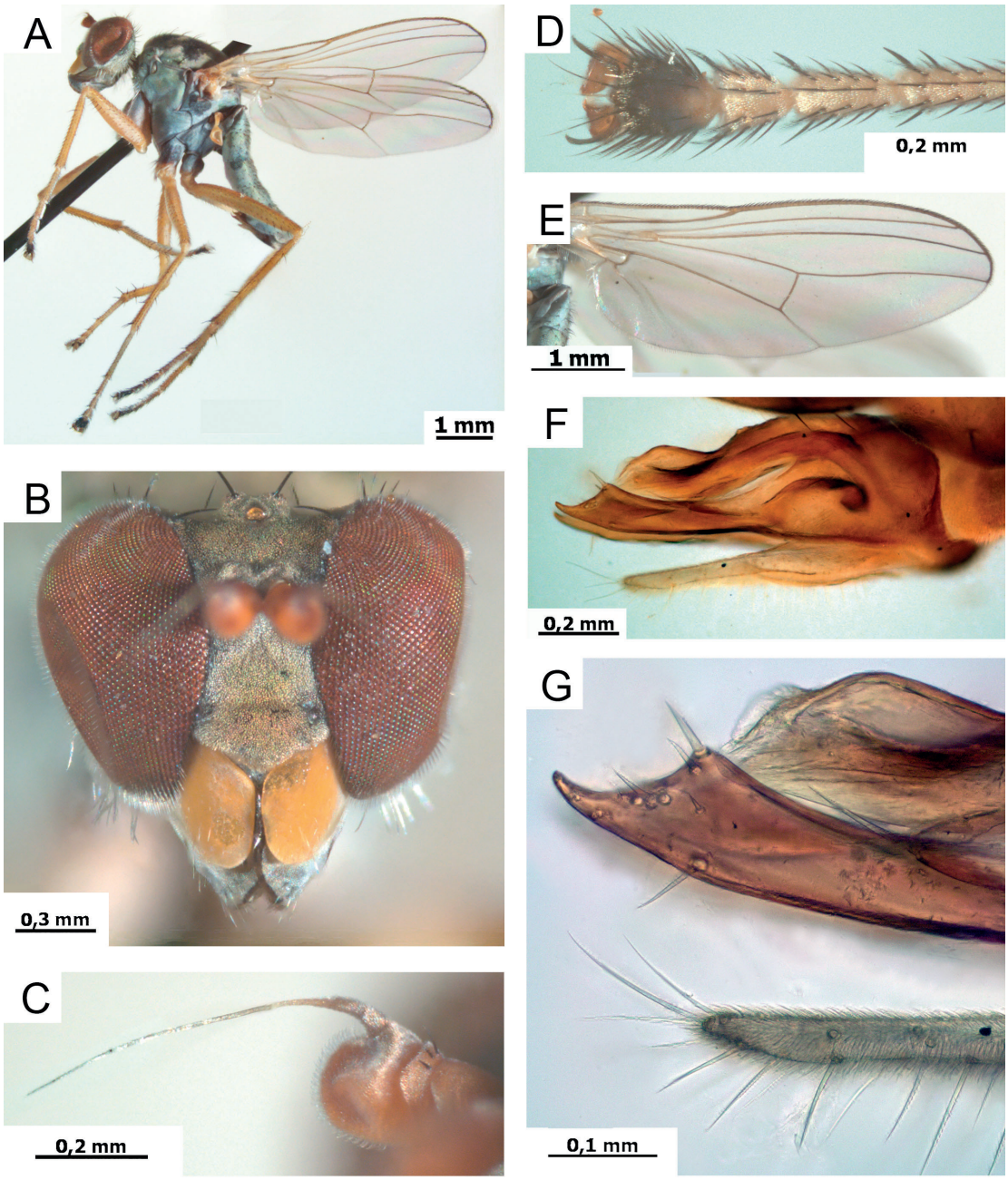

Fig. 14. *Thinophilus medvedevi* sp. nov. **A–E**. Holotype, ♂ (ZMUM). **F–G**. Paratype, ♂ (ZMUM). **A**. Habitus. **B**. Head. **C**. Antenna. **D**. Mid tarsus, dorsal view. **E**. Wing. **F**. Hypopygium after maceration, lateral view. **G**. Distal appendages of hypopygium after maceration, lateral view.

