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NEW NEOTROPICAL AND ORIENTAL DIPTERA IN THE AMERICAN MUSEUM OF NATURAL HISTORY

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The types of the new species described in the following pages will be found in The American Museum of Natural History. Further details concerning the relationships of the species from the West Indies will be contained in a paper dealing with the Diptera of Porto Rico, the descriptions being published at the present time in order to conserve space in that report. The Porto Rican specimens were acquired in the course of the N. Y. Academy of Sciences' survey of that island.

Blepharoceridæ

***Paltostoma argyrocincta*, new species**

Opaque black or brown with silvery white areas apparent from different views. The very dark color at once distinguishes this species from the described Neotropical forms. Length, about 4.5 mm.; of the wing, about 4.2 mm.

MALE.—Head velvet-black, the face and proboscis brownish, the former argenteous from dorsal view; antennæ dark brown, the basal segments with silvery sheen. The front may also show an argenteous sheen. Ocelli pale amber. Proboscis about 2 mm. long.

Mesonotum black, with a central pair of posteriorly tapering, narrowly separated median vittæ of a reddish brown color, best seen from behind, the depressions more or less silvery, and, from varying views, different silvery areas are discernable, especially in and adjacent to the depressions. The pleura are, for the most part, subshining brownish red, dark in front, and from different views, the sclerites appear silvery. Scutellum brown, narrow, shaped like the "cap" of a broadly opened "toad-stool." Thorax without trace of hairs.

Coxæ brownish; legs brownish yellow, the femora brownish on the apical third, more or less, the tibiæ broadly brownish apically, the tarsi becoming blackish towards their apices. The colors are diffuse, their limits not at all defined and their intensity varies considerably.

Wing venation as in the other species, the anterior veins black, the others luteous. Squamæ blackish, with brownish hairs. Halteres black, the stem becoming reddish at the base.

Abdomen opaque black or dark brown, each segment with a large, subtriangular silvery reflecting spot on either side, the first wholly argenteous pollinose and more

reddish brown in color. The rather large genitalia project upwards at almost a right angle, their claspers with some short, fine hairs apically. The abdomen appears to be entirely destitute of hair.

Type male and four paratypes, Rio Grande, Porto Rico, July 3, 1915, collected by F. E. Lutz.

Stratiomyidæ

Macrosargus goliath, new species

Distinguished from described species by its very large size: violaceous, the thorax sometimes bluish or greenish; wings brownish, with hyaline base. Length, 21 to 24 mm.

MALE.—Front quite narrow, widened above and below, at the vertex twice as wide, below three times as wide, as at the middle, metallic green or blue on the upper half, the vertex violaceous, rusty reddish below, this color gradually merging into the metallic, the frontal callous whitish. Lower half of the front with a more or less strong median carina; ocellar triangle one and one-half times as long as wide. Occiput black, the orbits broadly yellowish gray pollinose, the pile whitish. Face brownish yellow, the large convex portion mostly metallic green or blue; hair of the head black. Proboscis pale yellow. Antennæ pale ferruginous, the basal segments with longish black hair, especially above and below; first segment twice as long as wide, broad apically, narrowed to its base; second segment considerably broader than long on its outer surface, longer than wide on inner side; third segment transverse, rounded apically, with a large, deep subtriangular notch towards the upper edge in which the long, slender, basally thickened arista is inserted, the swollen base of the arista with longish black hairs.

Humeri yellow; line separating pleura and dorsum white; all the incisures, narrow sides of the mesonotum and the propleura, brownish red or ferruginous, the end of the prothorax white. Pile pale cinereous or with slight silvery tinge. Scutellum with the broad border diffuse brownish; metanotum brilliant green.

Front coxæ largely whitish yellow, the others, the femora, basal third of the posterior four tibiæ and their tarsi, blackish; anterior four tibiæ and tarsi, apices of the femora and apical two-thirds of the posterior tibiæ, ferruginous or brownish, the anterior tibiæ whitish above, the posterior four with a dorsal whitish streak commencing before the middle and extending to or nearly to the apex. Hair of the legs mostly pale, appearing white in some views, black on the posterior four femora except below and on the basal third of the anterior surface of the hind tibiæ.

