Milichidæ.

MILICHIA Meigen, System. Beschr., vi. (1830), 131.

55. Milichia superba, n. sp. (Fig. 40 and Plate 21, fig. 52).

This species is one with entirely silvery abdomen.

? Head. Entirely black. Top view :- from entirely covered with dark somewhat olivaceous pollination: lunular arch shining black. The area surrounding the brown ocelli is not quite so pollinated, but is a little shining, as are two narrow triangular eve-margins down to front f. o. Two f. o. very slightly divergent from centre line: front forward, hind backward bent; below front one a row of smaller orbital bristles alternately smaller and larger. Parallel i. v., div. o. v.; sub-parallel p. v.; oc. stout, inserted between ocelli; on ocellar area and just behind it are two small div. pairs; row of small bristles along orbital stripe from inside v. to top f. o. Scattered frontal bristles two pairs of which are rather striking, a forward crossed pair over frons, a backward crossed pair about middle; between these is a third pair and others. Front view:antennæ separated at base by a projection of the black lunule: two smooth black longoval foveæ with narrow ridge between; mouth emarginate, the centrally projecting part of the lip is dark orange pollinated. Side view (Plate 21, fig. 52) :- second joint of antennæ rather elongate with front bristles, pollinated with grey; third joint black, the arista brown with just perceptible pubescence under high power (×45), the basal joints abruptly thicker than flagellum; three stout vibrissæ with stout following row and similar bristles on hind jowl. Palpi black, stout and somewhat flattened laterally, spiny. Tongue black and spiny, recurved tip just perceptibly orange toned. The eyes occupy nearly the whole view, the margins below mid-line being wider than above.

Thorax. Black, somewhat suffused with ochreous pollen. Dorsum covered with bristles which are somewhat variable in length, so that it is impossible to discriminate exactly between any possible front dorso-centrals and the other bristles: the hindmost pair of these is however very large, and just behind them is a smaller pair of prescutellars; h, n. p. and presut, three stout st. pl., but the supra-alars have been destroyed by the side pinning. Soutellum as thorax with two stout basal and two stout crossed terminal

bristles. Metanotum rather more pollinated. Wings as Fig. 40. The costal slit well marked with two short terminal spines: the costa is black bristled along margin to just beyond the second vein; thickened to fourth but only ciliated. Halters all shining black. Legs all black, femora all with two inferiorly-pointing rows of bristles, those on the hind legs the longest.



Fig. 40. Milichia superba, n. sp. \times 20.

Abdomen. All covered densely with silver except first segment: the second segment nearly as long as the next two, these and the last sub-equal. The margins edged with minute black bristles, the terminal segment with long bristles. The silver extends well over the sides on to the belly, but less so on the base of the second segment.

? The frons is somewhat wider and has a few more, but rather smaller, scattered bristles; the lunular area has dark orange pubescence.

Abdomen. Concolorous with thorax, covered with fine bristles except on basal part of second segment, and about the basal third of the next two which are smooth The legs are altogether stouter than in the male, the bristles less conspicuous, and the first tarsal joint of hind legs is swollen.

Note. It is just possible that this is the 2 of another species, though the two occurred in the same locality.

Size, 35 mm. : wing, 23 mm.

Locality. Seychelles. Mahé: Cascade Estate, at or about 800 feet, 1908-9.

MILICHIELLA Giglio-Tos, Ann. Soc. Ent. Fr., lxiv. (1895), p. 367, Dipt. des Seychelles.

56. Milichiella lacteipennis Loew, Berlin. Ent. Zeitschr., ix. (1865), Cent. vi. 185, 97. Several specimens of this species occurred: it is apparently very widely spread over the world.

Localities. Seychelles. Mahé: from near Morne Blanc, X.—XI. 1908; Cascade Estate, at or above 800 feet, 1908-9.

57. Milichiella tristis, n. sp. (Fig. 41 and Plate 21, fig. 53).

This species has no silvery sheen in the male, but is in both sexes entirely slightly shining brown-black, none of the abdominal segments being in any way shining or even brassy.

