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Descriptions of four new Afrotropical muscid species confusingly similar to *Dichaetomyia ovata* (Stein) (Diptera: Muscidae)

Eberhard ZielkeDOI: <https://doi.org/10.22271/j.ento.2023.v11.i6a.9259>**Abstract**

Four new *Dichaetomyia* species of the subgenus *Panaga* are described as *Dichaetomyia congoa* sp. n., *Dichaetomyia ghanuga* sp. n., *Dichaetomyia kenyana* sp. n. and *Dichaetomyia nigeriana* sp. n. Because of a certain similarity with *Dichaetomyia ovata* all four species had been wrongly assigned to this species in the past. The comparison of these specimens with the existing syntype of *D. ovata* revealed the taxonomic differences between the representatives of the different new species.

Keywords: Muscidae, *Dichaetomyia*, subgenus *Panaga*, new species, diagnosis, descriptions, afrotropical region

Introduction

The genus *Dichaetomyia* Malloch, 1921 is not only widespread in the tropical areas of the Old World zoogeographic zones, but also consists of a wide range of colourful species. Between the fairly dark species and the metallicly colourful shiny taxa, the latter are mainly endemic to Madagascar, there are different colour combinations from yellow, brown and dark bluish to black, but also strikingly bright yellow coloured specimens exist. One such eye-catcher is certainly *Dichaetomyia ovata* (Stein, 1918). A large fly usually more than 10 mm long, predominantly shiny yellow to pale brownish-yellow with a dusted white marking on the anterior part of thorax and with shiny yellow extremities, belonging to the subgenus *Panaga* Curran, 1928. In a recent publication it was now reported that several specimens identified in previous years as *D. ovata* and registered as such in different entomological collections are in fact representatives of hitherto unknown new species ^[1]. Studying Muscidae in the entomological collection during a visit to the Natural History Museum in London, UK, the *D. ovata* specimens present there were examined and compared with recent findings on the differences between specimens of *D. ovata* (Stein) and *D. ovata* (Stein) of authors. Most of the about 25 available flies of the collection originated from the early 19th hundred. Some of them had become very brittle over the years and were now in poor condition. They were not identifiable anymore. Nevertheless, some specimens of the collections previously identified as *D. ovata* differed from the syntype of this species. Comparing these flies with each other and with the recently newly described species revealed that so far six specimens belong to four further new species. They are described below as *Dichaetomyia congoa* sp. n., *Dichaetomyia ghanuga* sp. n., *Dichaetomyia kenyana* sp. n. and *Dichaetomyia nigeriana* sp. n.

Materials and Methods

The current descriptions are based on six specimen which were stored along with a group of further *Dichaetomyia* specimens in the collection box assigned to *Dichaetomyia ovata* in the entomological collection of the Museum of Natural History London, UK. With the friendly permission of the the Natural History Museum this collection of *D. ovata* specimens is investigated at the Institute of Biodiversity and Ecosystem Research (IBER) in Bulgaria. Not each of the specimens found in the *D. ovata* box is marked with an individual species label. On the contrary, there are some flies that are labelled with a completely different species name. In such cases, it was necessary to check whether the original species name was due to a previous misidentification or whether the species was transferred to the *D. ovata* collection box based

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on its taxonomic characteristics.

The specimens under investigation were compared with the syntype of *Dichaetomyia ovata* (Stein), borrowed to IBER by the Museum für Naturkunde in Berlin, Germany, with the female holotype of *Dichaetomyia tanovata* Zielke, 2023, made available by the Staatliches Museum für Naturkunde in Stuttgart, Germany, and with the holotypes of *Dichaetomyia niiovata* Zielke, 2023, *Dichaetomyia malovata* Zielke, 2023 and *Dichaetomyia libovata* Zielke, 2023 from the California Academy of Sciences (CAS), San Francisco, USA. The latter two species were also represented by paratypes.

The material was studied using a Zeiss Stemi SV6 stereomicroscope and images were created by means of a Zeiss Discovery 8 stereomicroscope combined with an AxioCam ERc5s camera. Morphological terminology follows McAlpine (1981)^[2], but postpedicel (Stuckenberg 1999)^[3] is used instead of “first flagellomere” as proposed by McAlpine. The lateral width of the postpedicel of antenna is called “depth” and refers to the greatest depth of the postpedicel. Information about the width of frons refers to the shortest distance between the margins of the eyes. The anterior width of frons is measured directly at the upper margin of the lunule. The intra-alar setae of the presutural part of the mesonotum are named posthumeral and presutural seta respectively, and the fronto-orbital seta is called for the sake of simplicity just frontal seta. If the length of setae or hairs of the femur is compared to the depth of femur, the depth always refers to the point of insertion of the seta or hair. Body length was measured in millimetres (mm).

For identification the key to African *Dichaetomyia* species published by Emden (1942)^[4,5] was almost exclusively used, the key from Curran (1935)^[6] and publications from Stein (1918)^[7], were occasionally consulted. The inscriptions on the labels of the specimens of the wrongly assigned species have been transferred verbatim into the descriptions of the corresponding new taxa. The type material of the newly described species will be returned after completion of the study to the Museum of Natural History, London, and the other specimens loaned to IBER will be sent back to the entomological departments they came from.

Results

Common characteristics

The species described below all have the following taxonomic features, which are also characteristic of *D. ovata*, and therefore they have been assigned to this species in the hitherto available identification tables.

Since the four species all belong to the subgenus *Panaga*, their greater ampulla is covered with setulae, which are dark in *D. ovata* and thus also in these similar species. In addition, the specimens also show other characteristics typical of *D. ovata*, such as: “the anepimeron pale below the greater ampulla; three postsutural dorsocentral setae; sides of scutellum with setulae near lower margin; all tibiae predominantly yellow and tarsi wholly yellowish; fore tibia without a median posterior seta; the last two abdominal segments without spots that are confined to the posterior angles; prementum not abnormally bulbous”.

Some species are very similar to *D. ovata* or to each other even beyond these criteria, and in general, they all differ only in a few specific taxonomic characters, which ultimately justify the separation into separate species. Thus, most of the taxonomic features of these new species, which were previously considered *D. ovata*, are of no importance for their

distinction due to their similarity. On the other hand, new species should be described in as much detail as possible in order to make it easier to assess consistency and differentiation with other species based on the species description.

In order to avoid a redundant listing of similar criteria without instantaneous diagnostic significance when describing the new species, the criteria common to these species are compiled in a special chapter. This compilation is then considered an integral part of each of the following individual descriptions.

As it turned out, most of the differentiating taxonomic characters came from the head, legs and abdomen. Only a few, albeit significant, differentiating features were found on the thorax. Accordingly, head, legs and abdomen are shown in more detail in the individual descriptions. Whereas thorax and wings are largely described in the compilation of common features.

Compilation of characteristics

It has to be kept in mind that this compilation is only specific for the four species described below and cannot be transferred without detailed comparison to any other species of the genus.

Head. Male: Holoptic. Eyes with facets close to frons clearly enlarged; fronto-orbital plates touching throughout the length of frons). Female: dichoptic. Both gender: Upper mouth margin in line with profrons; parafacial visible throughout the entire length; parafacial and facial ridge bare apart from the group of setulae in the lower facial corner.

Thorax. Predominantly yellowish to brownish-yellow; mesonotum without dark pattern. In dorsal view postpronotum and notopleuron pale yellow, somewhat contrasting to the brownish-yellow mesonotum. Pleura shiny pale yellow somewhat contrasting with the darker yellow mesonotum. Anterior and posterior spiracles pale yellow, posterior spiracle with dark setae at the lower margin. Acrostichals 0+1, at most half as long as the posterior dorsocentral seta; dorsocentral setae 2 + 3, the anterior presutural seta somewhat shorter than the other dorsocentrals; postpronotal setae 2, the outer one clearly longer than the inner seta; anterior notopleural seta slightly longer than posterior one; prealar seta slightly or clearly shorter than posterior notopleural seta; 2 long intra-alar setae, supra-alar setae 2; postalar setae 3. Greater ampulla with several dark setulae; suprasquamal ridge bare. Prosternum with some dark hair-like setae; proepisternal depression and katepimeron bare. Katepisternal setae 1+2, the lower seta clearly closer to the posterior upper seta; scutellum with a pair each of strong apical and lateral setae, lateral surface including margin to ventral surface with several setulae, the ventral surface bare.