Abdominal pile conspicuous, erect, fairly long, mostly black; pale cinereous or with yellowish tinge on the whole of the first segment, bases of the second to fifth and on the narrow posterior margins of the second to fourth segments except in the middle, the bands of the front of the segments considerably broadened laterally.

FEMALE.—Front three times as wide, at its narrowest part quite as wide as the first antennal segment across its middle and more strongly widened above than at the antennæ where it is but little wider than in the male. The antennæ are darker, the basal segments blackish. The thorax is almost wholly metallic, only the humeri and part of the prothorax being pale, while the scutellum shows no brown border and the posterior tibiæ are almost all black, with only a small white area at the middle above and they are wholly black haired.

Five specimens from Yen-ping, China; the type male, Aug. 3, 1917; allotype female, June 9, 1917; paratypes: male, July 14, female, Sept. 7 and male, Oct. 1, 1917, all collected by Mr. Harry Caldwell. (? No. 5148.)

I consider *Geosargus Bezzi* (Sargus) a synonym of *Macrosargus* Bigot, the characters separating the two genera being evanescent in the consideration of the various forms found in the Neotropical region.

Syrphidæ

Baccha ornatipes, new species

Related to *livida* Schiner, but the mesonotum is mostly shining black, while the posterior tarsi have the first segment of peculiar structure (Fig. 1). Length 6 mm.

MALE.—Face, cheeks and front pale yellowish; a shining black, rectangular, lunular spot and a brownish streak above it; a broad, brown vitta on the facial tubercle; vertical triangle shining black; occiput black, densely gray pollinose, with two rows of yellow hairs, the inner row the shorter. Vertical triangle about twice as long as wide, but produced in front as a slender triangle; in the middle with a double row of black hairs which extend to the vertex; frontal triangle and the upper corners of the face black pilose. Face with a very large tubercle covering most of its length. Antennæ reddish, the third segment about half brown, almost one and one-half as long as wide, rounded apically; arista blackish.

Mesonotum, pectus, a large spot on the mesopleura and lower, posterior part of the hypopleura, shining brown or blackish; lateral margins of the mesonotum and other parts of the thorax, pale yellowish. Middle of the mesonotum with three narrow, grayish-yellow pollinose vittæ, the median one entire, the outer ones abbreviated opposite the roots of the wings, curving gently outwards behind the suture and broadened on their anterior ends, the outer vittæ separated from the median one by a little more than the width of either and slightly wider than the median vitta; a slender line extends out from them along the suture. Pile of the mesonotum sparse, rather short, black; pleura with inconspicuous pale pile; scutellum brown, the base linearly and the broad apical margin, pale yellow, the hair sparse, black, short; there is a partial row of yellowish hairs on the lower margin but the downwardly directed fringe is quite absent.

Legs reddish; all the femora with more or less distinct brownish or ferruginous, sub-basal and pre-apical bands, the pale bands on the posterior pair quite narrow (Fig. 1). Anterior four tibiæ somewhat darkened in the middle, the posterior pair with bands corresponding to those on the femora. Middle tarsi yellowish, the posterior pair brownish apically. From lateral view the first segment of the posterior tarsi is of practically equal height throughout and bears a number of short, basally directed hairs projecting beyond the pubescence of the foot-cushions on most of the under surface; its apex is transverse or very slightly concave and

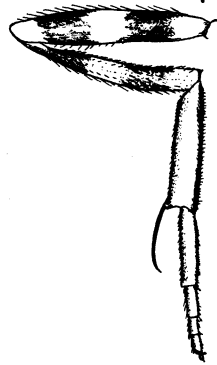


Fig. 1. *Baccha ornatipes*, new species. Hind leg of ♂, posterior view.

it bears at the end a shining black thorn (composed of several contiguous bristles) which is half as long as the segment bearing it and curves somewhat downwards; the second segment of the posterior tarsus is normal, hardly half as high as the first.

