

AMERICAN MUSEUM NOVITATES

PUBLISHED BY THE AMERICAN MUSEUM OF NATURAL HISTORY
CITY OF NEW YORK JANUARY 11, 1951 NUMBER 1480

NEW SPECIES OF *MESOGRAMMA* (DIPTERA, SYRPHIDAE)

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This paper describes a series of forms of *Mesogramma* Loew submitted to the author for study by the American Museum of Natural History. The types are in the American Museum. Paratypes where available are in the collection of the author.

***Mesogramma urania*, new species**

Characterized by the wide, black, posterior fascia of the abdominal segments, the peculiar, undulate black markings, and the distinctly brownish wing. Length 7.5 mm.

MALE AND FEMALE: Face short, the tubercle prominent, widely black in the middle, the sides yellowish brown, with scant whitish pubescence and white pile. The cheeks are darker in color. The front is smooth, flat, and polished black, with the sides widely sharply brownish yellow; the yellow color, however, does not reach the ocelli. The eyes are deeply indented laterally by the black occiput. The occipital pollen is yellowish gray, the whitish pile flattened along the middle of the occiput. Eyes of male touching for a very short distance of two or three facets, the vertex brassy black. The antennae are dark brown, the basal segment is slightly reddish, the arista is light brown.

Mesonotum dully shining black, with medial stripe of blue gray pollen wide but diffuse and indistinct. The humeri, a sublateral band across the notopleura to the transverse suture and continued beyond to include the post calli, together with the whole margin of the scutellum, light yellow. The pleura

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are metallic blackish, the posterior mesopleura and a spot on the upper sternopleura yellow. The pteropleura and supracoxal area black. The mesonotal pile is reddish yellow; there are a few black hairs on the post calli, and the scutellar pile is sparse and black. The disc of the scutellum is black with metallic reflections, except for the yellow apical border.

The anterior and middle legs are yellow and yellow pilose. The hind femora are clear yellow on the basal half, dark reddish sepia and almost black on the remainder. The hind tibiae are blackish sepia, the hind tarsi of about the same color, the pile on the dark areas of the hind legs blackish. Male hind tibiae, the outer half of the hind femora, and all of their tarsi reddish brown.

Wings rather deeply tinged with pale reddish brown which is scarcely darker in the middle of the wing. The third vein is nearly straight, the pterostigma is dark brown; the alulae wide, at least twice as wide as the basal section of the costal cell.

Of the abdomen the first segment is yellow anteriorly, reddish sepia brown behind. The second segment is brownish yellow along the base; this subtranslucent area is somewhat wider medially, then becomes quite narrow and linear, and finally expands a little at the lateral margin. The remainder of the second segment is dark reddish sepia except for a distinct, rather narrow, clear yellow, transverse fascia running straight across the segment; this fascia is narrowly interrupted in the middle, perhaps very slightly curved forward on each side and bordered anteriorly, linearly, and more widely behind with opaque sepia. The third segment is brownish yellow on the anterior half, dark reddish sepia behind; the anterior half contains a submedial blackish spot or forward extension of the posterior black band which goes forward a short distance, turns suddenly towards the side and extends outward sharply for nearly two-thirds the width of the lateral half of the segment, becoming gently rounded towards its lateral end, then turning inward to end on the base of the segment. This pattern leaves on each of the third, fourth, and fifth segments a design which roughly resembles on each side the profile of the human foot, the heel pointed outward, the flat portion of the foot pointed to the middle of the segment, with, however, a tiny sharp inward extension of the yellow at the base of the segment. Moreover, the middle of each segment is yellow vittate, the medial yellow vitta sharply expanded, beginning about the anterior third of

the segment and resting broadly on the base of the segment; this figure might be described as the wine-goblet figure. The posterior portion of this medial vitta largely interrupts the posterior sepia fascia. The abdomen is quite wide, short oval, very much wider than the thorax, the pile appressed and black except on the sides of the first and second segments. Forceps of genitalia short and broad, broadly rounded on the medial margin, nearly straight on the lateral margin.

TYPE MATERIAL: Holotype, male, middle Rio Ucayali, Peru, November 27, 1923 (H. Bassler). Allotype, female, and paratype, female, same data.

Mesogramma antiopa, new species

Related perhaps to *mitis* Curran. The second, third, and fourth abdominal segments are almost entirely black, with slender, broken, brownish orange fascia. Length 5 mm.

MALE: The face is rather long, extending as far as the end of the third antennal segment; it is pale brownish yellow throughout, the cheeks are black, the lower sides of the face are scantily white pubescent and pilose. The front is entirely yellow without transverse crease, the pre-antennal callus is yellow with a minute central puncture. The eyes are touching for a short distance only, equal to about three or four facets. The vertical triangle is faintly shining black, more or less brassy behind the ocelli. The specimen appears to have been placed in fluid which has probably obscured certain tints of color and reflections. The occipital pile is white, scale-like in the middle, the posterior middle of the eye only moderately indented. The first and second segments of the antennae are reddish brown, the short third segment scarcely darker. The arista is dark brown, the base somewhat thickened. Upper occipital pile yellowish.

The mesonotum is brassy black, with medial bluish vittae, on either side of which is pale brown pollen followed by still wider, dark sepia brown bands. The lateral margins, the humeri, and the post calli are yellowish brown, but little contrasting. The scutellum is yellowish brown, the disc diffusely darker, especially in oblique view. Pleura metallic black. The posterior half of the mesopleura, the upper sternopleura, and the anterior pteropleura are distinctly yellow. Squamae and halteres yellowish.