Wing. Membrane hyaline; cross-veins and surrounding membrane not infuscate; stem vein yellow and somewhat in contrast with the subsequent brown parts of veins; tegula and basicosta yellow; costal spine clearly longer than diameter of costa, at least twice as long as adjacent bristles but not very prominent; radial node dorsally bare; vein M somewhat diverging from vein R4+5, but slightly curved forward to R4+5 before reaching wing margin; vein R4+5 apically bent somewhat upwards just before reaching wing margin; cross-vein r-m slightly basad from the point where vein R1 enters costa; both calypters yellowish shiny transparent, margins yellowish, lower calypter about 1.5 times as long as upper calypter; stem and knob of halter yellow.

Legs. Coxae, trochanters, femora, tibiae and tarsi yellow; hind

coxa bare on the inner posterior surface; pulvilli and claws well developed but at most half as long as the corresponding tarsomere. Fore femur with complete rows of posterodorsal, posterior and posteroventral setae, the posterodorsals and posteriors about as long as depth of femur, posteroventrals slightly longer. Fore tibia without a median posterior seta but with a median anterodorsal seta, more or less strong and about as long as or longer than diameter of tibia. Mid tibia with two posterior setae, strong and longer than the diameter of tibia. Hind femur preapically with two strong posterodorsal to dorsal bristles. Hind tibia without a long posterodorsal seta; but with one short but clearly distinguishable posterodorsal seta about opposite of the anteroventral seta.

If a characteristic is described differently from this compilation in the individual description of a species below, it overrides the general statement of this compilation for the species.

Descriptions of new species

Dichaetomyia congoa spec. nov. (Figs. 1-3)

Material examined: Male holotype with three labels bearing the inscriptions 1. "Congo - belge [Democratic Republic of Congo] Eala 16.vii,1935 J. Ghesquière"; 2. "*Dichaetomyia ovata* Stein van Emden det. 1947"; 3. "Pres. by Com. Inst. Ent. B. M. 1948-198." Two labels were added with the inscriptions "holotype" and "*Dichaetomyia* ♂ *congoa* n. sp. det. Zielke 2023". The male holotype lacks both pedicels, the right hind leg and both fore legs. The right mid leg fell off upon microscopic examination. It was transferred into a gelatin capsule and attached to the staging pin of the holotype. In addition, several of the major setae are missing, but the scars are clearly visible and allow an assessment of the chaetotaxy. Despite these partially significant deficiencies the new species was clearly identified and described based on the combination of some very specific characteristics.

Etymology

The epithet "*congoa*" is an artificial feminine adjective, somewhat modified it refers to the country where the specimen was collected.

Description (male) [Shortened description! See also "Common characteristics", first section of chapter Results]. Head. Ground-colour dark except the pale yellow face, partially dusted white. Eyes practically bare, only with individual microscopically small hairs. Frons at the narrowest width almost twice as wide as diameter of anterior ocellus, fronto-orbital plate at this level of frons about as wide as anterior ocellus. Parafacial at level of antenna basis about three quarters as wide as width of pedicel, further downwards almost parallel-sided, barely half as wide as pedicel. Facial ridge at level where parafacial and facial ridge separate more than three times as wide as parafacial. In profile: genal depth about hardly half as wide as depth of pedicel (Fig. 1); upper mouth margin somewhat above lowest eye margin (Fig. 1). In anterodorsal view head with fronto-orbital plates and parafacials apart from a pale yellow face and facial ridge completely deep dark brown or almost black (Fig. 2), depending on incidence of light more or less densely dusted white or shiny silvery-white (Fig. 1). Basal antenna segments yellow, postpedicels are missing. Anterior fifth of fronto-orbital plate with two strong anterior setae (Fig. 1), moderately long and fairly close together, the anterior one slightly longer than the subsequent seta, followed by two very

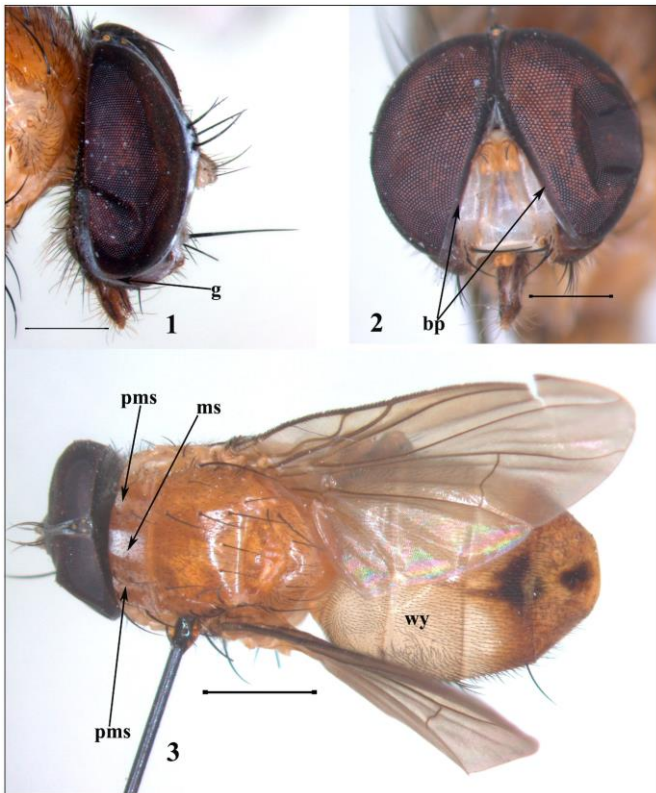
short inclinate setulae still in the lower half of frons, upper part of frons bare apart from two small setae below the level of anterior ocellus, the upper seta about 1.5 times as long as diameter of anterior ocellus, and the shorter seta below about as long as the diameter. Ocellar setae about as long as anterior frontal seta. Inner and outer vertical setae rather short not one third as long as ocellar seta. Vibrissal setae relatively short but still almost twice as long as the longest surrounding peristomal setae. Lateral surface of gena brown and bare, margin of gena with a row of strong dark setae; subgena more dark brown and shiny; postgenal surface and occipital surface deeply dark brown and dusted greyish, all surfaces with dark seta-like hairs. Proboscis with the prementum dark brown; labella as long as prementum; palpus strikingly yellow, clearly longer than prementum, somewhat curved, slender and parallel-sided.

Thorax. Mesonotum and scutum brownish-yellow, depending on viewing angle shiny or partially sparsely dusted whitish. Presutural part of mesonotum in dorsal or posterodorsal view with a median white stripe and two paramedian white elongated patches (Fig. 3), the median stripe barely reaches transverse suture unchanged in width, the paramedian patches taper to narrow stripes, fading toward the suture in posterior half of presutural part, the three stripes do not exceed the the suture. Pleura in direct anterior view partly slightly dusted whitish. Mesonotum and dorsal lateral surfaces of scutellum covered with rather short black setulae, pleura predominantly bare or very sparsely covered with setulae. Notopleuron with several fine long dark hairs; anepimeron in the upper part with a tuft of dark hairs and on the surface below some scattered hairs, about as long as the hairs of the tuft; postalar declivity with small black setulae; meron above hind coxa with a few black setulae, contrasting with the yellow surface. Proepisternal seta and proepimeral seta slightly longer than the posterior notopleural seta, very close to the upper proepisternal seta the lower proepisternal seta, about half as long as the upper seta, and four fine dark hairs distinctly shorter than the lower seta; upper proepimeral seta surrounded by numerous seta-like hairs only slightly shorter than the lower proepimeral seta which is barely half as long as the upper seta. Anepisternal setae 1+5-7 all black and strong, dark interstitial hairs much weaker and at most about half as long as the shorter setae of the row. Scutellum with basal and preapical setae distinctly shorter but clearly distinguishable from ground-hair and several discal setae.

