

NEW SPECIES OF SYRPHIDÆ FROM THE
NEOTROPICAL REGION¹

BY FRANK M. HULL

University of Mississippi

The present study is largely based upon flies in the Museum of Comparative Zoology at Cambridge, and is a continuation of earlier studies made upon these collections through the courtesy of Professor Nathan Banks. Types unless otherwise specified are in the collections of the Museum. Some paratypes are in the author's collection.

Eristalis bequaerti n. sp.

Characterized by the median pair of thoracic vittæ, fused on the posterior half, the pattern and yellow post margins of the abdominal segments. Related to *texanus* Hull.

Male. Length 8 mm. *Head*: the eyes are thickly brown pilose, the front and face black, the sides of both densely whitish pubescent and becoming brownish pubescent towards the middle of the front; a somewhat triangular area in front of the antennæ is left brown to black and bare. The pile through the whole middle of the front is black; on the sides and face white and abundant. Cheeks shining black. The vertical and upper occipital pile is black, the antennæ are dark brownish-black, the arista bare, the eyes touch for a short distance. *Thorax*: the mesonotum is opaque grey, bluish on an area behind the humeri and faintly brownish-grey on the remainder and with four black velvet vittæ. The medial pair coalesces just behind the suture and proceeds singly to the scutellum. Scutellum opaque bluish-black pollinose, the center and apex obscurely light brown. The pile of the whole pleura and broadly across the front of mesonotum is whitish. The notapleural pile and that upon the posterior half of the mesonotum is black.

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Scutellar pile, except for sides and ventral fringe black. *Abdomen*: velvet black marked as follows: a brownish-black shining widely separated transverse central fascia upon the second segment, expanded a little laterally, a more slender, unbroken, shining black fascia across the middle of the third and fourth segments. The posterior margins of second to fourth segments are broadly opaque yellow. Abdominal pile short, dense, mostly erect and whitish to yellow. *Legs*: femora shining blackish, the hind pair considerably thickened in the middle, the tibiæ brownish-black, the basal third of the first pair and a little more than a third of the second pair brownish-yellow; the base of the hind pair is very dark brown. The first three tarsal joints of anterior and middle tarsi are light yellowish-brown; basal three joints of hind tarsi dark brown; remaining tarsal joints black. *Wings*: hyaline and bare, the stigma narrow and dark brown.

Holotype: a male. Villarica, Paraguay, October, F. Schade collector. One paratype, same data. I take pleasure in naming this for Dr. Joseph Bequaert.

Eristalis glabella n. sp.

Related to *fuliginosus* Hull, the arista is largely whitish, the scutellar cuneate spot is differently shaped and the third abdominal segment is almost wholly shining, besides less dense pile upon scutellum and mesonotum.

Female. Length 10 mm. *Head*: the front is shining black with an opaque, eye-marginal, elongate spot on the upper part of the front from the lower end of which a linear band of white pubescence margins the eyes all the way to the cheeks. Face and cheeks shining black, the sides of the former broadly white pubescent and sparse white pilose. The pile of the front and vertex is black with some white pile upon the lower part. Antennæ brown, the third joint oval and rounded apically; the arista bare, pale yellow at base and whitish on practically its whole length. *Thorax*: subopaque black, shining in front of the scutellum and sides of the post calli. The suture is linearly margined anteriorly with whitish pubescence; the humeri is margined anterio-medially with brown pollen and there is a pair of medial, obscure, brown pollinose stripes on the anterior part of the mesonotum. Scutellum opaque black and brown pollinose in an oblique light; it is sparsely black pilose and

with a slender, posteriorly-pointed, yellow wedge down the middle narrowly reaching the apex. *Abdomen*: elongate, everywhere black and shining; there is a posterior fascia and medial extension upon the second segment, a medial basal spot on the third segment and the whole of the first segment opaque. The medial vittæ of the second segment from a posterior view is margined with whitish pollen. *Legs*: shining black, the hind femora much thickened in the middle, the anterior fore tibiæ reddish-brown, the hind pair light brownish-red; all of the tarsi are light brown, the hind pair almost orange. Apex of hind tibiæ with a fairly sharp spur. *Wings*: apical half of wings to posterior margin strongly tinged with brown.

Holotype: a female, Summit, Canal Zone, February 24, 1940, A. G. B. Fairchild.

This fly may prove to be the female of *fuliginosus* Hull. However there are a number of dissimilarities as outlined above.

Eristalis thalia n. sp.

Related to *mitis* Curran and *parvulus* Williston. It has no grey spot on the second segment of the abdomen. Thorax brownish-black, black trivittate.

Male. Length 8 mm. *Head*: the eyes are densely long brown pilose, the face front and cheeks are shining black, the sides of the face and front before the antennæ brown. The face below antennæ, and widely on the sides as low as the bottom of the tubercle, is yellowish-white pubescent and long yellowish-white pilose. The pile of the front and vertex is black; of upper occiput mixed black and yellow. Antennæ: first joint brown; others wanting. Eyes not quite touching; they approach one another near the middle of the front. *Thorax*: opaque brownish black, feebly shining along the lateral margins with a narrow, anteriorly attenuated, medial black vittæ evanescent before reaching the scutellum and a similar, slightly wider vittæ on the middle of each half of the mesonotum, obscurely interrupted at the medial end of the suture. The anterior portion of the lateral vittæ is twice as wide as the medial one; the posterior end of this vittæ is pointed. Viewed posteriorly the three vittæ of the mesonotum are separated by two wide yellowish-brown pollinose stripes. Pile of pleuræ and mesonotum, except just behind the suture and upon the posterior half of the post calli where it is black, entirely pale yellow. Scutellum

opaque greenish-yellow with the sides, the narrow base and an extremely narrow rim black; its pile is black except upon the extreme rim. Squamæ pale brownish-white with black rim and yellow fringe. *Abdomen*: short, broad, the first segment and upon the second segment a very broad, basally expanded, medial vittæ slightly expanded before the apex and continued at this width over the third segment where it is expanded again apically. Fourth segment wholly black except for its post margin; it has a central, slender, transverse, medially indented, shining black fascia. The black portion only of the third segment has a similar indented shining fascia. Segments two to four have each a wide yellow post margin; the sides of the second and third segment are left broadly light yellow, with in places a brownish tinge. The pile upon the black areas is black and is yellow basally upon the second segment and the corners of the third and fourth. *Legs*: shining black, the bases of the first four tibiæ and the extreme base of hind tibiæ brownish. Hind femora very little thickened, its pile golden except for a few black apical hairs and ventral short and long black bristles on the apical half. The hind tibiæ ends transversely; hind trochanter without special hair. *Wings*: hyaline and bare.

