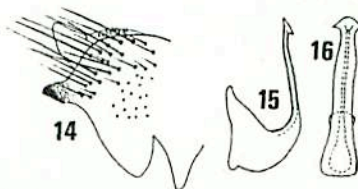


Fig. 13. *Lebradea icarus*, n.sp., ♀. Ventral aspect of caudal part of abdomen of paratype.

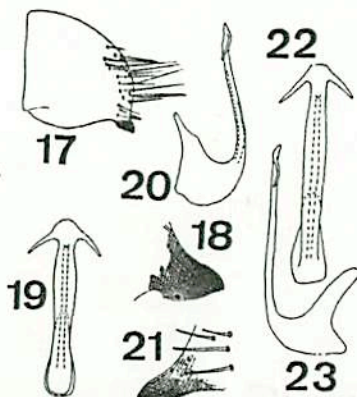
ing new species. Mr G. Söderman (in litt.) has told me that he has collected a copious material of *L. icarus* during the years 1969-1973, in June and July, by examining the catches of light traps not only in Helsingfors, Råby, Vanda but also in Helsingfors, Drumsö (N). He also found specimens (21 ♂, 9 ♀) in light-trap material from Lojo (Ab) put to his disposal by Dr R. Krogerus in 1969.

References

- NAST, J., 1972. Palaearctic Auchenorrhyncha (Homoptera) an annotated check list. 1-550. Polish Sci. Publishers, Warszawa.
- REMANE, R., 1959. *Lebradea calamagrostidis* gen. et spec. nov., eine neue Zikade aus Norddeutschland. - Zool. Anz. 163: 385-391.
- VILBASTE, J., 1968. Über die Zikadenfauna des Primorje Gebietes. 1-180. Valgus, Tallin.
- 1969. On the fauna of Homoptera Cicadina of Taimyr. - Eesti NSV Teaduste Akad. Toimetised XVIII B-3, 258-268.



Figs 14-16. *Lebradea calamagrostidis* Remane, ♂ from Schleswig-Holstein, Lebrade, leg. R. Remane. - 14. Right pygofer lobe from outside. - 15. Aedeagus from the left. - 16. Same in dorsal aspect.



Figs 17-23. - 17-20. *Lebradea katufutonis* (Matsamura), ♂. - 17. Left pygofer lobe from outside. - 18. Same, apical tooth of pygofer lobe. - 19. Same, aedeagus in dorsal aspect. - 20. Same, aedeagus from the left. - 21-23. *Lebradea flavovirens* (Gillette & Baker), ♂. - 21. Apical tooth of right pygofer lobe. - 22. Same, aedeagus in dorsal aspect. - 23. Same, aedeagus from the right. - Figs 17-20 redrafted after Vilbaste (1968), figs 21-23 after Vilbaste (1969).

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

by J. C. DEEMING

Inst. for Agric. Res., Samaru, P.M.B. 1044 Zaria, Nigeria

Ent. scand. 7.1976. 35-40.

Lund, Sweden, 8 April 1976

Abstract

Descriptions of 4 new short-faced *Milichia*- spp. from Nigeria are given, viz. *M. cornesi* n.sp. (♂♀), *M. ilaroensis* n.sp. (♂), *M. brevifacialis* n.sp. (♂), and *M. formicophila* n.sp. (♂♀). The key also includes *M. argyrotoides* Collin, *M. proectes* Collin, *M. prosaetes* Collin, *M. detes* Collin, and *M. farquharsoni* Collin. All species but the last one are illustrated and for *M. proectes* and *M. farquharsoni* descriptions are given of the earlier unknown sexes. Comparison is also made with *M. patrizii* Hennig.

Between 1915 and 1918 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 *Milichia*, all of which were unusual in having the face very short. Mr M. A. Cornes 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 flies associated with ants. He has very kindly entrusted me with the taxonomic treatment of the *Milichia* 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 congregate in swarms in strong sunlight, often against the dark trunk of a tree, and the flashing of the sun on the many abdomens is visible from a distance in exactly the same way as in swarms of the stratiomyiid *Platyna hastata* (Fabricius). It would appear that some correlation exists between the colour or degree of reflection of light of a sclerite and the setae clothing it. Tergites that are silvery dusted are invariably more sparsely clothed with setulae than those that are brown dusted, and it is interesting that in the one species of this group of *Milichia* (*ilaroensis* sp. n.) in which the thorax is silvery dusted, the mesonotal setulae are much sparser. Presumably, when in a *Milichia* species a vivid male coloration is adopted whereby it can easily be identified by its mate, then setulae that would inhibit the reflection of light from the vividly dusted areas must be reduced.