Wing. With a smoky-brownish tinge (Fig. 3). Radial node ventrally bare, ventral part of vein R4+5 with a few setae, the most distal one clearly posterior of midlength between radial node and cross-vein r-m. Distal cross-vein dm-cu sinuous and slightly oblique.

Legs. Basal half of mid femur with a row of five dark posteroventral or almost ventral setae about as long as depth of femur, and in basal fourth a row of about five anteroventrals, barely half as long as the basal posteroventrals; a row of short posteroventral hairs about half as long as depth of femur in apical fourth; three strong preapical bristles on posterior surface and one somewhat shorter preapical anterodorsal bristle. Hind femur with a complete row of anterodorsal setae, the basal setae slightly longer the more apical ones about as long as depth of femur; a row of about five distinct anteroventral setae in apical half and two anteroventral setae in basal third, the setae are about equally long and slightly longer than depth of the femur, a row of five posteroventrals in basal two thirds about as long

as the anteroventrals, and apically a row of distinctly shorter posteroventral hairs. Hind tibia in distal half with a strong anterodorsal seta, longer than diameter of tibia and two strong anteroventral setae about as long as or somewhat longer than diameter of tibia.



Scale bars; Figs: 1 – 2, 1 mm, 3, 2 mm

Figs 1-3: *Dichaetomyia congoa* spec. nov., male holotype; 1) lateral view of head, g = depth of gena below lowest eye margin; 2) anterior view of head, frons very narrow, parafacial (bp) uniformly dark brown to blackish; 3) dorsolateral view, mesonotum with median longitudinal stripe (ms) dusted white and two shorter white paramedian stripes/patches (pms), anterior tergites of abdomen (wy) strikingly whitish-yellow.

Abdomen. Syntergite 1+2 and tergite 3 completely, tergite 4 predominantly translucent whitish-yellow (Fig. 3), Tergites 1-4 with a poorly demarcated yellow median longitudinal stripe, tergite 4 with brownish posterior margin and with a somewhat darker median longitudinal stripe ending in an irregularly shaped dark brown median patch in the posterior half. Tergite 5 dark yellow, not translucent, partly with a strong brownish tinge and a median triangular-shaped dark brown patch in posterior half but not touching posterior margin. Ventral parts of tergites and sternites whitish-yellow, the lateral posterior margin of tergite 4 brownish, of tergite 5 yellowish-brown, sternite 5 predominantly yellow with a weak brownish tinge, the lobes of sternite 5 however dark brown like the hypopygium. Tergites densely covered with small black setulae, syntergite 1+2 and tergite 3 with a few longer marginals laterally, tergites 4 and 5 with a few marginals also dorsally but not in the median area, tergite 5 in addition with a few dorsolateral discal setae but not as a complete row. Sternite 1, only the lateral parts covered with dark setulae, the posterior margin and the adjacent surface bare.

Male genitalia. Not investigated.

Measurements. Length of body 10.4 mm; length of wing about 7.3 mm.

Female not known.

Remarks and diagnosis: The male holotype of the newly described species *Dichaetomyia congoa* sp. n. was labelled by Van Emden in 1947 as *Dichaetomyia ovata*. However, the new species is distinguished from *D. ovata* by three white stripes on the anterior mesonotum, three strong preapical bristles on the posterior surface of the mid femur and by some black setulae on the meron above the posterior coxa. While *D. ovata* has only the median white stripe on the mesonotum, four strong preapical setae on the posterior surface of the middle femur and no setulae on the meron.

In the identification table [1] for incorrectly assigned specimens similar to *D. ovata*, *Dichaetomyia congoa* sp. n. leads to *Dichaetomyia nivata* Zielke, 2023. The new species differs from *D. nivata*, among other features, by the black setulae, which are in contrast with the yellow meron, and by parafacials that are completely deep dark brown to almost black in colour at certain incidence of light (Fig. 2). In *D. nivata*, however, the meron is bare and the parafacials are never dark or black, regardless of the incidence of light, but yellow or at most yellowish-brown.

Dichaetomyia ghanuga spec. nov. (Figs. 4–11)

Material examined: Male holotype with four labels 1. "Uganda. Entebbe. 20.iii.1913 C. C. Gowdey"; 2. "*Dichaetomyia apicata* ♂ Stn."; 3. "*Dichaetomyia (P.) ovata* Stn. van Emden det. 1941"; 4. "Pres. by Imp. Bur. Ent, Brit. Mus. 1931–480". Two labels were added with the inscriptions "holotype" and "*Dichaetomyia* ♂ *ghanuga* n. sp. det. Zielke 2023".

The male holotype is in fairly good condition, but the posterior tergites of abdomen are somewhat soiled, and some major setae are missing. Since the scars of the setae are well visible, the diameter of the scar can be used to assess the thickness and also the length of the typical large bristles. The right wing fell off and was transferred into a gelatin capsule, which was attached to a separate pin, appropriately labelled. The additional pin was necessary because there are already six labels attached to the male's staging pin.

Female paratype with two labels bearing the inscriptions 1. "W. Africa: Gold Coast. [Ghana] 1910 W. P. Lowe. 1911–65"; 2. "*Macroxanthomyia ovata* (Stn.) Det. J. R. Malloch". Two labels were added, reading "paratype" and "*Dichaetomyia* ♀ *ghanuga* n. sp. det. Zielke 2023", respectively. The specimen is missing the left fore leg, the right fore tarsomeres 2-5 and the right mid and hind tibia, the right wing is missing the anterior wing margin including the corresponding part of costa, starting from the costal spine to just before the tip of the wing. Despite this damage, the specimen can be clearly identified.

Etymology: The epithet "*ghanuga*" is an artificial feminine adjective, composed of the first four or three initials of the names of the countries where the specimens were collected, the female from Ghana and the male from Uganda.

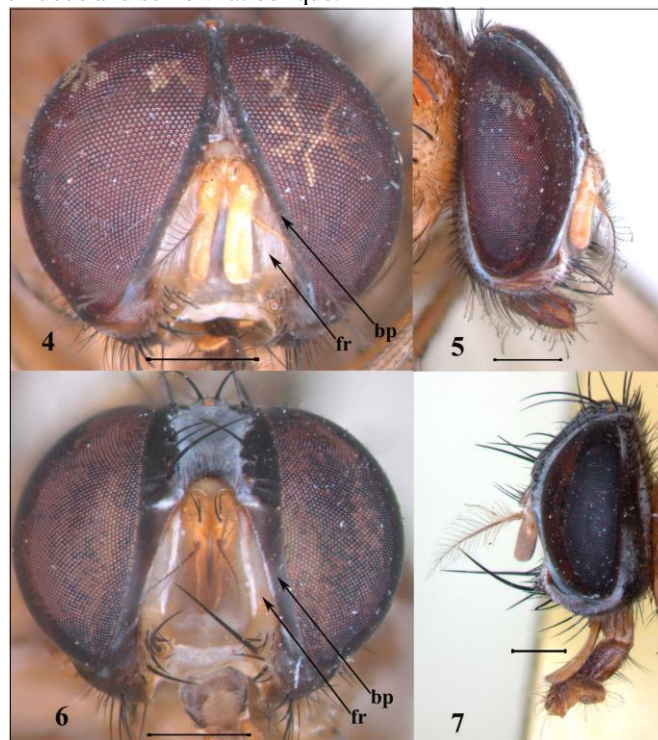
Description (male) [Shortened description! See also "Common characteristics", first section of chapter Results]. Head. Ground-colour dark, partly yellowish (Fig. 4). Eyes with very few microscopic hairs, facets close to frons clearly enlarged. Frons at the narrowest width about 1.5 times as wide as diameter of anterior ocellus, fronto-orbital plate at this level barely two thirds as wide as anterior ocellus. Parafacial at level of antenna basis about three fifths as wide as depth of postpedicel, further downwards practically parallel-sided, almost half as wide as postpedicel. Facial ridge

