

DESCRIPTIONS OF NEOTROPICAL TWO-WINGED FLIES OF THE FAMILY DROSOPHILIDAE.

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In this paper are presented descriptions of a number of new species and notes on one or two previously described species of Drosophilidae represented in the collection of the United States National Museum.

The species of *Stegana*, except two, were briefly diagnosed in a synoptic key printed in the Entomological News¹ and the present descriptions are given to furnish details not included in that paper, as well as to place upon record the type-numbers and other data not included therein.

The types collected by Borgmeier, Wetmore, and Holt are deposited in the National Museum with the others, those of the first collector being sent to the author by the collector, of the second being found in the collection of the Biological Survey, and of the third from W. L. McAtee.

STEGANA NIGRITA Malloch.

Male and female.—Brownish black, shining. Antennae, and sometimes the humeral angles, part of scutellum, sides of abdomen at base, and upper margin and middle of pleura paler brown, the pleura never whitish yellow in center and the upper and lower vittae never conspicuously darker than the other parts of pleura. Legs pitchy black, usually with apices of tibiae and all of tarsi whitish yellow, sometimes the tibiae but little darkened. Wings brown, paler along hind margin. Halteres brown.

Frons at anterior margin not over one-half as wide as its length, and about three-fourths as wide as at vertex; eyes about one-fourth higher than long; cheek linear; face not carinate above; antennae extending to mouth; palpi broad. Scutellum slightly pointed, apical bristles about three-fourths as long as basal pair. Inner cross-vein at middle of discal cell; marginal cell obtuse at apex; fourth vein

¹ Ent. News, pp. 96-100, 1924.

gradually approaching third on apical section; apex of fifth vein deflected.

Length, 2-3 mm.

Type, and 10 paratypes, Higuito, San Mateo, Costa Rica (P. Schild).

Type.—Male, Cat. No. 26684, U.S.N.M.

STEGANA ATRIMANA Malloch.

Female.—Head testaceous yellow, ocellar region fuscous, cheek silvery white; antennae yellow, third segment mostly black; palpi yellow. Thorax yellowish brown, whitish at humeral angles and in center of pleura, the upper pleural vitta and one below middle distinct, mesonotum not vittate. Abdomen shining fuscous. Legs pale tawny yellow, apices of fore femora, fore tibiae from near bases to near apices, and basal four segments of fore tarsi black, mid and hind femora largely brown, tibiae more or less brownish basally. Wings brown, subhyaline along hind margin. Knobs of halteres brown.

Eye fully as long as high; cheek about half as high as width of third antennal segment; facial carina very low; antennae extending to mouth. Scutellum shorter than usual, apical bristles about half as long as basal pair; each humeral angle with one bristle. Inner cross-vein at middle of discal cell; fifth vein deflected at outer cross-vein.

Length, 2-2.5 mm.

Type and two paratypes, Higuito, San Mateo, Costa Rica (P. Schild).

Type.—Male, Cat. No. 26683, U.S.N.M.

STEGANA CURVIPENNIS Fallen.

Confined to North America and Europe. In National Museum collection.

STEGANA INTERRUPTA, new species.

Female.—Head stramineous; frons with a large spot on anterior margin and another on ocellar region connected by a black line, with an hour-glass shape; apex of third antennal segment, vibrissal angle, sides of labrum, and apices of palpi deep black; upper half of occiput fuscous, lower half, orbits and cheeks silvery white. Thorax tawny yellow, whitish on humeral angles and middle of pleura, with two broad brown, poorly defined discal vittae which are most distinct anteriorly, a V-shaped black mark which has its apex below prothoracic spiracle, one arm running upward in front of wing base on to disc, and the other extending along middle of pleura to base of haltere; a second fuscous vitta over lower part of pleura; disk

of scutellum brown. Abdomen brown, apices of tergites blackish. Legs tawny, fore coxae, and the greater part of all femora and tibiae fuscous. Wings brown, paler towards hind margins, and with a very small subhyaline spot beyond outer cross-vein. Knobs of halteres dark brown.