Wings hyaline; entire stigmal cell (sub-costal) brown; apex of the submarginal cell with a triangular, brownish-luteous spot.

First abdominal segment brown with the large anterior angles whitish yellow; second segment with a slender median yellow vitta on the basal three-fifths and a pair of oblique, pale yellow spots, the outer ends of which are behind the middle of the segment, the inner ends in front of the middle, the inner ends strongly produced rectangularly forward, the outer ends angularly broadened; sides of the segment obscure reddish towards the base. Third segment with the median vitta tapering posteriorly, reaching the posterior fourth of the segment; on either side with a broader, gently arcuate (the concavity outwards) reddish vitta, reaching the whole length of the segment and connected in front with a fairly broad, oblique stripe which reaches the sides of the segment at the apical fourth. The fourth segment is like the third except that the median vitta is entire while the sub-median vittæ and oblique stripes are wider. On the fifth segment the sub-median vittæ are still wider, the oblique stripes are curved inwardly behind so as to reach the posterior instead of the lateral border. Genitalia reddish except on the right side, which is greenish black, the first genital segment appearing as a sixth abdominal segment: the genitalia are unusually large. Abdominal pile sparse, appressed, black, erect on the first two segments, pale only on the first segment. The abdomen is rather broad basally but strongly spatulate beyond the second segment, which is about two and one-half times as long as wide.

One specimen, Cayey, Porto Rico, May 30, 1915, collected by F. E. Lutz and A. J. Mutchler.

***Allograpta fuscisquama*, new species**

Length, 7 to 8.5 mm.

MALE.—Face shining pale yellowish, becoming yellow below; cheeks yellow, with a large brown spot in the middle; a broad median facial vitta, continued as an obtuse triangle onto the front, wholly enclosing the antennæ and narrowed below the tubercle, æneous. The yellow margin of the frontal triangle is of almost equal width. Pile of the head white, on the upper third of the occiput yellow, the occipital cilia black; pile of vertical and frontal triangles black. Eyes contiguous for a distance almost one-half greater than the length of the frontal triangle which is rather small. Antennæ reddish, the second and third segments brown on the upper half or less; arista black. Face strongly receding below the low, nose-shaped tubercle, the oral tip somewhat produced.

Thorax shining greenish black; a broad lateral stripe in front of the suture, posterior calli, more than the posterior half of the mesopleura, a broad vitta on the sternopleura above and the hypopleura, pale yellow. Pile of the thorax yellow, coarser and black on the dorsum behind the suture except towards the sides. Scutellum dull pale yellow with a large, transverse, discal black spot, the pile long and sparse; ventral fringe black, long.

Legs reddish yellow; posterior femora with the pre-apical third black; posterior tibiae black on the apical third and brown on the sub-basal third; tarsi blackish or brown with the first segment of the middle pair mostly pale. Pile of the legs black except on the bases of the femora.

Wings hyaline; stigma luteous. Squamæ brown, with yellowish base; halteres pale yellow.

First abdominal segment, except the linear, incomplete, brown apex, yellow. Base of the second segment and sides of the abdomen shining, the dorsum opaque. Second segment with an almost transverse, broad, yellow band which is broadened laterally and lies mostly behind the middle of the segment, its width at the lateral third equal to about one-third the length of the segment. The yellow band on the third segment is very strongly arched, separated from the base at the lateral third by about one-fifth the length of the segment, roundedly excavated in the middle and correspondingly produced behind, the outer ends tapering and resting near the posterior angles of the segment. The black markings on the fourth segment consist of a median vitta which is moderately broad basally, tapering behind, a tapering vitta at the lateral fourth resting on the posterior margin and reaching to the basal third of the segment and the lateral margins, very broadly in front and moderately broadly behind, the dark markings connected by the narrow, brown apex of the segment. The fifth segment bears black markings corresponding to those of the fourth but they are quite narrow and the inner border of the lateral black area is almost parallel to the middle line. Abdominal pile yellowish in front of the posterior black band on the second segment, elsewhere coarser, black, pale on the venter. Genitalia shining black.