The anterior and middle legs are yellow, with their tarsi pale yellowish to reddish brown. The hind femora and their tibiae

are entirely yellow, without brown annuli. All the hind tarsi dark brown.

Wings hyaline, pterostigma yellow, the alulae a little wider than the basal section of the costal cell.

Abdomen elongate, but rather wide and flattened and emarginate throughout its length; it is a little the widest at the end of the third segment which is somewhat wider than the thorax. The first segment is shining black, the sides are narrowly yellowish; the second segment is shining black, the lateral margin linearly yellowish on the anterior two-thirds and with a quite slender, medially interrupted, linear orange band which runs a short distance only towards the lateral margins. This band is surrounded by opaque black. Third segment short, with the entire lateral margin linearly orange and connected to a much wider, parallel-sided, transverse, subbasal, sharply marked, orange fascia which connects with a narrow, short, medial orange vitta. The connection with this vitta and the transverse fascia is minute, as the medial ends of the fascia become pinched off, close to the midline of the segment. The transverse fascia is margined anteriorly and posteriorly with opaque black. Fourth segment also short and with exactly similar pattern. The fifth segment has the orange fascia slightly wider, reduced in width anteriorly and posteriorly, near its middle on each side of the segment, and with the narrow, basal, blackish margin interrupted owing to the increased width of the orange fascia. The medial vitta is almost wanting and is indicated by a tiny orange spot connecting the posteromedial ends of the transverse fascia. On this segment there is, then, between the medial ends of the orange fascia, a rather large, oval, medial, basal, opaque black spot. Hypopygium orange.

FEMALE: Face considerably produced, but not extended so far as the third segment of the antennae. The face is yellow laterally and pale yellowish brown in the middle; the tubercle is compressed laterally on the upper portion. Sides of face narrowly, widely below, whitish pubescent, the scant pile white. The cheeks are black; the front is smooth and black, moderately shining, faintly brownish pollinose from an oblique view, the sides quite narrowly yellowish except on the upper third. The vertex is shining blackish, the posterior portion of the vertex with brassy reflection and apparently faint brown pollen. The frontal and vertical pile is black; all upper occipital pile is golden

yellow, the lateral pile white and quite flattened, the middle occipital indentation well developed and the pollen grayish white. The first two segments of the antennae are dark reddish brown; the short third segment is largely blackish, with black arista, rather swollen at base.

The mesonotum is dully shining, olivaceous brown. There is a medial bluish vitta down which runs a narrow, linear, more intensely blue stripe; just before the scutellum it forms a short, longitudinal fissure, which may be an aberration.

TYPE MATERIAL: Holotype, male, Urbina, Cerro Chimborazo, Ecuador, 3650 meters, April 18, 1939 (F. M. and H. Brown). Allotype, female, Hacienda Talahua, Bolivar, Ecuador, 3100 meters, April 28, 1939 (same collectors); paratypes, two males, same data.

Mesogramma elisa, new species

Similar to *antiopa* in many respects, but the face is much shorter, the vertex is much narrower, and the eyes touch for a greater distance. Length 6 mm.

MALE: The face is rather pointed anteriorly, with rounded tubercle, and is entirely yellow and narrowly whitish pubescent opposite the tubercle. The pubescence expands into a triangle below. The cheeks are brownish black; the front is yellow, with a distinct, transverse crease immediately before the antennal callus. The pre-antennal callus is brown centrally, with a central puncture. The vertex is narrow, subopaque anteriorly, shining and slightly purplish black behind; the anterior eye facets are considerably enlarged for a short distance on either side of the junction; the eyes touch for five or six facets. The scanty pile of the face is yellow; the equally scanty vertical pile appears to be dark in color. The posterior margin of the eye is considerably indented in the middle; the occiput is grayish white pollinose and has numerous minute, black, point-like spots and microscopic, short, yellow hairs but no trace of longer pile or scale-like pile. The occiput may have been denuded of the usual long, flattened hairs, yet it is difficult to understand how this could have been so effectively done without evident damage to the fly. The head has not been detached.

Mesonotum faintly greenish black, the medial vitta obscure and with a pair of slender, obscure stripes of olive brown pollen submedially. The lateral margins including humeri, post calli,

and the scutellum are widely brownish yellow; the scutellum is paler marginally, diffusely darker on the disc, which, however, appears to be due only to the reflection of underlying material. Pile of mesonotum short, pale yellow, and apparently undisturbed. Scutellar pile abundant, short, fine, erect, and black. Pleura shining black, only the posterior mesopleura, anterior pteropleura, and upper sternopleura yellow. Squamae and halteres yellowish.

The anterior and middle legs are entirely yellow, the posterior femora and tibiae also entirely pale yellow without darker annulus, the scattered pile is blackish, the tarsi brown.

Wings hyaline, the pterostigma pale brown, the alulae long and slender, but nearly twice as wide as the width of the basal section of the costal cell.