Eye higher than long; cheek less than half as high as width of third antennal segment, the latter extending to slightly below mouth margin. Each humeral angle with one bristle; scutellum almost semicircular, apical bristles half as long as basal pair. Inner cross-vein at middle of discal cell; last section of fourth vein slightly curved; last section of fifth not abruptly deflected at outer cross-vein, rather curved downward.

Length, 3.25 mm.

Type and one paratype, Higuito, San Mateo, Costa Rica (P. Schild).

Type.—Female, Cat. No. 26678, U.S.N.M.

The type specimen has a white egg protruded from apex of abdomen. The portion which is visible is shaped like a flat-bottomed boat, the margins near upper side carinate and with a fringe of pale closely placed hairs.

STEGANA TEMPIFERA Malloch.

Male and female.—Head yellow testaceous, frons with an hour-glass shaped dark mark as in *interrupta*, but not so distinct, sometimes only brownish; face with two narrow dark cross-bands, one below bases of antennae and the other above mouth; labrum brown; palpi mostly fuscous; cheek pale yellow; upper occiput brown. Thorax tawny yellow, whitish yellow on pleura, disk with three partial brown vittae, one on lateral margin, another just above it from anterior margin, and another mesad of that which does not extend as far forward. Abdomen dark brown, sides of some of the basal tergites yellowish. Legs testaceous yellow, fore femora with a basal and an apical brown band, nearly all of mid and hind femora and a broad median band on same tibiae dark brown, fore tibiae with a faint median ring. Wings brown, paler towards hind margins. Halteres yellow.

Eye about as long as high; cheek nearly linear. Scutellum slightly pointed, apical bristles about two-thirds as long as basal pair. Inner cross-vein at or close to middle of discal cell; last section of fourth vein not absolutely straight, very close to third at apex; fifth vein deflected at outer cross-vein

Length, 2.5 mm.

Type and four paratypes, Higuito, San Mateo, Costa Rica (P. Schild).

Type.—Male, Cat. No. 26680, U.S.N.M.

STEGANA FLAVIFRONS Malloch.

Female.—Head yellow, ocellar region and palpi fuscous, sides of labrum and third antennal segment brown. Thoracic dorsum brown, paler along anterior margin and without distinct vittae; pleura pale yellow, upper black vitta conspicuous, lower one absent or present only on upper margin of sternopleura. Abdomen blackish brown, sides of some of basal tergites yellowish. Legs pale yellow, fore femora with a large apical blackish spot, fore tibiae with black apices, basal segment of fore tarsi black or brown; mid and hind femora nearly all blackish brown, bases of mid tibiae and middle of hind pair broadly brown. Wings brown, paler along hind margin. Halteres yellow.

Eye higher than long; frons at anterior margin about half as wide as its length; cheek linear; palpi broadened; antennae extending to mouth. Scutellum almost rounded, apical bristles about two thirds as long as basal pair. Fore metatarsus dilated. Wing as in last species.

Length, 2.5–3 mm.

Type and paratype, Higuato, San Mateo, Costa Rica (P. Schild).

Type.—*Female*, Cat. No. 26679, U.S.N.M.

STEGANA MAGNIFICA Hendel.

This species, originally described from Peru, is not present in the available material. The data presented in the key should enable students to identify it.

STEGANA PLANIFACIES Malloch.

Female.—Frons glossy black, yellowish only on sides below proclinate orbital bristle and at anterior lateral angle; middle of face broadly black on entire width; palpi yellow; cheeks silvery white; occiput blackish on upper half and with a black spot at level of pleural vitta; third antennal segment almost entirely black. Thorax brownish black on disk, paler on anterior and lateral margins, but not distinctly vittate; scutellum black, with a conspicuous white central vitta, broadest posteriorly; upper pleural vitta complete. Abdomen black, paler on sides at base. Legs pale yellow, apical spot of fore femora faint; mid and hind femora each with an oblique fuscous streak on anterior side from near middle to near apex, that on hind pair least distinct; mid and hind tibiae or at least the mid pair with a basal fuscous band. Wings brown, almost hyaline along hind border. Halteres obscurely yellow.