Holotype: a male. Bogota, Department Cundinamarca, altitude 2600 meters (Osorna, collector).

Eristalis antiopa n. sp.

Mesonotal pattern as found in *furcatus* Wiedemann; scutellum slaty black, legs black, abdomen bluish-black.

Female. Length 9.5 mm. *Head*: eyes short, yellowish-brown pilose; the face, cheeks and front are shining bluish-black, the latter yellow just before the antennæ; the sides of the face are broadly silver pubescent and pilose. This pile extends laterally up to the middle of the front. The central frontal pile and occipital pile is widely black throughout. All but the upper part of the front is blackish pollinose, merging laterally into silvery pubescence; the front is bare just above the antennæ and with a narrow, opaque, black vittæ in the middle on the upper part. The antennæ are black, the arista dark brown, bare and white-tipped. *Thorax*: the mesonotum is opaque bluish-black with a median black vittæ proceeding from the base of the scutellum and dividing into two vittæ in the middle of the posterior half of the mesonotum. There are a pair of similar undivided vittæ

on either side in the middle running from scutellum to the anterior margin and interrupted at the suture. The posterior section is slightly curved, its lateral sides concave. The mesonotal pile is short and black, the pleural pile white, the scutellum blue-black, faintly shining, its pile chiefly black. The squamæ are white with broad black margin and white fringe. *Abdomen*: black, the second and fourth segment has narrow yellow post margins; the second segment has a basal, posteromedially produced, opaque black fascia which does not reach the sides. It almost touches a rather wide, posterior black fascia which narrowly reaches the posterior corners. The third segment has a similar, narrower, less produced basal fascia and a shorter but equally wide posterior fascia. Fourth segment similar, each fascia still more reduced. Between these black opaque fascia the abdomen is shining metallic greenish-black. *Legs*: shining black, slightly greenish on the hind femora which are considerably thickened in the middle. The extreme base of the tibiæ is dark brown; the first two joints of the middle tarsi are dark brown, the remainder of tarsi black. Hind tibiæ ending transversely; hind trochanters without special hair. *Wings*: hyaline and bare.

Holotype: a female. Villarica, Paraguay (F. Schade); paratypes: two females, same data, one in author's collection.

Eristalis dorothea n. sp.

Related to *scutellaris* Fabricius, this species is characterized by the thick, soft, golden pile of the scutellum and parts of the mesonotum; half of the scutellum yellow; mesonotum with peculiar pattern.

Female. Length 12 mm. *Head*: the eyes are short brown pilose, the face, cheeks and front are black and moderately shining, the sides of the narrow produced face are thickly yellowish pubescent and yellowish pilose. The front is widely shining on the lower half and narrowly yellowish pubescent on the eye margins with an opaque black fascia on the upper half which is a little expanded along the eye margin; viewed obliquely there is a short, linear, yellowish pollinose vittæ on the upper part of the front below the opaque black. There is a rounded protuberance in the middle above the antennæ. Antennæ brown, the third joint blackish, the arista pale brown. *Thorax*: the mesonotum is moderately shining bluish-black

with across the middle, just behind and margining the suture, a lateral, evanescent, attenuated, medially club-shaped, opaque black fascia which is medially interrupted. On the anterior half of the mesonotum, anteriorly submarginal, there is a medially interrupted, wide black fascia. Pile of mesonotum yellow on the middle of the anterior half and in front of the suture, and in a narrow band in front of the scutellum in front of and on the post calli; elsewhere the pile is short and black. Pleural pile short and pale. The scutellum is opaque black on the basal half, brownish in the lateral corners, opaque egg-yellow on the remainder; its pile is short, dense and golden with a few longer yellow hairs on disc and rim. *Abdomen*: elongate, slender, apically pointed and shining bluish black; the first segment is opaque black on its posterior and lateral margins and corners. The second segment has a postmarginal fascia, medially indented, laterally attenuated, and a subbasal, medial, rounded, posteriorly acutely filate, opaque black spot. Viewed posteriorly the central portion of this segment is whitish pollinose. The third segment has a similar, slightly wider posterior fascia and no anterior spot. The fourth segment has a post marginal, indented black fascia a little wider sublaterally. Pile of the abdomen very short, chiefly black on the black areas, whitish elsewhere. *Legs*: the femora are brownish-black, the apical half of first four tibiæ diffusely dark brown and growing lighter basally and with pale yellow pile. The hind tibiæ are quite flat, rather arcuate apically and with a very short scoop-like production. Its pile and pubescence is pale. Hind femora greatly thickened in the middle, quite narrow before apex, its pile chiefly brassy; its ventral apical half has many short black spines and some long black bristles. The short black spines reach to the basal third. *Wings*: pale grey, the stigma three times as long as wide, the wing almost wholly villose.

Holotype: a female. Villarica, Paraguay, v (F. Schade).

Microdon barbouri n. sp.

Characterized by the general greenish color, which includes the face, the broad base of the abdomen, and the emarginate scutellum, antennæ black and longer than the face.