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.

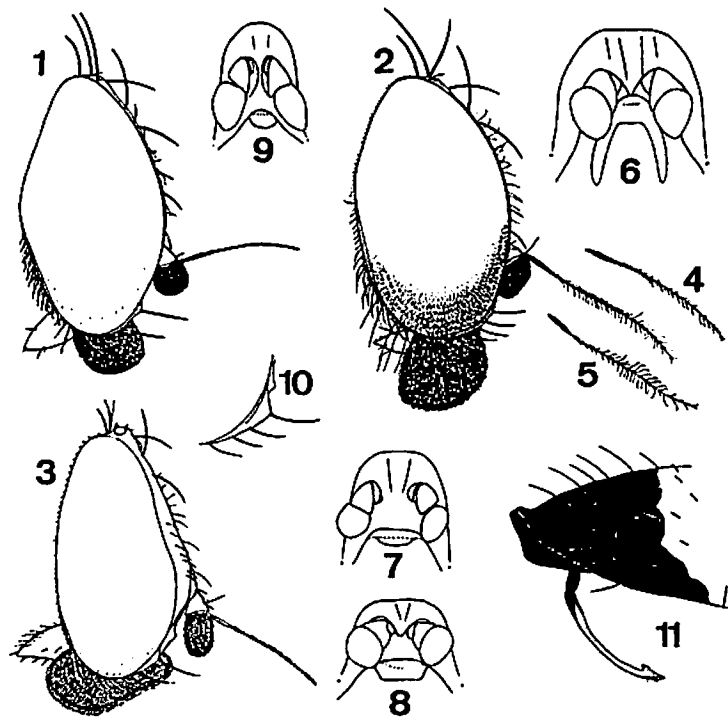
1. A pair of enlarged acrostical bristles present, which are situated between the prescutellar dorsocentrals and are as long as them. At least two pairs of supraalar bristles. Wing and legs normal ♀
- No enlarged acrostical bristles. No supraalar bristles. Costa with a black flap overlapping subcostal break. Tibia 2 and 3 with a flattened and shining posterodorsal surface that is devoid of setulae 8
2. Two pairs of strong inferior orbital bristles (fig. 1). Palpus, third antennal segment and base of arista paler, dirty yellow to brown. Arista with very short pubescence, this not longer than diameter of base of arista 2. *cornesi* n.sp.
- Inferior orbits bearing only short fine hairs, none of which are as strong as the lunular bristles 3
3. Face (fig. 6) very short, the median downwardly-projecting point of the lunule touching or almost touching the clypeus. Palpus very large, roundedly trapezoid, its greatest width equal to half length of frons. Abdomen of male almost entirely silvery 1. *argyrotoides* Collin
- Face longer (figs 7-9), if developed, the median downwardly-projecting point of the lunule separated from mouth margin by at least the distance separating the pair of bristles on lunule. Palpus narrower 4
4. Tergites shining black, though the basal ones may be faintly dusted. Eye only very sparsely and short haired on lower half. Vibrissal angle (fig. 10) well developed. Arista pubescence very short, hardly as long as diameter of base of arista 5
- Tergites heavily dusted. Lower half of eye densely and moderate to long haired. Vibrissal angle not or

Key to the Nigerian short-faced species of *Milichia*

A short face¹ is here defined as being in length

¹ The face is separated from the clypeus by a membranous band. It is sometimes difficult to ascertain where the face ends and the membranous area begins.

Deeming, 1976



Figs 1-11. - 1-3. Head in profile. - 1. *Milichia cornesi* n.sp., holotype. - 2. *M. ilorouensis* n.sp., holotype. - 3. *M. formicophila* n.sp., holotype. - 4-5. Arista. - 4. *M. brevisfacialis* n.sp., holotype. - 5. *M. proctes* Collin, ♂. - 6-9. Lunule, face, and clypeus. - 6. *M. argyratoides* Collin, ♀. - 7. *M. detes* Collin, ♀. - 8. *M. proctes* Collin, ♂. - 9. *M. formicophila* n.sp., holotype. - 10. *M. prosartes* Collin, ♂. Vibrissal angle. - 11. *M. formicophila* n.sp., holotype. Postabdomen.