Eye longer than high; frons wider than in last species, especially at vertex; cheek almost as high as width of third antennal segment; palpi broad; antennae extending to mouth; face not carinate above. Scutellum very little pointed, apical bristles about two-thirds as

long as basal pair. Fore tarsus slender. Wing a little narrower than usual; discal cell not as wide at apex as at inner cross-vein, the latter noticeably in front of middle of cell; fifth vein continued straight beyond outer cross-vein for about half the length of latter, then rather abruptly deflected, the section beyond cross-vein distinctly longer than the latter; last section of fourth vein not entirely straight.

Length, 3 mm.

Type and paratype, Higuito, San Mateo, Costa Rica (P. Schild).

Type.—Female, Cat. No. 26682, U.S.N.M.

In this and the following four species each humeral angle has two distinct bristles, except in *coleoprata* which has the second bristle either minute or absent. Hendel in describing *magnifica* did not mention the humeral bristle, but it very probably is present in duplicate as in the others.

STEGANA ATRIFRONS Malloch.

Female.—Similar to the last species, but the frons and scutellum are entirely black, the mid and hind femora are black on apical half and the tibiae of these legs are broadly blackened basally.

The face has a sharp carina on upper half in center, the inner cross-vein is at middle of discal cell, the wing is broader as is also the discal cell, and the outer cross-vein is at its own length from apex of fifth vein, while the latter is deflected closer to the cross-vein. Last section of fourth vein appreciably curved.

Length, 2.5 mm.

Type, Higuito, San mateo, Costa Rica (P. Schild).

Type.—Female, Cat. No. 26681, U.S.N.M.

STEGANA SCHILDI Malloch.

Male and female.—Head pale yellow, frons with ocellar region fuscous, and the anterior third glossy black; face with a narrow transverse band of black below base of antennae; third antennal segment almost entirely black; palpi and labrum yellow; upper occiput fuscous, a black spot in line with anterior extremity of pleural vitta; cheeks silvery white. Mesonotum with six brown vittae, in part fused; scutellum dark brown, usually with a rather faint median pale line. Abdomen black, paler on sides at base. Legs pale yellow, fore pair with a pale brown spot at apices of femora on anterior side; mid legs with apical half of femora, except extreme apices, dark brown, and bases of tibiae rather broadly brown; hind femora pale brown on anterior side on almost their entire length, hind tibiae sometimes faintly brown basally. Wings brown, paler towards hind margin. Halteres yellow.

Anterior width of frons much greater than half the median length of same; third antennal segment extending below mouth margin:

head otherwise as in last species. Apical scutellar bristles about half as long as basal pair. Inner cross vein at or a little in front of middle of discal cell, and at about its own length from apex of fifth vein; last section of fourth vein noticeably curved.

Length, 3-4 mm.

Type, male, allotype, and five paratypes. Higuito, San Mateo, Costa Rica (P. Schild).

Type.—Male, Cat. No. 26674, U.S.N.M.

Named in honor of the collector.

STEGANA UNIFORMIS Malloch.

Male and female.—Head pale yellow; frons with a large black mark on ocellar region which extends to middle of frons but not to lateral margins, and the anterior third glossy black; face with a broad transverse black band below bases of antennae; occiput fuscous on upper half, and with a black spot in line with the pleural vitta; cheek silvery white; third antennal segment black except at base; palpi and labrum yellow. Dorsum of thorax with three broad black vittae on a yellow ground, the median one broadened posteriorly; scutellum blackish brown; pleura with a complete black vitta above. Abdomen black. Legs yellow, fore femora with an apical black spot on anterior side, mid and hind femora with apices black, mid pair most conspicuously so; tibiae of same legs brown at bases. Wings brown, paler along hind margin. Halteres yellow.

Head as in *schildi*, frons about half as wide at anterior margin as its median length; face not two thirds as high as back of head; antennae extending to mouth; cheek as high as width of third antennal segment. Both humeral bristles long; apical scutellar bristles about two-thirds as long as basal pair. Inner cross vein at about one-third from base of discal cell; last section of fourth vein parallel to third on its basal half, then curved forward towards third; outer cross vein at about its own length from apex of fifth.