Fore leg. Coxa with white setae, with at most 1 dark apical seta; femur slightly thickened, with fine white ventral setae on basal half, with about 5 fine short black anteroventral setae at base, with about 5 posteroventral preapical black setae, as long as femur height; tibia bearing 2 anterodorsal, 2 posterodorsal and 3–4 apical short setae, devoid of black setulae anteriorly on distal ⅓; tarsomeres weakly thickened, with elongated setulae; tarsomeres 2–4 with white ventral pile; tarsomere 5 distinctly flattened; length of femur, tibia and tarsal segments (in mm): 1.8/1.57/0.63/0.33/0.2/0.18/0.2.

Mid leg. Coxa with many black setae; femur with rather short black ventral setae; 1 anterior preapical bristle, posteroventral row of 5 black preapical setae; tibia bearing 2 anterodorsal; 2 posterodorsal, 1 anteroventral, 1–2 posteroventral, 4 apical bristles; tarsomere 4 slightly thickened; tarsomere 5 distinctly flattened (Fig. 14D); length of femur, tibia and tarsal segments (in mm): 1.82/1.74/1.05/0.39/0.26/0.19/0.24.

Hind leg. Coxa with 1 black exterior bristle; femur with 2–3 anterodorsal setae on distal half and 2 preapical posteroventral short setae, without ventrals; tibia bearing 3 anterodorsal, 3 posterodorsal, 2 ventral bristles, 3 apicals; tarsomere 4 slightly thickened; tarsomere 5 distinctly flattened; length of femur, tibia and tarsal segments (in mm): 2.1/2.26/0.66/0.61/0.37/0.25/0.27.

Wing (Fig. 14E). Hyaline, without darker shades; veins yellow-brown, more yellowish at base; distal part of M_{1+2} convex; tip of R_{4+5} parallel with M_{1+2}; ratio of part of costa between R_{2+3} and R_{4+5} to that between R_{4+5} and M_{1+2} (in mm), 0.42/0.30; crossvein dm-m straight; ratio of dm-m to distal part of M_4, 0.43/0.61; anal vein distinct; halter yellow; lower calypter yellow, with white cilia.

Abdomen. With setae and hind-marginal bristles on tergites black, short; sternites with very short setulae. Hypopygium (Fig. 14F) black, cercus yellow; epandrial lobe fingerlike, with strong apical bristle; hypandrium short, apically concave; phallosoma broad, split at apex, not reaching apex of surstyli; phallus coiled, long and flat, band-like; surstylus slightly curved, widened distally (Fig. 14G) with pointed apex, several short preapical bristles and setae; cerci dorsally fused at base, free and narrow distally, with long marginal bristles (Fig. 14G).

Female

Similar to male except lacking male secondary sexual characters. Posteroventral preapical setae on fore femur weakly developed; fore tarsus without white ventral pile.

Thinophilus subpalpatus sp. nov.

urn:lsid:zoobank.org:act:0221323D-EE12-4D5E-8670-2629791B95E5

Fig. 15

Diagnosis

Thinophilus subpalpatus sp. nov. keys to *T. medvedevi* sp. nov., differing in mid femur with row of ventral setae on distal half, 2 × as long as femur height; tarsi gradually darkened towards tips. The male of *T. medvedevi* sp. nov. has mid femur with rows of ventral setae, half as long as femur height; tarsomere 5 of all tarsi deep black; tarsomeres 1–4 of fore and mid tarsi yellow.

Etymology

The specific epithet reflects its morphological similarity with *T. palpatus* Parent, 1929.

