Four new short-faced species of the genus Milicia Meigen with a key to the Nigerian members of the group (Diptera: Milichiidae)

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Abstract

Descriptions of 4 new short-faced Milicia spp. from Nigeria are given, viz. M. curvata n. sp. (67), M. nigeriensis n. sp. (69), M. dariae n. sp. (75), and M. formosa n. sp. (77). The key also includes M. angustipalpis Collin, M. praestera Collin, M. dariae Collin, and M. formosa Collin. All species but the last one are illustrated and for M. praestera and M. formosa description is given of the earlier unknown sex.

Comparisons are also made with M. ornatissima Blischke.

Between 1918 and 1919 Farquharson made detailed observations on Diptera associated with ants in S.W. Nigeria. His collection was systematically treated by Collin (1921) who described, amongst other Diptera, five new species of Milicia, all of which were unusual in having the face very short. Mr. A. C. Corrers of the Nigerian Stored Prod. Res. Inst., Lagos, living and collecting in the same area as Farquharson, has also made a special point of collecting Cees associated with ants. He has very kindly entrusted me with the taxonomic treatment of the Milicha species he has collected.

It is very common amongst species of this genus for the tergites of the male to be extensively white or silvery dusted. Males congestate in swarms in strong sunlight, often against the dark trunk of a tree, and the flashing of the sun on the male abdomen is visible from a distance in exactly the same way as in swarms of the stratiomyid Palaena hungata (Fieberius). It would appear that some correlation exists between the color or degree of reflection of light of a scale and the setae clothing it. Tergites that are silvery dusted are invariably more sparsely clothed with setae than those that are brown dusted, and it is interesting that in the one species of this group of Milicha (Eumenopappus n. sp.) in which the thorax is silvery dusted, the mesonotal setae are much sparser. Presumably, when in a Milicha species a vivid male coloration is adopted whereby it can easily be identified by its mate, then setae that would inhibit the reflection of light from the vividly dusted areas must be reduced.

Key to the Nigerian short-faced species of Milicha

A short face is here defined as being in length

not or little more than one third of the distance separating the vibrissae; in all other species I have seen the distance exceeds one half.

1. A pair of enlarged acrostral bristles present, which are situated between the propectoral dorsocentral and are as long as them. At least two pairs of suprasternal bristles. Wing and leg normal

2. No enlarged acrostral bristles. Suprasternal bristles. Costa with a black tip overtopping abdominal basal 3. 2 and 3 with a flattened and shining posteroventral surface that is devoid of suction

4. Two pairs of strong inferior setal bristles (fig. 1).

5. Palpus, third antennal segment and base of antist setae, dirty yellow to brown. Antist with very short pubescence, this not longer than diameter of base of antist

6. Inferior bristles bearing only short fine hairs, none of which are as strong as the lateral bristles

7. Face (fig. 6) very short, the median downward-projecting point of the lateral touching or almost touching the clypeus. Palpus very large, rufous tibial spines, its greatest width equal to half length of forelegs. Abdomen of male almost entirely silvery. A pair of large inguinal bristles (fig. 7.8)

8. Face longer (fig. 7.8). If developed, the median downward-projecting point of the lateral separated from mouth margin by at least the distance separating the pair of bristles on the base.

9. Tergites shining black, though the basal area may be faintly dusted. Eye very sparsely and short haired on lower half. Ventral angle (fig. 10) very well developed. Antist pubescence very short, hardly as long as diameter of base of antist

10. Tergites heavily dusted. Lower half of eye densely and moderately to long haired. Ventral angle not or
only very weakly developed. Aristal pustule (figs. 2, 5, 9) longer
8. A well rounded, bordering exuvia from humeral cros-vein to subcostal break. Fronts of male very narrow, only about twice as wide as third anastomotic segment is deep
9. Silver grey; abdomen silvery grey dusted.
10. Wing lacking a marking. Fronds of male nearly four times as wide as third anastomotic segment is deep
11. Detrit Collin
12. Pustule (fig. 6) shorter. Teretes of male completely brownish grey dusted. Mesonotal setulae dense, (male only known)."}

### Textual Content

1. *Millechia argyrata{* Collin, 1921


4. This female agrees perfectly with the original description and figure except that the pair of bristles on the humus has a second smaller and weaker pair of bristles close to it (fig. 6). Also, the palpus is slightly more oval, rather than transposed. However, as mentioned in the original description, the palpi are curved together at apex. This could, in a two-dimensional figure, give an impression of a straighter edge.

5. *Millechia cornesi* n. sp. (fig. 1)

A species that is very distinctive in having two pairs of inferior orbital bristles and a very short pustule on the arista, but very variable in colour and abdominal structure and chaetotaxy.

**MALE** (fig. 1) black, heavily grey dusted holotype and Ilaro paratype); grey dusting of fronds suffused with brown (Ikorodu paratype); external vertical bristles one third of width of head; inferior orbital bearing, in addition to fine hair, two pairs of bristles that are noticeably longer and stronger than the bristles on humus; humus and face connect by a very narrow bridge; face about as long as antenna with exception of third anastomotic segment and base of arista brownish yellow; arista very short pustule; palpus brownish yellow, densely clothed in pale pustule with some short black hairs scattered amongst it.