Length, 4-4.5 mm.

Type, Higuito, San Mateo, Costa Rica (P. Schild). Paratype, Erwin Island, Panama Canal Zone, July 18, 1923 (R. C. Shannon).

Type.—Female, Cat. No. 26675, U.S.N.M.

STEGANA COLEOPTRATA Scopoli.

The humeral angles each have one bristle. Occurs in North America and Europe.

STEGANA (ORTHOSTEGANA) ACUTANGULA Hendel.

This species was used as the genotype of *Orthostegana* by Hendel. As in the preceding five species the humeral bristle is duplicated, but the head is more like that of *curvipennis*, the eye being much higher than long. The microscopic erect hairs on the interfrontalia

distinguish it from the species of *Stegana*, but some species of *Leucophenga* have the interfrontalia more or less hairy. The latter are distinguished, however, by the widely open first posterior cell of the wing, the fourth vein being not or very little bent forward at its apex, and much weaker on its last section than the other veins, I incline to the retention of *Orthostegana* as a good subgenus.

The absence of the pleural vitta is a very good superficial character for the recognition of this species.

Originally described from Bolivia. One female, Higuito, San Mateo, Costa Rica (P. Schild).

STEGANA BRUNNEA Malloch.

Female.—Head testaceous yellow; ocellar spot and apex of third antennal segment black; upper occiput fuscous. Thorax brownish yellow, darker posteriorly; disk of scutellum brown; upper pleural vitta deep black, lower one absent. Abdomen dark brown. Legs yellow, apices of fore femora on anterior side, and a large mark on anterior side of mid femora dark brown, hind femora and mid and hind tibiae faintly or not at all marked with brown. Wings brown, paler posteriorly. Halteres yellow.

Eye much higher than long; cheek about half as high as width of third antennal segment; face with a low sharp carina on upper half in center; antennae extending to mouth. Humeri with one bristle. Fore tarsi slightly compressed. Inner cross-vein a little in front of middle of discal cell.

Length, 2 mm.

Type and two paratypes, Higuito, San Mateo, Costa Rica (P. Schild).

Type.—Female, Cat. No. 26676, U.S.N.M.

STEGANA AFFINIS Malloch.

Male.—Head testaceous yellow, ocellar spot, a transverse line above mouth, and the third antennal segment black. Mesonotum brownish yellow, darker on sides; disk of scutellum brown; upper pleural vitta complete, lower one present only on sternopleura. Abdomen dark brown. Legs yellow, fore femora at apices on anterior side, fore tibiae on most of apical half, mid and hind femora except bases brown, tibiae of mid and hind legs hardly darkened basally. Wings brown, paler posteriorly. Halteres brown.

Eye as high as long; cheek at least half as high as width of third antennal segment; antennae extending to mouth. Thorax and wing as in last species.

Length, 2.5 mm.

Type, Higuito, San Mateo, Costa Rica (P. Schild).

Type.—Male, Cat. No. 26677, U.S.N.M.

STEGANA CONFORMIS Malloch.

Female.—Differs from *affinis* in having the labrum and upper part of face brownish, the mid and hind femora less broadly browned, lower pleural vitta absent, and as stated in the key.

The eye is distinctly higher than long and the inner cross-vein is at middle of discal cell.

Length, 2.5 mm.

Type and paratype, Higuito, San Mateo, Costa Rica (P. Schild).

Type.—Female, Cat. No. 26673, U.S.N.M.

STEGANA FLAVIMANA Malloch.

Male.—Head fuscous, bases of antennae, cheeks and lower half of occiput yellow. Mesonotum and abdomen fuscous brown; pleura pale yellow, with the upper pleural vitta black and complete. Wings brown, paler posteriorly. Halteres yellow.

Frons at anterior margin less than half as wide as its median length; eye one fourth higher than long; cheek linear. Apical scutellar bristles nearly as long as basal pair. Inner cross-vein at middle of discal cell.

Length, 2 mm.

Type, Higuito, San Mateo, Costa Rica (P. Schild).