in lower part about twice as wide as parafacial. In profile (Fig. 5): parafacial visible throughout its entire length; apex of antenna falling short of mouth margin by half depth of postpedicel, upper mouth margin above lowest eye margin; genal depth about half as wide as depth of pedicel. In anterodorsal view fronto-orbital plate, parafacial, facial ridge and anterior part of gena densely shiny silvery-white, ocellar tubercle dark and peristomal corner yellowish; in anterolateral view, parafacial and fronto-orbital plate deep dark brown (Fig. 4), facial ridge pale yellow, peristomal area yellow and anterior genal surface brownish and sparsely dusted greyish. Antenna uniformly yellow. Postpedicel about three times as long as deep and about 2.2 times as long as pedicel. Arista yellowish-brown with the slightly dilated basis yellow, almost twice as long as length of postpedicel, longest hairs of arista about twice as long as depth of postpedicel. Anterior third to half of fronto-orbital plate with three strong anterior setae moderately long and fairly close together, the anterior one slightly stronger than the subsequent setae, in addition about three very short inclinate setae in the upper part almost reaching midlength of frons, about one third as long as the anterior setae, and a few very small interstitial setulae, upper part of frons bare apart from two small below anterior ocellular setae about as long as the short frontal setae. Ocellar setae well developed, about 1.5 times as long as anterior fronto-orbital seta. Inner and outer vertical setae about one third as long as ocellar seta. Vibrissal setae about twice as strong as strongest surrounding peristomal setae. Lateral surface of gena brown and bare, margin of gena with a row of strong dark setae; subgena shiny dark brown or at certain viewing angle dusted greyish; postgenal surface and occipital surface more brown and dusted greyish and with dark seta-like hairs. Proboscis with the prementum brown, predominantly shiny, labella almost as long as prementum; palpus strikingly yellow, clearly longer than prementum, clavate, somewhat curved and flattened.

Thorax. Presutural part of mesonotum in dorsal or posterodorsal view with a median and two paramedian white stripes (Fig. 10), the median stripe reaches transverse suture unchanged in width, the paramedian stripes strongly tapering toward the suture, the three stripes do not exceed the suture. Scutellum slightly more yellowish than the brownish-yellow mesonotum. When pleura viewed directly from anterior, partly sparsely dusted whitish. Mesonotum and dorsal lateral surfaces of scutellum covered with short seta-like hairs, pleura predominantly bare or very sparsely covered with setulae. Postpronotal setae 2, the outer one clearly longer than the inner seta; notopleuron with about three small and fine setulae. Anepimeron in the upper part with a tuft of dark hairs and on the surface below some scattered hairs, about as long as the hairs of the tuft; postalar declivity with small black setulae; meron bare. Upper proepisternal and proepimeral setae longer than the anterior katepisternal seta, the lower proepisternal and proepimeral setae much weaker, at most half as long as the upper ones. The proepisternal setae with some short hairs at their basis; the proepimeral setae with several distinctly shorter hairs in the surrounding. Anepisternal setae 1+6 all black and strong, dark interstitial hairs much weaker and at most about half as long as the shorter setae of the row. The scars of the preapical setae of the scutellum distinct and clearly distinguishable from those of the the ground-hair, the scars of the basal setae barely distinguishable.

Wing. With a brownish tinge. Costal spine longer than

diameter of costa but not very prominent. Radial node ventrally bare, ventral part of vein R4+5 with a few setae, the most distal one at midlength of the section between radial node and cross-vein r-m. Distal cross-vein dm-cu almost sinuous and somewhat oblique.



Scale bars; Figs 4-7, 1 mm

Figs 4-7: *Dichaetomyia ghanuga* spec. nov., male holotype; 4) anterior view of head, frons narrow, parafacial (bp) uniformly dark brown to blackish, facial ridge (fr) in contrast with dark parafacial; 5) lateral view of head; female paratype; 6) anterior view of head, parafacial (bp) uniformly dark brown to blackish, facial ridge (fr); 7) lateral view of head.

Legs. Mid femur in basal third with a row of about five anteroventral setae, half as long as depth of femur, in addition in basal half an irregular row of anterior bristles in the upper half of the surface about one third as long as depth of femur, a short row of anteroventral hairs almost half as long as depth of femur in apical fourth; a complete row of posteroventral setae throughout the entire length of the mid femur, the setae in basal half almost as long as depth of femur but of decreasing length, in apical half the setae weaker and about half as long as depth of femur; preapically four strong bristles on the posterior surface and one smaller but distinct anterodorsal seta. Hind femur with a complete row of anterodorsal setae about as long as depth of femur, and a row of about six distinct anteroventral setae in apical half and three anteroventral setae in basal third, the setae well-developed but not as long as the depth of the femur apart from the two most apical setae which somewhat exceed the depth; a row of five posteroventrals in basal two thirds continued by an apical row of shorter posteroventral hairs, the basal setae almost as strong as the anteroventrals. Hind tibia in distal half with an anterodorsal seta clearly longer than diameter of tibia and one shorter anteroventral seta slightly longer than diameter.

Abdomen. Syntergite 1+2 and tergite 3 pale yellowish, tergites 4 and 5 yellowish-brown and partly brown without a specific pattern (Fig. 11). Ventral parts of tergites coloured

like the dorsal surfaces, sternites predominantly yellow, sternite 5 more brownish. Tergites densely covered with small black setulae, syntergite 1+2 and tergite 3 laterally with a few long and strong marginals, tergite 4 with a complete row of strong marginals and tergite 5 with a more or less complete row of discals and a complete row of strong marginals. Sternite 1 on each lateral margin a tuft of erected dark hairs.

Male genitalia. Not investigated.

Measurements. Length of body and length of wing 10.2 mm.

Description (female) [Shortened description! See also "Common characteristics", first section of chapter Results]. Head. Ground-colour predominantly deeply dark brown or almost black (Fig. 6), depending on incidence of light some parts dusted greyish or densely silvery-white (Fig. 7). Eyes practically bare, facets of anterior part of eye somewhat enlarged. Frons dilated towards the anterior margin, distance between eyes at vertex 0.31 times as wide as maximal width of head, at level of anterior ocellus about 3.4 times and at anterior margin of frons about 4.7 times as wide as the distance between the outer margins of posterior ocelli. Frontal plate at midlength of frons about as wide as the outer margins of posterior ocelli; frontal vitta in lower half slightly concave shaped, at midlength at least twice as wide as the width of the frontal plate; frontal triangle barely reaching the level of the most posterior frontal seta. Parafacial at level of antenna basis about 1.5 times as wide as depth of postpedicel, moderately tapering, and at level where facial ridge and parafacial separate about two thirds as wide as depth of postpedicel; the facial ridge at this level about as wide as parafacial. In profile (Fig. 7): parafacial visible throughout the entire length; genal depth below lowest eye margin about two thirds as wide as depth of postpedicel, apex of antenna misses mouth margin by the depth of postpedicel; mouth margin somewhat above lowest eye margin. In anterior view the ground-colour of fronto-orbital plate and parafacial uniformly deeply dark brown or black (Fig. 6), depending on slight changes of the viewing angle the parafacial appears completely or partly dusted silver-white, the fronto-orbital plate at the anterior part uniformly, and in the upper part partially dusted greyish-white or white; the frontal vitta appears, depending on incidence of light, from almost velvet black to densely dusted white; frontal triangle and ocellar tubercle dark at certain viewing angle somewhat dusted whitish or shiny; anterior part of gena with brownish ground-colour or densely dusted silvery-white. Ground colour of face including facial ridge and anterior part of peristome pale yellow, at certain viewing angle densely dusted white. Basal segments of antenna, basis of postpedicel until insertion of arista and the subsequent ventral half of the distal part of postpedicel strikingly yellow, the dorsal half of the distal part and the apical part of postpedicel at certain incidence of light more pale brown or ochre and sparsely dusted greyish. Postpedicel about three times as long as depth of postpedicel, and about twice as long as pedicel. Arista predominantly pale brown, almost three times as long as length of postpedicel, longest hairs of arista almost twice as long as depth of postpedicel. Fronto-orbital plate on anterior two thirds with five inclinate setae. The anterior two setae long and strong, but the front one is significantly longer. The three following setae are only one-third to one-quarter as long as the anterior setae, with the exception of the fourth seta on the right fronto-orbital plate, which is about two-thirds as long as the second setae in the row. At the level of anterior ocellus a strong reclinate orbital seta, about as long as the second

anterior seta, and another reclinate orbital seta slightly below as short as the upper frontal setae. Ocellar seta longer than the anterior frontal seta and the inner vertical seta which is slightly longer than the outer vertical seta. Between eye margin and frontal and orbital setae an irregular row of proclinate setulae, only slightly shorter than the upper inclinate frontal setae. Vibrissal seta longer and stronger than ocellar seta and almost twice as long as the longest surrounding peristomal setae. Lateral surface of gena brown to dark brown and at certain incidence of light dusted greyish-white, in general bare, margin of gena with a row of strong dark setae; subgena, postgenal and occipital surfaces with some strong dark setae but only sparsely covered with dark setulae, ground colour dark brown, the latter two surfaces more greyish dusted. Proboscis slender, prementum brownish and predominantly shiny, at certain viewing angles weakly dusted greyish; labella almost twice as long as greatest depth of proboscis; palpus yellow, slender and almost parallel-shaped, almost twice as long as prementum.