Head, black. Top view:-dull black, the ocellar area and upper eye-margins rather shining, narrow lower ones pollinated. On these lower ones are two inwardly bent f. o. with 5 or 6 smaller bristles; two upper f. o., the first outwardly bent, the other backward, a small bristle between, another behind. Conv. i. v., div. o. v. on the shining triangular ends of upper eye-margins. Two nearly parallel backward bent p. v. inserted just behind hind ocelli. Stout oc. inserted between the ocelli: tiny bristles on ocellar area, and a small div. pair just on vertex between ocelli. From front of ocellar triangle to near the frons are two rows of about 4 pairs of converging bristles, and there are scattered bristles just over the forehead. Front view:--antennæ separated at base by projection of shining lunule. Two long oval black foveæ with moderate separating ridge. Mouth edge arched, upper lip but little projecting and orange in tone. Side view (Plate 21, fig. 53):-in this aspect the frons is seen to be greyish in colour. Antennæ black with one stout spine and smaller bristles on 2nd joint: 3rd orbicular with black arista suddenly thinning to flagellum which is slightly though evidently pubescent. Vibrissæ 4 or 5 each side, the first much the longest; a following row of small mouth marginal bristles. Palpi stout, black and bristly. Tongue orange at the tip. The eye nick is subtriangular with apex nearer top than bottom.

In the female the shining parts of frons are more evident, and the small bristles rather smaller than in the male

Thorax. Black, slightly shining, very finely covered with minute lighter pollination, disc covered uniformly with small bristles. The last pair of d. c. present and almost in the same cross line with them are two small prescutellars. The specimens are not in very good condition, but one can make out p., n. p., presut., and two on the post-alar calli. The scutellum is coloured like thorax, bare with two basal and two slightly converging terminal bristles. Metanotum, shining, somewhat pollinated in one specimen. Wings, Fig 41, glassy with quite pale veins: costa with usual two-spined break,

minutely bristled to just beyond the junction with the second vein which is bent along costa in the usual way: it is then slightly thickened to the end of 4. Halters with orange knobs and darkened stalks. Legs black except for the orange tarsi, the last 4 tarsal joints are suffused in part, giving a spotted appearance to the feet: there are no specially outstanding bristles on the legs, the bristle clothing being as usual more or less in lines, except for a terminal spine on the mid-



Fig. 41. Milichiella tristis, n. sp. × 30.

tibiæ. Abdomen. Somewhat shining black brown. In oblique bright light, one might say it was the colour of dull oxidized copper. It is dorsally covered with bristles except for the basal half of the 2nd segment; this is about the same length as the 5th, each is about as

long as the 3rd and 4th together. Terminal segment with a few long bordering bristles. There is no sign of any silvery or truly shining parts at all. The female is much like the male; the relative sizes of 2nd to 5th segment of abdomen is about the same in one of the two 2, but in the other the mid segments are relatively longer; this is probably due to the extension of the body with eggs; in both a

Size, about 11 mm.; wing, about 1.7 mm.

fleshy annulate ovipositor is visible.

Locality. Seychelles, Mahé: Cascade Estate, at or above 800 feet, 1908-9.

Another species of the genus was recorded from the Seychelles by Giglio Tos (Ann. Soc. ent. France, lxiv., 1895, p. 367) as M. argentea Fabr. : this has been identified as being distinct from that species and is now called M. tosi Becker (Ann. Mus. Nat. Hung., v. (1907), p. 536).

ECCOPTOMMA Becker, Ann. Mus. Nat. Hung., v. (1907), p. 540.

This genus was founded by Becker for certain Chilian species which differed from Milichiella mainly in the very profuse and stout bristles on the thorax. Two males from Mahé can be referred to a new species of this genus.

58. Eccoptomma solitarium, n. sp. (Fig. 42 and Plate 21, figs. 54, 55).

Head, black. Top view:-frons narrowing much from vertex to forehead, being about 4 times as broad behind as in front. The eye-margins and minute ocellar triangle are shining, the rest is most elegantly and minutely rugulose, two sets of the minute pits forming lines from outside the i. v. to the lunule; there is a minute furrow