Abdomen elongate oval, widest at the end of the third segment, quite flattened, the sides emarginate throughout, the greatest width slightly greater than thorax width. The first segment is yellowish anteriorly, with shining brownish black triangles lying along the posterior margins on each side of the segment, obtuse in form, extending forward for most of the length of the segment. The opaque basal membranous lunule of the segment extends to the posterior margin in the middle. The second segment is shining sepia brown, with, at the middle of the segment and extended forward, a narrow, narrowly interrupted, transverse yellow band which reaches the lateral margin in undiminished width and extends as a yellow line along the lateral margin at the base. Medially there is a slender, yellow, vittate linear spot lying between the base of the segment and the yellow medial ends of the yellow fascia. The third segment is quite similar; the transverse yellow fascia is a little wider, subbasal in position, more widely interrupted, the medial ends obliquely truncate, leaving the fascia longest posteriorly, and the medial yellow vitta runs from the base of the segment, where it is slenderly club shaped, almost to the posterior margin. The fourth segment quite similar to the third; fifth segment linearly brown along the basal margin, except at the corners, with a large, opaque, medial, short oval brown spot connected to the wide posterior brown fascia. The anterior brown portion of the posterior margin is also opaque, and on the second, third, and fourth segments the yellow fasciae and vittae are margined by opaque brown. The opaque brown extends all the way to the

base on the second and third segments. Hypopygium yellowish to reddish brown, with a large, dark brown spot on the right-hand side.

TYPE MATERIAL: Holotype, male, São Paulo, Brazil, November, 1934 (Hamilton).

Mesogramma ultima, new species

Related to *claracunea* Hull. This species has a longer second antennal segment in the same sex as *claracunea*, and the face is longer, perhaps longer than any other species of *Mesogramma* so far described. Length 6.5 mm.; wings 7 mm.

FEMALE: The face is light brownish yellow, truncate apically, and produced well beyond the end of the third antennal segment. The cheeks are blackish brown, and this color extends narrowly along the ventral margin to the end of the face. The front is flat, non-striate, and feebly shining black, with the sides sharply marked with yellow. There is a crease just before the pre-antennal callus where the front and callus are polished black. Vertex violaceous. The antennae are light reddish brown, with the third segment smoky brownish on the apical half. Arista dark brown. The pile of the front and vertex is blackish. Occiput black, with grayish white pollen. The lateral posterior margin of the eye is deeply indented in the middle. The occipital pile is white, the middle hairs are flattened.

The mesonotum is black, with the medial gray vittae unusually wide and grayish white pollinose. On either side the pollen is widely dark brown, and outwardly beyond this area the pollen becomes grayish or bluish white again. The lateral margins, including the humeri and the outer border of the post calli, are yellow. The scutellum is obscurely yellow marginally, with the disc rather rusty brown. Squamae pale yellow, halteres with pale stalk and reddish sepia knob. The pleura are metallic black; only the posterior half of the mesopleura, a spot on the upper sternopleura, and the narrow upper margin of the pteropleura are yellowish.

The anterior and middle legs are entirely yellow, with mostly dark-colored pile. The hind femora are light yellow, with broad, subapical bands. The hind tibiae are distinctly banded with brown, subbasally and subapically, the middle yellow.

The hind basitarsi are nearly black, the remaining segments dark brown.

Wings distinctly tinged with pale yellowish brown, the pterostigma also yellow brown and darker. Alulae long and narrow, not wider than the width of the basal section of the costal cell.

Abdomen generally similar to *claracunea* in pattern, but the second abdominal segment is different in pattern and is also longer. This segment is a little longer than its basal width, it has parallel sides from the base to the middle, and then the segment expands until posteriorly its width is increased at least 40 per cent. The second segment is black, with faint bluish luster, and has a pair of small, postmedial, leaf-shaped, slightly oblique, yellow spots separated from each other by a narrow, long, yellow medial vitta running from the base of the segment to the apical third. These lateral leaf-shaped spots are narrowly but distinctly separated from small, yellow, lateral triangles and hence constitute the remains of what must have been earlier and phylogenetically a complete yellow fascia. This yellow pattern is broadly bordered by opaque black anteriorly and narrowly so behind. The first segment is broadly yellow anteriorly on the sides only, although with a minute yellow basal spot, and the remainder of the segment is brownish sublaterally, with the posterior margin black. The third segment is black, with a prominent, yellow medial vitta running from near the base almost to the posterior margin and with a pair of crescentic linear yellow spots almost touching the anterior end of the medial vitta and almost touching the same vitta on its posterior third. There are a pair of distinct, small, yellow triangles subbasally located on the lateral margin which extend narrowly inward and almost connect, or very narrowly connect, with a minute lateral extension from the upper portion of the crescentic linear spot. Fourth segment exactly similar to the third. Fifth segment similar to the fourth except that the medial vitta is lacking entirely and the crescentic spots now resemble a figure 7 reversed. The subbasal lateral triangles are present, as in the other segment. Sixth segment shining dark brown. All segments distinctly emarginate.

TYPE MATERIAL: Holotype, female, Pichincha, Uyumbicho, Ecuador, 2700 meters, November 4-13, 1938 (F. Martin Brown).

Mesogramma cyrilla, new species

The hind femora are annulate. This species is related to *bipunctata* Hull and is distinguished by the dark brown scutellar disc, striate front, and pale, subbasal, hind tibial annulus. The pteropleura and a supracoxal spot are yellow. It belongs to the *duplicata* group. Length 6 mm.

