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Tanzanimyia, a new Afrotropical genus of Schistopterini with four new species (Diptera: Tephritidae: Tephritinae)

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ABSTRACT

A new genus of schistopterine fruit-flies, *Tanzanimyia*, and four new species, *T. flavicauda*, *T. reticulata*, *T. tanzaniaensis* and *T. ugandaensis* (type species), are described from Equatorial Africa, based on adults. The larvae of *T. ugandaensis* and *T. reticulata* infest the flower heads of *Bothriocline fusca*, and those of *T. reticulata* also infest the flower heads of *Gutenbergia cordifolia* var. *cordifolia* (Asteraceae: Vernonieae). Illustrations of taxonomically relevant body parts of both sexes are provided, primarily for the two reared species. An identification key for the new species is compiled.

KEYWORDS: Afrotropical, biodiversity, Tephritinae, Schistopterini, fruit-flies, identification key, new genus, new species, taxonomy.

INTRODUCTION

The Schistopterini (Tephritidae: Tephritinae) is a moderately large tribe, containing at least 200 species, assigned to 15 genera, although about two-thirds of the species are still undescribed, and some of them belong to undescribed genera (Freidberg 2002; Zonstein & Freidberg 2006). The goal of this study is to describe *Tanzanimyia*, a new genus of Schistopterini, and its four new species, all from Equatorial Africa, as another step in our ongoing revision of this tribe (Freidberg 2002; Zonstein & Freidberg 2006). In Freidberg's (2002) key to the schistopterine genera, *Tanzanimyia* runs to the couplets distinguishing between the Australo-Oriental-Palearctic genus *Calloptera* Freidberg and the complex of five Afrotropical genera: *Cordylopterix* Hering, *Melanopterella* Freidberg, *Schistotephritis* Freidberg, *Heringomyia* Hardy and *Clematochaeta* Hering. The peculiar wing pattern of *Tanzanimyia*, comprising dark rays extending from central dark area to costa, and several bullae inside the central dark area, resembles both the wing pattern of *Calloptera*, as well as of *Melanopterella*. However, the preocellar seta is very short, fine and hair-like in three *Tanzanimyia* species, or completely lacking in one, whereas the preocellar seta in *Calloptera* and in *Melanopterella* is long, as long as the first antennal flagellomere. *Tanzanimyia* has a gray body, while the body of *Melanopterella* is black. The characters distinguishing the new genus from all other genera of Schistopterini are discussed below.

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MATERIAL AND METHODS

This study is based on specimens in the entomological collection of the Steinhardt Museum of Natural History, Tel Aviv University, Israel (SMNHTAU), where the holotypes and most paratypes of the species described below are deposited. Paratypes of *T. ugandaensis* and *T. reticulata* are also deposited in the following collections: Natural History Museum, London, UK (NHM); Koninklijk Museum voor Midden Afrika, Tervuren, Belgium (MRAC); Muséum d'Histoire Naturelle, Genève, Switzerland (MHNG); National Museums of Kenya, Nairobi, Kenya (NMK); KwaZulu-Natal Museum, Pietermaritzburg, South Africa (NMSA); National Museum of Natural History, Smithsonian Institution, Washington, DC, USA (USNM).

Descriptions are detailed and composite, and species descriptions do not repeat the generic description. Almost all the detected characters have been recorded in order to make them available for a comprehensive revision and phylogenetic analysis of the entire tribe. Terminology follows McAlpine (1981) and White *et al*. (1999). For the wing bullae: the adjective "large" is used for bullae longer than crossvein R–M; and the adjective "small" is used for bullae shorter than this vein. As bullae have an oval form, their maximal length is considered. Ratios are based on at least three measurements (when possible). The "tergal-oviscapal measure" refers to the number of terga immediately preceding oviscape with combined length equal to length of oviscape (Freidberg & Mathis 1986). Explanations of many of the characters used in this paper are provided in Freidberg (2002).

TAXONOMY

Genus ***Tanzanimyia*** n. gen.

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Etymology: From Tanzania and Greek μυῖα (a fly). Three of the four species belonging to this genus occur in Tanzania. The gender is feminine.

Type species: *Tanzanimyia ugandaensis* n. sp.

Diagnosis: In Freidberg's key (2002: 5) *Tanzanimyia* would reach couplet 11, which splits between *Melanopterella* Freidberg and the three genera, *Schistotephritis* Freidberg, *Heringomyia* Hardy and *Clematochaeta* Hering. *Melanopterella* differs from these three genera in the generally black or blackish body and in the three or more bullae in the wing pattern, whereas the other three genera are characterized by a brownish, yellowish or whitish (in some *Heringomyia*) body and by no more than two bullae in the wing pattern. Other significant characters encountered while examining *Tanzanimyia* through the key are: 2 orbital and 3 frontal setae; posterior frontal seta acuminate; preocellar seta minute or lacking; face without carina; apical scutellar seta relatively long, 0.33–0.50× as long as basal scutellar seta; body, especially thorax and abdomen, blackish gray; wing length-to-width ratio 2.1–2.4; wing pattern rayed, not *Eutretosoma* type; all dark rays in wing pattern extend to wing margin; pterostigma about as long as wide. The combination of all these

characters is unique for *Tanzanimyia*. *Setoides* Zonstein & Freidberg has a ventral pedicel seta about as long as the 1st flagellomere, whereas it is about 0.33× as long as the flagellomere in *Tanzanimyia*.

Tanzanimyia differs from the other genera of Schistopterini primarily in the following combination of characters: preocellar seta lacking or very short, hair-like, at most 0.25–0.33× as long as ocellar seta; frontal setae distinctly decreasing in length anteriorly, the posterior two darker (blackish or brown) than the whitish anterior frontal seta; anterior orbital seta transversely aligned with posterior frontal seta; wing rather elongate, with large blackish brown central area, and wing pattern usually distinctly rayed, with about nine narrow rays on anterior half, between pterostigma and end of vein M; costal cleft shallow, extending to about 0.15–0.25 of width of pterostigma; cell bcu lacking distinct posterodistal lobe.

Specific differences from each of the other 15 named genera of Schistopterini are noted below. Based on host-plant relationships *Tanzanimyia* (hosts within Vernonieae) differs readily from *Bactropota*, *Brachiopterna* and *Schistopterum* (hosts of all four genera within Plucheae), *Rhabdochaeta* (with a single exception hosts within Inuleae) and *Calloptera* (hosts within Heliantheae). All six of those genera also differ from *Tanzanimyia* in morphological characters. *Tanzanimyia* differs from *Bactropota*, *Brachiopterna* and *Schistopterum* in the wing pattern with the dark area in the center (while in the aforementioned genera the dark area is in the basal part of the wing) and from *Calloptera* in more than 9 wide rays of the wing pattern (7 narrow rays in *Calloptera*). Based on cephalic chaetotaxy *Tanzanimyia* differs from both *Rhabdochaeta* and *Rhochmopterum* by having acuminate posterior frontal seta (posterior frontal seta lanceolate in these two genera). All other genera of Schistopterini have hosts within the Vernonieae, or host associations are unknown (*Pararhabdochaeta*). Of these, *Eutretosoma*, *Microtreta*, *Clematochaeta*, *Heringomyia* and *Schistotephritis* have short preocellar setae but clearly different wing patterns that are not rayed. *Cordylopteryx*, *Melanopterella* and *Setoides* have similar wing patterns but well-developed preocellar setae. The wing pattern of the Oriental and Australasian *Pararhabdochaeta* is superficially similar to that of *Tanzanimyia*, but clearly differs in the arrangement of the bullae.