from the tip of the ocellar triangle. The head bristles are long. There are two pairs lower f. o., the first just above the lunular level the other behind, the first pair is crossed half-way, the other at tip: between them and down to forehead are several small bristles. Right down on tips of lunular arch (at side of base of 1st antennal joint) is another pair of orbital bristles bent backwards. The two pairs of upper f. o. are roughly parallel to axis of head, the first forwardly, the second backwardly bent, inserted rather close with a fine bristle between. The mid area of frons (between the pitted lines mentioned above) has some few longish thin bristle-pairs, two pairs about one-third way down are bent back and are more conspicuous. I. v. nearly parallel, o. v. div., between is a third extra somewhat smaller bristle; true p. v. well on hind head, slightly div., between and a little above is a somewhat smaller div. pair; oc. inserted between ocelli on the small ocellar area, rather upright, slightly div.; between hind ocelli is another smaller div. pair. Front view :--forehead below lunule dark chestnut, face black with grevish pollen, narrowest midway from forehead to mouth edge at point where vibrissal row starts; it is furrowed; antennæ touching at base. Side view (Plate 21, fig. 54) :-- antennæ black, 2nd joint with 3 bristles, top one longest; 3rd joint with orange silky pubescence; arista brownish, lower joints thickest, flagellum diminishing slowly in diameter from them, finely pubescent. Main pair of vibrissae crossed, the 7 or so following ones stout, straight. Mouth strongly bristled below. Small regular post-orb. row; well-marked nick at hind head as figured.

Thorax. Black with sparse ochreous pollen. The dorsum is very bristly, some of the general bristles being nearly as stout as the macrochetes. One can readily distinguish three dorso-central pairs behind the suture which are very long: there is also a fourth bristle almost in the line of these before the suture: this bristle, with the humeral and side presuturals form an evident cross line of larger bristles from one humerus to the other: this row is partaken in by certain of the general bristles which lie in its direction and are larger than the rest. This is a distinct, though smaller, prescutellar pair, which form another evident cross row with the last pair of dorso-centrals, an extra bristle each side between the prescutellar and the dorso-centrals, and the bristles over the wing bases. Pleure bare between humerus and cross suture, with a stout bristle just behind and below the humeral bristle; three stout sternopleural bristles. Seutellum rounded in profile

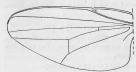


Fig. 42. Eccoptomma solitarium, n. sp. × 30.

and section, with two basal and two terminal bristles, apparently crossed (only one is present). Wings, as Fig. 42: glassy with brown veins; costal slit present as usual with two short stout spines: costa black bristled and bordered to just beyond 2nd vein, the thickening going to the 4th vein. Halters black. Legs black, the tarsi slightly paler in parts, especially the front 1st tarsal joint. The front femora with abundant stout hairs on hind side

for about the distal half. The other femora with downwardly pointing long bristly hairs.

Abdomen (Plate 21, fig. 55). Silvery except for the 1st segment and the central area and middle of the base of the second segment. The sides are much bent under and the silvery shine is carried over the edges on the lower half of second segment and all the others: the first segment is swollen at the upper corners and is there covered with black hairs on its outer edge: it is pointed in the centre as usual and is all very shiny black. The second segment bears a turt of black hairs at each of its upper corners: its dorsum has small bristly black hairs, some of which form two moderately regular lines parallel to the posterior edge: the 3rd and 4th segments have two similar rows: the last segment has the usual long bordering bristles. The relative sizes will be seen from Fig. 55.

Size, 31 mm.; wing, 23 mm.

Locality. Seychelles. Mahé: Cascade Estate, at or above 800 feet, 1908-9.

Desmometopa Loëw, Berlin. Ent. Zeitschr., ix. (1865), 185, vi. Cent.

59. Desmometopa M-nigrum Zett., Dipt. Scand., vii. 2743, 10.

Five specimens are in no way distinguishable from forms of this species.

Localities. Seychelles. Mahé: near Morne Blanc; Cascade Estate, at or above 800 feet; marshes on coastal plain, Anse aux Pins and Anse Royale.

Desmonetopa inauratum, n. sp. (Fig. 43 and Plate 21, fig. 56).

This species is very near to D. M-nigrum in most of its characters, including the scheme of frontal marks, but the thorax is covered (in good specimens) with a very dense golden pollination, and the jowls are less deep.