Thorax, wings, legs and abdomen similar to male (Fig. 9). The features mentioned below differ slightly from those of the male. Thorax. Upper proepisternal and proepimeral setae about as long as the anterior katepisternal seta, the lower proepisternal and proepimeral setae very weak, more hair-like and about one third as long as the upper setae, the surrounding only with few and much smaller hairs. Anepisternal setae 1+5, dark interstitial hairs much weaker and about one third or less as long as the setae.

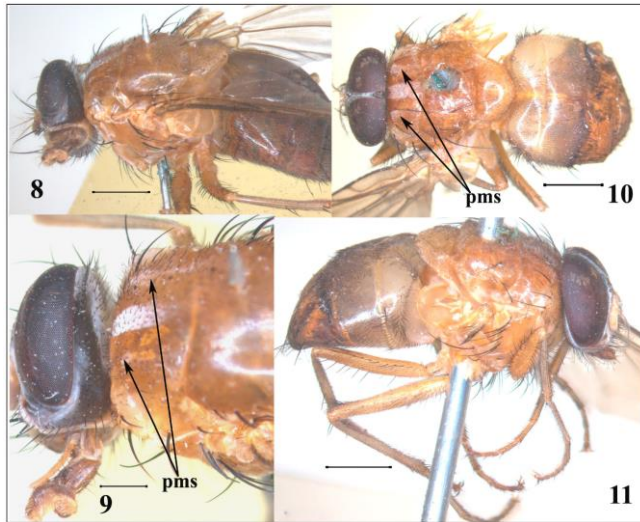
Wing. Although the stem vein is yellowish, it only contrasts slightly with the subsequent brownish vein parts.

Legs. In basal third three anteroventral setae, only about one third as long as depth of femur, in basal half a row of about four dark ventral setae barely as long as depth of femur and a row of short bristle-like setae in the upper half of the anterior surface; preapically with a row of about seven short posteroventral hairs and four strong bristles on the posterior surface and one distinctly shorter anterodorsal bristle. Hind femur with a complete row of anterodorsal setae not as long as depth of femur, in apical third three strong anteroventral setae slightly longer than depth of femur, and three stronger and even longer anteroventrals about equally distant from each other in basal two thirds, a row of four posteroventral setae almost as long as depth of femur in basal half, preapically a short row of seta-like posteroventral hairs barely half as long as depth of femur.

Abdomen. Almost uniformly more brownish (Fig. 8) than yellowish, distinctly darker than thorax and without any dusting regardless of angle of viewing. Tergite 4 in apical half with a pair of small paramedian dark brown roundish patches not touching the apical margin, and tergite 5 with a broad median dark brown elongated patch. Ventral parts of tergites somewhat more yellowish, sternites brownish. Syntergite 1+2 with rather short appressed dorsal marginal setae, laterally a few longer ones, dorsal marginals of tergite 3 not distinguishable from ground hair, lateral marginals somewhat longer; tergite 4 with an almost complete row of strong, long and erect marginal setae, laterally two discals distinctly shorter; tergite 5 with a row of marginals not as long as in tergite 4, in addition with a few dorsolateral discal setae. Sternite 1 margin covered with dark hairs.

Female genitalia. Not investigated.

Measurements. Length of body 11.2 mm; length of wing 10.4 mm.



Scale bars; Figs 8-11, 2 mm

Figs 8-11: *Dichaetomyia ghanuga* spec. nov., female paratype; 8) lateral view; 9) dorsolateral view of anterior mesonotum, white paramedian longitudinal stripes (pms) visible only at certain incidence of light; male holotype; 10) dorsolateral view, white paramedian stripes (pms) visible; 11) lateral view, abdomen predominantly brownish.

Remarks and diagnosis: The male holotype of *Dichaetomyia ghanuga* sp. n. from Uganda was initially labelled as "*Dichaeto apicata* Stn" without naming the author of the identification. However, a species named *Dichaeto* or probably *Dichaetomyia apicata* was found neither as a synonym nor as a separate species in the literature and in online catalogues. Van Emden then labelled the specimen as "*Dichaetomyia ovata* Stn" in 1941. At first glance it is indeed similar to this species, but differs from *D. ovata* in having three white-dusted longitudinal stripes on the anterior part of the mesonotum (Figs 9 & 10). However, the paramedian white stripes are in certain dorsal viewing angles very faintly or not visible, however, in dorsolateral view for example they are clearly visible as narrow stripes. In addition, the postpedicel is predominantly yellow or yellowish-brown in colour and not dark brown. The mid and hind femur each have a row of posteroventral setae in the basal part of the femur, which are not present in *D. ovata*.

Following the recently compiled differentiation criteria for the previously incorrectly assigned *D. ovata* specimens^[1], the holotype of *Dichaetomyia ghanuga* sp. n. is closest to the species *D. nivata*. Apart from the significantly larger body size, there are four strong preapical bristles on the posterior surface of *Dichaetomyia ghanuga* sp. n. on the middle femur; the parafacials are evenly coloured almost black (Figs. 4 & 6); and the postalar declivity has small black setulae. In the smaller species *D. nivata*, on the other hand, there are only three preapical bristles on the posterior surface of the middle femur; the parafacials are never dark or black, regardless of the incidence of light, but always yellow to yellowish-brown; and the postalar declivity is bare.

The female paratype of *Dichaetomyia ghanuga* sp. n. was collected in Gold Coast [Ghana] and was also identified as *D. ovata* by Malloch. However, Malloch assigned the species *D. ovata* to the genus *Macroxanthomyia* which he had created in 1930^[7] and which turned out to be a synonym of *Panaga* Curran, 1928, a subgenus of *Dichaetomyia*. Like the holotype, the female paratype of *Dichaetomyia ghanuga* sp. n. differs from *D. ovata* by the three white dusted markings on the

anterior part of the mesonotum and by the chaetotaxy of the posterior femora. Also, the female of *Dichaetomyia ghanuga* sp. n. most closely resembles *D. nivata*, and it differs from the species based on the same criteria as the male.

Although the male holotype was found in Uganda in East Africa and the female paratype in Ghana in West Africa, both appear to belong to the same newly defined species *Dichaetomyia ghanuga* sp. n. The observed differences in the intensity of colour of the abdomen and postpedicel may be gender specific. Similar differences between males and females are observed also in other *Dichaetomyia* species. Striking, however, is the commonality of some specific taxonomic features, e.g. the weakly developed paramedian stripes in the dorsal view (Figs 9 & 10) and the predominantly brownish abdomen (Figs 8 & 11). On the other hand, there were no taxonomic differences that would have justified separating the two specimens into different taxa.