A new couplet (11a) is to be added in Freidberg's key (2002) to accommodate *Tanzanimyia*:

11(10) Generally darker species: body and wing pattern usually black or blackish; wing apex with 4 more or less similar, narrow, discrete rays; 3 or more bullae present (fig. 2K); preocellar seta usually as long as or slightly longer than ocellar seta (Afrotropical) ..... *Melanopterella*

11a(10) Generally grayish species: body and wing pattern grayish; wing with dark central area, distinctly rayed, with 5–6 bullae; preocellar setae minute or lacking (Afrotropical).....*Tanzanimyia*

– Generally paler species: body and wing pattern usually brownish, yellowish or whitish; wing pattern usually more reticulate and without such discrete rays, with

0±2 bullae (fig. 2L–N); ocellar and preocellar setae variable, but preocellar seta not longer than ocellar seta.....12

Description: Head (Fig. 1). *Structure*: 1.03–1.15× as high as long; fronto-facial angle about 100°; eye 1.04–1.33× as high as long; frons 1.00–1.38× as wide as long; face slightly concave, slightly carinate, ventral margin slightly protuberant; face 0.5–0.9× as high as frons length; 1st flagellomere (Figs 2–5) about as long as face, obclavate, or semireniform, usually pointed dorsoapically; arista 2.2–2.7× as long as 1st flagellomere, with distinct short whitish pubescence, basal 0.20–0.33 wider, yellowish, apical 0.67–0.80 white or brownish; pedicel 1.1–1.7× as high as long; proboscis capitate, short; palpus (Figs 6, 7) 2.5–3.0× as long as wide, with black setae anteriorly, anterolaterally, and about 5 longer and thinner, somewhat curved setae; white setulae present mostly posteroventrally; occiput slightly concave dorsally and distinctly convex ventrally. *Coloration and vestiture*: Ground color of head predominantly yellowish; orbital plate translucent black; ocellar triangle and dorsal

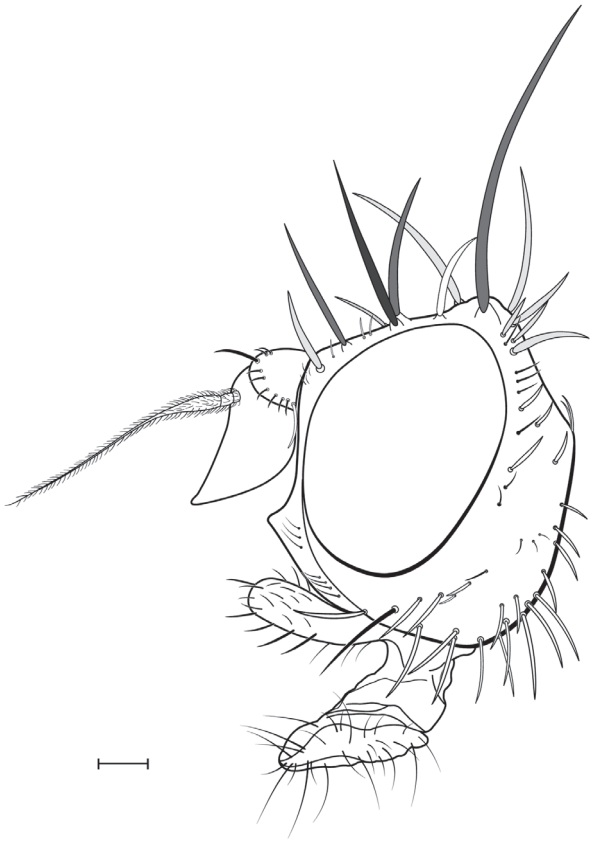
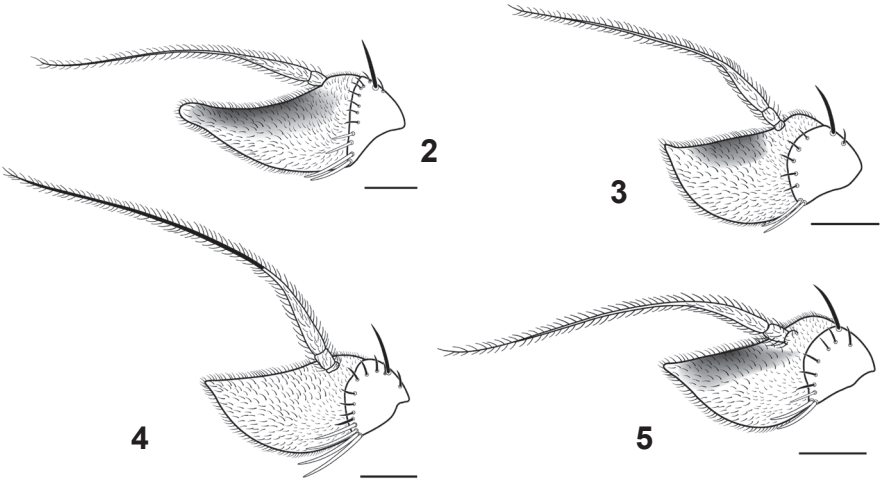
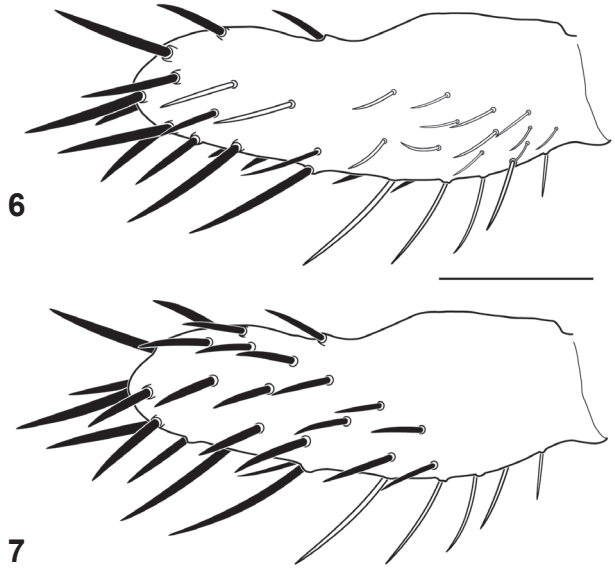


Fig. 1: *Tanzanimyia ugandaensis* n. gen. n. sp., head, lateral view. Scale bar, 0.1 mm.



Figs 2–5: *Tanzanimyia* n. gen., antenna, lateral view of pedicel, 1st flagellomere and arista: (2) *T. flavicauda* n. sp., (3) *T. reticulata* n. sp., (4) *T. tanzaniaensis* n. sp., (5). *T. ugandaensis* n. sp. Scale bars, 0.1 mm.

half of occiput predominantly blackish; head covered by dense whitish microtrichia; face brownish yellow; frons yellow to brownish yellow; antenna yellowish, brownish or brownish yellow; palpus usually yellow, sometimes with brownish areas, shiny, but surface with very fine and short scattered whitish microtrichia. *Chaetotaxy*: 2 reclinate orbital setae, anterior orbital seta usually dark brown to black, about 1.3–1.8× as long as whitish, slightly lanceolate posterior orbital seta; 3 frontal setae, anterior frontal seta whitish, slightly mesoclinate to mesoreclinate, 0.41–0.83× as long as middle frontal seta; middle frontal seta usually brownish (but color varies, sometimes whitish), mesoclinate; posterior frontal seta pale brownish to black (color varies between species), mesoclinate, 1.05–1.50× as long as middle frontal seta; ocellar seta whitish, slightly lanceolate, proclinate and slightly lateroclinate, inserted lateral to ocellar triangle, aligned with anterior ocellus; 0 or 1 short, fine, white preocellar seta, only about 0.25–0.44× as long as ocellar seta, slightly proclinate; postocellar setae slightly converging but not crossing, whitish, more or less acuminate but slightly lanceolate, slightly mesoclinate and proclinate, length varies between 0.67–1.00× as long as ocellar setae; medial vertical seta brownish to blackish, acuminate, reclinate, 1.7–2.0× as long as posterior frontal seta; lateral vertical seta black, acuminate, reclinate, about 0.2–0.4× as long as medial vertical seta; 1–2 short black paravertical setae, acuminate, mesoclinate, 0.3–0.8× as long as postocellar seta; postocular row mixed short blackish and acuminate setae, with longer, whitish and lanceolate setae; genal seta brown to blackish, slightly shorter than, or subequal to, anterior frontal seta; gena and postgena densely covered by whitish setulae about 0.67× as long as genal seta.