Head. Top view:-the frons is deep dullish black down to the antennæ except that there is a large equilateral sharp-pointed ocellar triangle, the upper eye-margins joined to this triangle, and two narrow parallel stripes on the frons (carrying the usual two rows of mid-frontal bristles) which are all bright grey: a very distinct black M is thus formed on the frons. Lower two pairs f. o. slightly conv., with fine bristles between, and a rather larger small bristle on extreme front of eye-stripes. Two pairs much overhanging hind o. b., small bristles between them, and a rather large upright small bristle between last and the i. v. I. v. bent a little back and a little conv., o. v. bent much out; p. v. on vertex just outside and behind hind ocelli, slightly conv.; two small bristles between o. v. and p. v. and small pair behind and between hind ocelli. Oc. inserted between the bright-brown ocelli, rather upright, div. The rows of bristles on the light frontal stripes end in a rather larger forward bent pair. Front view :- facial pit deep and black with a shallow dividing ridge which is greyer: with a side light the pits are also grey. Side view (Plate 21, fig. 56):-hind and lower eye-margins black, the jowls greyer beneath these. Antennal second joint black bristled, the top bristle long, third joint slightly pollinate, in the 3 conspicuously reddened beneath, sometimes nearly all red, in the 2 black. Stout vibrisse with a row of small bristles along the absolute lower edge of jowl; a large bristle on hind jowl. Palpi stout and bristled at the tip, in the 3 much reddened on the proximal one-third to two-thirds; in the 2 usually only reddened at the base, though sometimes more extensively so. The long tip of tongue is ochreous.

Thorax. The ground colour is black, but in good specimens it is densely covered with a fine close granular ochreous-yellow pollination, which is best developed on the hind part of the thorax and on the bare seutellum: it his is demarcated from the thorax by an extremely shallow line which is greyer. The dorsum (except the basal part) is uniformly clothed with short black briatly hairs. Last two pairs of d. c., the hind pair largest, present, two h., n. p., presut, three small bristles above wing, a very long one on post-alar callus, with a shorter one inside it. No distinct pleural bristle except a stout sternopl. over middle coxæ. Scutellum with two basal and two long apical bristles crossed at the tips. Wings, Fig. 43, glassy with pale, almost white, veins. Costal bristles long at the base, bristly as usual on first segment with two spines at nick: black bristles as far as second vein, the thickening extending, but attenuating, to the fourth. Halters clear yellow, the stalks slightly darkened. Legs brownish black, middle and hind tarsi tawny orange, knees narrowly the same.



Fig. 43. Desmometopa inauratum, n. sp. × 30.

Abdomen. Black, slightly shining, covered with bristly hairs, the submarginal row being the longer, and especially so on the last segment, which is obtusely pointed, longer than the preceding one, which is again longer than the next.

Size, 2 mm.; 3 a little smaller; wing, 2 mm.

Localities. Seychelles. Silhouette: Mare aux Cochons, over 1000 feet, from vegetation on the plateau, VIII.—IX. 1908. Mahé: Cascade Estate, at or above 800 feet, 1908—9; marshes on coastal plain, Anse aux Pins and Anse Royale, I. 1909.

In addition to the above species, which are represented by a fair number of indiviolate, there are two more, one with but two specimens, the other unique: all are unfortunately in rather bad condition, but the species are so marked in character that short descriptions can be given.

61. Desmonetopa microps, n. sp. (Fig. 44 and Plate 21, fig. 57).

There are two specimens, both rather damaged.

Head. Top view:—frons, &c., much as last species: as far as can be seen the briefles are practically the same. Front view:—face black, rather less deep than normal. Side view (Flate 21 fig. 57):—this is the most abnormal. The antenne are normal, but the jowls are very large and swollen, and the hind eye-margins are also very wide: vibrissae very large, followed by a few small bristles. The palpi are black and the tongue is pale and horny.

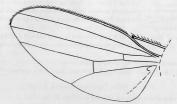


Fig. 44. Desmometopa microps, n. sp. × 50.

Thorax. Much as last but the pollen has mostly disappeared; chætotaxy the same as far as can be seen. The venation, Fig. 44, calls for no remark, except that the last cross vein is a little nearer the wing margin.

In other respects, including the size, the species agrees with the last, except that the abdominal segments are more nearly equal.

 ${\it Locality.} \quad {\it Seychelles.} \quad {\it Mah\'e}: \ {\it Cascade Estate, at or above 800 feet, 1908-9}.$

62. Desmonetopa approximatonervis, n. sp. (Fig. 45 and Plate 21, fig. 58).

This is a single female of a small species which has its cross veins extremely close together. It is in rather a battered condition; much stress cannot be laid on the degrees of "shininess" of the head, &c., as the specimens may be somewhat "greasy."