only very weakly developed. Arista pubescence (figs 2, 4, 5) longer 6
 8. A dark cloud bordering costa from humeral cross-vein to subcostal break. Frons of male very narrow, only about twice as wide as third antennal segment is deep 6. *proartes* Collin
 - Wing lacking such a marking. Frons of male nearly four times as wide as third antennal segment is deep 7. *detes* Collin
 6. Arista pubescence (fig. 4) shorter. Tergites of male completely brownish grey dusted. Mesonotal setulae dense. (male only known) 5. *brevisfacialis* n.sp.
 - Arista pubescence (figs 2, 5) longer. Tergites of male partially or completely silvery or silvery grey dusted 7

7. Arista pubescence shorter (fig. 2). Male: Mesonotal setulae sparse, on front of mesonotum only six rows occupying space between internal vertical bristles. Thorax and abdomen silvery grey dusted, though pteropleuron, hypopleuron and concave area of mesonotum between postalar bristles and membranous area connecting wing base with scutellum more brownish dusted. Dorsal surface of tergites 2 and 5 each with a single row of setulae. (male only known) 3. *ilorouensis* n.sp.
 - Arista pubescence longer (fig. 5). Male: Mesonotal setulae denser, on front of mesonotum at least ten rows occupying space between internal vertical bristles. Thorax and abdomen brown dusted, tergites 3-5 with silvery dusted patches laterally,

which are basally connected by narrow bands of the same colour. Tergites 2 and 3 much more extensively setulose 4. *proctes* Collin
 8. Inner side of second antennal segment with long pubescence. Palpus in the shape of a long rectangle with upper, lower and apical edges concave. Scutellar marginal bristles subequal in both sexes. Male with tergites 3 and 4 rather weakly silvery grey dusted 8. *farquharsoni* Collin
 Second antennal segment lacking pubescence.
 3. Palpus (Fig. 11) oval. Scutellar marginal bristles subequal in female, in male with the apical pair very weak, less than half as long as the basal. Male with tergites 3 and 4 and a large part of 2 and 5 densely milk-white dusted 9. *formicophila* n. sp.

1. *Milichia argyratoides* Collin, 1921 (Fig. 6)

Milichia argyratoides, Trans. ent. Soc. Lond. 1921: 510 (profile of head fig. 1, Pl. 17) (♂ and ♀)

Further material: Nigeria: Lagos State, Ikorodu, 25.VIII.1974. 1 ♀ leg. M. A. Cornes.

This female agrees perfectly with the original description and figure except that the pair of bristles on the lunule has a second smaller and weaker pair of bristles close to it (fig. 6). Also, the palpus is slightly more oval, rather than trapezoidal. 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.

2. *Milichia cornesi* n.sp. (♂ and ♀) (Fig. 1)

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

MALE Head (fig. 1) black, heavily grey dusted (holotype and Ilaro paratype) or grey dusting of frons suffused with brown (Ikorodu paratype); frons slightly concave-sided and between external vertical bristles one third of width of head; inferior orbits bearing, in addition to fine hairs, two pairs of bristles that are noticeably longer and stronger than the bristles on lunule; lunule and face connected by a very narrow bridge; face about as long as antenna with exception of arista; third antennal segment and base of arista brownish yellow; arista very short pubescent; palpus brownish yellow, densely clothed

in pale pubescence with some short black hairs scattered amongst it.

Thorax black, densely pale 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 acrosomal, one humeral, one posthumeral, two notopleural, two supraalar, 2 postalar, three sternopleural, two scutellar marginal; about ten rows of interdorsocentral setulae 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_1 black at subcostal break; squama yellowish brown fringed; haltere black with yellowish brown stem.

Abdomen black, chalky-grey dusted with indistinct brownish markings on ventral edges of tergites (holotype), brown dusted with grey markings on tergites restricted to 1, the shoulders of 2 and narrow basal bands on 3 and 4 (Ilaro paratype), or similar but lacking the basal 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 one, 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); sternite 1 decleroidised, 2 narrow subtriangular and occupying about one eighth of width of abdomen (holotype), or decleroidised (paratypes), 3 broad oval and occupying two fifths (holotype), narrow long oval occupying about one sixth (Ikorodu paratype) or decleroidised (Ilaro paratype), 4 trapezoidal and occupying one half (holotype), extending to margins of tergites (Ikorodu paratype) or crumpled under 5 and therefore invisible (Ilaro paratype) 5 slightly narrower than 4 and almost square (holotype and Ilaro paratype) or extending to 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 lunule and eye margin from

superior orbital bristle to extremity of *rostrum*, sometimes the lower frons, lower pleura and legs greyish dusted, and the hairs on tergites present on apical half of 2 and on all but extreme bases of 3-5.