Female. Length 11 mm.; antennæ 3 mm. additional. *Head*: almost everywhere brilliant green; golden on either side of the antennæ and eye margins, shining black just before the

antennæ with a narrow shallow depression on the lower part of the front, triangular in shape, the apex of the triangles of either side meet just above the shining black area. Pile of face light shining yellow and yellow across the lower part of the front, broadly behind the ocelli and over the whole of the green occiput. There is a band of dense black pile from eye to eye in front of the ocelli and a few black hairs in front of the antennæ. The antennæ are black, the first joint is as long as the last two, the second joint small, the third joint rounded, scarcely flattened with large, elongate subapical pore, its apex bluntly pointed. The arista is brown and thickish except at apex; it is two-thirds as long as the third joint. *Thorax*: mesonotum brilliant, bluish-green, becoming golden in the middle of the anterior half and violaceous just before the scutellum. The pleuræ are green with a golden cast. The scutellum is green with a purplish cast and translucent reddish by a reflected light. The whole pile of the thorax and scutellum is rather thick and moderately long and light golden. Scutellum large, wide and long, emarginate posteriorly; the rounded apical productions are not very far apart; the indentation between is shallow. *Abdomen*: broad, apically pointed, brilliant blue-green; it is golden in the middle of the first segment, still more so along the middle posterior part of the third segment and somewhat golden in the corners of the third segment, where it is continued over on the narrow lateral margins of the fourth segment and again in the anterior corners of the fifth segment. The junction of the gold and blue-green on the sides of the fourth and fifth segments is linearly violet. Pile of abdomen short, appressed, light golden, with on either side a broad, diagonal fascia of black pile on the second to fourth segments. *Legs*: femora golden-green, tibiæ and tarsi light reddish-brown, the tibiæ with faint greenish cast; all of the pile of the legs is thick, long and golden. *Wings*: uniformly tinged with light brown, the apical cross vein bulges outward and is broadly rounded without a spur. The posterior apex of the second posterior cell is similarly rounded.

Holotype: a female. Paranagua, Parana. March 1937. (G. Fairchild collector.) I take pleasure in naming this interesting and beautiful species for Dr. Thomas Barbour, the director of the Museum of Comparative Zoology.

Microdon banksi n. sp.

Because of the shape of the arista this species slightly resembles *pachystylum* Will., but it is quite different in coloration and venation and other details.

Female. Length excluding antennæ 6.5 mm.; antennæ about 2 mm.; wing 5 mm. *Head*: eyes very widely separated, the upper occiput extremely thickened but with rounded posterior margin, the vertex shining brownish-black; the pile just in front of the ocelli, just behind it and again just in front of the antennæ black, elsewhere the pile of the head is wholly shining pale brassy. Along the upper occiput near the eyes the pile appears to be directed towards the eye margins; upon the inner upper eye margins it is directed towards the ocelli; from a point in the middle of the very broad front it appears to be directed in all directions, and opposite this mid-point it is upon the eye margins directed first towards the antennæ and then down ventrally towards the face. About the antennæ the pile is slightly more reddish and upon the face more whitish. Face short, not in the least produced, quite convex, most so upon the lower half, the pile thick, abundant, shining and directed downward but not flattened. Viewed from in front the sides of the face are more equally wide, perhaps barely wider below than across the antennæ. The ground color of the face in front is shining brownish-black. Antennæ elongate, the first joint but little over one-half as long as the third and together with the second and the extreme base of the third reddish-brown. The third joint is black, slightly narrower in the middle, upon its outer surface slightly curved, about twice as thick as the also outwardly curved first joint; arista basally produced from the outer side, very short, and thickened into a basally blunt spear-shaped structure, the tip needle-shaped, the whole arista light reddish. *Thorax*: almost as wide as the head, moderately shining brownish-black with more or less erect black pile except as follows: some pale brassy pile bordering a lunate, shallow depression on each half of the anterior part of the thorax, again narrowly across the mesonotal transverse suture, upon a sub-lateral stripe along the posterior half of the thorax and again in acute short triangles, one on each side, reaching forward from the posterior margin of the mesonotum. Pile of scutellum wholly erect and pale; its ground color dark blackish-brown;

the surface sharply flattened and roughened; without spines or emarginations. *Abdomen*: relatively short, compact, wholly dark blackish-brown, a little lighter upon the first segment; its pile thick, sharp and setaceous, chiefly black and only suberect. Along the posterior margins of the third, fourth and fifth segments there is appressed, golden, quite sparse and scattered pile that is unusually long, it encroaches extensively upon the middle of the fifth segment but is scarcely present in the midline of the third segment. There is a similar patch broadly and outwardly along the posterior margin of the second segment. *Legs*: the femora, except the narrow apices, very shining dark chestnut-brown, the pile over this area black. Apices of all of the femora, whole of tibiae and tarsi light yellowish-brown, also quite shining; tibial pile chiefly pale on the basal half, but reddish-brown apically. Hind femora very little thickened. *Wings*: broad, and deep, strongly tinged with brown, a heavy stigmal cross vein present; the subapical cross vein on its basal half is rounded outwardly; it joins the third longitudinal vein at right angles, there is a well developed spur from the posterior corners of both the first and second posterior cell.

Holotype: one female. Coast below Pico Turquino, June 20-30, 1936, Cuba 1936, Darlington collector. One paratype female, same data, in author's collection.

I take pleasure in naming this interesting species for Professor Nathan Banks.

In the second female the lunate depressions of the thorax seem to be absent, the pile of the anterior half, at least on the sides, is almost wholly golden, there is a narrow median vittæ of golden pile with a broad heavy stripe of black pile on either side of it interrupted at the suture and the lateral margins on the posterior half seem to be wholly golden pilose, the lateral margins of the anterior half of the mesonotum however are black pilose. The third antennal joint is almost wholly light brownish-red, only the apical third being infuscated.

Volucella osburni n. sp.

Related to *sexpunctata* Loew. There are only twelve bristles on the arista; the profile of the face is different.