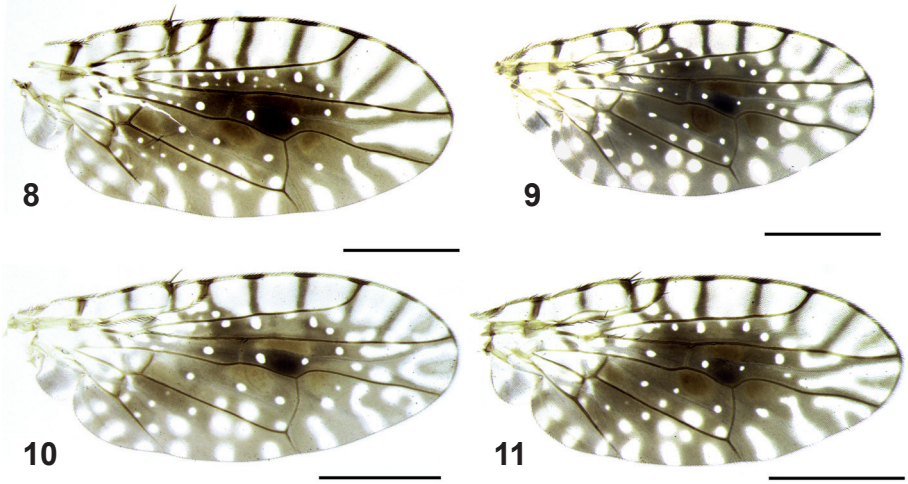
Figs 6, 7: *Tanzanimyia ugandaensis* n. sp., palpus, lateral (6) and medial (7) views. Scale bar, 0.1 mm.

Thorax. *Structure*: Scutum squarish, slightly convex, about 1.1–1.2× as long as wide; scutellum 0.32–0.37× as long as scutum, slightly convex. *Coloration and vestiture*: Ground color predominantly blackish, covered by dense grayish microtrichia, leaving small blackish spots at base of most major setae; scutum usually with distinct brownish microtrichose spot in dorsocentral row, anterior to transverse suture, and some species with single narrow brownish median vitta, sometimes irregular or indistinct; postpronotal lobe, most of notopleuron, anepisternum posterior margin (usually posterior to anepisternal phragma) and dorsal margin, anepisternum–katepisternum suture, and area of greater ampulla often mostly yellow to brownish yellow with white microtrichia; scutellum mostly blackish and densely microtrichose basally, progressively paler and somewhat less densely microtrichose apically, margins and apex usually brownish to yellowish. *Chaetotaxy*: Full set of setae present; major setae on scutum and scutellum brown, darker at base; apical scutellar seta paler, mainly yellowish; acrostichal setulae short, black, brown and whitish, acuminate, in about 4–10 irregular rows; scutum, mostly along margins and transverse suture, with several whitish and somewhat lanceolate setulae, although their density and size variable, and pair of longer, erect, median scapular setae; anepisternum mostly with whitish to light brownish hair-like setulae, mixed with darker setulae, mostly along dorsal and posterior sutures; anepisternum posteriorly with dorsalmost seta longest, brown to black, acuminate, with much shorter, whitish seta more ventrally; katepisternum posterodorsally with long whitish seta and short whitish setulae scattered along dorsal and anterior margins; anepimeron

usually with long, whitish or yellowish anterodorsal seta, about twice as long as 1–2 white, hair-like anteroventral setulae, sometimes with several hair-like setulae; 1 presutural and 1 postsutural supra-alar seta, and 1 intra-alar seta; scutellum with short, erect, whitish dorsoapical seta, 0.30–0.67× as long as apical scutellar seta, and pair of shorter whitish setae basolaterally; basal scutellar seta 2.85–4.00× as long as apical scutellar seta.

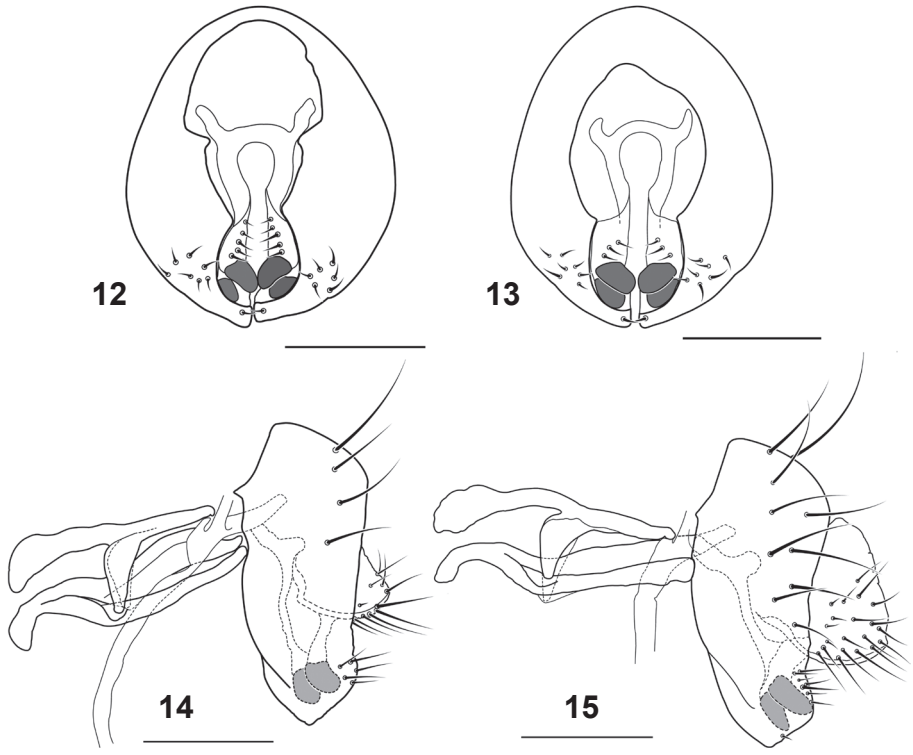
Legs. *Coloration and vestiture*: Predominantly yellow, sparsely white microtrichose; femora often with pale to dark brown spots and bands varying in size and color intensity; midtibia and hindtibia with dark brownish basal band, midtibial band often inconspicuous. *Chaetotaxy*: Forecoxa with several short, white, hair-like setulae and 2 long setae preapically; forefemur with posterodorsal, posterior, and posteroventral rows of long setae and with short brownish setae scattered in between; hindfemur preapically with 1 anterodorsal and 1 posterodorsal brown setae; midtibia apically with ventral spur.

Wing (Figs 8–11). Length/width ratio 2.1–2.4. *Venation*: Costal cleft conspicuous but shallow, extending to 0.15–0.25 of width of pterostigma; pterostigma 1.06–1.50× as long as wide; vein M divides wing into more or less equal (in area) anterior and posterior parts; terminal section of vein M relatively long, about as long as anterior border of cell dm, moderately to strongly arcuate over proximal part of cell m, forming angle with penultimate section; cell bcu elongate without obvious posterodistal lobe; vein R_1 dorsally with 18–27 setulae, with wide gap opposite bend of subcosta (13–19 setulae proximal to gap; 5–8 distal to gap), and with 1–5 setulae ventrodistally (along posterodistal margin of pterostigma); vein R_{4+5} sparsely setulose dorsally, with 6–9 setulae proximal to crossvein R–M, 0–3 setulae distal to



Figs 8–11: *Tanzanimyia* n. gen., wings: (8) *T. flavicauda* n. sp., (9) *T. reticulata* n. sp., (10) *T. tanzaniaensis* n. sp., (11) *T. ugandaensis* n. sp. Scale bars, 1 mm.