Material examined

Holotype

SOUTH AFRICA • ♂; "[Eastern] Cape Province, Umngazi Mouth; 31290a; [31°67′ S, 29°45′ W]; coastal dunes; 20 Oct. 1972; M.E. Irwin leg."; NMSA.

Paratypes

SOUTH AFRICA • 4 ♂♂, 12 ♀♀; same collection data as for holotype; NMSA.

Description

Male (Fig. 15A)

Measurements. Body length 4.5–4.7 mm; antenna length 0.8 mm; wing length 3.8 mm; wing width 1.0 mm.

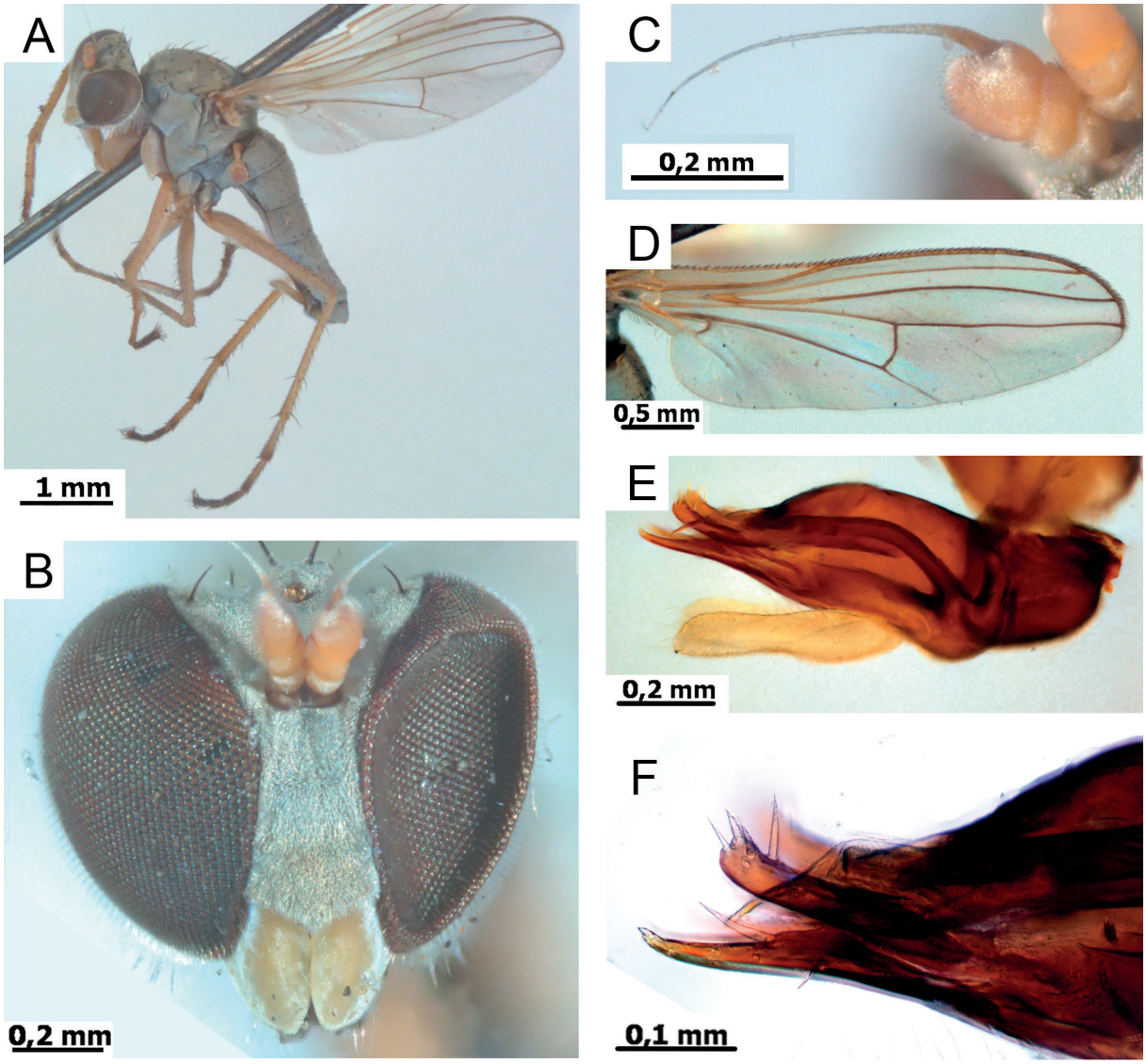

Fig. 15. *Thinophilus subpalpatus* sp. nov. **A–E**. Holotype, ♂ (NMSA). **F–G**. Paratype, ♂ (NMSA). **A**. Habitus. **B**. Head. **C**. Antenna. **D**. Wing. **E**. Hypopygium after maceration, lateral view. **F**. Distal appendages of hypopygium after maceration, lateral view.

Head (Fig. 15B). Postcranium, frons, face, clypeus, thorax and abdomen all monochrome, black, densely whitish grey pollinose; face under antennae 1.7 × as wide as height of postpedicel; clypeus 0.35 × as long as epistoma, 1.6 × as wide as long; palp yellow, bearing white hairs; proboscis black; 2 diverging ocellars; 1 vertical, 1 postvertical, about as strong and long as, and not in row with upper postoculars; upper postoculars uniseriate, black; middle and lower postoculars multiseriate, white, long; antenna almost entirely orange-yellow (Fig. 15C); scape and pedicel simple; pedicel straight on inner side; postpedicel apically darkened, rounded, with short pubescence, as high as long; arista-like stylus dorsal, dark and thick basally, white and thin distally, shortly pubescent; length ratio of scape to pedicel to postpedicel to stylus, 0.09/0.06/0.13/0.54.

Thorax. No acrostichals; 6 dorsocentrals decreasing in length anteriorly; scutellum with 2 strong marginals and 2 laterals, half as long as median bristles; about 5 upper and about 5 lower, white propleural bristles of different length.