Type.—Male, Cat. No. 26672, U.S.N.M.

STEGANA FUSCIBASIS Malloch.

Male.—Similar to *flavimana*, differing as stated in the key.

The eye is a little longer and the frons a trifle wider than in *flavimana*.

Length, 2.5 mm.

Type, Higuito, San Mateo, Costa Rica (P. Schild).

Type.—Male, Cat. No. 26671, U.S.N.M.

STEGANA CRISTIMANA, new species.

Male.—Shining yellowish brown, apical half of third antennal segment, a vitta on upper half of pleura, and apical three segments of fore tarsi black; ocellar spot, upper part of sternopleura, and tip of abdomen darkened. Wings browned, more noticeably on anterior half. Halteres yellow.

Eyes higher than long, not oval but almost subquadrate, occupying almost all of side of head; cheek almost linear; front glossy, anteriorly not over one-fourth of head width, at vertex about one-half the head width; proclinate bristle opposite middle of frons; orbits not differentiated; carina on upper half of face low, rounded; antennae extending to mouth-margin. Scutellum broader than long, rounded in outline, apical bristles not half as long as basal pair. Fore tarsi

with segments 1 to 4 compressed, first nearly as high as long, second about twice as high as long, third and fourth each with a long dorsal extension which is blunt at apex, of uniform width and about four times as high as length of segment. Inner cross-vein at middle of discal cell; second vein bent towards costa at its middle, joining costa almost at a right angle.

Length, 2.5 mm.

Type, Alhajuelo, Panama, March 12, 1912 (A. Busck).

In my key to the species of this genus already referred to this species will run to caption 3. From both species therein included it will be readily distinguished by the remarkably compressed fore tarsi as well as their color, and from *tarsalis* by the yellow palpi.

Type.—Cat. No. 26997, U.S.N.M.

STEGANA NIGRIMANA, new species.

Male.—Frons more suffused with brown than in the last species, lower margin of face brown or fuscous, dorsum of thorax fuscous brown, abdomen largely fuscous, fore tarsi black except the base of first segment, apices of fore femora, almost all of mid and hind femora, and the greater part of mid tibiae brown; halteres brown; wings more uniformly brown than in last species.

Structurally similar to last species, but the fore tarsi are less conspicuously compressed, segments 2 to 4 being equally high, and about twice as high as long.

Length, 2 mm.

Type and one male paratype, Alhajuelo, Panama, March 12, 1912 (A. Busck).

This species will run to the same caption as last in my key already referred to but may be distinguished from *tarsalis* by the yellow palpi, and from the other species by the differently colored fore tarsi.

Type.—Cat. No. 26998, U.S.N.M.

LEUCOPHENGA BRAZILENSIS, new species.

Male.—Head rufous, occiput dark brown, palpi infuscated. Thorax brownish yellow, pleura paler. Abdomen marked as in *varia* Walker, but the black spots are more transverse and those on second and third visible tergites are connected along the hind margins; the maculation is obviously 2, 5, 5, 5, 2, though in type only the second tergite has outer spot on each side separated from the next one. Legs pale yellow. Wings hyaline, with a fuscous cloud from apex of subcostal cell to inner cross-vein and extending basally as far as furcation of second and third veins, a similar cloud from before middle of second section of costa to tip of wing and suffusing disk of wing between third vein and costa, and a conspicuous clouding over outer cross-vein.

Each orbit with three strong bristles, the anterior two at middle and almost at same height; palpi slightly broadened. Wing venation as in *varia*.

Length, 3 mm.

Type, Petropolis, Brazil (P. Borgmeier).

Type.—Cat. No. 26700, U.S.N.M.

CLASTOPTEROMYIA FLORIDANA, new species.

Female.—Similar to *inversa* in color and habitus. Differs as follows: Mesonotum with a rather indistinct central vitta and traces of two similar vittae between this and lateral margins; mesonotal setulae in front of dorsocentrals longer, finer, and less numerous than in *inversa*; wings as in that species, the cross-veins more pronouncedly clouded; comparative lengths of penultimate and ultimate sections of fourth vein 9.5:15, in *inversa* about 10:20; outer cross-vein at very little more than its own length from end of fifth vein.