Head. Top view:—frons black with browner line over forehead. Two lower f, o, two upper f. o. bent as usual, a finer bristle between each of above. I. v. and o. v. normal; crossed p. v., small parallel pair between these; oc. div., between ocelli. The two frontal rows of three pairs of bristles are quite long, there are a few over forehead. The post-orb. row is long behind o. v. Front view:—the large antenne take up nearly all the face, the pit is deep. Side view (Plate 21. fig. 58):—jowls very narrow, pale; hind head narrow black. Antenne black, second joint spined above, third large, round, brownish black, arista moderately pubescent. Long vibrissa with inferior small bristles on jowl edge, hind jowl with one or two bristles. Palpi pale orange, longer and less clubbed than usual, bristly at end. Tongue long and thin, chitinous.

Thorax. Shiny black with sparse yellow pollen, covered with fine bristles except just at base. Stout last d.c., very fine prescut. A stout bristle on p. a. callus, other



the tarsi paler tawny.

approximatonervis, n. sp. × 30,

bristles destroyed by pinning. Scutellum very minutely rugulose, two moderate basal, two long terminal bristles, crossed at tip. Wings, as Fig. 45, moderately strong ciliation in first section costa, there are none of the strongish black bristles visible on costa to end second vein, but the stout ciliation is uniform in character up to the fourth vein. Halters brown, a little darker on tip. All the legs brownish black with

Abdomen. Shiny black, with brownish tone in parts, covered with black hairs, the last segment is nearly twice as long as the previous one; the next are roughly equal in length.

Size, about 1.4 mm.; wing, about 1.4 mm.

Locality. Seychelles. Mahé: Cascade Estate, at or above 800 feet.

Madiza Fallen, Dipt. Succ., Oscinid., 8 (1820).

63. Madiza albipennis, n. sp. (Fig. 46 and Plate 21, fig. 59).

This is an almost entirely shining black insect with markedly milky wings.

Head. Top view:-frons black and shining, narrowest about opposite front ocellus, widening just perceptibly in front: it is paler just over the forehead. The first of the front f. o. is close to the forehead, the second just in front of the hind pair: between are three small bristles; both converge a little. The narrow eye-margins extend to the front of the hind pair of f. o., they are more shining than the rest in side illumination, as is an evident ocellar triangle. The hind f. o. are fairly close, they diverge over eyes, have a small bristle between, and then two or three small ones up to the i. v.: these converge somewhat; o. v. bent out, a small bristle between the i. and o. v. bent inwards: this is really the last of the regular post-orb. row. P. v. almost exactly on vertex, pointing back and sub-parallel. Oc. inserted rather nearer front ocellus than side one: a few small bristles on ocellar area; four in a row over the forehead, a small pair on middle of frons. Front view:-antennæ widely separated at the base by an orange triangular projection of the lunular arch which nearly meets a more obtuse orange upward projection of the lower lip just about the level of the end of the antenna. The face has a roughly circular outline almost cut into two deep pits by these two projections. Side view (Plate 21, fig. 59):-second antennal joint with a spine; third almost quite spherical, blackish with pale silky pollen, arista slender, just perceptibly pubescent under a high power ($\times 50$). A large upper vibrissa is apparently present, but its end is broken off, below it a smaller one: jowl-margin with fine bristles. The jowls are very deep, shining black, and in good light can be seen to be minutely striate longitudinally. Hind angle of jowl with a few extra long bristles. When looked at from below the mouth is seen to be orange. Palpi rather flattened and strap-like: rather orange dorsally, black below, sparsely bristled at end and below. Tongue long and horny with a pointed tip.

Thorax. Quite smooth shining black clothed with fine black bristly hairs. Chætotaxy normal, except that a small pair of d. c. bristles are visible in front of the usual last pair, and the tiny prescutellars are more visible. Scutellum somewhat brassy,

its surface minutely granulate; the usual four bristles, terminal crossed. Wings, as Fig. 46, milky-white with pure white veins: the costa black bristled to just beyond the second vein, then slightly thickened to the fourth. Halters with long yellowish-white heads and slightly suffused stalks. The legs are black except the end of front coxæ, front and middle trochanter, and the middle and last tarsi which are paler orange coloured except at



the distal ends of each joint. The hind femora are distinctly flattened: middle tibiæ with terminal spine.