MALE: The face is moderately produced and light brownish yellow, the sides pubescent below, the cheeks polished black. The front is yellow, with a distinct crease across the middle. Antennae light orange brown, the third segment a little darker but not blackish dorsally. The arista is reddish at the base and blackish outwardly. Vertex gray in front of the ocelli and faintly purplish behind, the pollen golden brown. Pile of the vertex black and restricted to one row behind the ocelli. Occiput black, brassy dorsally, the pollen grayish white, the pile white and only slightly flattened in the middle of the occiput. The posterior eye indentation is gradual and slight.

The mesonotum is widely covered with dark golden brown pollen, the medial stripe yellowish brown pollinose and rather wide. The humeri and the entire side margins are yellow. Scutellum yellow on the margin, the yellow increasing in width basally, leaving the disc rather sharply contrasted and sepia brown in color. There is, however, a yellowish brown linear margin along the base of the scutellum, but the declivitous base is black. Squamae light reddish brown, the halteres orange. The pleura are black with the following parts yellow: a supra-coxal spot, the posterior half of the mesopleura, anterior half of pteropleura, and the upper sternopleura.

The anterior and middle legs are entirely brownish yellow; the hind femora are brownish yellow with wide, subapical, quite black annulus, below which the pile is black. The hind tibiae are distinctly blackish in the middle, the base and apex light yellowish brown, the tarsi dark brown.

Wings distinctly tinged with pale brownish yellow, the pterostigma darker; the alula is at least three times as wide as the base of the costal cell.

Abdomen slenderly oval, the first segment widely yellow anteriorly, with the narrow posterior margin black. The second segment is black, and within the middle there is a broad, brownish yellow cross band uninterrupted and not medially indentate.

This band is a little wider than the anterior black fascia, is equal in width to the posterior fascia, and is margined on both sides with opaque black. Third segment with the narrow anterior margin black, almost interrupted in the middle and with the posterior margin black, the width of this posterior fascia equivalent to one-fourth the length of the segment. Much of the interior of the fascia is replaced by reddish brown. In the middle of the broad, brownish yellow area, there is a pair of diagonally placed, minute, subbasal, blackish spots attenuate posteriorly, not connected to the posterior fascia. The posterior fascia becomes slightly wider close to the lateral margin. The fourth segment is similar to the third, the basal fascia more narrow, more widely interrupted and the enclosed geminate spots slightly larger. The fifth segment has a large, oval, medial, basal, black spot. On the third and fourth segments the slender, anterior, basal, black fascia and a narrow anterior margin on the posterior black fascia are opaque black as are the geminate spots. Hypopygium reddish; laterally, polished black to the right.

FEMALE: In general similar to the male; the front is black, more or less shining and microscopically roughened, with a crease immediately before the light brown pre-antennal callus and with a very shallow depression above across the rough portion of the front. The mesonotum is a little better preserved. There are two quite slender, pale yellowish brown stripes of pollen, each lying in the middle of each lateral half of the mesonotum and more easily visible from in front and the side. The disc of the scutellum is also obscurely but definitely brown. The abdomen is more oval, and the geminate central black spots are a little larger. The basal black fascia of the second segment is medially incised, and the posterior margin of the fifth segment is narrowly quite black. The principal difference lies in the complete absence of the basal black fascia of the third and fourth segments which are rather conspicuous in the male. It is possible that the female does not belong with the male, although the locality is identical and the date is the same.

TYPE MATERIAL: Holotype, male, Macas, Rio Upano, Ecuador, 1000 meters, January 24, 1939 (F. M. and H. Brown). Allotype, female, and paratype, male, same data.

Mesogramma idalia, new species

Related to *duplicata* Wiedemann. The face is much longer than the antennae. The species is slenderly oval. Length 6 mm.

MALE: The face is much longer than the antennae and pale yellow, the cheeks narrowly blackish, the sides of the face whitish pubescent below; this pubescence occupies a large triangle which extends narrowly upward along the eye nearly to the upper portion of the tubercle. The tubercle is markedly compressed, with a diagonal crease above. The front is yellow, with a distinct transverse crease and a minute brown punctate spot on the pre-antennal callus. The antennae are orange, the third segment not blackish dorsally; arista brown. The vertex shining black, becoming faintly bluish behind the ocelli and then faintly brassy with dark-colored pile which is not confined to a single row. The occiput is black, with grayish white pollen and white pile which is but slightly flattened in the middle of the occiput. Posterior ocular indentation moderate.

The mesonotum is black with bluish green reflections; the medial vitta is distinctly bluish and brownish white pollinose; remainder of mesonotum without prominent vittae, the sides, including the humeri, and the entire scutellum yellow. The mesonotal pile is rather long, abundant and whitish. The scutellar pile is long, fine, abundant, and black. Squamae pale yellow, halteres orange. The pleura are metallic black, with the following areas yellow: a supracoxal spot, posterior half of the mesopleura, upper sternopleura, and, diagonally, the upper and anterior portion of the pteropleura.

The anterior and middle legs are entirely yellow, the hind femora yellow, with a distinct but light brown subapical basal annulus. The hind tibiae are yellow, without annulus, their tarsi light brown. The pile of the hind femora is black except on the base. The tibial pile is black except medially and laterally near the apex.

Wings nearly hyaline, the pterostigma very pale yellow, the alulae more than twice as wide as the width of the basal section of the costal cell.