Legs. Fore coxa yellow; mid and hind coxae black, yellow at apex, whitish grey pollinose; legs mostly yellow; fore tarsomeres 2–4, mid and hind tarsomeres 1–4 blackish at apex; segment 5 almost entirely black.

Fore leg. Coxa with very short white setae; femur slightly thickened, with about 5 fine white ventral setae at base, half as long as femur height, with 3 posteroventral preapical black setae; tibia bearing 2 anterodorsal, 2 posterodorsal and 2–3 apical short bristles, devoid of black setulae anteriorly on distal ⅓; tarsomeres weakly thickened, with elongated setulae; length of femur, tibia and tarsal segments (in mm): 1.12/0.95/0.42/0.2/0.16/0.12/0.15.

Mid leg. Coxa with 1–2 black setae; femur with rather short fine white ventral setae; anteroventral row of 5–7 black setae, as long as femur height, 1–2 preapical posteroventral short setae; tibia bearing 2 anterodorsal; 2 posterodorsal, 4 apical short bristles; tarsal segments 4–5 slightly thickened; length of femur, tibia and tarsal segments (in mm): 1.19/1.19/0.78/0.28/0.19/0.12/0.16.

Hind leg. Coxa without exterior bristle; femur with 1 preapical anterior and 2 preapical posteroventral short setae, without ventrals; tibia bearing 3 anterodorsal, 3 posterodorsal, 1 ventral bristles, 3 apicals; tarsal segments 4–5 slightly thickened; length of femur, tibia and tarsal segments (in mm): 1.69/1.5/0.4 5/0.36/0.21/0.17/0.16.

Wing (Fig. 15D). Hyaline, without darker shades; veins yellow-brown, more yellowish at base; distal part of M_{1+2} straight; tip of R_{4+5} parallel with M_{1+2}; ratio of part of costa between R_{2+3} and R_{4+5} to that between R_{4+5} and M_{1+2} (in mm), 0.31/0.19; crossvein dm-m straight; ratio of dm-m to distal part of M_4, 0.38/0.46; anal vein distinct; halter yellow; lower calypter yellow, with white cilia.