FEMALE.—The front is shining black with the broad yellow lateral stripe continued almost to the anterior ocellus; wholly short black pilose. Sixth abdominal segment with a narrow median and very broad lateral black vittæ. Abdominal markings quite as in the male.

Type male, Ensenada, Porto Rico, June 14, 1915, collected by F. E. Lutz; allotype, female, Tortola, March 18, 1925, collected on cereus blossoms by L. B. Woodruff. Paratypes: male, St. Thomas, between Santa Maria Bay and Perseverence Bay in west end of Island, Feb. 25, 1925, collected by F. E. Lutz; two males (without heads), St. Croix, Blessing Estate, near Krause Lagoon in south central part of Island, Feb. 26, 1925, and Mona Island, Feb. 21–26, 1914, collected by F. E. Lutz.

***Allograpta venusta*, new species**

Readily distinguished from the preceding species by the longer front, which is equal in length to the contiguous portion of the eyes, and the yellow band on the third abdominal segment reaches broadly to the base on either side of an oval, posteriorly produced median black area. Length, 7 to 8 mm.

MALE.—Face and frontal triangle pale yellow, shining, with a broad, median bluish black vitta which is rounded on the front, tapers from the middle of the tubercle to the oral margin and entirely encloses the antennæ. The yellow frontal border is of almost equal width. Cheeks black, with a reddish spot behind. Pile of the head pale yellowish, whitish on the lower half of the occiput and cheeks, yellowish on the frontal triangle, but there may be a few black hairs, the vertical triangle æneous, with black pile: no black occipital cilia. Facial tubercle nose-shaped, a little prominent; oral margin almost or quite as prominent as the antennal base. Antennæ reddish yellow, third segment brown on the upper half; arista reddish, with brownish apex. Occiput white pollinose.

Thorax shining greenish black; broad lateral margins in front of the suture, posterior calli, less than the posterior half of the mesopleura, the sternopleura rather

narrowly above, a fairly small spot on the hypopleura, and the scutellum, pale yellow, the latter opaque, with an oval, transverse black discal spot. Pile pallidly yellowish, black on the disc behind the suture and on the scutellum, where it is sparse and long; ventral fringe black.

Legs yellow; posterior femora with a broad, pre-apical black band; posterior tibiae black with the broad base and median band, yellow; all the tarsi black or brown, the anterior four sometimes reddish basally. Hair black, yellow on the basal half of the femora and on the anterior tibiae except dorsally.

Wings hyaline; stigma luteous. Squamæ grayish, with yellowish tinge and sometimes a faint infuscation, the fringe paler. Halteres reddish yellow.

Abdomen opaque, the base and lateral margins shining. First segment with a narrow, sub-triangular black spot on either side behind. Second segment black, with a broad, medianly narrowed yellow fascia on the middle, which may sometimes be narrowly interrupted, and is as wide at its lateral third as one-third the length of the segment. Third segment at the base with a median, sub-cordate or sub-triangular, large black spot which usually emits a slender to broad vitta to join the posterior black fascia; on either side is a large, basal black triangle which is broadly separated from the median black spot and reaches narrowly to the posterior margin along the sides: the black posterior band increases in width from the sides (where it is very narrow) to the median fourth, where it occupies about one-third the length of the segment and thence decreases strongly to about one-fourth the segmental length at the middle. The markings of the fourth segment are very similar to those on the third except that the yellow is produced much more strongly back along the median vitta which usually tapers from the base. The fifth segment is rusty yellowish with a median, incomplete, vitta, sub-lateral triangular vittæ and the sides broadly black. Apices of all the segments broadly shining. Pile pale in front of the posterior black fascia on the second abdominal segment and on the pale spots on the third segment, elsewhere black. Genitalia black; venter yellow, its pile pale.

Type male, St. Croix, Blessing Estate, near Krause Lagoon in south central part of Island, W. I., Feb. 25, 1925. Paratypes, three males, from same locality as type, Feb. 25, 26, 1925.