Material studied. Holotype: Nigeria: Lagos State; 6.5 km NW of Agege, 19.I.1974. 1 ♂ Leg. M. A. Cornes. - Paratypes: 1 ♀ same data as holotype. - Ikorodu, 25.VIII.1974. 1 ♂ - 1 ♀ same locality. 1.IX.1974. W. State: Ilaro Forest, 10.II.1974. 1 ♂ - 1 ♀ same locality. 5.I.1974. - 2 ♀ same locality. 25.XI.1973. All paratypes leg. M. A. Cornes. 1 ♂ paratype each deposited in Cornes/Riley Collection, Lagos and Inst. for Agric. Res., Samaru. The holotype and all remaining paratypes in British Museum (NH), London.

3. *Milichia ilaroensis* n.sp. ♂
(Fig. 2)

A very distinctively coloured species in the male, the lower half of the eye long and densely pilose and the arisal pubescence long.

MALE. Head (Fig. 2) black, brown dusted; frons slightly concave-sided, between external vertical bristles one third of width of head, where it is 1.02 times as wide as it is at base of antenna; 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; palpus 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 concave part of mesonotum between postalar bristles and membranous area joining wing base to scutellum; chaetotaxy identical to that of *cornesi*, but mesonotal setulae sparser, 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 *cornesi*; 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.

Material studied. Holotype: Nigeria: W. State: Ilaro Forest, ant associated, 23.XII.1973. 1 ♂ Leg. M. A. Cornes. Deposited in British Museum (NH), London.

4. *Milichia proectus* Collin, 1921
(Figs 5, 8)

Milichia proectus. Trans. ent. Soc. Lond. 1921: 512. ♂

Further material: Nigeria: Lagos State: Isheri, 26.XII.1973. 1 ♂. - W. State: Ilaro Forest, 13.I.1974. 2 ♀. - On the same locality the following collections were made: 1 ♂ 24.III.1974; 1 ♀ 5.I.1974; 1 ♂ I.IV.1973; 2 ♂ 2 ♀, ant associated, 23.XII.1973. All leg. M. A. Cornes.

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

5. *Milichia brevisfacialis* n.sp. ♂
(Fig. 4)

A species very closely related to *proectus* Collin, differing from it in having the arisal pubescence a little shorter and the fine erect hairs clothing lower half of eye shorter and more sparse and in the male in the following respects:

<i>brevisfacialis</i>	<i>proectus</i>
i. postvertical and external vertical bristles subequal	external vertical bristle only two thirds length of postvertical
ii. tergites 3-5 uniformly clothed in short setae	bases of tergites 3-5 broadly free of setulae
iii. all sclerites brown dusted	tergites 2-5 with distinct silvery-dusted areas laterally, those on 3-5 connected by a basal band of the same colour

Like *proectus*, but unlike *ilaroensis*, the male frons is broader at level of antenna than at vertex (1.12 times as wide) and the interdorsocentral setulae are more numerous (ten rows medially occupying distance equal to that between internal vertical bristles) and the thorax lacks silvery dusting. In other respects, this species agrees with the description of *ilaroensis*, but that the basal-half of the haltere knob is dirty yellow.

Length about 3 mm.

♀ unknown.

Material studied. Holotype: Nigeria: Lagos State: Ikorodu, 25.VIII.1974. 1 ♂ leg. M. A. Cornes. Deposited in British Museum (NH), London.

6. *Milichia prosaetes* Collin, 1921
(Fig. 10)

Milichia prosaetes. Trans. ent. Soc. Lond. 1921: 513. (head in front view and profile figs 2, 3 pl. 17) (♂ and ♀).

Further material: Nigeria: W. State: Ilaro Forest, 13.I.1974, 1 ♂. - Lagos State: 6.5 km NW of Agege, 16.VI.1974. ♂. Both specimens leg. M. A. Cornes.

7. *Milichia dectes* Collin, 1921
(Fig. 7)

Milichia dectes. Trans. ent. Soc. Lond. 1921: 514 (♂ and ♀)

Further material: Nigeria: Lagos State: 6.5 km NW of Agege, 19.I.1974. 1 ♂ 2 ♀ swept-off ant nest, habit as *M. farquharsoni*. leg. M. A. Cornes. A worker ant from the same nest was kindly identified by Mr R. Bolton of the British Museum, as *Crematogaster buchneri* Forel.