Throat black, densely grey dusted (holotype) or brown dusted on mesonotum and scutellum with the part of mesonotum anterior to the posthumeral bristle grey dusted (paratypes); chaetotaxy (in pairs): two dorsocentrals, of which the more anterior is very short, one prescutellar acrostichal, one humeral, one posthumeral, two notopleural, two supralarial, 2 postalar, three sternopleural, two strotalar marginal, about ten rows of intersternal scutellar present.

Legs black with knees faintly yellowish; coxae strongly grey dusted, the following segments progressively less strongly so, the tarsi scarcely dusted.

Wing glassy hyaline with veins brown, becoming yellowish brown towards wing base; costa and r, subcostal break, squama yellowish brown fringed; haltere black with yellowish brown stem.

Abdomen black, chalky-grey dusted with distinct brownish markings on ventral edges of tergites (holotype); brown dusted with grey markings on tergites restricted to 1, the shoulders of 2 and narrow bases on 3 and 4 (Ilaro paratype), or similar but lacking the usual bands on 3 and 4 (Ikorodu paratype); shoulders of tergite 2 with numerous fine erect hairs; tergites 3 and 4 subequal in length; 2 and 5 a little longer: tergite 1 with 1, 2 with two, 3 and 4 with three and 5 with five rows of short hairs each; these rows somewhat irregular, those on 3 restricted to apical half and those on 4 and 5 to apical two thirds (holotype), or with tergites 3-5 with more numerous hairs, that extend almost to base (paratypes); stadiarum 1 differentiated, 2 narrow subintegument angular and occupying about one eighth of width of abdomen (holotype), or uncrowded on 3 and 4 (Ilaro paratype), or crowded on 3 and 4 (Ikorodu paratype), or extending in margins of tergites (Ikorodu paratype) or crowded under 3 and therefore incomparably (Ilaro paratype) 5 slightly narrower than 4 and almost square (holotype and Ilaro paratype) or extending in margins of tergites (Ikorodu paratype).

Length about 2.5 mm.

**FEMALE**. Differs from male in that it is almost completely brown dusted, the pale grey dusting being confined to humus and eye margins from
superior orbital bristles to extremity of 5, sometimes the lower front, lower pleurs and legs greyish dusted, and the hairs on tergites present on apical half of 2 and on all but extreme bases of 3-5.


3. Millechla lareoaeta n.sp. ♀ (Fig. 2)
A very distinctively colored species in the male, the lower half of the eye long and densely pilose and the arista pubescence long.

MALE. Head (Fig. 2) black, grey dusted; frons slightly concave-sided, between external vertical bristles one third of width of head, where it is 1.07 times as wide as it is at base of antennae; lunule developed into a sharp point between bases of antennae; face little longer than distance separating bristles on lunule; eye densely long pilose on lower half; lower hind margin of eye with long bristles; antennal pubescence long; palpuss brownish black, with dense pale pubescence interspersed with darker and more robust hairs.

Thorax black, heavily silvery grey dusted, brown dusted on pteropleuron, hypopleuron, hind margin of mesopleuron and connective, mesopleuron between postalar bristles and membranous area joining wing base to scutellum; chaetotaxy identical so that of corni, but nonmedian setule shorter, there only being six rows medially across a space equal to that between internal vertical bristles.

Legs black, rather weakly grey dusted. Wing as described for corni; haltere black.

Abdomen black, silvery grey dusted; tergites 1-3 with a single row of preapical hairs, 4 with two rows and 5 with three, some of these rows being very irregular; shoulders of tergite 2 with numerous long erect hairs.

Length about 2.8 mm. ♂ unknown.

Note: The third antennal segments are both crumpled in the holotype, but this appears to be distortion rather than natural shape.


6. Millechla proctes Collin, 1921 (Fig. 10)


7. Millechla deccor Collin, 1921 (Fig. 12)


8. Millechla farrakhanorum Collin, 1921


FEMALE. Differs from male in having the frons parallel-sided and slightly wider, the external vertical and postvertical bristles subequal and the abdomen lacking silvery dusted markings.


FEMALE. Differs from male in having the frons parallel-sided and slightly wider, the external vertical and postvertical bristles subequal and the abdomen lacking silvery dusted markings.


9. Millechla formicophilus n.sp. ♀ (Figs 3, 9, 11)
A species closely related to farrakhanorum Collin, sharing with it the lack of supraventral and enlarged acrural bristles, the development of the costa into a flap at subcostal break and the same peculiar development of the mid and hind tibiae, but having the palpus of a different shape, the second antennal segment lacking dense fine hairs and in the male with the apical acrural setae short and weak and the abdomen differently marked.

