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East African Milichiidae and Chloropidae (Diptera)

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By Curtis W. Sabrosky
Entomology Research Division, Agric. Res. Serv.
U.S. Department of Agriculture, Washington, D.C.

A small collection of Milichiidae and Chloropidae from Dr. E. Lindner's second expedition to East Africa was kindly made available by the collector. The Milichiidae proved to be especially interesting, and from this small sample one new genus and three new species are here described. A small collection from Lindner's first expedition contained three new species (Sabrosky, 1958, Stuttgarter Beiträge zur Naturkunde 4: 1—5). These results suggest that the family will ultimately prove to be surprisingly rich in species in tropical Africa. The Chloropidae of the second expedition provided one new species and added to the growing body of information on the distribution of this family in the Ethiopian Region.

Literature references to the Chloropidae have been omitted where they already appear in my report on the Chloropidae of the Ruwenzori Expedition (Ruwenzori Expedition, 1934—1935, Vol. 2, pp. 711—828, British Museum, Nat. Hist.). That paper gives keys to the Ethiopian genera and to the species of many of these genera.

The specimens were collected in Tanganyika, with the few exceptions noted. Most of the examples are from two localities, Makoa and Marangu. Those from the latter locality, with the sole exception of *Desmometopa inaurata* Lamb, were members of a biocoenose on a garden rose bush infested by an aleyrodid. A special report on that is being prepared by Dr. Lindner.

The type series are preserved in the Staatliches Museum für Naturkunde in Stuttgart, with paratypes, where possible, in the U.S. National Museum in Washington.

Family Milichiidae

Milichia apicalis **n. sp.**

Brownish pollinose species, the dorsum of fifth abdominal segment chiefly gray pollinose.

Male: Entirely black in ground color, pollinose, subshining; front bluish gray, viewed from behind and above, the face, parafacials, and cheeks bright gray; thorax brown; abdominal terga 1—4 subshining dark brown except for lines of gray along posterior margins of 2 (toward sides), 3, and 4, a roundish anterolateral gray spot on each side of 4, and the dorsum of segment 5 chiefly gray, the latter with a large oval discal area light brown but scarcely affecting the striking contrast of gray fifth segment and dark brown preceding segments; calypteres dark brown with brown hairs.

Head of typical *Milichia* habitus; frons narrow, 0.66 times the breadth of an eye and 0.33 times the width of head, sides parallel on posterior two-thirds, diverging slightly above antennae, sides of face continuing the slight divergence; lunule with two strong cruciate setae; in profile the huge convex eye occupying most of head, cheek linear, and vibrissal angle not produced; face weakly concave; antennae small, each third segment subquadrate and shorter than second; aristae slender, microscopically pubescent. Chaetotaxy: Strong inner and weaker outer verticals, cruciate postverticals,

long ocellars, and two pairs of orbitals, the anterior proclinate and posterior reclinate, lower orbitals represented by a row of fine, short, hairs; two rows of interfrontal setae, the anterior pair proclinate, convergent, and approximately as strong as the outer verticals; peristomal bristles strong, increasing up to the well-developed vibrissae.

Thorax short and broad, notum densely beset with short, fine, appressed hairs, about 12 irregular rows between the dorsocentral positions. Chaetotaxy: 1 humeral, 1 presutural, 1 + 1 notopleural, 1 weak supraalar, 1 posterior intraalar, 2 postalar, 2 posterior dorsocentral (anterior weak), 1 long prescutellar acrostical, 1 apical and 1 subapical scutellar and 3 sternopleural pairs of bristles.

Abdomen short and broad, terga 2—4 subequal in length, the fifth slightly longer, dorsum of abdomen with numerous short fine hairs like those of the mesonotum.

Legs short and weak. Wing venation typical for the genus, as in *M. speciosa* Meigen; costal notch deep, the lappet ordinary, not broadened or blackened; fore crossvein obviously proximad the middle of the discal cell, at about 0.4 times the distance from base of cell.

Length, 3 mm.

Holotype, male, Marangu, 12. III. 1959.

The male abdominal pattern, with the predominantly gray fifth tergum contrasting with the dark brown of the preceding segments, will separate this form from all other known species of the Ethiopian Region.

Milichiella lacteipennis (Loew)

1866, Berl. Ent. Ztschr. 9: 185 *(Lobioptera).*

Four males, Marangu, 3., 5., 12. and 16. III. 1959.