Abdomen slenderly oval, the first segment yellow except narrowly along the posterior border which is black. The second segment has a narrow basal fascia, narrowly interrupted in the

middle and with a complete, slightly wider posterior fascia, shining black. Approximately half of the second segment light brownish orange. Third segment with the posterior fourth or slightly more black fasciate, and this fascia gradually becomes rather slightly wider on the lateral margin. Remainder of the third segment brownish orange, with a pair of subbasal, slightly oblique, geminate, elongate, posteriorly attenuate, small, opaque blackish spots which are not connected to the posterior black fascia. The posterior black fascia is partly replaced on its interior with reddish orange brown, and its anterior margin is quite linearly opaque. The fourth segment is quite similar to the third; the fifth segment has a large, medial, basal, elongate, opaque black spot slightly wider basally, and each posterior corner has a minute brown spot. The remainder of the segment is light brownish orange. Hypopygium yellowish brown, with a small, dark brown spot on the right. The forceps have the medial margin nearly straight, or only very slightly curved, the outer margin is broadly rounded, and the apex seems to be a little pointed.

TYPE MATERIAL: Holotype, male, Puyo, Oriente, Ecuador, 1000 meters, December 3-15, 1938 (F. M. and H. H. Brown). Paratypes, two males, Cali District, western Cordillera, Colombia, 4900 feet, January 27, 1935.

Mesogramma idalia leda, new subspecies

The scutellum is distinctly dark on the disc. Length 6.7 mm.

MALE: The face is quite long and slightly longer than the long antennae; it is pale yellow in color, the tubercle compressed, with a diagonal crease. Cheeks brownish, the front pale yellow, with a distinct transverse crease. The first two segments of the antennae are light orange, the third segment is orange brown, not darker above. Arista dark brown. The sides of the face are broadly whitish pubescent below, extending from the lower anterior portion of the face diagonally upward to a point nearly opposite the antennae. The vertex is bluish to violaceous behind the ocelli, becoming brassy posteriorly, the pile blackish. Occiput metallic black, with grayish pollen, which becomes faintly brownish dorsally. All the occipital pile is white, the pile of the middle of the occiput rather strongly flattened; the posterior indentation of the eye is rather pronounced and angulate in the middle.

Mesonotum black, widely obscured by dark brown pollen, the medial vitta narrow and bluish gray. The humeri and the sides of the mesonotum, including the post calli, all yellow. Scutellum very broadly light brownish yellow apically, but the disc dorsally is distinctly sepia brown. The mesonotal pile is abundant, long, fine, and yellow. The scutellar pile is longer, abundant and black. The squamae are pale yellow, the halteres orange, the pleura are metallic black except as follows: a supracoxal spot, upper sternopleura, posterior half of mesopleura, and anterior half and entire upper margin of the pteropleura yellow; there is, however, a narrow metallic black border in the middle of the anterior margin of the pteropleura.

Anterior and middle legs light yellow, the ventral fringe of the hind femora blackish except at the base. Hind femora pale yellow, with a distinct, rather light brown, subapical annulus which is not very wide; its ventral and apical pile is blackish; most of the pile on basal half is yellow. Hind tibiae entirely yellow, their tarsi light brown, the terminal two segments darker.

Wings hyaline, the alulae rather wide and at least three times as wide as the width of the basal section of the costal cell.

The abdomen seems to be quite similar to that of *idalia*, but the orange fascia of the second segment is perhaps a little narrower.

TYPE MATERIAL: Holotype, male, Puyo, Oriente, Ecuador, 1000 meters, December 3-15, 1938. Paratypes, one male, Cali District, western Cordillera, Colombia, 4800 feet, January 17, 1935 (H. F. Schwarz); four males, San Francisco, Rio Pastaza, Ecuador, 1200 meters, October 1, 1938 (F. M. MacIntyre); one male, between Queremal and Bueno Ventura, Colombia, 3500 to 4000 feet (James Aranibar).

Mesogramma rhodope, new species

Related to *mitis* Curran. The orange bands of the fourth abdominal segment are all narrowly interrupted and those of the fifth abdominal segment are nearly as wide as the bands on the fourth segment and of equal thickness throughout. Length 4.6 mm.

FEMALE: The face is quite short, slightly creased above the tubercle, yellow in color; it is whitish pubescent along the sides, and both the yellow color and the pubescence run narrowly up

along the sides of the front, almost to the ocelli. The cheeks are brownish. The front is metallic bluish black, transversely striate, the area about and in front of the ocelli brassy and then deep violet behind, becoming brassy in front of the occiput. The frontal and facial pile is white; pile of the occiput brown. The antennae are brown, the third segment is widely blackish dorsally and apically. Arista blackish. Occiput black, with brassy reflection dorsally, covered with grayish white pollen and white pile which is flattened in the middle of the occiput. Posterior eye margin only moderately indented in the middle.

The mesonotum is black, the pollen obscured by poor preservation but with the medial blue gray line narrow; the humeri, the posterior margin of the notopleura, and all the lateral margin widely above the wing and the post calli with the exception of narrow medial posterior margins, yellow. The apical margin of the scutellum widely and the base narrowly yellow; the remainder brownish black. The mesonotal pile is short, erect, and pale yellow. Scutellar pile fine, long, and black but sparse. The pleura are shining black; a spot above the anterior coxae, the posterior half of the mesopleura, and a spot on the upper sternopleura yellow; squamae pale yellow; halteres with reddish knob.

The anterior and middle legs are yellow, with their tarsi distinctly brown, and on the anterior and middle femora there is a pale brownish, saddle-like spot dorsally and subapically which is not easily seen except in an oblique light. Hind femora light yellow with a wide, dark brown, subapical annulus; their tibiae and tarsi entirely dark brown.