MALE. Head (Fig. 3) black, hardly wider than thorax; grey-dusted, especially densely so on frons; grey-dusted, narrower at most middle, where it is 0.21 of width of head, at vertex and base of antenna 0.51; distance between bases of vibrissae 0.32 of width of head; lunule (Fig. 9) connected to face by narrow bridge and shining on all but median line and across bases of the lunular bristles; superior orbitals and occular bristle long, internal vertical and postvertical shorter and the external vertical short; interfrontals with a pair of bristles near lunule and several hairs above; lower margin of eye with very short and sparse to sparse and uniformly clothed in long curved pale pubescence that has no darker of more robust hairs admixed with it.

Thorax black, obseling through weak brownish dust that becomes greyish brown on upper half of pleuron; chaetotaxy one postnotaular; two postalar; 2 dorsoventral, the more anterior less than half as long as the posterior, 2 scutellar marginal, the basal more than twice as long as the weak apical, and three sternopleurals six to eight rows of intersternocal setae.

Legs black, grey dusted on coxae, more weakly brownish dusted elsewhere; basal two tarsal segments of fore and mid leg and all but extreme base of fore tibia yellow; mid and hind tibia each with a broad flattened postdorsal surface, which is undusted, shining with violet reflections and devoid of the usual setae, that on hind tibia expanded on basal two thirds.
Wing yellowish hyaline with yellow vein; flagellum subcostal break and continuation of costa basad to mouth of r1 membrane between it and r1 and a small spot on r1 black; base of wing infuscate to slightly beyond humeral crossvein, to junction of r1 and r4+5 and basal and anal cell; squama black with brownish fringing; haltere black.

Abdomen black, brownish on a long triangle filling aterolateral corners of tergite 2 to a remnant of tergite 3, all of 3 and 4 and basal two fifths of 5 densely milk-white dusted; remaining black parts of abdomen faintly brownish dusted; penis (fig. 11) curved, brown at base, becoming paler apically; the only long hairs on abdomen on apical three fifths of tergite 5, the usual fine erect or long hairs absent from shoulders of tergite 2; the milk-white tergites and parts of tergites each bearing a single line of about seven short erect and widely-spered hairs.

Length about 2.5 mm.

FEMALE. Differ from ♂ in the following respects:

Head: frons parallel-sided, at vertex 0.96 of width of head, less heavily dusted, orbit subshining, sometimes with a glossy spot between bases of superior orbital and internal vertical bristles or with lower orbital bristle; Thora: apical scutellar marginal bristles longer and stronger, nearly as long as the basal.

Abdomen shining black, weakly brownish dusted on tergite 1 and on all but aterolateral corners of tergite 2 and sometimes its extreme apex; tergites 3–5 each with about three irregular rows of fine hairs of moderate length.


There is a third African species of this genus in which a black flag is present on costa at subcostal break. This species, M. patricia Henmiy, has the palpus as narrow as M. farquharnian, but the third antennal segment is deeper than long and has a distinct apicalvenarial angle.

References


Revision of the Anomyzya species of Northwest Europe

(Diptera: Anomyzyidae) I. The gracilis group

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Abstract

The male genitalia of Anomyzya are described and figured, as are some peculiarities of the female abdomen. Anomyzya gracilis Fall, genus nova und Zett., Antimonia und Zett. are revised and lectotypes designated. Anomyzya gracilis Fall, A. setulata Zett., A collina n.p., and A. albida n.p. are described; the male genitalia and the last two abdominal segments of the female are figured. Information on distribution and ecology within Sweden is given.

Introduction

The genus Anomyzya was erected by Fallen in 1810, and in 1825 he described four species of which now only gracilis Fall, still belongs to the genus and was designated type species of the genus by Westwood (1840).

Zetterstedt (1839) placed gracilis Fall, in the genus Anophila Zetterstedt, 1838, and described a new species as Antimonia pallida Zett. In the same publication he described Anoplysa und Zett., that has proved to belong to Anomyzya Fall. In 1847, Zetterstedt described Genus und Zett., and in 1848 Anophila und Zett., both belonging to Anomyzya Fall.

Cally (1979) published the first comprehensive study of Anomyzya and related genera when he brought together species related to gracilis Fall. From various genera and removed non-relat- species from Anomyzya. He treated setulata Zett. as a synonym of gracilis Fall, but did not mention setulata Zett. In 1998, Cally listed setulata Zett. as a synonym of gracilis Fall, and regarded setulata Zett. as a good species. He based his opinion on information and material from Collin who considered it possible to distinguish between the two species by using the dullness of the thorax and the colour of the frons. Cally figured the tips of the male abdomens but as these were drawn from dry specimens they do not show real differences.

de Meijere (1933) published more detailed figures of the male genitalia of the supposed species gracilis Fall, and setulata Zett. This was the first time that the emarginate surtify of "gracilis" were clearly demonstrated.

Frey (1941) listed setulata Zett. as a variety of gracilis Fall. and setulata Zett. as a good species.

Collin (1944) added the head profile and the arrangement of the orbital bristles as distinguish-