8. *Milichia farquharsoni* Collin, 1921

Milichia farquharsoni. Trans. ent. Soc. Lond. 1921: 514 (head in profile, hind tibia and costa at end of mediastinal vein figs 4-6, pl. 17) (♀).

Further material: Nigeria: W. State: Ilaro Forest, 1.IV.1975. 1 ♂. - Lagos State: 6.5 km NW of Agege, 18.VIII.1974. 1 ♀. Both leg. M. A. Cornes.

MALE. Differs from original description of ♀ in the following respects:

Head: Frons concave-sided, narrowest at a quarter of its length, where it is 0.23 of width of head, widest above, between external vertical bristles 0.32 of width of head; distance between bases of vibrissae 0.29 of width of head.

Thorax: Posthumeral bristle present. *Leg:* Mid tibia as well as hind with a flattened shining posterodorsal surface, though this not as expanded as on hind tibia.

Abdomen: Tergite 1 completely brownish dusted; tergite 2 similar, but with a large black undusted area on either shoulder; tergites 3 and 4 silvery grey dusted, apart from the more brownish extreme hind margins and the small shining spots at bases of the single row of preapical hairs; tergite 5 longer than 3+4, though not as broad, silvery brown dusted, apart from a

large shining apical crescent on dorsal surface; sternites, genital capsule and ventral edge of tergites brownish dusted; hairs longer on tergite 5 and on shoulders of 2, short and stouter on 3 and 4.

9. *Milichia formicophila* n.sp. ♂♀
(Figs 3, 9, 11)

A species closely related to *farquharsoni* Collin, sharing with it the lack of supraalar and enlarged acrostical bristles, the development of the costa into a flap at subcostal break and the same peculiar development of the mid and hind tibia, but having the palpus of a different shape, the second antennal segment lacking dense fine hairs and in the male with the apical scutellar bristles short and weak and the abdomen differently marked.

MALE. Head (Fig. 3) black, hardly wider than thorax, grey-black dusted, especially densely so on frons; frons concave-sided, narrowest at mid length, where it is 0.21 of width of head, at vertex and base of antenna 0.31; distance between bases of vibrissae 0.32 of width of head; lunule (Fig. 9) connected to face by a narrow bridge and shining on all but a median line and across bases of the lunular bristles; superior orbitals and ocellar bristle long, internal vertical and postvertical shorter and the external vertical shorter still; interfrontalia with a pair of bristles near lunule and several hairs above; lower margin of eye with very short and sparse pubescence; base of third antennal segment and base of arista yellowish; arista short pubescent; palps shining black, their apices curved together, short, broad and uniformly clothed in long curved pale pubescence that has no darker or more robust hairs admixed with it.

Thorax black, subshining through weak brownish dust that becomes greyish brown on upper half of pleuron; chaetotaxy: one humeral, one posthumeral, two notopleural; two postalar, 2 dorsocentral, 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 sternopleural; six to eight rows of interdorsocentral setulae.

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 posterodorsal surface, which is undusted, shining with violet reflections and devoid of the usual setulae, that on hind tibia expanded on basal two thirds.

Wing yellowish hyaline with yellow veins; flap at subcostal break and continuation of costa basad to mouth of r_1 , membrane between it and r_1 and a small spot on r_1 black; base of wing infusate to slightly beyond humeral crossvein, to junction of r_{2+3} and r_{4+5} and basal and anal cells; squama black with brownish fringe; haltere black.

Abdomen black, brownish on a long triangle filling anterolateral corner of tergite 2; remainder of tergite 2, 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 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-spaced hairs.

Length about 2.3 mm.

FEMALE. Differs from ♂ in the following respects:

Head: frons parallel-sided, at vertex 0.36 of width of head, less heavily dusted, orbits subshining, sometimes with a glossy spot between bases of upper superior orbital and internal vertical bristle or with lower orbits shining;

Thorax: 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 apicolateral corners of tergite 2 and sometimes its extreme apex; tergites 3-5 each with about three irregular rows of fine hairs of moderate length.

Material studied: Holotype: Nigeria: W. State: Ilaro Forest, 2.XII.1975, ant associated, 1 ♂ leg. M. A. Cornes. - Paratypes: 3 ♂ 1 ♀ same data as holotype. - Same locality 2 ♀ 29.XII.1975; 3 ♂ 5 ♀ 5.I.1974; 3 ♂ 4 ♀ 29.XII.1975. All leg. M. A. Cornes. N. Nigeria: Niger Prov.: Mokwa, Zugurma, 28.XII.1971, 1 ♀ leg. J. C. Deeming. Holotype and paratypes in British Museum (NH), paratypes in Cornes/Riley Collection and in Inst. for Agric. Res., Samaru.