Wings hyaline, the alulae at least twice as long as the width of the basal section of the costal cell.

The first abdominal segment has the anterior half of the lateral portion yellow and has a complete, slender, linear, yellow, anterior margin medially; the remainder of the segment is brownish black. The second segment is brownish black, with a yellowish cross band which is narrowly interrupted in the middle; the two halves of this band diminish slightly in width as they approach the middle of the segment. They are bordered with opaque black on both sides. The third segment is similar, the yellow cross bands are wider, lie closer to the base and barely touch at one point anteriorly and are not reduced in width except very close to their medial ends. The fourth segment is

similar to the third; the fifth segment is like the fourth except that the two yellow bands are more widely separated; their medial ends are rounded and each is of more or less uniform thickness throughout. The yellow bands of the third, fourth, and fifth segment are also margined by opaque brownish black. The sixth segment is entirely shining blackish.

TYPE MATERIAL: Holotype, female, Dunrobin District, Mandeville, Manchester, Jamaica, January 17-23, 1920, about 2350 feet (F. E. Watson).

Mesogramma vanessa, new species

With the face short, the pteropleura and a supracoxal spot yellow, the hind femora annulate. This species is related to *bipunctata* Hull, but the front is markedly striate on either side of the medial line. Length 6.5 mm.

FEMALE: The face is quite short and brownish yellow, the cheeks are blackish only behind. The front is narrowly yellow along the sides for at least three-fourths of the length; it is shining black in the middle and faintly brassy. Down the middle of the front the surface is quite smooth, with a linear crease dorsally; on either side there are deep, transverse, and oblique striations. There is a prominent crease across the shining black area in front of the light brown, pre-antennal callus. The antennae are light reddish brown, the third segment is dark brown on the dorsal half, the arista reddish brown. The vertex is strongly violaceous behind the ocelli where the pile is situated in a single row; the vertical pile dark. Occiput black, thickly yellowish gray pollinose; the short pile is white, rather strongly flattened in the middle of the occiput. The posterior indentation of the eyes is only moderate.

The mesonotum is black, with greenish blue reflections from the rather wide medial stripe; the pollen of this stripe is grayish white merging into yellow laterally, followed by a broad, lateral area of reddish brown pollen, or the entire mesonotum may appear to be largely rusty brown pollinose, with the slender medial vittae yellowish, greatly obscured. In both individuals before me there is a black, widely spaced, submedial stripe of varying extent but this may be due to a rubbed or slightly greasy condition. The condition of preservation is apt to modify greatly the obscure and rarely sharply marked thoracic pattern of *Mesogramma*. The humeri and the lateral margins

are light yellow, and viewed from above there is a distinct, large, nearly round spot of yellowish white pollen on the declivitous anterior margin of the mesonotum lying opposite the humeri. The scutellum is pale rusty orange, the disc very slightly darker from lateral view. The mesonotal pile is fine, short, and yellow mixed with black. The scutellar pile is longer and black. Squamae pale yellow, halteres reddish. The pleura are metallic black, yellow as follows: a supracoxal spot, posterior two-thirds of the mesopleura, the upper sternopleura, and the oblique antero-dorsal half of the pteropleura which is, however, crossed by an obscure yellow band.

Anterior and middle legs yellow, all tarsi orange. The hind femora are pale yellow, with wide, black, subapical annulus; the tibiae yellow, with distinct blackish middle bands, the tarsi brownish black.

Wings distinctly tinged with pale yellowish brown which may be due to the color of the villi. The pterostigma is brownish yellow. The alulae are more than twice as wide as the width of the basal section of the costal cell.

Abdomen oval, wider than the thorax; the general color is light brownish orange, the first segment is orange, with the posterior margin narrowly shining black; the second segment has a black basal fascia, brownish orange middle fascia, and posterior shining black fascia, all of nearly equal width. The orange color is narrowly bordered by opaque black. The third segment has the posterior third of the segment black and the linear anterior margin of this fascia opaque. There is no basal black fascia except for a minute linear trace restricted to the outer fourth on each side; the remainder of the segment is rusty or orange brown, with a pair of obscure, opaque, brownish black, small, subbasal, geminate spots, very slenderly connected with the posterior black fascia. The posterior black fascia slightly and gradually widens towards the lateral margin and is indented with light brown medially. Fourth segment similar to the third; fifth with a large, subquadrate, medial, opaque black spot almost touching the narrow, shining black posterior fascia. Sixth segment shining black.

TYPE MATERIAL: Holotype, female, Nova Teutonia, Brazil, August 19, 1937 (Fritz Plaumann). Paratype, female, same locality, July 20, 1937.

Mesogramma eurydice, new species

Related to *idalia*, new species. The face is a little shorter, and the hind femora and tibiae are distinctly brown, the femora with a blackish annulus. Length 7 mm.

MALE: The face is elongate but broad basally, longer than the antennae, with a narrow blackish margin ventrally, and the cheeks are obliterated by the eye in profile, except posteriorly. The upper part of the tubercle is only narrowly pinched and compressed, but the crease is rather deep. The lower sides of the face have a large triangle of white pubescence. The front is pale yellow, with a transverse oval brown spot in the middle of the pre-antennal callus and a distinct crease across the middle of the front. The antennae are light reddish brown, and the arista is reddish at the base. Vertex black, violaceous behind, the pile black. The occiput is black and grayish white pollinose, the pile yellowish white, the middle pile scarcely flattened. The posterior indentation of the eye is slight.