Length, 1.5 mm.

Type, Fort Lauderdale, Fla., February 18, 1919 (A. Wetmore).

Nothing is known of the habits of this species.

Type.—Cat. No. 26699, U.S.N.M.

CLASTOPTEROMYIA TRISETA, new species.

Male.—Similar to *inversa* Walker in color and habitus. General color pale brown, third antennal segment and palpi subfuscous, thorax not vittate, abdomen dark brown, legs stramineous, wings almost uniformly pale brown.

Each orbit with three bristles, the upper reclinate and the proclinate one equally long, the lower reclinate one situated about half as far in front of proclinate one as the latter is in front of the upper reclinate; palpi rather longer than usual. Thorax similar to that of *inversa*, but the prescutellar acrostichals are absent. Last section of fourth vein as compared with preceding section 16:10; outer cross-vein at less than twice its own length from apex of fifth vein; second section of costa twice as long as third.

Length, 1.5 mm.

Type, Higuito, San Mateo, Costa Rica (P. Schild).

Type.—Male. Cat. No. 26686, U.S.N.M.

DROSOPHILA SCHILDI, new species.

Female.—Similar in general color and habitus to *calliptera* Schiner. Differs in having the ocellar spot and the mark surrounding the vertical bristles on upper extremity of each orbit larger and darker, the scutellum dark brown with gray prunescent marks on margin and on a small round one in center of disk; the tibiae with a faint brown preapical mark which is absent in *calliptera*, and the wings differently marked. In *calliptera* there are but three fuscous spots between apices of first and second veins exclusive of the dark mark on first, the third one covering apex of second vein, in *schildi*

there are four such spots, the second and third connected along second vein, the first with a spur of a vein in its center which is emitted from second vein, the dark mark over apex of first vein extending more into the cell; in *calliptera* there is a large spot on apex of third vein and a narrow brown mark along wing tip between and beyond apices of veins 3 and 4, but in *schildi* the dark spot is well removed from the apex of third vein and there is no brown marginal mark along tip of wing between the veins; in *schildi* there is also a fuscous spot in the submarginal cell below the first spot in marginal cell which is not present in *calliptera*.

Length, 3 mm.

Type and three paratypes, Higuito, San Mateo, Costa Rica (P. Schild).

Type.—Female, Cat. No. 26685, U.S.N.M.

SCAPTOMYZA NIGRIPALPIS, new species.

Female.—Reddish testaceous, thorax slightly, abdomen distinctly shining. Head clay colored, paler on frontal orbits; ocellar region brown; apices of palpi black or fuscous. Thoracic dorsum with gray pruinescence and three broad brown vittae, the median one extending to tip of scutellum; pleura with a broad brown vitta along upper margin. Each tergite of abdomen blackish, with an interrupted black fascia on anterior half. Legs yellow. Wings hyaline.

Palpi normal, apices with a rather long setulose hair. Humeral angle with one bristle; only two distinct pairs of dorsocentrals present; apical pair of scutellar bristles not over half as long as basal pair. Abdomen slender. Legs normal. Inner cross-vein at about one third from base of discal cell; penultimate section of fourth vein about three fourths as long as ultimate section; last section of fifth vein about one third longer than outer cross-vein.

Length, 1.5 mm.

Type and three paratypes, Alto Itatiaya Serro do Itatiaya, south-east Brazil, 7,150 feet, February 21, 1922 (E. G. Holt).

Type.—Cat. No. 26701, U.S.N.M.

SCAPTOMYZA FUSCINERVIS, new species.

Female.—Differs from the last species in having the thorax more shining posteriorly on dorsum, the dorsal vittae much less noticeable, the median one not evident on scutellum; the scutellum shorter and convex, not flattened on disk, the abdomen almost uniformly glossy dark brown; and the bases of the wing veins distad of the humeral cross-vein and including the costal vein on almost its entire length darker than the remainder of the veins.

Length, 1.5 mm.

Type and two paratypes, same locality as last species.

Type.—Cat. No. 26702, U.S.N.M.