Male. Length 8 mm. *Head*: eyes densely brown pilose, the face cheeks and front light translucent yellowish-brown, a little more reddish on the lower part of the face and cheeks; the

latter is separated by a narrow black line. The pile of the face is yellow, of the front dense, long and black. In profile the tubercle is low and long. Antennæ orange, the third apex of the joint considerably more narrow than the base. The dorsal rays of the arista are about twelve and blackish; the arista pale yellow. The vertical pile is yellow. *Thorax*: mesonotum and pleuræ shining black, the wide lateral margins of the former including the humeri, the whole of scutellum and a spot in front of the scutellum light, subtranslucent brownish-yellow. All thoracic and scutellar pile is golden. Scutellar margin with three pairs of stiff yellow bristles and none in front of the scutellum. Marginal mesonotal bristles golden. Squamæ and fringe yellow. *Abdomen*: light translucent brownish-yellow, the middle and the posterior border of the first segment, a median vittæ and a lateral, elongate postmarginal fascia on the second segment shining black. Third segment with a similar but much narrower, medial, anteriorly attenuated, vittæ and similar short fascia in the posterior corners. The fourth segment has a still narrower, median vittæ attenuated at both ends and in each posterior corner an elongate vittate spot twice as long as wide. Pile of abdomen everywhere short, thick, erect and golden except on the black areas of the second segment where it is black. There are a few black hairs along the lateral portion of the post margin of the third segment. The whole pile of the fourth segment is long, erect and golden. *Legs*: brownish-yellow, the anterior side of hind femora with an elongate, blackish-brown streak fading on the outer third. The narrow bases of the other femora are slightly blackish; the anterior and hind tibiæ are narrowly blackish at apex; the last two tarsal joints blackish. Pile of legs golden except apically along the tibiæ. *Wings*: hyaline with pale yellow veins and basal half of stigmal cell pale yellow. Stigma brown, twice as long as wide, costal setæ black.

Female. Similar to the male, the black cheek lines are faint or confined to a tiny spot on the eyes. Front pale yellow, the crescentic area along the eyes punctate, the area between the red ocelli blackish, its pile yellow. Mesonotum similar, the wide median black area replaced by light brown. The yellow prescutellar spot may be quite large. Pattern of abdomen similar. The median vittæ upon the second segment is reduced to a slender brownish streak; the first segment may be wholly

yellow; the vittæ upon the third and fourth segment are reduced.

Holotype: a male, Villarica, Paraguay, X (F. Schade). Allotype, a female and eight paratypes, all with the same data. I take pleasure in naming this species for Dr. R. C. Osburn.

Baccha nectarina n. sp.

Related to *phæoptera* Schiner; the wings are wholly dark brown, the pattern of the abdomen is different.

Male. Length 17 mm. Wings 13 mm. (longer than the abdomen). *Head*: cheeks and face yellow, the former brownish in front, the latter brownish on either side of the yellow-brown tubercle, and forming apparently two diffuse vittæ. The front is brownish-yellow and brown semicircularly in front of the antennæ which leaves, in front of the semi-circle a light brown spot in the center of which is a large, shining black, rounded callus. The upper part of the front has a subopaque, blackish triangle, almost equilateral, its apex touching the convergence of the eyes. The upper eye margin of the front is linearly blackish. The pile of the face, front and vertex is black, and golden on the whole of the occiput. The antennæ are orange and black pilose; dorsal margin of the third joint brownish-black; the third joint in its longest lateral length about one and one half times as long as deep; arista light brown. *Thorax*: brownish-black with three slender brownish-yellow pollinose vittæ; the outer pair becomes quite slender on the posterior half and expanded on the anterior margin. The lateral margins of the mesonotum including the whole notopleuræ are widely brownish-yellow and are medially margined with brassy-black. The whole of the mesopleuræ except the anterior margin, upper part of sternopleuræ, whole of pteropleuræ, upper parts of meta and hypopleuræ are yellowish-brown. The scutellum is dark brown, the narrow base and rim yellowish; the pile sparse, exceedingly short and black. *Abdomen*: quite elongate and spatulate, increasing gradually to the end of the fourth segment; it is chiefly black and shining, becoming sepia brown over most of the long second segment and the lateral margins and corners of third and fourth segments and upon the middle and posterior margin of first segment except its sides and corners. The ventral, lateral corners of second segment are yellowish. Just before the apex on either side of the second segment

there is an obscure, elongate, yellowish-spot and there is a similar, submarginal, basal, posteriorly-pointed spot on the third segment. On the fourth segment there is a similar, submarginal, larger basal spot, each posterior corner of which is produced posteriorly; the lateral corner ends bluntly, the medial corner is carried back and there is a long, slender, curved yellowish-brown line, its outer margin concave. On the fifth segment there are traces of four slender, basally expanded yellowish-brown linear vittæ. The pile of the abdomen is extremely short and sparse and bristly; on the sides of the first segment it is sparse, quite long and fine. *Legs*: chiefly yellow, the middle femora light brown, the hind femora darker brown, its apex narrowly yellow, its pile black. Hind tibiæ black over most of its length; its base and apex are pale, its pile, except on the ventral apex black. The hind tarsi are whitish-yellow with similar pile. *Wings*: deeply tinged with brown throughout, the anal crease is long but quite obsolescent. The apex of the subapical cross vein is recurrent.

Holotype: a male. Villarica, Paraguay, III (F. Schade collector).

Baccha olga n. sp.

Characterized by the sepia-brown stigmal cell, apical spot and small central spot of the wing, the black face and spatulate abdomen. Related to *lanei* Curran and *bigoti* Austen.