The mesonotum is black, with a pair of wide, brownish black pollinose stripes down each side; the lateral margins and the humeri are yellow to yellowish brown, and the adjacent black area is narrowly golden brown pollinose. There is a diffuse dark brown spot in the middle of the post calli; the scutellum is light rusty brown on the margin with the disc and base distinctly black. The pile of the mesonotum is thick and pale yellow, with a group of five or six black hairs on the post calli and a few above the wing. The scutellar pile is long, quite abundant, and black. Squamae yellowish, the halteres orange. The pleura are metallic black, with the following areas yellow: a distinctly small, obscurely yellowish, supracoxal spot; the posterior third of the mesopleura which becomes more extensively yellow dorsally; the upper sternopleura and the anteroposterior half of the pteropleura which, however, is blackish along the anterior margin.

The anterior coxae are black with only the apices narrowly yellow, and the anterior femora are yellow with the base becoming slightly brownish; their tibiae and tarsi are brownish yellow, and all of the pile is yellowish. The middle coxae are black except apically; their femora are distinctly brown on the dorsal and anterior surfaces except near the apex. The tibiae and tarsi are pale brownish yellow or orange. The hind femora

are brownish yellow ventrally, except for the diffuse black sub-apical annulus; the dorsal and medial surfaces are brown throughout the length of the femur; the narrow attenuate base, all of their coxae and trochanters are light yellow and the apex is pale brown. The hind tibiae are distinctly light brown throughout, widely darker brown just before the middle. The pile of the hind femur and tarsi is black except for a few yellow hairs at the base. Hind tarsi dark brown.

Wings nearly hyaline, the pterostigma yellowish brown. Alulae nearly three times as wide as the width of the basal section of the costal cell.

Abdomen slenderly oval, barely wider than the thorax, the first segment black and widely yellow anteriorly on the outer corners and with a slender, linear, yellow margin anteriorly across the middle. Second segment has a black anterior and posterior fascia and yellow fascia across the middle, all of nearly equal width; the yellow fascia is slightly wider than either of the other two and linearly bordered with opaque black. The third segment is pale orange, with a little more than the posterior fourth black and linearly opaque anteriorly, and much of the interior portion of this fascia is reddish through the middle of the segment. Subbasally there is a pair of small, oval to triangular, geminate, opaque brownish black spots without definite linear connections to the posterior fascia. There is a minute, basal, sublateral, blackish, linear spot on this segment which is scarcely noticeable. The fourth segment is similar to the third; fifth with a medial opaque, elongate, blackish spot and minute black spots in the posterior corners. The hypopygium is orange brown, with some yellow pile and a black spot on the right. Pile of the first segment and anterior third of the second yellow; the remainder of the pile is black.

TYPE MATERIAL: Holotype, male, San Francisco, Rio Pastaza, Ecuador, 1200 meters, October 1, 1938 (W. C. McIntyre).

Mesogramma centaurea, new species

Related to *mulio* Hull. The black posterior fasciae of the second, third, and fourth segments are wider, the disc of the scutellum is distinctly brown, and the scutellar pile is longer. The face appears to be a little longer. Length 8.5 mm.

MALE: The face, front, and antennae are pale yellow, the third segment of the latter is missing, the front is without any trace of transverse crease, but the lower margin of the face is distinctly creased. The face is of medium length, without marked crease on either side of the tubercle. The vertex is brassy between the ocelli which lie in an isosceles triangle; the area in front is yellowish pollinose; the area behind is widely shining violet followed by brassy color posteriorly. The occiput is brassy black, with yellowish pollen and yellow pile which is scarcely flattened in the middle. The posterior indentation of the eye is sharp and deep.

The mesonotum is black, with brassy reflection; the narrow medial blue line has the pollen yellowish white; widely on either side of this the pollen is yellowish brown, and there is a darker stripe bordering the broad, continuous, pale yellow margin of the thorax; humeri yellow. The scutellum is broadly yellow along the margin, with the disc distinctly brown. The mesonotal pile is yellow, with a few long, black, slender hairs posteriorly; the scutellar pile is black. Squamae yellow, halteres orange. The pleura are metallic black, yellow as follows: a supracoxal spot, the posterior half of the mesopleura, and a large spot on the upper sternopleura.

Anterior and middle legs entirely pale yellow, except that the coxae are black with only the apex yellow. The pile of the anterior tibiae is entirely yellow, of middle tibiae yellow on the apical half. The anterior femora are black pilose posteriorly, the middle femora yellow pilose only on the base; the hind femora are light yellow, with wide, dark brown, subapical annulus. Pile of femora black. The tibiae are brownish yellow, with distinct blackish middle band, the tarsi dark brown.

Wings hyaline, the pterostigma light brown, the alulae wide, more than three times as wide as the width of the basal section of the costal cell.

Abdomen with nearly parallel sides, as wide as the thorax.