***Mesogramma verticalis*, new species**

Abdomen black, with four broadly interrupted yellow fasciæ, the last three of which are broadened inwardly. Length, 5 mm.

MALE.—Face and frontal triangle yellow; face black between the antennæ and tubercle, the black continued in the shape of a horseshoe along the sides of the tubercle. Cheeks and occiput black, grayish pruinose. Posterior orbits above and the vertical triangle, opaque black, the latter with cupreous reflections behind the ocelli; frontal lunule brownish. Pile of occiput short, cinereous; a single row of short, black occipital cilia above; vertical triangle with sparse black hairs on the anterior three-fifths. Eyes contiguous for a longer distance than the length of the almost equilateral ocellar triangle. Antennæ dull reddish, the third segment wholly black, longer than wide.

Mesonotum æneous on the anterior two-thirds, with two opaque black vittæ which widen posteriorly and do not reach the posterior margins; broad lateral margins more shining than the disc, which is thinly gray pollinose. Humeri, a small spot at

the outer end of the suture, posterior calli, apical border of the scutellum, spots on the meso- and ptero-pleura and above the anterior and posterior coxæ, yellow. Pleura greenish black, pale pilose; mesonotum and scutellum black haired.

Legs reddish yellow; posterior and middle femora blackish, with basal and median broad yellow bands; tarsi, except the first segment of the middle pair, and the whole of the posterior tibiæ, black.

Wings cinereous hyaline; stigma pale luteous; third vein gently curved forward. Squamæ yellow; halteres orange.

Abdomen with about the median third opaque black; elsewhere shining. First segment with the anterior margin yellow; second with the yellow spots lying just in front of the middle, gently concave behind and convex in front, a little broadened towards their inner ends, separated from each other by about one-fifth the width of the segment, their width at the middle between one-fifth and one-sixth the length of the segment. Following three pairs of spots narrowly separated from the bases of the segments, narrow laterally, strongly broadened inwardly where they occupy about one-third the length of the segment and they are a little more broadly separated from each other than are the spots on the second segment; on the fifth segment the spots may be more or less distinctly divided, resulting in four spots. Genitalia reddish below and on the left side. Abdominal hair sparse, appressed, black; pale on the first and basal half of the second segment.

Type, male, Cayey, Porto Rico, May 30-31, 1915, collected by F. E. Lutz and A. J. Mutchler.

***Mesogramma rufocincta*, new species**

Abdomen metallic reddish, the first segment with a transverse apical blackish spot on either side behind. Length, 9 mm.

MALE.—Face, front and cheeks, pale yellow; posterior half of the cheeks and the occiput, black, densely yellowish gray pollinose. Vertical triangle æneous, violaceous above the ocelli, five times as long as wide, tapering in front of the ocelli, the eyes contiguous for a slightly shorter distance than the length of the ocellar triangle. Upper fourth of the occiput with two rows of fine bristles, the pile below cinereous. Vertical triangle in front of the posterior ocelli with long, sparse, black hairs. Antennæ reddish, the third segment black except below and basally, not as long as wide; first two segments with black hair. Face very strongly produced immediately below the antennæ.

Mesonotum rather dull black, with three broad, obscure, gray vittæ, the lateral margins broadly sulphur yellow, the border of the scutellum and the meso- and sterno-pleural spots whitish yellow; space below the posterior spiracle yellow. Pleura blue-black, cinereous pilose; mesonotum, except the sides, and the scutellum, black haired.

Legs reddish, the anterior four coxæ mostly blue-black, thinly gray pollinose, middle femora behind, somewhat brown towards the base; posterior femora with a narrow, pre-apical black band, their tibiæ with a slightly wider sub-basal and narrow pre-apical blackish band, the first segment of the posterior tarsi darkened above, the apical two segments and the apical segments of the remaining tarsi, black. The legs are more robust than in any other species known to me.

Wings tinged with gray; stigma luteous; third vein carried moderately forward at the apical third of the apical cell. Squamæ and halteres yellow, the former with white fringe.

Pile of the abdomen yellowish, erect, each segment with sparse, short black hairs on the apical fourth except towards the sides.