Female. Length 10 mm. *Head*: the face, front and cheeks are shining black with a slight bluish tinge; the sides of the front are narrowly covered with pale grey pubescence to above the middle where it extends transversely across in an interrupted band. It is also continued down the eye margins where it spreads out on either side of the face on the lower half, leaving a narrow middle lower stripe bare. Profile of face straight and retreating, its pile and the very few hairs of the front white. Antennæ brown, the third joint blackish-brown, its base and ventral margin narrowly pale yellow. Arista light brown. *Thorax*: mesonotum and scutellum black with a metallic brownish or golden caste, its pile white, and appressed except on the anterior border and except for a few erect hairs in front of the scutellum. Scutellar pile wholly erect; pleuræ white pilose and pubescent over the mesopleuræ, sterno and notopleuræ, the pile of the latter spreading over the anterior edge

of the notopleuræ. *Abdomen*: quite spatulate, the second segment very narrow basally, its subbasal width is scarcely more than a third its apical width; the third segment forms almost an equilateral triangle, basally truncate; the third segment is not quite as long as the second, nor the second quite as long as the fourth. The fourth segment is very little narrowed apically. The abdomen is shining black, the anterior corners of the third segment show a trace of reddish-black. Pile of the abdomen appressed and black in the center of the third and fourth segments and extensively white along the sides and base and everywhere white upon the fifth segment except for the posterior middle. *Legs*: black, the anterior femora are dark brown basally, growing paler towards the apex; the apex of the middle femora is light brown, the basal half of the first and second tibiæ and their apices and the narrow base of the hind tibiæ whitish-yellow. The central portions of the first four tibiæ are brown; remainder of hind tibiæ black and black pilose. Front tarsi, first two joints of middle tarsi, apical half of hind basi tarsi and its next two joints whitish-yellow. Remaining tarsi brown. *Wings*: hyaline, the stigmal cell and an elongate marginal spot on the apex of the wing covering the end of the marginal cell, and the end of the submarginal cell as far as the third longitudinal vein, dark brown. There is a dark brown spot, rather narrow covering the furcation of the second and third veins and extending back to cover the closure of the second basal cell. The costal and base of subcostal cells are also brown.

Holotype: a female, Chilibre, Republic of Panama, 1940 (A. G. B. Fairchild collector).

Baccha oriel n. sp.

Characterized by the slender abdomen and pale wings and the proportionate shape of the segments. Fourth segment less than twice as wide as the second. Related to *lepida* Macquart.

Male. Length 9 mm. *Head*: the face, and front except for a crescentic brown spot enclosing a black dot before the antennæ, and cheeks orange yellow. Pile of front thick, long and black, sparse upon the upper part of the face. The antennæ are orange, its pile and arista black, its length short. *Thorax*: light yellow upon all of the pleuræ except for a wide, continuous, oblique, posterior band, light yellow upon the humeri, the

broad sides of the mesonotum and the post calli. The disc of the mesonotum is brassy brown with a pair of prominent, yellowish pollinose vittæ that slightly diverge and become evanescent before they reach the scutellum. Between them there is a faint linear pollinose vittæ. Scutellum pale yellow, the disc brownish-yellow, and sub translucent viewed from above, but brown when viewed obliquely. On the disc are eleven long black erect hairs and five upon the margin. I can only see a single central pair of elongate hairs constituting the ventral fringe. *Abdomen*: elongate and slender, brown to brownish-black apically, the sides of the first segment and its narrow base and the narrow basal corners of the second segment light yellow. Just before the apex of the second segment is an orange-brown, transverse fascia medially produced in front and narrowly margined with opaque brown. Third segment with an elongate, obscure, central yellow-brown triangle on either side, its apex bifid and the two triangles apparently contiguous on most of their medial length. Fourth segment similar, the subcoalescent triangle a little more distinct, the medial posterior indentation deeper leaving the figure somewhat V-shaped on each side (inverted) and its lateral arm shorter. Fifth segment with prominent, narrowly divided submedial vittæ that do not quite reach the apex but expand along the base of the margin to the corners and sublaterally emit a narrower stripe which is not quite as long as the submedial ones. *Legs*: wholly light brownish-yellow; there is a faint, preapical brown band on the hind femora. Pile of hind femora short, appressed and quite sparse. *Wings*: uniformly pale brown, the stigmal cell darker.

Holotype: a male. Loma Rucilla and Mts. N., Dominican Republic, June 1938, 5-8,000 feet altitude (P. J. Darlington collector). One paratype, same data.

Baccha cryptica n. sp.

Second abdominal segment longer than third, six or more times as long as its subbasal width. Black flies, the wings smoky-brown almost to apex. Sides of the face broadly yellow. Related to *ida* Curran and *clarapex* Wiedemann.

Male. Length 12 mm. *Head*: the face widely light yellow upon the sides, the cheeks blackish, the middle of face on the tubercle and above widely blue-black, narrow so below the

tubercle but above extending on either side of the antennæ to the blue black front. Sides of the front linearly yellowish and with a narrow eye-marginal stripe on the upper part of the front which is silver pubescent. The upper third of the triangle of the front is opaque black and long, erect black pilose, the pile largely confined to areas along the eye margin and extending down to the upper part of the face, lower facial pile white. Antennæ black, the third joint reddish below. Arista blackish except at base. Occipital pile black above, black in the middle excavation and composed of practically a single row of sparse yellow hairs. *Thorax*: dark sepia-brown, moderately shining with a slight violaceous narrow vittæ sublaterally on either side of the mesonotum. Pile short, erect, black and quite sparse. Pleuræ with a yellowish-white pilose and pubescent vertical stripe. Scutellum dark brassy-brown, its pile short, erect and very sparse, its ventral fringe of ten or twelve hairs pale. *Abdomen*: elongate and spatulate and almost wholly brownish-black, the second segment very little narrower than its apex and a little over six times as long as its subbasal width. The apex of the third segment is two and a half times or more wider than its base. Fourth segment almost quadrilateral and barely wider apically. Second segment with a wide, medial, subbasal opaque black vittæ which apically expands to form a subapical fascia some distance from the apex. It is posteriorly indented. All of the third segment black except for prolonged basal and lateral triangles and for an apical margin laterally attenuated. Middle of the opaque black with a pair of small, slender, yellowish vittate spots. Fourth segment opaque black except for narrow basal triangles and a narrow posterior margin widest in the middle. There are similar spots centrally on the fourth segment. There are three, oval, elongate, basal opaque black spots on the fifth segment. The pile of the abdomen is appressed and black but whitish and long on the sides of the first segment, shorter and white on the sides of the second. *Legs*: dark brown, the base of the first four tibiæ diffusely and obscurely paler; the medial surface of the anterior femora is yellowish-brown, the hind tibiæ and basal two-thirds of the hind basi tarsi black and black pilose, their remaining tarsi yellowish-white, the other tarsi dark brown. Pile of hind femora black and short. *Wings*: large, barely longer than abdomen, deep smoky-brown, growing a little lighter narrowly

over the posterior margin and apex. The anal crease is long, blackish, well formed and reaching the apex.