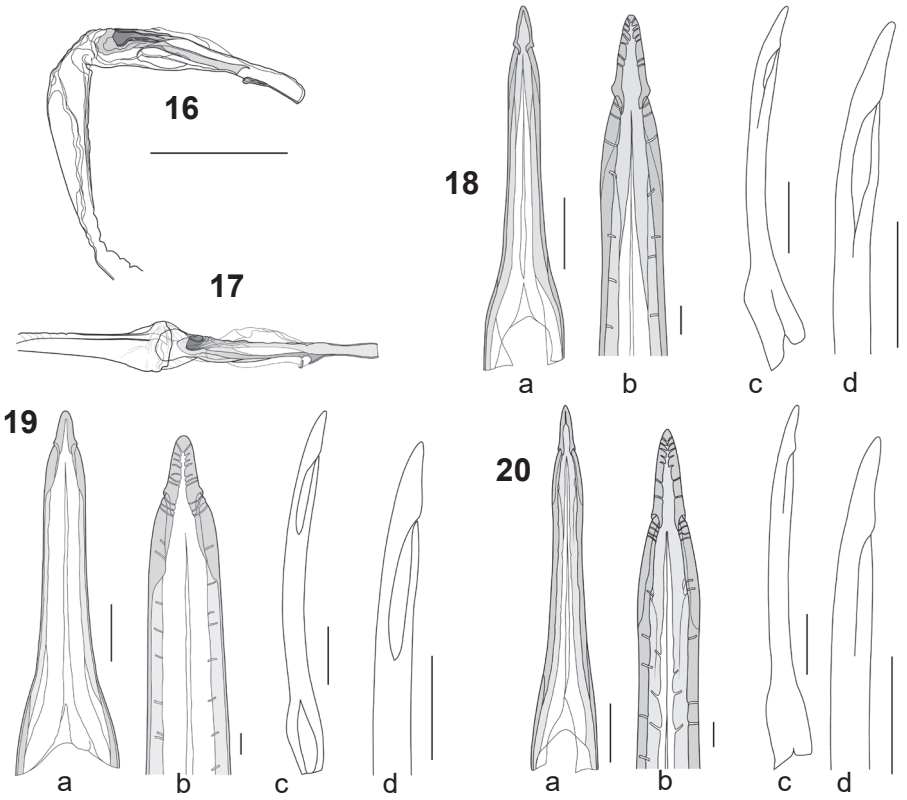
crossvein R–M, 3–5 setulae ventrobasally, seldom with 1 setula distal to crossvein R–M. *Pattern*: Dark pattern extending over most of wing, including dark central area, containing bullae, and dark rays extending from dark central area to wing margin; rays reaching vein C generally elongate, narrow, dark and well-defined; rays reaching posterior wing margin considerably wider and generally less well-defined; apicomedial ray in cell r_{4+5} short and not fused with adjacent rays; base of wing proximal to costal cleft and basal crossveins mostly hyaline, with 2 ill-defined brown rays: 1 ray connected to dark central area in cell br, anterior to crossvein BM–Cu, extending toward middle of costal cell, although weak or missing between veins R_1 and Sc, and 1 ray connected to dark central area in posterodistal corner of cell bm, extending more or less interrupted to base of costal cell; anal lobe with 3 or 4 transverse brownish bands or spots; alula centrally with 1 brownish transverse band. *Bullae*: 5–6 distinct bullae; black bulla in cell r_{4+5}, opposite crossvein DM–Cu, large, oval, about 1.2–1.9× as long as crossvein R–M, with 2 bordering hyaline spots, 1 basal and 1 distal, hyaline spots comparable in size to adjacent hyaline



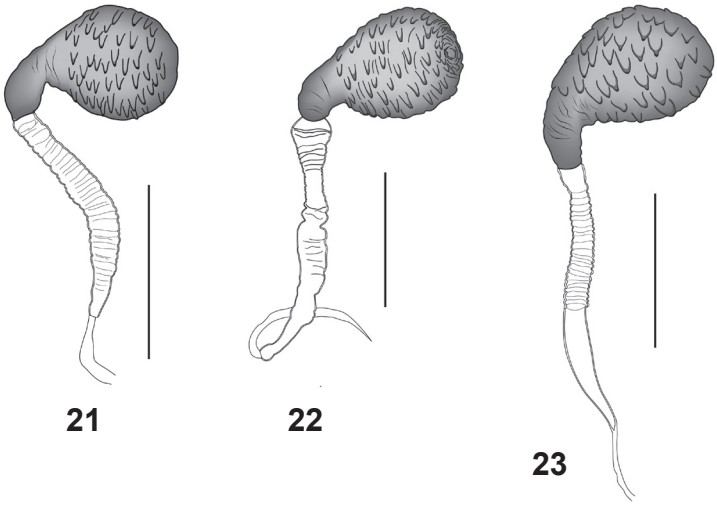
Figs 12–15: *Tanzanimyia* n. gen., male terminalia: (12) *T. reticulata* n. sp., epandrium, posterior view; (13) *T. ugandaensis* n. sp., epandrium, posterior view; (14) *T. reticulata* n. sp., terminalia, lateral view; (1). *T. ugandaensis* n. sp., terminalia, lateral view. Scale bars, 1 mm (Figs 12, 13) and 0.1 mm (Figs 14, 15).

spots, such as in cell r_{2+3}; cell r_{2+3} with 1 inconspicuous and doubtful bulla distal to crossvein R–M (usually distinct but still doubtful in some *T. ugandaensis* and *T. reticulata*); cell r_{4+5} with 1 large, elongate brown bulla anterior and adjacent to black bulla; cell dm with large, oval, conspicuous brown bulla at base, and about twice as large oval bulla (the largest of all wing bullae) along vein M, extending from proximal to crossvein R–M to beyond half way between crossveins R–M and DM–Cu; cell m with large, conspicuous, more or less round bulla near anterobasal corner. Calypter and haltere yellowish.

Abdomen. *Coloration and chaetotaxy*: Mostly brownish black, tergites predominantly subshiny, with moderately dense microtrichia, with median grayish to yellowish vitta on tergites 1–5, with scattered dark acuminate setulae on most of surface, and with 1–2 irregular rows of whitish lanceolate setae at posterior mar-



Figs 16–20: *Tanzanimyia* n. gen., male and female genitalia: (16, 17) glans: (16) *T. reticulata* n. sp., (17) *T. ugandaensis* n. sp.; (18–20) aculeus: (18) *T. reticulata* n. sp., (19) *T. tanzaniaensis* n. sp., (20) *T. ugandaensis* n. sp. For each species the following views are provided: (a) entire aculeus in dorsal view, (b) apical portion in dorsal view, (c) entire aculeus in lateral view, (d) apical portion in lateral view. Scale bars, 0.1 mm for all figures except 0.02 mm for Figs 18b, 19b, 20b.



Figs 21–23: *Tanzanimyia* n. gen., spermathecae: (21) *T. reticulata* n. sp., (22) *T. tanzaniaensis* n. sp., (23) *T. ugandaensis* n. sp. Scale bars, 0.1 mm.

gins; posterior margin of sternites sometimes yellowish or rufous; sternites with whitish lanceolate setulae, mixed with fewer and weaker dark acuminate setulae. *Male terminalia* (based on two species, Figs 12–15): Epandrium oval in posterior view (Figs 12, 13), about 0.66× as wide ventrally as dorsally; lateral surstylus with indistinct round apex in lateral view (Figs 14, 15); medial surstylus with both prensisetae visible in posterior view, not, or only slightly superimposed on each other, normal in shape and size; lateral sclerites of aedeagal apodeme articulated directly to hypandrium; phallapodeme and lateral sclerites relatively slender; glans slightly sclerotized, with short distal troughlike structure (Figs 16, 17). *Female terminalia* (based on three species, Figs 18–23): Oviscape conical but usually flattened in dried specimens, subshiny, mostly rufous, except apex and sometimes base black, with predominantly whitish, lanceolate setae, and slight fine brown setulae laterally and near base and apex; tergal-oviscapal measure 2–4, rarely 5; aculeus 5–6× as long as wide (Figs 18–20), in dorsal view tip more or less pointed, with indistinct preapical constriction; in lateral view slightly ventrally curved, without distinct projections dorsally or ventrally; two spermathecae (Figs 21–23), elongate oval, about 1.8× as long as wide, moderately wrinkled and tuberculate.

Comments: The relationships of *Tanzanimyia* with other genera of Schistopterini are not well understood. *Tanzanimyia* is characterized by a combination of the following characters: reduced preocellar seta, moderately attenuated and pointed first flagellomere, extensive wing pattern, with 5–6 bullae, body blackish gray, and host plants within the Vernonieae. Among the Vernonieae-infesting Afrotropical Schistopterini it is apparently related to *Cordylopteryx*, which has well-developed

cephalic chaetotaxy (including the preocellar seta), strongly attenuated and pointed first flagellomere, and extensive wing pattern, with 6–8 bullae; it is also related to *Clematochaeta*, which has less developed cephalic chaetotaxy, often with reduced preocellar setae, less attenuated and pointed first flagellomere, and less extensive wing pattern, with only 0–2 bullae. *Tanzanimyia* may also be related to the Afrotropical genus *Melanopterella*, containing darker, blackish species, which, however, is less specific in its host choice, infesting also the Heliantheae and Inuleae.