Type male, Mayaguez, Porto Rico, Feb. 16, 1914, collected by F. E. Lutz.

Tachinidæ

Dexia caldwelli, new species

Large, the abdomen appearing somewhat inflated, but very long, being as long as the rest of the body. Rusty reddish, the mesonotum with two very broad black vittæ, the abdomen with a fairly wide median dull black vitta and somewhat darkened segmental apices. Length, 16.5 to 21.5 mm.

MALE.—Frontal vitta dark reddish brown or rather blackish, at any given point equally as wide as a parafrontal; twelve to fourteen pairs of frontal bristles; ocellars strong; only a few scattered, short frontal hairs. Head brassy yellow pollinose; occiput blackish above except beneath the vertex. The occipital cilia extend only a little below the middle of the eyes but from their lower end two rows of black hairs extend to and across the cheeks, while behind the cilia is a second row; cheeks half as wide as height of eye. Head practically as long below as at the base of the antennæ, the strong facial carina flattened on more than half its length, narrow above, widest at its lowest fourth. Vibrissæ situated a little above the oral margin, the facial ridges on their lowest sixth broadly clothed with very short black bristles. Antennæ reaching over half-way to the oral margin, the third segment narrow, tapering; arista with long, fine, brownish rays. Apical section of the proboscis shorter than the length of the head; palpi long, reddish. Front strongly widened anteriorly, its width above hardly one-third that of one eye.

Each of the black thoracal vittæ is equal to almost one-third the width of the mesonotum: they are moderately separated from each other and are somewhat ferruginous posteriorly, do not reach the scutellum in their full intensity and are strongly constricted or very narrowly interrupted at the suture: they are covered with thin grayish pollen while the remainder of the thorax bears brassy yellow pollen. The scutellum is rather brownish with a broad rusty reddish border and blackish base, its discal pollen golden brownish. The hair of the thorax is almost wholly black, not abundant, fairly short, that on the scutellum somewhat longer and coarser. Acrosticals 1-1; dorso-centrals usually 2-3, rarely 1-3; sternopleurals 1-1; posterior sub-lateral bristle absent; three pairs of marginal scutellars and a pair of small cruciate apical hairs; one of pair discals. Propleura hairy in middle.

Legs reddish, long and slender, the anterior tarsi almost twice as long as their tibia; tarsi black, pulvilli yellowish, elongate.

Wings rather strongly tinged with reddish yellow, the posterior half becoming more or less grayish especially on the apical half. The bend of the fourth vein forms a sharply rounded right angle, the apical crossvein bowed inwards; posterior crossvein oblique, gently curved, joining the fourth vein near the apical fourth of its penultimate section. Third vein with three or four bristles basally. Squamæ and halteres yellowish.

The dull black abdominal vitta broadens towards the apices of the second and third segments and is represented on the fourth segment by a posteriorly tapering brownish vitta or may be entirely wanting. On either side of the second and third segments there is a more or less conspicuous ferruginous or brownish triangle occupying about the apical half and narrowly connected with the median vitta along the pos-

terior margin of the segment. The first segment is without strong bristles but there is sometimes a pair of poorly defined marginals; second segment with one or two pairs of more or less strong discals and a strong pair of marginals; third segment with two or more pairs of fairly strong to strong discals and a row of strong marginals, the fourth segment with discals scattered over most of its surface, but these hardly reach the sides. Genitalia reddish. The hair of the abdomen is rather coarse towards the middle of the dorsum and more erect than elsewhere. The segments are quite long, including the first one.

Type male, Yen-ping, China, Aug. 3, 1917; paratypes, three males, Yen-ping, June 22, 23, and Sept. 3, 1917; all collected by Mr. Harry Caldwell.

It gives me pleasure to name this beautiful species in honor of Mr. Caldwell, who brought back from China many fine insects.

This species can hardly remain in the genus *Dexia* but I have placed it here pending a complete revision of the genera, as it traces to *Dexia* in available keys. However, it does not appear to belong to any described genus.