Dichaetomyia kenyana spec. nov. (Figs. 12–15)

Material examined: Female holotype with three labels, the inscriptions read 1. "van Someren Kaimosi (S) Kenya 2 49"; 2. "COM. INST. ENT: COLL. NO. 11280"; 3. "V. G. L. van Someren Collection. Brit. Mus. 1959---468." Two labels were added with the inscriptions "holotype" and "*Dichaetomyia* ♀ *kenyana* n. sp. det. Zielke 2023". Female paratype with three labels identical to the labels of the holotype and a fourth label with the inscription "*Dichaetomyia ovata* ab. *rutilla* Stein van Emden det, 1949". Two labels were added with the inscriptions "paratype" and "*Dichaetomyia* ♀ *kenyana* n. sp. det. Zielke 2023", respectively. The inscription of label No. 4 is partly handwritten and difficult to decipher, an uncertainty remains regarding the abbreviation "ab." and the year of identification "1949", as the handwritten last digit "9" could also be read as "4". However, the fly was collected in February 1949 if the numbers on the first label represent the collection date. The female holotype is missing the right fore and mid leg, tarsomeres 2 to 5 of both hind legs, some large setae and the anterior margin of the right wing between the junction of the subcosta with the costa and the level of the posterior cross-vein dm-cu. The female paratype is missing both mid legs, and the right wing is damaged similar to the holotype.

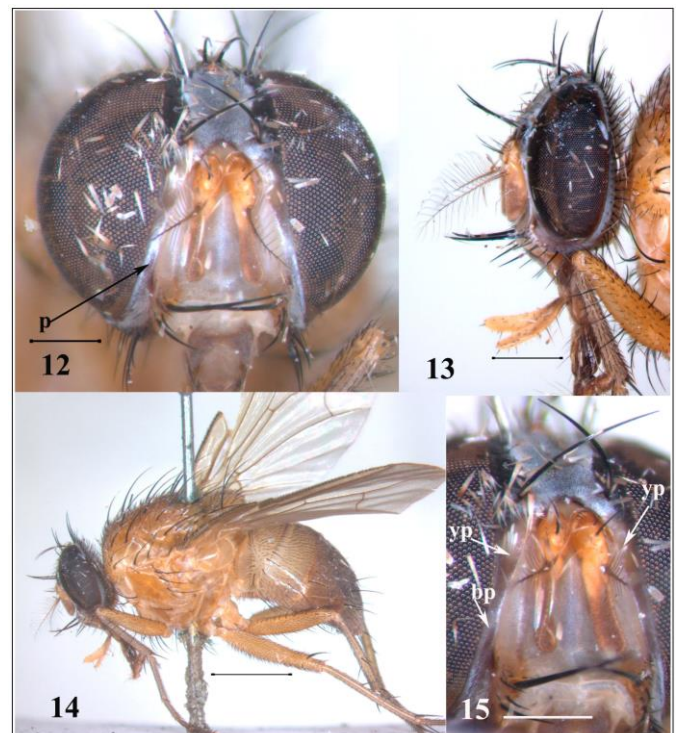
Etymology: The epithet "*kenyana*" is a feminine adjective and refers somewhat modified to Kenya where both specimens have been collected.

Description (female) [Shortened description! See also "Common characteristics", first section of chapter Results]. Head. Ground-colour mainly dark brown to blackish, predominantly dusted more or less densely whitish or silvery-white (Fig. 12). Eyes practically bare at most with a very few microscopic hairs, facets of anterior part of eye somewhat enlarged. Frons slightly dilated towards the anterior margin, distance between eyes at vertex 0.26 times as wide as maximal width of head, at level of anterior ocellus about three times and at anterior margin of frons about four times as wide as the distance between the outer margins of posterior ocelli. Fronto-orbital plate at midlength of frons about three quarters as wide as the distance between the outer margins of posterior ocelli; frontal vitta slightly oval shaped, at midlength about slightly more than twice as wide as the width of the fronto-orbital plate, frontal triangle very poorly demarcated, barely reaching middle of frons. Parafacial at level of antenna about

1.5 times as wide as depth of postpedicel, distinctly tapering downwards, where parafacial and facial ridge separate barely as wide as anterior ocellus. In profile (Fig. 13): upper mouth margin about in line with profrons; parafacial narrow but visible throughout its length; genal depth below lowest eye margin half as wide as depth of postpedicel; antenna not reaching mouth margin, falling short of facial margin by half the depth of postpedicel; mouth margin slightly above lowest eye margin. In anterior view fronto-orbital plates almost velvet black depending on incidence of light more or less densely dusted whitish; frontal vitta blackish with a dark brown tinge, depending on angle of light dusted greyish or completely white, then strongly contrasting to the black fronto-orbital plates (Fig. 12); ocellar tubercle dark; frontal triangle practically not distinguishable from surrounding frontal vitta. Parafacial and anterior part of gena densely dusted silvery-white (Fig. 12), in anteroventral view deep dark brown or almost blackish (Fig. 15), however, the upper third of parafacial yellowish-brown somewhat contrasting with the blackish fronto-orbital plate. Ground colour of face pale yellow, at certain viewing angle densely dusted white, the yellowish facial ridge contrasting with the dark lower part of parafacial. Basal segments of antenna, basis of postpedicel until insertion of arista and the subsequent ventral half of the distal part of postpedicel strikingly yellow (Fig. 13), the dorsal half of the distal part and the tip of postpedicel depending on incidence of light pale brownish or brown, but not dark brown, sparsely dusted greyish. Postpedicel about three times as long as its depth and slightly more than twice as long as pedicel. Arista pale brownish, about twice as long as length of postpedicel, longest hairs of arista about 1.5 times as long as depth of postpedicel. Anterior half of fronto-orbital plate with four setae, the anterior seta strong and long, the three subsequent setae very small, about as long as the distance between the outer margins of the posterior ocelli, one or two interstitial setulae, clearly shorter than the three frontals. In upper half at level of anterior ocellus a strong reclinate orbital seta about as long as the anterior frontal seta, another orbital seta slightly below about one third as long as the upper one. The surface between eye margin and frontal and orbital setae with a few isolated setulae. Vibrissal setae strong and twice as long as the longest surrounding peristomal setae. Gena with lateral surface brown, dusted greyish at certain viewing angle and bare, at lower margin with a row of strong dark setae and some short setulae; subgena darker brown and with long black setae; postgenal and occipital surfaces almost blackish and dusted greyish, sparsely covered with dark seta-like hairs. The outstretched proboscis slightly longer than fore tibia, slender, prementum slightly dilating towards apex, brown, not dark brown, and predominantly shiny; labella almost twice as long as greatest depth of proboscis; palpus pale yellow, basal part somewhat brownish, somewhat clavate and curved, longer than prementum.

Thorax. Mesonotum depending on viewing angle shiny or partially sparsely whitish dusted. Presutural part of mesonotum in dorsal view with a median and two paramedian white patches, in postero-dorsal view with three longitudinal stripes dusted white, the median stripe reaching almost the second postsutural dorsocentral seta, the paramedian stripes run externally very close to the row of dorsocentral setae and reach the first postsutural dorsocentral seta. Scutellum slightly more yellowish than the mesonotum, almost translucent yellow at certain viewing angle. Pleura in direct anterior view partly dusted whitish. Mesonotum and dorsal lateral surfaces

of scutellum covered with rather short black setulae, pleura predominantly bare or very sparsely covered with setulae. Notopleuron with several small and fine setulae. Anepimeron in the upper part with a tuft of dark hairs and on the surface below a few scattered hairs, about as long as or longer than the hairs of the tuft; meron bare. Proepisternal setae 2, the upper one long, the lower seta more hair-like and not half as long as the upper seta; the upper proepimeral seta strong and long, the lower one hair-like, barely one third as long, in addition both upper setae with a few black fine short hairs and setulae of different length on the surrounding surface. Anepisternal setae 1+5 all black and strong, dark interstitial hairs much weaker and about half as long as setae. Basal and preapical setae of scutellum distinctly shorter than the main setae, the preapical setae barely distinguishable from the four setae of a row extending between the two preapicals, but clearly distinguishable from fairly dense ground-hair.