Milichiella sp. (*?melaleuca* Loew)

Three males, Marangu, 12. III. 1959.

Loew's name has been synonymized in the past with *M. argentea* (Fabricius), but the latter was described from Amboina in the East Indies and seems unlikely to apply to this species from the Ethiopian Region. It is easy to group those males with bright silvery abdomen, and to overlook less conspicuous differences. Both this and the following species have that striking abdominal character, but the calypteres and calyptral fringe are brown in the present species, white in the following.

Milichiella sp. (*?tosi* Becker)

Male, Livingstone, Northern Rhodesia, 16. XI. 1959.

Eccoptomma acrosticale Sabrosky, 1959, loc. cit., p. 2

Four males, Makoa, 14. I. 1959.

The abdominal segments are somewhat telescoped and the abdomen is rounded, not depressed; hence the dorsum appears chiefly brown rather than silvery as figured in the original publication. However, the fundamental pattern is the same. The apparent variation that results from expansion or contraction of the abdomen must be taken into account when interpreting descriptions and comparing material with them.

Eccoptomma sp.

Male, Dar-es-Salaam, 31. XII. 1958.

This may represent a new species near *acrosticale*. The abdomen is chiefly brown, with silvery pollinosity on the distal third of the fifth segment.

Desmometopa inaurata Lamb

1914, Trans. Linn. Soc. London, ser. 2 (Zool.), 16: 363.

Female, Marangu, 1.–20. III. 1959.

Desmometopa m-nigrum (Zetterstedt)

1848, Diptera Scandinaviae, vol. 7, p. 2743 *(Agromyza).*

Male, Makoa, 10. II. 1959, "b. Kaffeeschildläusen".

Desmometopa sordida (Fallén)

1820, Diptera Sveciae, Oscinides, p. 10 *(Madiza).*

Female, Marangu, 8. III. 1959.

The specimen, teneral and somewhat collapsed, agrees with the characters of *sordida.* If adequate material were available, no doubt the widely recorded *m-nigrum* and *sordida* should be reexamined critically. On the other hand, they, like some species of the sphaerocerid genus *Leptocera,* may truly have a wide distribution because of transport in commerce.

Desmometopa interfrontalis **n. sp.**

Gray pollinose species with interfrontal stripes relatively broad, bright gray pollinose.

Male, female: Black, bright gray pollinose, except for orange-yellow palpi, yellow knobs and brown stalks of halteres, yellowish-brown fore coxae, and yellowish tarsi with distal tarsal segments slightly browned, especially on fore tarsi; the broad and bright gray interfrontal stripes and orbits together with the extended ocellar triangle delimit the frontal area as a narrow, subshining, velvet black "M"; anterior slope of each pleuron (on sternopleuron and lower margin of mesopleuron) with polished black spot; mesonotum leaden gray, not at all yellowish tinted; abdomen dark brown, subshining.

With the usual habitus of *Desmometopa,* and agreeing with the generic characterization by Hennig (1937, Fam. 60 a, in Lindner's Fliegen Palaeark. Region, Lfg. 115, p. 40); front of moderate width, half the width of head, slightly broader than long though appearing nearly square; the gray orbits, equibroad throughout, and the interfrontal stripes are broader than usual in the genus, and together with the gray pollinosity of the ocellar triangle, which is extended forward two-thirds the length of the front, make the sections of the black "M" decidedly narrower than usual in the genus; each interfrontal stripe with 4 or 5 coarse hairs, the foremost slightly stronger than the others; head in profile similar to that of *D. sordida* (Hennig, loc. cit., fig. 37), the cheek height one-sixth the eye height and nearly three-fourths the breadth of a third antennal segment; cheek entirely gray pollinose.

Thorax moderately setose, with six (posteriorly) to eight somewhat irregular rows between the dorsocentral positions; one pair of prescutellar acrosticals, the chaetotaxy otherwise as described by Hennig.

Wings essentially as figured by Lamb for *D. inaurata* (1914, Trans. Linn. Soc. London, ser. 2 (Zool.), 16: 364, fig. 43), but the third and fourth veins slightly convergent on distal third of wing, narrowing the first posterior cell, the fourth costal sector thus slightly shorter than the third; costa between humeral break and costal spines with nine pairs of bristlelike, evenly spaced setae that are short and not outstanding, little longer than those on the second costal sector.

Length, 1.5 mm.

Holotype, male, and two paratype females, Makoa, 10. II. 1959, "b. Kaffeeschildläusen"; allotype, female, Makoa, 11. II. 1959.