Abdomen. With setae and hind-marginal bristles on tergites black, short; sternites with very short setulae. Hypopygium (Fig. 15E) black, cercus yellow; epandrial lobe fingerlike, with strong apical bristle; hypandrium short, apically concave; phallosoma relatively narrow, pointed apically, reaching apex of ventral lobe of surstylus; phallus thin, long and simple, curved at apex of phallosoma; surstylus bilobate, with thinner and longer dorsal lobe (Fig. 15F); each lobe with 1 long ventral bristle and short setae at apex; cerci free, evenly broad to apex, with long marginal bristles.

Female

Similar to male except lacking male secondary sexual characters.

Discussion

Dyte & Smith (1980) listed 23 species of *Thinophilus* in their Afrotropical Catalog. Later a new species and a new subspecies were described (Grichanov 1997), many new records were published, and Grichanov (2018) listed 24 species and one subspecies in his Catalog, excluding *Thinophilus flavipalpis* from the Afrotropics. As a result of the present research, ten new species of the genus are described, three species names are synonymized, and four species are excluded from the Afrotropical Region. Old records of some species from DR Congo, Sudan and Madagascar are shown here to be incorrect. At the same time, I did not treat unassociated females from Botswana, Ethiopia, Malawi and Namibia, which may belong to undescribed species. *Thinophilus indigenus* is widely distributed in the Oriental Region and subtropics of the Palaearctic Region, being rather common in the Afrotropics, including 18 continental countries, as well as Aldabra, Madagascar, Comoros and Cape Verde Islands. *Thinophilus spinitarsis* Becker, 1907, if not misidentified, is also reported from the three regions, i.e., Afrotropical (Senegal), Oriental (Taiwan) and Palaearctic (Middle East, Central Asia and Black Sea coast near Kherson city). *Thinophilus argyropalpis* is found in Afrotropical (Senegal) and Palaearctic countries (North Africa, south-eastern Europe, Middle East and Central Asia). *Thinophilus mirandus* Becker, 1907 is known from Tanzania and southern Palaearctic. *Thinophilus ochripalpis* Becker, 1910 is found in Somalia, Tanzania, Afrotropical and Palaearctic sectors of the Arabian Peninsula. *Thinophilus promotus* Becker, 1910 inhabits the Red Sea coast within its Afrotropical and Palaearctic sectors. *Thinophilus spinulosus* Parent, 1929 is also found in arid countries of Afrotropics (Nigeria and Somalia) and Palaearctic (Egypt and Saudi Arabia). *Thinophilus imperialis* is reported from 10 Afrotropical countries, and *T. palpatus* from 9 countries.

The Afrotropical *Thinophilus* is more diverse in Tanzania (eleven species), being confined mainly to the Indian Ocean coast. Nevertheless, the East African mangroves (as well as the West-Central African mangroves) are still poorly studied, and more species of *Thinophilus* are expected to be collected there. For example, 21 species of *Thinophilus* are known from small territory of Singapore, being common in mangroves (Grootaert 2018). Ten species of the genus are known in South Africa. Sixteen countries contain only one species of *Thinophilus*; however, these records belong mainly to widespread *T. indigenus*, *T. imperialis* and *T. palpatus.*

Grootaert (2018) defined five species groups of *Thinophilus* based on highly diverse MSSC, but he did not mention the number of dorsocentrals and the position of arista, apparently considering these characters variable. The following mostly somatic features were used by Grootaert to define his species groups:

The *spinatus* group: long slender legs with the base of the femora spindle-shaped dilated; face and mouthparts are somewhat elongate; very short vertical bristles.
The *simplex* group: small species (2–3 mm) with short legs.
The *murphyi* group: medium-sized to large robust species with large mouthparts; arista is partly white on the apex.
The *comatus* group: fore and mid legs bearing very long bristles (MSSC?).
The *nitens* group: medium-sized to large robust species; white curly hairs present on fore coxa and femur (MSSC?).