Abdomen. Shining black, last segment a little longer than others, all clothed with small moderately sparse black hairs: the long fleshy ovipositor is nearly half as long as - the abdomen

Size, about 2.1 mm. without ovipositor; wing, 13 mm,

Locality. Seychelles. Mahé: Cascade Estate, at or above 800 feet.

Rhicnoessa Loew, Wien. Ent. Monatschr., vi. (1862), p. 174.

64. Rhicnoessa ferruginea, n. sp. (Fig. 47 and Plate 21, fig. 60).

Head, distinctly concave behind in top view. Top view:-frons orange, slightly shining: ocellar triangle grey; eye-margins and two fine frontal stripes more yellow, one outstanding lower f. o. bent out, two upper f. o. bent out and last somewhat back; tiny bristles between the f. o., and an inner row of small bristles from level of middle f. o. to forehead. I. v. and o. v. on the back of the somewhat swollen vertex, finer convergent p. v. well down on back of head; two ocellar inserted nearer front than side ocellus, two small bristles between the hind ocelli, also between them and a few other bristles on the ocellar area; the yellow frontal lines bristled from the level of front of the ocellar triangle to lunule; three pairs of these bristles are very much larger than others, and form three well-marked macrochætal crossed pairs: a similar pair overhang the forehead. Front view:—the antennal bases touch, so that the yellow depression below lunule forms but a single shallow triangular depression, in which is a pair of small bristles; the yellow lip is arched and the clypeus very visible. Side view (Plate 21, fig. 60):-antennæ orange; 2nd joint bristled above, one being very long; 3rd a little darkened, disc-shaped; arista with lower joint stout, orange, second less stout, black pubescent flagellum. Strong convergent true vibrissa on upper angle of mouth, followed by two large supplementary vibrissæ and a few stoutish mouth bristles. Hind jowls bristly all over, especially long below mouth. Post-orb, row regular from middle of eye upwards, a few strong bristles behind v. b. Palpi orange, somewhat flattened laterally, slender and black haired: tongue orange.

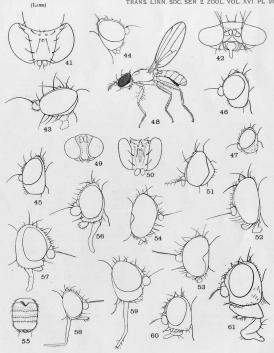


PLATE **21.**

Fig. 41.	Echidnocephalus barbatus, n. sp., top view of head, × 45.
Fig. 42.	" n. sp., front view of head, × 45.
Fig. 43.	" n. sp., side view of head, × 45.
Fig. 44.	Chiromyia dubia, n. sp., side view of head, × 45.
Fig. 45.	" sexspinosa, n. sp., side view of head, × 45.
Fig. 46.	" hirtiscutellata, n. sp., side view of head, × 45.
Fig. 47.	Aphaniosoma sexvittata, side view of head, × 45.
Fig. 48.	
Fig. 49.	" n. sp., diagrammatic top view of head, × 45.
Fig. 50.	" n. sp., diagrammatic front view of head, × 45.
Fig. 51.	" n. sp., side view of head, × 45.
Fig. 52.	Milichia superba, n. sp., side view of head, × 32.5.
Fig. 53.	Milichiella tristis, n. sp., side view of head, × 45.
Fig. 54.	Eccoptomma solitarium, n. sp., side view of head, \times 32.5.
Fig. 55.	" n. sp., top view of abdomen, \times 15.
Fig. 56.	Desmometopa inauratum, n. sp., side view of head, × 45.
Fig. 57.	,, microps, n. sp., side view of head, $\times 45$.
Fig. 58.	" $approximatonervis$, n. sp., side view of head, \times 45.
Fig. 59.	Madiza albipennis, n. sp., side view of head, × 45.
Fig. 60.	Rhicnoessa ferruginea, n. sp., side view of head, × 45.
Fig. 61.	" $aurisetulosa$, n. sp., side view of head, \times 45.