Seven females, Suakoko, Liberia, July 1, Aug. 6 and 9, 1952 (C. C. Blickenstaff) [U. S. Natl. Mus.], are not in good enough condition for inclusion in the type series, but they appear to be conspecific. This suggests, as was the case with *D. semiaurata* Sabrosky, that the species may be widespread in the Ethiopian Region.

In my partial key to Ethiopian *Desmometopa* (1958, loc. cit., p. 5), *D. interfrontalis* will pass to couplet 3 on the basis of polished black spots on pleura and slightly converging third and fourth veins. However, the entirely yellow palpi, gray pollinose cheeks, and broad interfrontal stripes and orbits will separate it from either species in that couplet, as well as from other species in the key.

Litometopa n. gen.

Head in general as in *Desmometopa,* but as long as high; front equibroad in both sexes, lacking the characteristic M-shaped pattern of *Desmometopa,* smooth and polished, without interfrontal stripes or hairs, the orbits nonpollinose and shining, smooth anteriorly, slightly rugose posteriorly; face deeply concave; antennae small, third segments orbicular; aristae long, slender, microscopically pubescent; proboscis polished black, the haustellum as long as lower margin of head, viewed from above broadly flattened on sides; chaetotaxy as in *Desmometopa,* but only one upper (slightly reclinate) and one lower (mesoclinate) pairs of orbital bristles. Thorax narrow and elongate, mesonotum 1.65 times as long as broad, finely shagreened, subshining, almost bare of hairs except for median acrostical and dorsocentral rows; mesosternum greatly elongated, nearly as long as mesonotum, the bases of mid and hind legs close together at posterior extremity of thorax, below the halteres, and directed posteroventrad; chaetotaxy: 1 humeral, 1 + 1 notopleural, 1 postalar, 2 posterior dorsocentral (the foremost short), 1 apical and 1 subapical scutellar and 1 sternopleural pairs of bristles, with shorter and inconspicuous supraalar and second postalar bristles (a slightly developed presutural hair probably represents a reduced presutural bristle). Mid and hind legs weak but fore legs stronger, appearing raptorial, with elongated fore coxae, and slightly incrassate fore femora with anteroventral and posteroventral rows of 6—8 strong spines. Wing essentially as figured for *Desmometopa* (Hennig, 1937, loc. cit., fig. 36) but somewhat longer and narrower, 2.75 times as long as broad; third and fourth veins slightly convergent distally; fore crossvein slightly before middle of discal cell; second basal and anal cells present, short and inconspicuous. Male genitalia as in *Desmometopa.*

Type-species: *Litometopa glabrifrons* Sabrosky.

Gender of *Litometopa:* feminine, as in *Desmometopa.*

Although the nonpollinose and shining black head and body at once suggest *Madiza,* the new genus is closer to *Desmometopa* in fundamental characters. In a sense, it is an extreme form of the latter, with interfrontal hairs and stripes absent, and orbital bristles and mesonotal hairs greatly reduced.

Litometopa glabrifrons n. sp.

Species with glabrous, polished black front and elongated, shining, relatively bare thorax.

Male, female: Shining black, only the basal two-thirds of the palpi, the halteres, and legs in part, yellow; fore coxae, all trochanters and knees, mid and hind tibiae, and mid and hind tarsi except for two distal segments, deep yellow, the fore tibiae and tarsi black, distal two-fifths of fore femora and mid and hind tibiae chiefly black in holotype and one paratype, yellow in others.

Head polished black; front smooth, 1.4 times as long as broad, glabrous, without interfrontal stripes or hairs, and only two or three weak hairs on the orbits near the orbital bristles; cheeks narrow, each 0.4 times the breadth of a third antennal segment and 0.1 times the height of an eye; antennae small, third segments orbicular, aristae microscopically pubescent; bristles strong.

Mesonotum almost bare of hairs, with only the two dorsocentral rows and a median acrostical row that becomes two irregular rows on the posterior slope, plus a few

scattered hairs laterally; pleura highly shining, though in part somewhat rugose, the squamopleura, hypopleura, and pteropleura posteriorly, duller, gray pollinose; scutellum shining, glabrous; bristles long and conspicuous.

Abdomen slender and elongate; segments 1 through 4 subshining above, their sides and segment 5 polished.

Length, 3 mm.