Holotype: a male. Villarica, Paraguay, March (F. Schade collector).

Baccha bipunctipennis n. sp.

Second abdominal segment eight to ten times as long as its middle width. The apical and central wing spots are less extensive than in *lanei* Curran. Head femora and tibiæ largely black, black pilose.

Female. Length 10 mm. *Head*: the face, front and cheeks are shining blue-black, the sides of the front narrowly white pubescent, the pile on the sides long and white, black in front of the antennæ and black and white above and confined to a narrow, medial row behind the ocelli. The occipital collar in the middle consists of a single row of pale yellow hairs but with shorter hairs outside, the upper hairs black. Face nearly straight in profile but retreating, white pilose and pubescent on the sides and lower middle. The antennæ are short and dark brown, the third joint about as long as wide and more reddish. *Thorax*: shining black with sparse white pubescence, vertically over the middle of the pleuræ and notopleuræ; pile of mesonotum and whole of scutellum erect and white, suberect anteriorly on the mesonotum and with a band of black pile across the middle; the long marginal hairs of the scutellum and about twenty long ventral fringe hairs are white. *Abdomen*: very slender upon the quite elongate second segment which must be eight or ten times as long as its narrowest width. Third segment a little over four times as wide apically as basally. Fourth segment almost quadrilateral and barely narrowed apically. The remainder of the abdomen is drawn out into a long, flattened, very thin extension which may or may not be natural. The fifth segment is not quite twice as wide as long and scarcely narrowed; the sixth segment is of the same proportion and shape and only a little smaller. Following this is an additional flat extension two and a half times as long as wide and very little narrowed; the abdomen terminates beyond this in an acute, triangular, pointed, flattened, apically reddish ovipositor. Color of abdomen shining black, brownish-black upon the second segment and vaguely upon the corners of the fourth segment. The base of the third segment is somewhat

lighter brown. Entire abdomen shining, its pile broadly and triangularly erect and white in the basal corners of the third and fourth segments and over all but the apex of the fifth segment. The entire lateral margins of the second segment white pilose, medial pile black. Pile of first segment long and white and abundant, its apex and middle bare. *Legs*: the front and middle femora are reddish brown, the hind pair dark brown, its apex narrowly lighter, its pile almost wholly black. Front and middle tibiæ and tarsi and all the hind tarsi except the basal three-fifths of its basi tarsi light reddish-yellow. Base of hind basitarsi, which is considerably thickened, black and black pilose. Hind tibiæ blackish-brown except narrowly at the base and with rather long, thick blackish pile. *Wings*: quite hyaline with the costal, subcostal and stigmal cell and an elongate apical, marginal spot occupying the ends of the marginal and end of the submarginal to barely beyond the third longitudinal vein and also a central, somewhat triangular spot, from a short distance before the furcation of second and third vein, to just beyond the small cross vein, and extended posteriorly to fill out the basal part of the third posterior cell and to extend down to the middle of the posterior section of the fifth longitudinal vein.

Holotype: a female. Bella Vista, Paraguay, February (Alto Parana) F. Schade collector.

Baccha potentilla n. sp.

Characterized by the shining black abdomen, widely smoky wings and the shape of the abdominal segment. Second abdominal segment about two and a half times as long as wide. Related to *clarapex* Wiedemann.

Male. Length 10 mm. *Head*: the cheeks, middle of face and front shining steel-blue, the central portion of the front more blackish, the upper middle front opaque with on either side a pair of semicircular, silver pollinose, eye-marginal spots. Pile of front and upper part of face long and black. The frontal pile is largely confined to the eye margins. The lateral silver pubescence of the face continues in moderate width up the sides of the face to a little above the antennæ. The post ocelli pile is black, confined to a single row of hairs. Occipital pile composed of one long posterior row and one shorter lateral row; its upper pile is yellow. The antennæ are somewhat elongate, dark

brown, the third joint below and base of arista reddish. Sides of face narrowly yellowish. *Thorax*: mesonotum shining brownish-black with, viewed posteriorly, a pair of broad, sub-medial, brown pollinose vittæ evanescent in the middle of the mesonotum but expanded anteriorly to form large triangles. Viewed anteriorly or laterally there are, between these vittæ quite slender and almost touching, a pair of brown vittæ. The pile of the mesonotum and scutellum and its ventral fringe black. Pleuræ steel-bluish with a trace of white pubescence in the middle and with white pile. Squamæ light brown with fringe brown. *Abdomen*: spatulate, the second segment about two and a half times as long as wide and subcylindrical. Third segment not quite twice as wide apically as basally. Fourth segment almost quadrilateral, barely wider apically. Abdomen shining black, bluish upon the first segment with a medial, opaque black vittæ upon the second segment expanded some distance from the apex to form an oblique fascia reaching the curved-under lateral margin. Third segment with a pair of practically fused, slender, medial vittæ proceeding from the base to within a short distance from the apex and narrowly separated from large, submedial triangles beginning near the base, ending where the medial vittæ end and extending laterally out to the margin and almost to the apex. Fourth segment with a similar pattern, the submedial vittæ separated, the lateral triangles smaller. Fifth segment with four slender vittate spots on the basal part of the segment. Lateral basal margin of second segment steel-blue. Pile of abdomen appressed and black, white ventrally on the sides of the first segment with long black pile above. *Legs*: first four femora dark brown, lighter at apex, their tibiæ dark brown but pale narrowly at the base and at the extreme apex, their pile almost wholly blackish. The hind femora and tibiæ, and all but the narrow apex of the hind basi tarsi, black and black pilose. Last hind tarsal joint brown; other three joints yellowish-white and white pilose. First four tarsi brown. *Wings*: deep brown except upon the apical fourth which is pale greyish hyaline. Anal crease well formed and brown.