Key to species of *Tanzanimyia*

1 Preocellar seta absent; dark area in cell r_{2+3} with 6 smaller dot-like hyaline spots (half as wide as dark rays across cell r_1) in addition to about 8 (rarely 7 or 9) larger spots (diameter about equal to width of dark rays across cell r_1) (Fig. 8); oviscape almost entirely yellow, with narrow brown base and apex; ocellar seta 1.18 times as long as posterior frontal seta; 1st flagellomere 1.7–1.8 times as long as high at base, strongly narrowed towards tip, mostly yellowish, but with distinct brown band dorsally (Fig. 2); tergal-oviscapal measure 2 .... *flavicauda* n. sp.

– Preocellar seta small (compared with other setae), but present; dark area in cell r_{2+3} with smaller number of hyaline spots, usually with 5–8 spots, spots usually large, although 2–3 sometimes small (Figs 9–11); oviscape with base and apex widely brown to black, usually with only central third yellow or brownish yellow; ocellar seta shorter than, or about as long as, posterior frontal seta; 1st flagellomere less than 1.7 (about 1.3–1.6) times as long as high at base, slightly or not narrowed toward tip, entirely yellowish or brown dorsally (Figs 3–5); tergal-oviscapal measure variable 2

2 Wing: cell m and subapical portion of cell r_{4+5} with isolated oval hyaline spots, appearing reticulate; rays along veins R_{4+5} and M short (Fig. 9); anterior frontal seta short: less than 0.63 (0.41–0.61) times as long as middle frontal seta..... ..... *reticulata* n. sp.

– Wing: cell m and subapical portion of cell r_{4+5} with elongate, cuneiform or Y-shaped hyaline spots, not appearing reticulate; rays along veins R_{4+5} and M long (Figs 10, 11); anterior frontal seta longer: more than 0.63 (0.65–0.83) times as long as middle frontal seta..... 3

3 Generally paler species: 1st flagellomere entirely yellow (Fig. 4); posterior frontal seta brownish, brown bands on legs less conspicuous; wing pattern pale brown (Fig. 10), with brown bullae, and with apical part of cell r_{4+5} with U-shaped hyaline spot isolated from subapical oval or round spots ..... *tanzaniaensis* n. sp.

– Generally darker species: 1st flagellomere usually darker dorsally (Fig. 5); posterior frontal seta blackish; brown bands on legs, especially on midfemur, more conspicuous; wing pattern dark brown (Fig. 11), with blackish brown bullae, and with apex of cell r_{4+5} with long Y-shaped hyaline spot..... *ugandaensis* n. sp.

Tanzanimyia flavicauda n. sp.

(Figs 2, 8)

LSID: urn:lsid:zoobank.org:act:4665F65E-E658-4036-AAA5-0A7C06D9C016.

Etymology: The species name is a noun in apposition, formed from Latin *flavus* (yellow) and *cauda* (tail), in reference to the unique shiny, brownish yellow color of the oviscape and aculeus.

Diagnosis: This species differs from all other congeners in the following combination of mostly unique characters (character states in the three other species are given in parenthesis): preocellar setae absent (present); ocellar seta about as long as posterior frontal seta (shorter); 1st flagellomere about 1.75× as long as high at base (less elongate); central dark area in cell r_{2+3} with about 15 small to medium-sized round white spots (fewer, mostly only large spots); oviscape uniformly shiny yellow (partly blackened), elongate; tergal-oviscapal measure 2.

Description: Head. *Structure and coloration*: 1.08× as high as long; fronto-facial angle about 105°; eye 1.33× as high as long; frons 1.16× as wide at vertex as long; face 0.84× as high as frons length; antenna (Fig. 2): pedicel about 1.7 as high as long; 1st flagellomere about 0.9× as long as face height, about 1.75× as long as high at base, obclavate, conspicuously tapered in distal half to slightly blunt point, mostly yellowish, distinctly brownish to blackish dorsally; arista about 1.7× as long as 1st flagellomere, basal 0.33 yellowish, apical 0.67 whitish, with dense, short pubescence. *Chaetotaxy*: Orbital setae whitish, anterior orbital seta 1.68× as long as posterior orbital seta; anterior frontal seta whitish, about 0.8× as long as middle frontal seta, middle frontal seta brownish, with darker base, posterior frontal seta brown, 1.27× as long as middle frontal seta; ocellar seta yellowish, about as long as posterior frontal seta; preocellar seta lacking; postocellar seta whitish, as long as, parallel to, and longitudinally aligned with ocellar seta; medial vertical seta brownish, 1.76× as long as posterior frontal seta; lateral vertical seta black, 0.33× as long as medial vertical seta; paravertical seta black, 0.36× as long as postocellar seta; genal seta blackish, 0.83× as long as anterior frontal seta; gena and postgena with many whitish setulae, these setulae about 0.50–0.75× as long as genal seta.

Thorax. *Structure*: Scutum about 1.2× as long as wide; scutellum about 0.3× as long as scutum, slightly convex. *Coloration and vestiture*: Generally fitting generic description; scutum grayish, laterally paler; scutellum mostly blackish, with brownish yellow spot between apical setae and erect whitish preapical setae and similar spot basolaterally between scutoscutellar 'rib' and base of basal seta. *Chaetotaxy*: Dorsocentral seta aligned about 0.33 distance between transverse suture and level of postsutural supra-alar seta; acrostichal setulae in about 4 irregular rows; anepimeron with three whitish setae, one long anterodorsal, about twice as long as both anteroventral; dorsoapical scutellar seta erect, white (setae broken, only basal part of one seta present in holotype); basal scutellar seta 2.45× as long as apical scutellar seta; white subbasal seta about half as long as apical seta.

Legs. *Coloration*: All femora only with brownish subapical ring. *Chaetotaxy*: Forefemur with setae of posteroventral row long, mixed brownish and whitish, mostly acuminate but some slightly lanceolate; setae of posterior and posterodorsal rows slightly lanceolate, mostly white, but brown toward apex of femur; midfemur with fine white basoventral seta.

Wing (Fig. 8): Length 3.5 mm. Length/width ratio about 2.1. *Venation*: Pterostigma about 1.5× as long as wide; vein R_1 dorsally with 27 setulae, 19 proximal to gap opposite bend of subcosta and 9 distal to gap, ventrally with 4 setulae along posterior margin of pterostigma; vein R_{4+5} dorsally sparsely setulose to beyond crossvein DM–Cu level, ventrally with 3 setulae at fork. *Pattern*: Dark area in cell R_{2+3} medially with 6–7 small, dot-like hyaline spots and 8 larger hyaline spots; rays reaching vein C, especially anterior to vein R_{2+3}, generally narrow, dark and well-defined; 4 rays over and between veins R_{2+3} and R_{4+5} somewhat paler; rays to posterior wing margin beyond vein M considerably wider and generally paler, grayish; cell M with apicomedial ray reduced to small costal spot, touching apex of ray over vein M; anal lobe with 4 transverse brownish bands; alula centrally with 1 brownish transverse band. *Bullae*: Large black oval bulla in cell r_{4+5}, about 1.5× as long as crossvein R–M; basal hyaline spot bordering this black bulla large and about equal to hyaline spot distal to this bulla; cell r_{4+5} with 1 large elongate brown bulla between black bulla and vein R_{4+5}; cell dm with 3 small dark areas (not bullae), each with central white spot, and about twice as large oval brown bulla along vein M, extending from approximately opposite crossvein R–M to slightly more than halfway between crossveins R–M and DM–Cu; cell m with large conspicuous more or less round brown bulla near anterobasal corner.

Abdomen: *Coloration and chaetotaxy*: Tergites 1–5 brownish black, tergite 6 mostly brownish yellow; median vitta on tergites grayish, inconspicuous; dark acuminate setulae scattered on tergites, and whitish lanceolate setae in 1–2 irregular rows on posterior margins of tergites; tergite 6 microtrichose, with 4 long brownish setae; sternites yellowish. *Female terminalia* (not dissected, but aculeus everted): Oviscape uniformly brownish yellow, shiny, with scattered blackish setulae; tergal-oviscapal measure 2; aculeus ca. 5× as long as wide, in dorsal view more or less pointed.

Holotype: ♀ **Tanzania:** Usambara Mts, Rt. B124, Lukozi [4°40'S 38°17'E], 1800 m, 12.ix.1992, A. Freidberg (SMNHTAU). The holotype is double-mounted, on a minutien pin in a plastic block, the left wing is mounted on a slide, and some setae are missing. Otherwise it is in good condition.