Holotype, male, allotype, female, and two paratype males, Marangu, the holotype collected 17. III. 1959, the others 10. III. 1959.

Family Chloropidae

Subfamily Chloropinae

Meromyza capensis Loew

Two females, Makoa, 11. II. 1959.

Pachylophus inornatus Loew

Male, female, Livingstone, Northern Rhodesia, 16.–20. XI. 1958.

Pachylophus lugens Loew

Two females, Makoa, 11. II. 1959.

Pachylophus proximus Adams

Male, female, Makoa, 22. I. (♀) and 10.–20. II. 1959.

Pachylophus punctifemur Sabrosky

Male, Okamani-Tsavo, 25.–28. II. 1959.

Metopostigma tenuiseta Loew

Female, Makoa, 10. II. 1959, "b. Kaffeeschildläusen".

Bathyparia praeclara Lamb

Female, Dar-es-Salaam, 18. XII. 1958–5. I. 1959.

The available evidence on this rarely recorded species suggests that it is a littoral form.

Chlorops laevigata Becker

1913, Ann. Mus. Natl. Hung. 8: 407.

Male, two females, Marangu, 5. (♂), 12. and 13. III. 1959.

Madiza laevigata Fallén was referred to *Chlorops* by Meigen in 1830, but is now in *Haplegis* as a synonym of *H. tarsata* (Fallén). The homonymy was secondary and no longer exists; hence *C. laevigata* Becker is not considered to be preoccupied.

Parectecephala sp. (?*conspicua* Becker)

Male, Marangu, 5. III. 1959.

Becker's species was described from Ethiopia. I have no material for comparison, but the description and a few old notes on the type show no differences that I would regard as reliable.

Lagaroceras infuscatum Lamb

Female, Dar-es-Salaam, 18. XII. 1958–5. I. 1959.

Lagaroceras pulchellum Lamb

Two females, Marangu, 8. and 15. III. 1959.

Lagaroceras sp. (?*opaculum* Becker)

Female, Makoa, 10. II. 1959, "b. Kaffeeschildläusen".

Subfamily Oscinellinae

Cadrema sp. (new?)

Female, Durban, Natal, 7. XII. 1958.

Hippelates stigmaticus Lamb

Male, Makoa, 6.–25. II. 1959; male, Makoa, 10. II. 1959, "b. Kaffeeschildläusen"; male, Marangu, 1.–20. III. 1959.

These specimens agree perfectly with my notes on the type series of *H. stigmaticus*, described from the Seychelles. The species is yellow with pale reddish mesonotal stripes, yellow antennae, narrow, straight-sided, bidentate, black occipital spot, a large, ovoid, polished black spot on each mesopleuron, four pairs of strong orbital bristles, and fairly strong hind tibial spurs. The wing venation is characteristic of the small group of species to which *stigmaticus* and the following species belong, with the ultimate sector of the fifth vein strongly bowed forward in a wide arc.

Hippelates sp. near *opacus* Becker

Two females, Marangu, 1.–20. III. 1959.

These specimens differ from the preceding most conspicuously in having the third antennal segments entirely black. Less noticeably different are the three pairs of strong orbital bristles and tiny hind tibial spurs. *Hippelates opacus* Becker, described from two males from Ethiopia, has the black third antennal segments, but has broad cheeks and larger hind tibial spurs. As I pointed out in my discussion of this group in the report on the Ruwenzori Chloropidae, sexual dimorphism is a possible complication, and unrecognized undescribed species may be adding to the complexity. In the intervening years, only a few specimens have been received, most of which have served only to make the problem more involved.

Rhodesiella africana (Malloch)

Female, Marangu, 3. III. 1959.

Rhodesiella confluens (Becker)

Female, Marangu, 3. III. 1959.

Rhodesiella cuneata (Becker)

Male, Makoa, 6.–25. II. 1959.

Rhodesiella tarsalis Adams

Four females, Marangu, 16. and 18. III. 1959.

Dr. LINDNER reported that this species was very abundant.

Rhodesiella (Lonchonotus) formosa (Lamb)

Female, Makoa, 7.–27. I. 1959.

Polyodaspis robusta (Lamb)

Three females, Makoa, 6.–25. II. (two) and 4. IV. 1959.

Epimadiza sp. (?*flavibasis* Sabrosky)

Male, Makoa, 7.–27. I. 1959.

This example has a slightly less densely punctured mesonotum and darker tarsi than typical *flavibasis*, but the lone example gives no opportunity to judge variation.