Holotype: a male. Villarica, Paraguay, March, F. Schade collector.

Baccha pandora n. sp.

Characterized by the prominent yellow vittæ of the thorax and the pattern of the abdominal spots. Submedial vittæ of the fourth segment quite large, broadly connected to the anterior triangle. Related to *livida* Schiner.

Male. Length 12 mm. *Head*: the cheeks and face and front are pale yellow; just before the antennæ there is a sharp black oval spot and above this a reddish-brown spot. The rather elongate antennæ are orange, narrowly brownish above on the third joint, the pile black, the arista brown. The pile of the front and upper part of face is black, the former largely confined to the sides of the front. There is a band of white pubescence along the sides of the face extending narrowly on the lower part of the front. There are some white hairs below. *Thorax*: the whole of the pleuræ except the extreme ventral portion above middle and hind coxæ light yellow with a few yellow hairs and some yellowish pubescence. The wide margins of the mesonotum and the whole of the scutellum, except a central transverse brown band over most of its disc, yellow. The mesonotum is broadly golden-brownish centrally with three stripes of brown and two of yellow pollen, all of about equal width. The medial brown stripe is narrowly divided by a linear, yellow pollinose vittæ which expands posteriorly until just before the apex it is as wide as the pointed apical part of the two outer vittæ. The medial vittæ touches the scutellum, the others do not. Mesonotal pile sparse, erect and black, a few pale hairs before the scutellum and upon the lateral margin. Scutellar pile short, erect, quite sparse, appressed laterally, the ventral fringe yellow. *Abdomen*: quite elongate, almost as long as the wings and somewhat spatulate, the second segment four to five times as long as its central width; it is a little wider at base, but the remainder has almost parallel sides. Third segment barely over twice as wide apically as basally; the fourth segment is not quite as long as wide and a little wider apically than basally. The abdomen is dark brown with yellow markings. The whole of the first segment is yellow except at posterior margin, the posterior corners also yellow. The second segment has an hour-glass shaped brown spot beginning a short distance away from the base, almost reaching the posterior margin and actually reaching this margin laterally. The lateral

ends of the brown spot turn up and down along the margin to enclose the intervening yellow which is almost isolated into elongate, oval, lateral spots. Third segment brown except for large basal triangles, narrowly extended two-thirds of the lateral length. In the brown there is a pair of central, large, elongate, posteriorly rounded, anteriorly attenuated, vittate yellow spots; these spots are at least twice as wide posteriorly and separated below their middle by a third of their width. Fourth segment with a pair of somewhat similar, longer, medio-posteriorly truncate, vittate spots that are widely confluent with a larger basal triangle. The basal triangles almost meet in the midline. Fifth segment similar, the central spots meet and fuse at the posterior margin, the smaller basal triangles are separated from the lateral margin and are laterally continued as a vittæ to the posterior margin. Pile appressed sparse, bristly and blackish; there are a few bristly hairs on the anterior margin of the brown of the first segment and quite long, sparse, yellow pile upon the sides and corners of this segment. *Legs*: everywhere light yellow and yellow pilose except over the middle third of the hind tibiæ which is black and blackish pilose. Hind femora reddish-brown on the basal half, darker beyond but yellowish at apex, its pile is chiefly black. There are a few black hairs posteriorly on the middle femora. *Wings*: light brown throughout, the apical portion above the third longitudinal vein and the whole of the stigmal cell darker brown. Anal crease long, well formed and brown.

Holotype: a male. El Valle, Coclé Province, Republic of Panama, July 2nd, A. G. B. Fairchild collector.

Mesogramma tubularia n. sp.

Characterized by the elongate, parallel sided abdomen with double fascia and median vitta; related to *flava* Hull.

Male: Length 8 mm. *Head*: face pale yellow, short, white pilose, barely tuberculate; front yellow, black pilose, with an elongate brownish spot in the middle. Eyes touching for a quite short distance. Antennæ, and arista except its reddish base, dark brown. *Thorax*: mesonotum dark bluish-black, brown pollinose, with a prominent, continuous, medial blue grey vittæ, and a narrow, sublateral, yellowish-brown stripe which ends before reaching the pale yellow humeri. Scutellum brownish-black, the edges narrowly diffusely yellowish-brown.

Abdomen: quite elongate and flattened, the sides parallel. The abdomen is black marked with yellow as follows: the extreme anterior margin of the first segment on either side, a narrow medially interrupted, laterally evanescent central fascia on the second segment, a basal, laterally narrow, submedially much expanded fascia upon the third segment, which is medially connected with a long linear vitta, a pair of horn-shaped spots centrally, separated from the medial vittæ, their medial and truncate, their pointed lateral end curved forward a little and not reaching the margins. Fourth segment with a pattern similar in size and shape, its medial vittæ a little expanded at apex; fifth segment with a pair of sublaterally black spots, a pair of lateral, marginal, elongate spots posteriorly, and a long vittate and medial basal spot, all black upon an orange-brown background. The central yellow pattern of the second and fourth segments is outlined in opaque black; elsewhere the black is shining. *Legs*: chiefly black pilose and yellow brown, the hind femora barely darker, the hind tibiæ medially brown centrally but more yellowish at base and apex. *Wings*: pale grey; alula post margin nearly linear.

Holotype: a male. Banos, Ecuador, 2000 M. VII—14—1939. Type in the collection of Dr. C. L. Fluke.

Mesogramma triangulata n. sp.

Characterized by the pairs of yellowish brown triangular spots upon the third and fourth segments. Related to *guttifera* Hull.