Scale bars; Figs 12-13, 0.5 mm, 14, 1 mm, 15, 2 mm

Figs 12-15: *Dichaetomyia kenya* spec. nov., female holotype; 12) anterior view of head, parafacial (p) predominantly dusted whitish; 13) lateral view of head; 14) lateral view; 15) anteroventral view of face, parafacial in lower two thirds predominantly dark brown (bp), in upper third yellowish-brown (yp). Scale bars; Figs 12-13, 0.5 mm, 14, 1 mm, 15, 2 mm

Wing. With a yellowish tinge. Radial node ventrally and ventral part of vein R4+5 with few small setae, the most posterior seta about at midlength of the section between radial node and cross-vein r-m. Distal cross-vein dm-cu sinuous but barely oblique.

Legs. Basal half of mid femur with three dark posteroventral setae at most one third as long as depth of femur; apical fourth with a row of short posteroventral seta-like hairs; preapically three strong and long bristles on the posterior surface and a distinct but shorter anterodorsal bristle. Hind femur with a complete row of anterodorsal setae barely as long as depth of femur; in apical third three strong anteroventral setae, occasionally with a fourth distinctly weaker and more hair-like seta, only the middle apical seta longer than depth of

femur; basal third with one or two anteroventral setae, shorter than depth of femur and with at least two posteroventral setae about as long as depth of femur along with one or two distinctly shorter posteroventrals in basal half; preapically a short row of seta-like posteroventral hairs barely half as long as depth of femur. Hind tibia in middle third with an anterodorsal seta slightly longer than diameter of tibia and one or two shorter anteroventral setae, barely as long as diameter of tibia, the occasional second seta basal and distinctly shorter and weaker than the more apical seta. Abdomen. Without specific pattern, syntergite 1+2 and tergite 3 translucent yellow (Fig. 14), tergites 4 at least in apical two thirds predominantly brownish and tergite 5 in basal two thirds brownish, apical part more or less yellowish, apex yellow. Ventral parts of tergites and sternites practically concolorous with the dorsal surface of tergites. Tergites densely covered with small black setulae, syntergite 1+2 and tergite 3 with a few longer marginals laterally, tergites 4 and 5 each with a complete row of strong and erect marginal setae, tergite 4 laterally and tergite 5 in addition also dorsolateral with a few discal setae but not as a complete row. Sternite 1 margin with some black setulae.

Female genitalia. Not investigated.

Measurements. Length of body 7.8 mm; length of wing 6.8 mm.

Male. Not known.

Remarks and diagnosis: Both females of the new species were found along with other specimens in the collection box for *D. ovata* in the Natural History Museum in London. The new female paratype was labelled by van Emden as *Dichaetomyia ovata* ab. *rutila* Stein. The specimen chosen as holotype of *Dichaetomyia kenyana* sp. n., had no species label. *Dichaetomyia ovata* and *Dichaetomyia rutila* were both described as separate species by Stein^[8] in 1918. However, *D. rutila* was initially treated by van Emden as a variation and later as a subspecies^[1] of *D. ovata*. Since the publication of the Catalogue of Afrotropical Muscidae^[9], the two taxa have been considered conspecific. *Dichaetomyia kenyana* sp. n. differs from *D. ovata* by three white stripes on the anterior presutural mesonotum and the absence of a row of not very long but strong anterior bristles in the basal half of the mid femur. Additionally, the mid femur has not four but only three strong preapical bristles on the posterior surface.

Compared to the species previously incorrectly assigned to *D. ovata*, the two females most closely resemble *D. nivovata*. However, they differ from this species, which is characterized by yellowish to yellow-brown parafacials regardless of the incidence of light, by parafacials that are predominantly uniformly deep dark brown or black at certain viewing angles (Fig. 15). In addition, the chaetotaxy of the middle femur is weaker developed, in particular the row of anterior setae in the basal half that is present in *D. nivovata* is missing in *Dichaetomyia kenyana* sp. n.

***Dichaetomyia nigeriana* spec. nov. (Figs. 16–19)**

Material examined: Female holotype with three labels 1. "Bude Egba N. Nigeria 28.v.1912 Dr. J. W. Scott-Macfie"; 2. "*Alluaudinella arguta* Kars. ♀ Det. E. Brunetti 1926"; 3. "Pres. by Imp. Bur. Ent. Brit. Mus. 1926–339." Two labels were added with the inscriptions "holotype" and "*Dichaetomyia* ♀ *nigeriana* n. sp. det. Zielke 2023".

The female holotype has no right fore leg and no left mid and

hind legs, and several major setae are absent, however the scars where the setae were inserted are clearly visible and allow an assessment of the chaetotaxy.

Etymology: The epithet "*nigeriana*" is a feminine adjective and, somewhat modified, refers to Nigeria, the country where the specimen was found.

Description (female) [Shortened description! See also "Common characteristics", first section of chapter Results]. Head. Ground-colour predominantly dark brown to blackish, depending on incidence of light some parts dusted greyish or densely silvery-white (Fig. 16). Eyes sparsely but clearly covered with microscopic hairs, facets close to frons slightly but distinctly enlarged. Frons dilated towards the anterior margin, distance between eyes at vertex 0.32 times as wide as maximal width of head, at level of anterior ocellus about 3 times and at anterior margin of frons about 4.3 times as wide as the distance between the outer margins of posterior ocelli. Fronto-orbital plate at midlength of frons barely as broad as distance between the outer margins of posterior ocelli; frontal vitta in the anterior half slightly narrower than in the upper half; at midlength which is still in the upper half, slightly more than twice as wide as the fronto-orbital plate; frontal triangle barely reaching level of lower orbital seta. Parafacial at level of antenna basis at least twice as wide as depth of postpedicel, distinctly tapering, and where parafacial and facial ridge separate about half as wide as depth of postpedicel. In profile (Fig. 17): upper mouth margin in line with profrons; parafacial visible throughout its length, genal depth below lowest eye margin about as wide as depth of postpedicel; antenna falling short of facial margin by depth of postpedicel; mouth margin slightly above level of lowest eye margin. In anterior view fronto-orbital plate predominantly black and depending on incidence of light more or less densely dusted whitish; frontal vitta contrasting velvet black; frontal triangle and ocellar tubercle dark at certain viewing angle somewhat shiny or dusted greyish. Parafacial and anterior part of gena densely dusted silvery-white; ground colour of face and facial ridge pale yellowish, at certain viewing angles densely dusted white; in anteroventral view parafacial and fronto-orbital plate uniformly dark almost black (Fig. 16), and frontal vitta dark dusted greyish white; face and facial ridge dark yellowish, in contrast with dark parafacial. Basal segments of antenna and basis of postpedicel until insertion of arista strikingly yellow, remaining apical part of postpedicel slightly darker, brownish-yellow to pale brownish depending on incidence of light, however not dark brown. Postpedicel 3.2 times as long as its depth and about 2.5 times as long as pedicel. Arista in basal fourth yellow, distal part brownish, almost twice as long as length of postpedicel; longest hairs of arista at most twice as long as depth of postpedicel. Anterior half of fronto-orbital plate with four inclinate setae, the anterior two setae strong the two subsequent setae decreasing in strength and length, in upper half at level of anterior ocellus a reclinate orbital seta somewhat stronger than the upper frontal setae, and another reclinate orbital seta slightly below, somewhat weaker than the upper orbital setae. Ocellar seta about as strong as anterior frontal seta and as inner and outer vertical setae. Between eye margin and frontal and orbital setae an irregular row of proclinate setulae. Vibrissal setae long. Lateral surface of gena dark brown sparsely dusted greyish at certain viewing angle and bare, margin of gena with a row of strong dark

setae; postgenal and occipital surfaces dark and dusted greyish. Proboscis with prementum brown, predominantly shiny; labella almost twice as long as greatest depth of proboscis; palpus yellow, slender, weakly clavate and longer than prementum.