Distribution: Tanzania (West Usambara Mountains).

Biology: Unknown.

Comments: Although this species is known from the holotype female only, the specimen is distinctive enough to allow its recognition as a good species. The characters of the cephalic chaetotaxy (lack of the preocellar seta), wing pattern (with numerous small hyaline spots) and color of the oviscape (see Diagnosis) are especially significant. This is the second species of Schistopterini found to be endemic to the Usambara Mountains (Zonstein & Freidberg 2006).

Tanzanimyia reticulata n. sp.

(Figs 3, 9, 12, 14, 16, 18, 21)

LSID: urn:lsid:zoobank.org:act:CE2EC416-7874-4C58-B62A-379ED54A6784.

Etymology: From Latin *reticulata* (reticulated), referring to the relatively reticulate wing pattern, especially at the apical fourth.

Diagnosis: Compared with other congeners the wing pattern of this species, especially on the distal quarter, is more reticulate, including many oval hyaline spots and the dark rays shorter and less well-defined (rather than hyaline spots elongate and separated by long rays in the other species). The anterior frontal seta is short, only 0.4–0.6× as long as middle frontal seta (versus about 0.8× in *T. ugandaensis*).

Description: Head. *Structure and coloration*: 1.06–1.15× as high as long; frontofacial angle about 100°; eye 1.08–1.27× as high as long; frons 1.00–1.19× as wide as long; face 0.9–1.0× as high as frons length; antenna (Fig. 3): 1st flagellomere semireniform, 1.00–1.05× as long as face, pointed dorsoapically; arista 1.90–2.24× as long as 1st flagellomere, with short dark rays, basal 0.25 wider, yellowish, apical 0.75 blackish; pedicel about 1.1× as high as long; palpus yellow. *Chaetotaxy*: Orbital setae brownish, anterior orbital seta 1.75–2.20× as long as posterior orbital seta; anterior frontal seta white, short, 0.41–0.61× as long as middle frontal seta; posterior frontal seta brownish, 1.05–1.33× as long as brownish middle frontal seta; ocellar seta whitish, 0.67–0.74× as long as posterior frontal seta; preocellar seta present, 0.35–0.44× as long as ocellar seta; postocellar seta whitish, 0.84–1.00× as long as ocellar seta; medial vertical seta brown, 1.55–1.83× as long as posterior frontal seta; lateral vertical seta black, 0.25–0.33× as long as medial vertical seta; paravertical seta white, 0.6–0.8× as long as postocellar seta; genal seta brownish or blackish, 1.17–1.33× as long as anterior frontal seta; gena and postgena with several whitish or brownish setulae about 0.75–0.95× as long as genal seta.

Thorax. *Structure*: Scutum 1.13–1.19× as long as wide; scutellum about 0.32–0.37× as long as scutum, slightly convex. *Coloration and vestiture*: Predominantly blackish including anepisternum and katepisternum, only postpronotal lobe, great posterior part of notopleuron, and area of greater ampulla somewhat brownish yellow; median vitta on scutum narrow, sometimes indistinct; scutellum mostly blackish, usually only apex and margin partially yellowish to brownish yellow. *Chaetotaxy*: Dorsocentral seta aligned about 0.29–0.42 distance between transverse suture and level of postsutural supra-alar seta; acrostichal setulae in about 6–8 irregular rows, only 2–4 rows at level of acrostichal setae; anepisternum centrally with 2 whitish, lanceolate, somewhat erect setulae; scutellum with whitish erect dorsoapical seta about 0.30–0.55× as long as apical scutellar seta, and basal scutellar seta 2.85–3.30× as long as apical scutellar seta.

Legs. *Coloration*: All femora with blackish preapical rings, midfemur and hindfemur with incomplete (only ventral) dark basal rings, some rings often pale and indistinct; hindtibia with dark subbasal ring. *Chaetotaxy*: Forefemur with poste-

roventral row of long, brownish, more or less acuminate setae; with posterior row of shorter acuminate brownish yellow setae, and with posterodorsal row of shorter mixed setae, mostly slightly lanceolate, white, but progressively darker and more acuminate toward apex of femur.

Wing (Fig. 9). Length 2.3–3.0 mm. Length/width ratio about 2.1. *Venation*: Pterostigma about 1.3× as long as wide; vein R_1 dorsally with 27 setulae, 19 basal to wide gap opposite bend of subcosta and 9 distal to this gap, and ventrally with 3–5 setulae along distal margin of pterostigma; vein R_{4+5} dorsally with 5–8 setulae and ventrally with 3 setulae, all basal to crossvein R–M. *Pattern*: Dark area in cell r_{2+3} medially with 4–14 transparent spots, larger at perimeter area; rays reaching vein C, especially anterior to R_{2+3}, usually generally elongate, narrow, dark with well-defined borders; 4 rays on and between veins R_{2+3} and R_{4+5}, pale, somewhat blurred; rays beyond vein C to posterior wing margin considerably wider and generally pale with somewhat blurred borders; very short apicomedial ray, unconnected to adjacent rays; basal half of cell br with three hyaline spots, apical half with 1–2 hyaline spots; anal lobe with 4 transverse brownish bands; alula centrally with 1 brownish transverse band. *Bullae*: Large oval black bulla in cell $r_{4+5,}$ opposite crossvein DM–Cu; brown bullae: elongated large bulla in cell r_{4+5} along vein R_{4+5}; large wide oval bulla along vein M, ranging from approximately opposite to crossvein R–M and distally to slightly more than halfway to crossvein DM–Cu; cell m with small conspicuous more or less round bulla near anteroproximal corner.

Abdomen. *Coloration*: Tergites subshiny black, mostly densely microtrichose with inconspicuous grayish median vitta, distal half or less of tergite 6 and oviscape of female and distal 0.25 of tergite 5 of male bare and shiny, male terminalia brownish yellow; dark acuminate setulae scattered on tergites, and whitish lanceolate setae arranged in 1 row, with irregular gaps, along posterior margins of tergites; sternites mostly reddish brown to black, posterior margin of several sternites (usually 1 or 2) often lighter brownish.

Male terminalia: Height/length ratio of epandrium and surstyli about 1.1 in posterior view (Fig. 12); lateral surstylus not separate from epandrium by distinct fold (Figs 12, 14), with sparse cluster of usually 6–8 brownish setae or less; glans as in Fig. 16. *Female terminalia* (Figs 18, 21): Oviscape basal 0.22–0.33 and apical 0.33–0.60 dark brown, with central area (0.18–0.27 of oviscape length) brownish yellow, tergal-oviscapal measure 3; aculeus 4.4× as long as wide (Fig. 18), in dorsal view tip pointed, with indistinct, rounded preapical constrictions; in lateral view slightly curved, without distinct projections dorsally or ventrally; two spermathecae (Fig. 21) as for genus, moderately wrinkled and tuberculate.

Holotype: ♂ **Uganda:** S[outh] W[est], Ichuya Forest, Kanaba Gap [1°15'S 29°48'E], 2500 m, 28.xii.1995, I. Yarom & A. Freidberg (SMNHTAU). The holotype is double-mounted, on a minutien pin in a plastic block, in good condition.

Paratypes: 29♂ 13♀ same collection data as holotype (23♂ 7♀ SMNHTAU, 1♂ 1♀ NHM, 1♂ 1♀ MRAC, 1♂ 1♀ MHNG, 1♂ 1♀ NMK, 1♂ 1♀ NMSA, 1♂ 1♀ USNM); 8♂ 6♀ same collection data as holotype, but also "ex flower head *Botriocline fusca*, 10–20.i.1996". **Kenya:** 1♀ Abardare [sic!],

3000–4000 m, 1.xii.1986, A. Freidberg; 1♀ 10 km N Maralal, 28.xi.1986, A. Freidberg; 1♂ Ngong Hills, 2000–2300 m, 15.v.1991, A. Freidberg & F. Kaplan; 1♂ 4♀ Ngong Hills, 1°22.6'S 6°38.5'E, 7.xi.2007, A. Freidberg (1♂ 1♀), L. Friedman (3♀); 1♀ 40 km NW Nairobi, 31.viii.1983, A. Freidberg; 2♂ Chyulu Range, 1300–1800 m, 2.v.1991, A. Freidberg & F. Kaplan, ex flower head *Gutenbergia c.* var. *cordifolia*; 1♀ Taita Hills, Mwatata–Wundanyi Road, 1000–1400 m, 3°24'S 38°23'E, 18.ix.2005, A. Freidberg. **Tanzania:** 1♂ 1♀ Usambara Mts: Soni, Rt. B124, 1100 m, 11.ix.1992, A. Freidberg; 1♂ 1300 m, Rt. B124, near Lushoto, 10–15.ix.1992, A. Freidberg; 1♂ View point, 1500 m, 1.ix.1996, A. Freidberg. **Malawi:** 2♀ Viphya Mts, Chikangawa, 1707 m, 11°50.5'S 23°48.2'E, 26.xii.2009, A. Freidberg. *Note:* All paratypes are in SMNHTAU unless indicated otherwise.