There is a third African species of this genus in which a black flap is present on costa at subcostal break. This species, *M. patrizii* Hennig, has the palpus as narrow as *M. farquharsoni*, but the third antennal segment is deeper than long and has a distinct apicoventral angel.

References

- COLLIN, J. E., 1921.XII. Description of a new Genus and two new Species of Cecidomyiidae, and six new Species of Acalyptrate Muscidae (Ephydriidae and Milichidae). - Trans. ent. Soc. Lond., 504-517.
- HENNING, W., 1952. Bemerkenswerte neue Acalyptraten in der Sammlung des Deutschen Entomologischen Institutes (Diptera: Acalyptrata). - Beitr. Ent., 2: 604-618.

Revision of the *Anthomyza* species of Northwest Europe (Diptera: Anthomyzidae) I. The *gracilis* group

by HUGO ANDERSSON

Zoological Institute, Dept. of Systematics, University of Lund, Helgonavägen 3, S-223 62 Lund, Sweden
Ent. scand. 7, 1976. 41-52.

Lund, Sweden, 8 April 1976

Abstract

The male genitalia of *Anthomyza* are described and figured, as are some peculiarities of the female abdomen. *Anthomyza gracilis* Fall., *Geomyza socculata* Zett., *Anthophilina sordidella* Zett. are revised and lectotypes designated. *Anthomyza gracilis* Fall., *A. socculata* (Zett.), *A. collini* n.sp., and *A. elbergi* n.sp. are described; the male genitalia and the last few abdominal segments of the female are figured. Information on distribution and ecology within Sweden is given.

Introduction

The genus *Anthomyza* was erected by Fallén in 1810, and in 1829 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 (1838) placed *gracilis* Fall. in the genus *Anthophilina* Zetterstedt, 1838, and described a new species as *Anthophilina pallida* Zett. In the same publication he described *Sapromyza unguicella* Zett., that has proved to belong to *Anthomyza* Fall. In 1847, Zetterstedt described *Geomyza socculata* Zett. and in 1848 *Anthophilina sordidella* Zett., both belonging to *Anthomyza* Fall.

Czerny (1902) published the first comprehensive study of *Anthomyza* and related genera when he brought together species related to *gracilis* Fall. from various genera and removed non-related species from *Anthomyza*. He treated *sordidella* Zett. as a synonym of *gracilis* Fall. but did not mention *socculata* Zett. In 1928, Czerny listed *socculata* Zett. as a synonym of *gracilis* Fall. and regarded *sordidella* 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. Czerny figured the tips of the male abdomens but as these were drawn from dry specimens they do not show real differences.

de Meijere (1932) published more detailed figures of the male genitalia of the supposed species *gracilis* Fall. and *sordidella* Zett. This was the first time that the emarginate surstyli of "*gracilis*" were clearly demonstrated.

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

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

ing characters between *gracilis* Fall. and *sordidella* Zett.

Trojan (1962), following Collin and de Meijere, figured the male genitalia of "*gracilis*" and "*sordidella*" and the abdomens of the females.

Elberg (1968), following Trojan in the interpretation of "*gracilis*" and "*sordidella*", added a new species *Anthomyza trojani* Elberg, closely related to "*sordidella*" and earlier confused with this species. He was unable to distinguish between the females of the latter two species.

When I began to study the Swedish Anthomyzidae faunistically, it soon became doubtful if the interpretations of the species described by Fallén and Zetterstedt, substantially emanating from Collin's studies of the type collections, were correct. Collin did not designate any lectotypes, neither did he provide any specimens in the type collections with determination labels. For these reasons it was impossible to decide on which specimens he had based his opinion. Also, it became evident that for an unambiguous selection of lectotypes it would be necessary to know which females are conspecific with the different males. By means of my rather long series of *Anthomyza* specimens, in which the different samples are kept separate, I have been able to establish the male-female relations for the species in question.

This first part of my studies on the North European Anthomyzidae is restricted to those species which are similar to *Anthomyza gracilis* Fall. and which have been repeatedly confused with each other.

Structure of the male and female postabdomen

The structure of the male postabdomen of *Anthomyza* has been studied by Hennig (1939) and Griffiths (1972).