The first segment is yellow, narrowly blackish posteriorly except laterally. The second segment has a broad basal and posterior brownish black cross band, leaving the middle yellow. All three bands are of nearly equal width, the anterior black marginal fascia slightly narrower. The yellow fascia is linearly bordered anteriorly and rather widely behind with opaque black. The third abdominal segment has a posterior marginal black fascia

occupying two-fifths of the length of the segments, with its anterior half opaque. Anteriorly there is a linear, subbasal, medially interrupted, opaque, dark brown band which does not quite reach the sides. There are no geminate spots enclosed in the broad yellow band. Fourth segment quite similar to the third, and in both third and fourth segments the posterior black fascia gradually but very slightly widens towards the sides. The fifth segment is brownish yellow, with medial, opaque, basal, parallel-sided, conspicuous, blackish spot not quite reaching the posterior margin. Hypopygium orange, with sharp, large, circular, sepia black spot on the right-hand side. Pile of first segment yellow except for a patch of stiff black hairs pointed backward posteriorly on either side. Remainder of pile black.

FEMALE: Front black, sharply clear yellow on the sides and very shallowly creased before the callus; the front has faint striations which are nevertheless distinct. Abdomen oval, similar to that of the male except that there are more prominent, wider, basal, black, slender fasciae on segments three and four. As in the male these fasciae are interrupted in the middle, turned upward, and end attenuated close to the lateral margin without reaching it.

TYPE MATERIAL: Holotype, male, Cali District, western Cordillera, 4900 feet, January 27, 1935 (H. F. Schwarz). Allotype, female, same data, but 4800 feet. Paratype, male, same data, but 6100 feet.

Mesogramma camilla, new species

Related to *vanessa*, new species. The pteropleura are dark brown to black with scarcely any trace of yellow or yellowish brown, and the hind femora are much darker brown. The face shows scant evidence of concavity above the tubercle in the female. From *mulio* Hull it is distinguished by the dark sepia disc of the scutellum. Length 6.8 mm.

MALE: The face is short, rather pointed, the tubercle not compressed, the color brown, a little paler and more yellowish towards the sides. The sides have a large triangle of white pubescence which reaches narrowly up to a point opposite the antennae. The face, from tubercle to antennae, is distinctly concave; the cheeks are brownish black, narrow but not obliterated by the eye in profile. The front is shining blackish,

small, with distinct crease across the middle; the pre-antennal callus is brown, with central black spot. Antennae brown throughout, the third segment not black above, arista reddish at base, becoming blackish apically, the basal fourth rather thickened. Eyes touching for five or six facets. The vertex is reddish brown pollinose anteriorly, narrowly violaceous behind the ocelli, then broadly blue, becoming again violaceous and finally brassy. The vertical pile is black; the front has rather long, black, sparse pile. Occiput black, yellowish brown pollinose beginning below the middle, becoming more intense above; the lower and middle occipital pile is white, the latter quite flattened, the dorsal pile becoming first yellow and then black. Posterior indentation of eyes sharp and well developed.

The mesonotum is black, widely dark sepia pollinose, with the bluish middle line yellowish white pollinose bordered by yellowish brown pollen. The humeri are yellow, the lateral margins rather dark yellowish brown; the scutellum is rusty or orange brown on the margin from base to apex, the disc and base quite dark sepia. The mesonotal pile is partly yellow, with considerable black pile which perhaps predominates; it is entirely black along the anterior margin, the notopleura, and the post calli, and long and black on the scutellum and in front of it. Squamae light reddish brown; halteres orange. The pleura are metallic black, yellowish as follows: the posterior half of the mesopleura and an obscure, white-pollinose spot on the upper sternopleura. The pteropleura are shining dark brown, with a suggestion of obscure yellowish brown on two diffuse spots; there is one anteroventrally, another posterodorsally. On two males there is no trace of yellow above the front coxae.

Legs pale; the anterior and middle femora are brownish yellow ventrally, quite pale brown dorsally, the tibiae and tarsi yellow. Hind femora brownish yellow basally, with annulus dark brown to entirely dark brown. The hind tibiae are brown, with the apex a little lighter to entirely brown. Hind tarsi dark brown.

Wings nearly hyaline, with pale yellowish tinge, pterostigma brownish yellow, alulae more than twice as wide as the width of the basal section of the costal cell.

The first abdominal segment is yellow anteriorly and narrowly black on the posterior margin. The second segment has a black basal and posterior fascia, is brownish yellow in the

middle, the bands of nearly equal width, the yellow band margined by opaque sepia black. Third segment with narrow, medially interrupted, opaque, linear, sepia brown, basal fascia; it has a wide posterior fascia, its width not quite a third the length of the segment, the anterior margin of this fascia is opaque, and this fascia is incised medially. The brownish yellow of this segment encloses a pair of distinct, geminate, triangular, outwardly curved, subbasal, opaque spots, linearly connected to the posterior fascia. The posterior fascia gradually and slightly widens towards the posterior margin. Fourth segment similar to the third; fifth with large, short, oval, medial, basal, opaque blackish spot and narrow, shining, opaque black posterior fascia. Hypopygium dark brown to wholly black.

FEMALE: Similar to the male, the black front yellow laterally, the front distinctly diagonally striate, the striae nearly parallel. The face is not concave above the tubercle but is narrowly brownish on either side and diffusely so above the tubercle. Sides and lower portion of the face light yellow. Thorax and legs similar to those of the male. The abdomen is more oval and a little wider than the thorax. Wings with yellowish tinge.

TYPE MATERIAL: Holotype, male, Nova Teutonia, Brazil, October 14, 1937. Allotype, female, June 26, 1937, paratype, male, June 19, 1937. All collected by Fritz Plaumann.