It seems that at least some MSSC are unconnected with somatic characters, e.g. modified tarsomeres, modified bristles on legs, cerci free or fused partly or fused over the entire length (Grootaert 2018). Regarding the Afrotropical species, it is worth noting that they are also highly diverse in size (1.7–7.0 mm), colouration and morphology including such MSSC as spindle-shaped femora, partly white arista on the apex, long bristles on some podomeres. The groups and subgroups of Afrotropical *Thinophilus* species may be summarized as follows.

List of Afrotropical groups, subgroups and species included

Thinophilus gallagheri species group
- *T. gallagheri* sp. nov.

Thinophilus versutus species group
- *T. versutus* subgroup
  - *T. saegeri* sp. nov.
  - *T. cataractae* sp. nov.
- *T. cilifemoratus* subgroup
  - *T. prudens*
  - *T. sigwalti* sp. nov.

Thinophilus calopus species group
- *T. calopus* subgroup
  - *T. calopus*
  - *T. argyropalpis*
  - *T. virgatus*
- *T. quadrisetus* subgroup
  - *T. quadrisetus*
  - *T. medvedevi* sp. nov.
  - *T. subpalpatus* sp. nov.
  - *T. munroi*

Thinophilus indigenus species group
- *T. imperialis* subgroup
  - *T. imperialis*
  - *T. ciliventris*
  - *T. longicercus* sp. nov.
- *T. indigenus* subgroup
  - *T. indigenus*
  - *T. rex*
  - *T. setulipalpis*
  - *T. splendidus*
- *T. ochripalpis* subgroup
  - *T. ochripalpis*
  - *T. capensis*
  - *T. fluvialis* sp. nov.
  - *T. manambato* sp. nov.
  - *T. mirandus*
  - *T. palpatus*
  - *T. promotus*
  - *T. spinitarsis*
- *T. deemingi* subgroup
  - *T. deemingi* sp. nov.

The small-sized (1.7 mm) *Thinophilus gallagheri* sp. nov. is the most peculiar species in bearing only whitish yellow bristles and setae on body and legs, differing from all other Old World species bearing black major bristles. The apical part of vein M_4 is unusually long, 2.4 × as long as crossvein dm-m. Characters that occur in other species are as follows: completely grey pollinose body; light yellow antenna; nearly apical arista-like stylus, yellow basally, and white distally; mesonotum with four dorsocentrals of almost equal length; scutellum with two marginals; tibiae with short bristles; fore and mid tarsomeres shortened; surstylus bilobed; cerci separated, short, stick-shaped.

Species with usually four dorsocentral bristles of almost equal length on mesonotum form two poorly defined subgroups of the *Thinophilus versutus* species group. All species are small-sized (1.7–2.5 mm), having straight wing vein M_{1+2}; long and slender legs; narrow surstylus formed of fused lobes; short, narrow and mostly separated cerci.

The *Thinophilus versutus* subgroup of species has adults with darker body, legs and antennae; poorly setose femora and tibiae; usually dorsoapical arista. It includes Afrotropical *T. saegeri* sp. nov. and *T. cataractae* sp. nov. and Palaearctic *T. versutus*.

The *Thinophilus cilifemoratus* subgroup of species has adults with lighter body, legs and antennae; rows of long ventral bristles or setae on fore tibia, fore and hind femora; well developed dorsal bristles on tibiae; usually dorsal arista. It includes Afrotropical *T. prudens* and *T. sigwalti* sp. nov. and *T. cilifemoratus* described from Egypt and later reported from India, Bangladesh and Taiwan. This subgroup may be related with the Oriental *T. simplex* group (Grootaert 2018) and other Oriental and Australasian species with four dorsocentrals described previously in the subgenus *Schoenophilus* (e.g., Grootaert & Meuffels 1984).