Goniopsita cephalotes (Séguy)

Female, Marangu (Bismarck-Hütte), 14. III. 1959.

Siphunculina ornatifrons Loew

Two females, Marangu, 5. and 10. III. 1959.

Elachiptera (E.) simplicipes Becker

Male, Makoa, 6.–25. II. 1959; male, Marangu, 3. III. 1959.

Elachiptera (Melanochaeta) scapularis (Adams)

Female, Marangu, 5. III. 1959; two males, Makoa, 19. II. and 6. IV. 1959. This species is very similar to the following and may prove to be a variant.

Elachiptera (M.) vulgaris (Adams)

Two females, Marangu, 3. and 18. III. 1959; male, Makoa, 6.–25. II. 1959.

Anomoeoceros hispidus Lamb

Two males, two females, Marangu, 3. (♂), 16., 18. and 19. (♂) III. 1959; female, Msingi, 8. II. 1959.

Dicraeus sp.

Female, Marangu, 10. III. 1959.

Conioscinella amabilis (Becker)

1913, Ann. Mus. Natl. Hung. 11: 162 *(Oscinella).*

Male, Durban, Natal, 7. XII. 1958.

Conioscinella makoa **n. sp.**

Yellow species with more or less distinct reddish stripes on mesonotum, and large polished black spot on each mesopleuron.

Male, female: Yellow, the ocellar tubercle, occiput centrally as a large oval spot about equidistant from each eye and from vertex, and a large ovoid spot on each mesopleuron, black; third antennal segments infuscated dorsally, aristae brown; mesonotum with three stripes, or four if median stripe divided, and two supraalar vittulae reddish to reddish brown, the entire disk of mesonotum sometimes suffused with red-brown color and the stripes indistinct; postscutellum and abdomen reddish brown; bristles black, hairs brown.

Eyes with minute, sparse pubescence; front broad, wider than an eye, 0.4 times the width of head, and nearly as broad as long, the sides parallel; frontal triangle short, little over half the length of front, concolorous with front, finely wrinkled and only slightly shining. Head in profile much higher than long; cheeks of moderate width, each nearly 1/5 the height of an eye and half the breadth of third antennal segment; vibrissal angles rounded. Antennae small, each third segment reniform, nearly twice as broad as long; aristae microscopically pubescent. Bristles short: Inner and outer verticals, convergent postverticals, subparallel and erect to slightly reclinate ocellars, four pairs of orbitals, and vibrissae; a row of erect hairs along each side of frontal triangle, continuing to anterior margin of front.

Mesonotum and scutellum subshining, thinly pale pollinose, with numerous fine hairs; pleura chiefly polished, thinly and inconspicuously pale pollinose on each mesopleuron outside of large polished black spot, and on pteropleura and squamopleura; scutellum as in *Oscinella*, short and broadly rounded, the bristles grouped on distal half; postscutellum smooth and polished. Chaetotaxy: 1 + 2 notopleural, 2 postalar, 1 posterior dorsocentral, and 1 subapical and 1 apical pairs of bristles, a humeral bristle and a second subapical scutellar weaker.

Abdomen subshining, thinly pale pollinose.

Legs short, sensory area on each hind tibia elongate oval.

Wings similar to that figured for *Conioscinella arcuata* Duda (1932, Fam. 61, in Lindner, Fliegen Palaeark. Region, Lfg. 64, pl. 1, fig. 5), but the second costal sector 2.5 times the third sector, the first posterior cell broad, 1.5 times the breadth of the

submarginal cell, veins 3 and 4 subparallel throughout, very slightly curved, and discal cell slightly longer, the penultimate sector of fourth vein almost equal to ultimate sector of fifth vein.

Length, 1.5—1.75 mm.

Holotype, male, allotype, female, and 5 paratypes (1 ? male, 4 females), Makoa, 10. II. 1959, "b. Kaffeeschildläusen".

This species and its close relatives in the Ethiopian Region are astonishingly similar to a group of *Hippelates* species (*stigmaticus* Lamb, *opacus* Becker, and undescribed species), and have been confused with them in past identifications, often as *Oscinella pectoralis* Becker or its replacement name *O. sexstriata* Becker. The striking feature of large polished black mesopleural spot has undoubtedly contributed to the incorrect association of various distinct species.

Anschrift des Verfassers:
Curtis W. Sabrosky, U.S. National Museum, Washington, D.C. 20560, U.S.A.