Female. Length 6 mm. *Head*: the sides of the face are yellow, the cheeks and middle brownish black, the front flat, shining brownish-black, the sides narrowly sharply yellow to near the ocelli. Vertex convex, violaceous behind and black pilose. Face pile white with antennæ dark brown. *Thorax*: mesonotum greyish or bluish black, grey pollinose. Viewed laterally with a pair of very broad opaque brown vittæ reaching the scutellum. Lateral margins concolorous. The humeri, a somewhat obscure pleural spot and vertical stripe on pleuræ yellow. *Abdomen*: oval, shining brown, the corners of the first segment, its extreme anterior margin the narrow margin of the second segment almost to the apex but not expanded apically yellow. There is a pair of tiny, transverse yellow spots in the middle of second segment. On the third segment there is a pair

of subbasal, widely separated, rather large, posteriorlaterally convex, yellowish-brown triangles. They are separated from the narrow, yellow lateral margin of the anterior half of the segment, but are slightly produced in the direction of the margin. Fourth segment with similar pattern. Fifth segment with a pair of subbasal, transverse spots narrowly connected across the middle posteriorly. *Legs*: yellow, the tarsi light brown, the hind tarsi darker basally and apically, the hind femora with a dark brown subapical annulus, their tibiæ with a subbasal annulus. *Wings*: hyaline, the alulæ large.

Holotype: a female. Villarica, Paraguay, March 4, 1938, F. Schade. (In the collection of C. L. Fluke.)

Mesogramma alphabetica n. sp.

Characterized by the pair of large, yellow, crescentic spots on the base of the third and fourth segments which are narrowly fused with the lateral triangles. Related to *confusa* Schiner.

Female. Length 4 mm. *Head*: face, the narrow sides of front and all of the antennæ except the blackish dorsal half and apex of third antennal joint, pale yellow. The cheeks and the middle of the front are shining black, the latter bluish margined; vertex golden. *Thorax*: mesonotum shining blackish with steel-blue median vittæ, the wide lateral margin of the humeri and margin of scutellum yellow, the mesonotum yellow, narrowly black marginate, followed by an obscurely bluish stripe. Disc of scutellum black, all its pile long and black. *Abdomen*: oval, rather broad; first segment black with yellow corners and margins; second segment with narrow, central, laterally arcuate, linearly divided yellow fascia. Third segment with two large, thick, deeply crescentic, basal yellow spots facing one another and narrowly connected basally with the large, yellow, equilateral triangles. Fourth segment with similar pattern, not connected basally. Fifth segment with similar pattern, the more elongate triangles widely separated. *Legs*: yellow, first four femora with blackish dorsal subapical spots. Hind pair black on apical half except its apex, their tarsi and tibiæ except extreme base blackish; other tarsi light brown; last front tarsus yellow.

Holotype: a female. Jalapa, Vera Cruz, Mexico, July 8, 1935, A. E. Pritchard. (Collection of C. L. Fluke.)

Mesogramma nymphalia n. sp.

Related to *rhombicum* Giglio Tos. The second segment is almost wholly yellow, the abdomen is wider.

Male. Length 5 mm. *Head*: cheeks black, the yellowish-red face short. Antennæ reddish. Vertex bright greenish-blue. Mesonotum black with obscure greyish median vittæ, the pleuræ black with yellow vertical stripe; humeri, lateral margins and margin of scutellum bright yellow. *Abdomen*: elongate with nearly parallel sides; vitreous, dark brown to black with pattern as follows: posterior margin of first segment black, base of second segment with a laterally attenuated brown fascia, the corners yellow and the apex with a shining purplish-black fascia narrowly separated by reddish in the middle. The fascia is a little over a third of the segments length. Third segment with medial reddish-brown vittæ and facing it on either side a basal, crescentic, reddish spot widely connected to the large basal lateral reddish triangle. Fourth segment with similar pattern, the crescentic spot more slender and disconnected. Fifth segment with the lateral margins and widely separated submedial vittæ, the latter slightly curved, reddish. *Legs*: yellow, the hind femora with wide black apical annulus, its pile black, the ventral pile long, their tibiæ dark brown except at base and apex, their tarsi brownish. *Wings*: pale brownish hyaline, the alulæ narrow.

Female. Abdomen spatulate, the pattern similar, the crescentic spots of third segment deeper, the medial vittæ connected to a submarginal posterior fascia.

Holotype: a male. Rio Margajitas, Equador, 1250 meters, March 1939 (F. M. and H. Brown). Allotype: female. Sucua, Equador, 950 meters, Rio Bland, 1939. Paratypes: male, Rio Margajitas; male Puyo, Oriente, Equador; female, Rio Mapeto; two females Puyo, Oriente, Equador. (In collection of C. L. Fluke.)

Mesogramma claracunea n. sp.

Characterized by the opposed yellow crescents, median vittæ and yellow corner triangles of the third and fourth segments; related to *confusa* Schiner.

Female. Length 6 mm. *Head*: front black, narrowly yellow along the sides, the face yellow and short. *Thorax*: blackish,

the humeri and the lateral margins yellow, the scutellum black with light brown margin. *Abdomen*: flattened and rather broad, the first segment black except upon the anterior lateral corners. Second segment black with yellow pattern as follows: a pair of submedial spots rounded posteriorly, concave medially, angulate anteriorly and diagonally attenuated as they extend towards the lateral margin and somewhat in the direction of the anterior corners. They are narrowly separated from a lateral, obtuse triangle of yellow whose long face lies upon the lateral margin and which is continuous with the yellow of the anterior corners. Third segment with the anterior half of the lateral margin occupied by an acute triangle which is narrowly separated from a pair of crescentic yellow spots on either side of the segment. These crescentic spots lie close to but not touching a narrow, medial, linear, yellow stripe which is evanescent both anteriorly and posteriorly. Fourth segment similar, the lateral basal yellow triangle a little more distant from the crescent. This segment has basal corner triangle and small yellow crescents but no medial vittæ. *Legs*: brownish-yellow, the hind femora and tibiæ with wide subapical and subbasal smoky bands. *Wings*: pale brown hyaline; alulæ narrow and strap-shaped.

Holotype: a female, Rio Margajitas, Rio Pastaza, Ecuador, 1250 meters, 20-III-29, F. M. and H. Brown collectors. (In collection of C. L. Fluke.)



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