The species with five and more dorsocentral bristles on mesonotum, gradually or abruptly decreasing in length anteriorly, have almost always a weak sinuation on the wing vein M_{1+2} ("wing boss") and strong apical and preapical bristles on the tibiae. They can be divided into two groups: species with fine yellow setae on palpus (*Thinophilus calopus* group), and species with black setae on the palpus (*Thinophilus indigenus* group).

The *Thinophilus calopus* group includes two subgroups of species. All species of this group possess white arista on their distal part (like in species of the Oriental *T. murphyi* group, some other Oriental and Palaearctic species). The *Thinophilus calopus* subgroup includes *T. calopus*, *T. argyropalpis* and *T. virgatus* with a scutellum bearing two hair-like lateral setae. Their body length varies from 3 mm (*T. argyropalpis*) to 6 mm (*T. virgatus*).

The *Thinophilus quadrisetus* subgroup includes *T. quadrisetus*, *T. medvedevi* sp. nov. and *T. subpalpatus* sp. nov. with a scutellum bearing two strong lateral bristles, more than half as long as major bristles, as well as *T. munroi* (two subspecies with 3 to 8 pairs of strong marginal spines in addition to one pair of long scutellar bristles). Their body length is 4 to 6 mm. In Singapore, only large-sized *T. meieri* Grootaert & Evenhuis, 2018 (from the *T. murphyi* group) has a scutellum with a lateral bristle at each side half as long as median marginals.

The *Thinophilus indigenus* group cannot be divided into well-defined subgroups of species; however, these loose assemblages are listed.

Thinophilus imperialis subgroup. Large-sized (5.5–7 mm) *T. imperialis*, *T. ciliventris* and *T. longicercus* sp. nov. are distinguished by the tuft of long hairs on sternites 3 and 4 of the abdomen. Their male surstylus is broad, strongly sclerotized, with fused lobes. *Thinophilus imperialis* and *T. longicercus* sp. nov. have extremely long and thin cerci extending to the base of abdomen. The group seems to be monophyletic.

Thinophilus indigenus subgroup. Four species with distinct dark lateral spot at notopleura, with postalar dark spot, with or without dark spot in front of scutellum: *T. indigenus*, *T. rex*, *T. setulipalpis* and *T. splendidus*. Their body length is 2.5 (*T. indigenus*) to 5.8 mm.

Thinophilus ochripalpis subgroup. Other Afrotropical species of the *Thinophilus indigenus* group have mesonotum monochrome, or with longitudinal stripes dorsally, without dark lateral spots, rarely with

postalar dark spot. This is a rather loose group of species of variable size (3.1–5.5 mm) and MSSC: *T. capensis*, *T. fluvialis* sp. nov., *T. manambato* sp. nov., *T. mirandus*, *T. ochripalpis*, *T. palpatus*, *T. promotus* and *T. spinitarsis.* Some species possess white arista on its distal part, like species of the Oriental *T. murphyi* group having also black setae on palps.

Thinophilus deemingi sp. nov. is small-sized (body length 1.8 mm) and is regarded as a different subgroup of the *Thinophilus indigenus* group, differing from other species in long distal part of wing vein M_4, two × as long as crossvein dm-m; shortened male fore tarsus (with fore tibia ⅓ longer than fore tarsus) with tarsal segments 2–4 short, triangular, and segment 5 rounded, widened and flattened; cerci dorsally fused almost to apex, boat-shaped. Other species of the *Thinophilus indigenus* group have practically simple fore tarsus, longer than fore tibia; wing crossvein dm-m as long as or ⅔ as long as distal part of M_4; differently shaped cerci, fused at most in basal part, rarely adjoined.

As a result of this research, the number of species of the genus has increased to 30, known from continental Africa, Oman, Yemen and Madagascar. The real number of species of *Thinophilus* may be much larger than 50 in this area.

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