Distribution: Kenya, Malawi, Tanzania, Uganda; at altitudes 1000–3000 m.

Biology: The larvae develop in flower heads of the large shrubs *Botriocline fusca* (S. Moore) M. Gilbert and *Gutenbergia cordifolia* var. *cordifolia* Benth. ex Oliv. (Asteraceae).

Comments: This is the smallest and the most widespread species of the genus, readily recognizable among its congeners by the more reticulate wing pattern with numerous isolated oval hyaline subapical spots. It has been reared from two host genera, and in one of them, *Botriocline fusca*, it co-exists with *T. ugandaensis*.

Tanzanimyia tanzaniaensis n. sp.

(Figs 4, 10, 19, 22)

LSID: urn:lsid:zoobank.org:act:EAE96D5C-3560-499B-A711-4AF8675B2B9C.

Etymology: This species is named after Tanzania, the country where the type specimens were collected.

Diagnosis: This species is most similar to *T. ugandaensis*, differing from it in the following characters: It is larger (wing length 3.5–4.0 mm *vs.* 2.8–3.1 mm in *T. ugandaensis*) and generally paler: 1st flagellomere entirely yellow (partly blackened in *T. ugandaensis*), posterior frontal seta brownish (blackish in *T. ugandaensis*), brown bands on legs less conspicuous; wing pattern paler, with paler brown bullae, and with apical part, especially in cells r_{2+3} and r_{4+5}, more reticulate.

Description: Head. *Structure and coloration*: 1.03–1.12× as high as long; frontofacial angle about 100°; eye 1.09–1.25× as high as long; frons about 1.00–1.17× as wide as long; face 0.70–0.93× as high as frons length; antenna (Fig. 4): 1st flagellomere slightly shorter than length of face, semireniform, pointed dorsoapically; arista about 2.7× as long as 1st flagellomere, basal 0.25 wider, yellowish, apical 0.75 blackish; pedicel about 1.5× as high as long. *Chaetotaxy*: Orbital setae pale brownish, anterior orbital seta about 1.8× as long as posterior orbital seta; anterior frontal seta whitish, about 0.77× as long as middle frontal seta, middle frontal seta mostly brownish, posterior frontal seta about 1.3× as long as middle frontal seta; ocellar seta white, about as long as posterior frontal seta; one preocellar fine white seta, short, about 0.25× as long as ocellar seta, slightly proclinate; postocellar setae whitish, acuminate, more or less parallel but slightly mesoclinate and proclinate, about 0.67× as long as ocellar seta; medial vertical seta about twice as long as

posterior frontal seta; lateral vertical seta about 0.4× as long as medial vertical seta; two white paravertical setae 0.6–0.8× as long as postocellar seta; genal seta brown to blackish, about as long as anterior frontal seta; gena and postgena with many whitish setulae about 0.67× as long as genal seta.

Thorax. *Structure*: Scutum about 1.1× as long as wide; scutellum about 0.35× as long as scutum, slightly convex. *Coloration and vestiture*: Generally fits generic description; scutellum mostly blackish, scutellar margin at scutoscutellar suture and apex usually yellow. *Chaetotaxy*: Dorsocentral seta aligned closer to transverse suture than to level of postsutural supra-alar seta; acrostichal setulae in about 10 irregular rows; anterior section of anepisternum (anterior to anepisternal phragma) with about 12 fine hair-like setulae, mostly whitish and slightly lanceolate, some darker, and 5 additional but larger setulae along dorsal suture and 1 posteroventrally; posterior section of anepisternum with about 2 large and dark acuminate dorsomedial setae, and row of 5 medium-size anterior setulae mostly dark and acuminate but central setula white and lanceolate; katepisternum posterodorsally with 2 whitish and slightly lanceolate setae: 1 long and 1 short (about 0.33× as long as long seta), and about 10–15 short whitish to brownish hair-like scattered setulae and additional whitish, sometimes lanceolate, setulae: about 8 ventrally and 2–3 along anterior margin; anepimeron anterodorsally with 1 long, whitish seta, about 3× as long as 4 scattered, white, hair-like setulae; 1 post sutural supra-alar seta and 1 intra-alar seta; dorsoapical scutellar seta erect, white, about 0.33× as long as apical scutellar seta, and basal scutellar seta about twice as long as apical scutellar seta.

Legs. *Coloration*: Mid femur subapically with inconspicuous, pale brown, ventral band; hind femur basally with anteroventral to posteroventral brown spot and subapical dark brown band. *Chaetotaxy*: Forefemur with rows of long setae: setae of posteroventral row longest, brownish and acuminate; setae of posterior row dark brownish; setae of posterodorsal row mostly paler, slightly lanceolate, becoming darker and acuminate toward apex.

Wing (Fig. 10). Length 3.8 mm. Length/width ratio about 2.4. *Venation*: Pterostigma about 1.2× as long as wide; vein R_1 dorsally with about 25 setulae with wide gap opposite bend of subcosta and ventrally with 3–4 setulae along posterior margin of pterostigma; vein R_{4+5} sparsely setulose dorsally on basal half with 4–5 setulae all basal to crossvein R–M, and with about 5 setulae ventrally along vein. *Pattern*: Rays reaching costa usually generally elongate, narrow, dark with well-defined borders, except ray immediately anterior to R_{4+5} blurred and petiolate; rays to posterior wing margin beyond vein M considerably wider and generally somewhat blurred; ray in cell R_{4+5} split to two branches, one along apical section of vein R_{4+5} and one on vein M, and with additional short apicomedial ray unconnected to adjacent rays; base of wing proximal to costal cleft and basal crossveins mostly hyaline, with more or less distinct brown ray; basal half of cell br with one ray connected to central dark area; anal lobe with three transverse brownish bands; alula centrally with one brownish transverse band. *Bullae*: Black large oval bulla

in cell r_{4+5}, longer than crossvein R–M, opposite crossvein DM–Cu; brown bullae: cell r_{4+5} with large elongate brown bulla proximal to crossvein DM–Cu, along vein R_{4+5}; cell dm with large, oval, conspicuous brown bulla along vein M, ranging from opposite to crossvein R–M and distally; cell m with small inconspicuous more or less round bulla near anteroproximal corner.

Abdomen. *Coloration and chaetotaxy*: Median vitta on tergites grayish to yellowish; posterior margin of tergits yellowish, sometimes narrow and inconspicuous, with whitish lanceolate setae, larger on posterior tergites; posterior margin of male tergite 5 and female tergite 6 dark brown, microtrichose, with mixed whitish lanceolate and dark acuminate setulae, and apical reclinate longer seta laterally and posteriorly with short brown setae; posterior margin of sternites usually yellowish.

Male terminalia: Not dissected. *Female terminalia* (Figs 19, 22): Oviscape shiny, basal 0.33 mostly reddish brown, medially yellow, central area (about 0.5 of total length) yellow and apical 0.2 reddish brown; tergal-oviscapal measure about 3–4. Aculeus about 3.5× as long as wide (Fig. 19), in dorsal view tip more or less pointed, with indistinct, rounded preapical shoulders; in lateral view slightly curved, without distinct projections dorsally or ventrally; two spermathecae (Fig. 22), oval, about 1.8× as long as wide, moderately wrinkled and tuberculate.

Holotype: ♂ **Tanzania:** Mbeya, 35 km S Rt. A345 [9°09'S 33°31'E], 2200 m, 1.iv.1996, A. Freidberg (SMNHTAU). The holotype is double-mounted, on a minutien pin in a plastic block, in good condition.