Thorax. Mesonotum yellowish-brown depending on viewing angle shiny or partially sparsely dusted whitish. Presutural part of mesonotum with a median white dusted stripe (Fig. 18) ending bluntly at midlength of presutural mesonotum, when viewed from posterior tapering toward the transverse suture, but not reaching it. Scutellum like mesonotum yellowish-brownish. Pleura in direct anterior view partly whitish dusted. Mesonotum and dorsal lateral surfaces of scutellum covered with rather short black setulae, pleura predominantly bare or very sparsely covered with fairly short fine hairs. Notopleuron with about six fine dark hairs close to the posterior notopleural seta; anepimeron in the upper part with a tuft of dark hairs and on the surface below a few scattered hairs, about as long as or longer than the hairs of the tuft; upper proepisternal and proepimeral setae about as long as anterior presutural dorsocentral seta, the corresponding lower setae about half as long, proepisternal seta with three adjacent dark fine hairs and the two proepimeral setae with several dark hairs in the surrounding, the hairs barely half as long as the lower proepimeral seta. Meron with a few dark long setula-like hairs above hind coxa. Anepisternal setae 1+5, all black and strong, dark interstitial hairs barely distinct, much weaker and about half as long as the setae. Scutellum with basal and preapical setae distinctly shorter but clearly distinguishable from ground-hair and slightly longer than a pair of discal setae adjacent to the preapical setae, ventral surface bare.

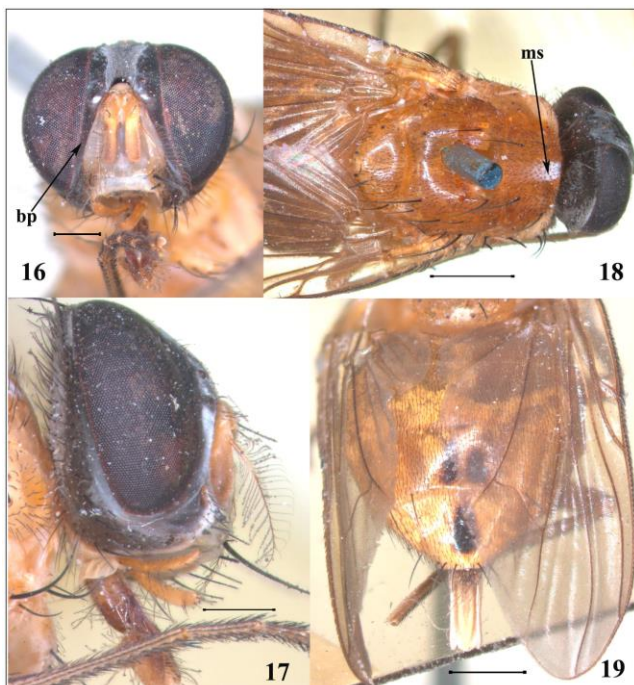
and ventral part of vein R4+5 with a few setulae, the most posterior seta slightly posterior of midlength of section between radial node and cross-vein r-m. Distal cross-vein dm-cu sinuous and oblique.

Legs. Basal fourth of mid femur with three dark posteroventral setae about half as long as depth of femur; no row of bristle-like anterior setae; preapically three strong bristles on posterior surface and one distinct anterodorsal bristle. Hind femur with a complete row of anterodorsal setae barely as long as depth of femur; in apical third four anteroventral setae slightly longer than depth of femur; in basal half 2 anteroventral and 3 posteroventral setae, the setae barely as long as depth of femur; preapically a short row of seta-like posteroventral hairs barely half as long as depth of femur. Hind tibia in distal half with an anterodorsal seta slightly longer than diameter of tibia and one shorter anteroventral seta, barely as long as diameter of tibia. Abdomen. Predominantly yellowish with a weak brownish tinge at certain incidence of light, and without any dusting regardless of the viewing angle. Tergites 3 to 5 strikingly yellow, tergite 4 with a pair of paramedian shiny dark brown longitudinal patches, and tergite 5 with a median dark brown oval-shaped stripe-like patch (Fig. 19). Ventral parts of tergites and sternites practically yellow and concolorous with dorsal surface of tergites. Tergites densely covered with black seta-like short hairs, anterior tergites with rather short marginal setae, tergite 4 with long lateral marginal setae, the median ones distinctly shorter, no distinct discal setae recognizable; tergite 5 with a row of long marginals and a row of distinct discals that are slightly shorter than the marginals. The lateral margins of sternite 1 with a few very short dark setulae.

Female genitalia. Not investigated.

Measurements. Length of body 10.8 mm; length of wing about 10 mm.

Male. Not known.



Scale bars; Figs 16-17, 1 mm, 18-19, 2 mm

Figs 16-19: *Dichaetomyia nigeriana* spec. nov., female holotype; 19) anterior view of head with parafacial (bp) uniformly dark brown to blackish; 17) lateral view; 18) dorsal view of thorax with only one white median patch (ms); 19) dorsal view tergites 3-5 predominantly yellow, tergite 4 with two paramedian dark brown patches and tergite 5 with a dark median stripe-like patch.

Wing. With a distinct brownish tinge. Radial node ventrally

Remarks and diagnosis: The female holotype was collected in 1912 and it was labelled in 1927 by Brunetti as "*Alluaudinella arguta* Kars." However, this was obviously an error, since there is no species "*arguta*" known in the genus *Alluaudinella* Giglio-Tos, 1895, but *Aethiopomyia arguta* (Karsch, 1879) exists. The comparison of this specimen with the short review of the genus *Aethiopomyia* Malloch, 1921 by Zumpt (1969) [10] confirmed that this specimen is not an *Ae. arguta*. Since the two genera *Dichaetomyia* and *Aethiopomyia* were both described by Malloch in 1921 [11, 12], a correct assignment of the specimen by Brunetti in 1927 would have been possible. The labels attached to the specimen do not indicate whether the female captured in 1912 was assigned to another genus before Brunetti identified it. However, after the obscure identification, the female was apparently transferred to the *D. ovata* collection box by someone over the years.

On the first glance *Dichaetomyia nigeriana* sp. n. is indeed similar to *D. ovata* and it is understandable that the female was assigned to the corresponding collection box. Even using the key [1] for *D. ovata* (Stein) and *D. ovata* (Stein)-specimens of authors, *Dichaetomyia nigeriana* sp. n. still most resembles the original *D. ovata*. However, it also differs markedly from *D. ovata* by having about two or three short dark hairs on the meron above hind coxa and there are only three strong preapical setae on the posterior surface of mid femur. Furthermore, the predominantly yellow coloured tergite 5 is marked (Fig. 19) with an elongate median dark brown patch

that does not extend to the anterior or posterior margin of the tergite; and a pair of paramedian almost oval-shaped dark brown patches not touching the posterior margin of the tergite, are located on the posterior half of the otherwise yellow tergite 4. The postpedicel is predominantly yellowish to pale brownish but not dark brown. Whereas the meron in *D. ovata* is bare and the mid femur is marked by four strong preapical bristles on the posterior surface. In addition, the postpedicel is predominantly dark brown and the posterior tergites are more brownish and do not have a symmetrical dark pattern.

Discussion

The new species introduced in this publication were described on the basis of only one or two specimens, which also lack either several large setae, one or more legs or other body parts such as a wing or the antennae. As already pointed out in a previous contribution ^[13] describing a new species from just one specimen carries a certain risk, particularly when the type material is in subpar condition. However, it is not realistic to plan additional field work in an Afrotropical area with the aim of collecting more and better material from a particular species that was found there more than a hundred years ago in the form of one or two specimens. The four species described, albeit represented by sometimes quite damaged specimens, can be clearly distinguished from each other and from other similar looking species by more than one taxonomic characteristics. Thus, a rather solid diagnosis for the respective species is given. Unfortunately, the Afrotropical Muscidae fauna has only been little studied and relatively few specimens can be found in the entomological collections of the various institutions. Accordingly, the differentiation of *D. ovata* (Stein) and the specimens of *D. ovata* (Stein) of authors in this publication is based on flies, some of which are over 100 years old. Several of these old specimens are in fragile state. It is understandable that over the years there have been losses of body parts of which some are usually important for the identification of the species. However, analysing the *D. ovata* species complex and distinguishing the different species, albeit on the basis of inferior specimens, is certainly a better option than delaying publication of the differences until more, less damaged specimens eventually become available. Until the latter occurs, erroneous assignments of newly caught or identified specimens would continue to be the rule.

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