Paratypes: 2♀, same collection data as holotype (SMNHTAU).

Distribution: Southern Tanzania.

Biology: Unknown.

Tanzanimyia ugandaensis n. sp.

(Figs 1, 6, 7, 11, 13, 15, 17, 20, 23)

LSID: urn:lsid:zoobank.org:act:216FDC9E-2DFA-4C4C-8109-F6766856558A.

Etymology: This species is named after Uganda, the country where most of the type specimens were collected.

Diagnosis: This species is most similar to *T. tanzaniaensis*, differing from it in the following: smaller (wing length 2.8–3.1 mm *vs*. 3.5–4.0 mm in *T. tanzaniaensis*) and generally darker, with 1st flagellomere partly blackened (entirely yellow in *T. tanzaniaensis*), posterior frontal seta blackish (brownish in *T. tanzaniaensis*), brown bands on legs more conspicuous; wing pattern darker, with darker brown bullae, and with apical part, especially in cells r_{2+3} and r_{4+5} more rayed in appearance.

Description: Head (Fig. 1). *Structure and coloration*: 1.03–1.15× as high as long; fronto-facial angle about 100°; eye 1.04–1.10× as high as long; frons about 1.18–1.38× as wide as long; face 0.8–0.9× as high as frons length; antenna (Fig. 5): 1st flagellomere about as long as face, semilunar, pointed apically; arista 2.2–2.5× as

long as 1st flagellomere, basal 0.2 wider and light yellowish; pedicel 1.25–1.50× as long as high; palpus (Figs 5, 6) usually yellow, sometimes with brownish spots, especially along ventral edge, about 3.2× as long as wide. *Chaetotaxy*: Orbital setae black, anterior orbital seta usually dark brown to black, about 1.3× as long as whitish, slightly lanceolate posterior orbital seta; anterior frontal seta whitish, about 0.7–0.8× as long as middle frontal seta, middle frontal seta usually brownish (but color varied, sometimes whitish), posterior frontal seta brownish, about 1.2–1.5× as long as middle frontal seta; ocellar seta whitish, 0.7–0.8× as long as posterior frontal seta, about equal to anterior orbital seta; one fine pale brownish preocellar seta about 0.25–0.33× as long as ocellar seta, slightly proclinate; postocellar seta whitish, slightly shorter or equal in length to ocellar seta; medial vertical seta about 2× as long as posterior frontal seta; lateral vertical seta black 0.2–0.3× as long as medial vertical seta; two white acuminate paravertical seta 0.6–0.7× as long as postocellar seta; genal seta blackish, acuminate, about as long as or slightly shorter than anterior frontal seta; gena and postgena with several whitish setulae about 0.7–0.9× as long as acuminate black genal seta.

Thorax. *Structure*: Scutum about 1.2× as long as wide; scutellum about 0.32× as long as scutum. *Coloration*: Generally fits generic description, with two longitudinal, roughly parallel, brownish lines extending from transverse suture and base of anterior dorsocentral seta to scutoscutellar suture, often indistinct; scutellum margin and apex usually yellow. *Chaetotaxy*: Dorsocentral seta aligned about midway between transverse suture and level of postsutural supra-alar seta, slightly closer to transverse suture; acrostichal setulae in about 8 irregular rows; anepisternal setae 4–6, usually 5, mostly whitish to light brownish mixed with some darker setae, posterodorsalmost longest seta of anepisternum brown to black, acuminate; katepisternum posterodorsally with long whitish seta and a few short whitish setulae scattered along dorsal and anterior margins. Scutellum with short, erect, whitish dorsoapical seta, about 0.5–0.6× as long as apical scutellar seta, and fine, shorter, whitish setula basolaterally; basal scutellar seta 2.0–2.5× as long as apical scutellar seta; both scutellar setae brownish, slightly blackish at base, but apical scutellar seta more yellowish.

Legs. *Coloration*: Femora usually with large brown ventrobasal and ventrodistal spots, often extending dorsally, latter spot usually forming complete ring, both more conspicuous on midfemur and hindfemur, often lacking on forefemur. *Chaetotaxy*: Forefemur: setae of posteroventral row yellowish, slightly lanceolate, and longest; setae of posterior row dark brownish; posterodorsal row: mix of dark acuminate and white somewhat lanceolate setae; hind metatarsus ventrally with brush of dense, short, yellowish setulae.

Wing (Fig. 11). Length 3.0–3.5 mm. Length/width ratio about 2.33. *Venation*: Pterostigma about 1.1–1.2× as long as wide; vein R_1 dorsally with 19–24 setulae, with wide gap opposite bend of subcosta, and ventrally with 2–4 setulae along posterior margin of pterostigma; vein R_{4+5} sparsely setulose dorsally on basal half,

with 4–5 setulae basal to crossvein R–M, and about 10–12 setae ventrally along this vein. *Pattern*: Rays reaching vein C generally elongate, dark and sharp; rays to wing margin beyond vein R_{4+5} considerably wider and generally somewhat blurred; anal lobe with 4 transverse brownish bands. *Bullae*: Black bulla short oval, less than 1.5× as long as crossvein R–M, basal bordering hyaline spot moderately large, distinctly larger than distal bordering hyaline spot; brown bullae: cell r_{4+5} with large elongate brown bulla proximal to crossvein DM–Cu, along vein R_{4+5}; cell dm with large, oval, conspicuous brown bulla along vein M, ranging from opposite to crossvein R–M and distally; cell m with small inconspicuous more or less round bulla near anteroproximal corner.

Abdomen. *Coloration and chaetotaxy*: Median vitta on tergites grayish; posterior margin of male tergite 5 and female tergite 6 dark brown, shiny, without microtrichia, with longer lateral and posterior brown setae; posterior margin of sternites 1 and 2 yellowish, sternite 3 partly rufous.

Male terminalia: Height/length ratio of epandrium with surstyli about 1.2 (posterior view, Fig. 13); lateral surstylus not separate from epandrium by distinct fold (Figs 13, 15), with sparse cluster of 5–8 brownish setae; glans as in Fig. 17. *Female terminalia*: Tergal-oviscapal measure 2–3. Aculeus 5–6× as long as wide (Fig. 20), in dorsal view tip more or less pointed, with indistinct, rounded preapical shoulders; in lateral view slightly curved, without distinct projections dorsally or ventrally; 2 spermathecae, oval, about 1.8× as long as wide, wrinkled and intensively tuberculate (Fig. 23).

Holotype: ♂ **Uganda:** S[outh] W[est] [UGANDA] Ichuya Forest, Kanaba Gap [1°15'S 29°48'E], 2500 m, 28.xii.1995, I. Yarom & A. Freidberg (SMNHTAU). The holotype is double-mounted, minutien pin in a plastic block, in excellent condition.

Paratypes: 38♂ 39♀ same collection data as holotype (32♂ 33♀ SMNHTAU, 1♂ 1♀ NHM, 1♂ 1♀ MRAC, 1♂ 1♀ MHNG, 1♂ 1♀ NMK, 1♂ 1♀ NMSA, 1♂ 1♀ USNM); 2♂ 2♀ same locality as holotype but 25.xii.1995; 19♂ 25♀ same locality, 28.xii.1995, ex. flower head of *Botriocline fusca*, 10–20.i.1996; 1♀ Rutenga, 20 km NW Kabale, 2100 m, 25.xii.1995, I. Yarom & A. Freidberg; 1♂ Impenetrable Forest, SW Uganda, 27.i.1972, A. Freidberg. **Kenya:** 1♂ 1♀ Kericho Junction, 0°23'S 39°16'E, 1900 m, 8.xi.2011, A. Freidberg. **Burundi:** 1♀ Kayanza, 2°55'S 29°37'E, 1800 m, 28–29.i.2011, A. Freidberg; 1♂ Kayanza Province, Kibira National Park, Rwegura, 2°55'S 29°30'E, 2100 m, 28–29.i.2011, A. Freidberg. *Note:* All paratypes are in SMNHTAU unless indicated otherwise.

Distribution: Uganda (south west), Kenya, Burundi; mountains, at altitude above 1800 m.

Biology: The larvae develop in flower heads of the large shrub, *Bothriocline fusca* (S. Moore) M.G. Gilbert (Asteraceae).

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