

DESCRIPTIONS OF NEW GENERA AND SPECIES OF MUSCOID FLIES FROM THE ANDEAN AND PACIFIC COAST REGIONS OF SOUTH AMERICA.

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The present paper contains descriptions of 72 species of muscoid flies from South America, all collected by myself except as otherwise noted. Among these are the types of 37 genera, which are duly characterized. Very many of these forms have been the subjects of dissections and studies in the female reproductive system, reproductive habit, egg and first-stage maggot, and their naming and characterization are thus especially called for. A preliminary paper containing some of these species and giving some of the results of these studies was published in the *Annals of the Entomological Society of America*.<sup>1</sup> A few of the forms studied have also been referred to in a paper reviewing Pantel's last work and published in the *Proceedings of the Entomological Society of Washington*.<sup>2</sup> Since the species named in these two papers were described only by giving characters of the female reproductive system, full descriptions of the adults are included in this paper.

The types of all the forms here described are deposited in the U. S. National Museum collections. I have taken the precaution to make the particular specimens which furnished the dissections already referred to and which will be fully described and figured in a forthcoming completed paper the actual type-specimens of the species, so that no doubt may hereafter arise as to the identity of the forms treated and figured. A separate TD number, meaning Townsend-Dissection number, is given to each specimen of fly dissected or otherwise connected with the study of the reproductive system, habit, and early stages, and in every case the dissections and early stages obtained from a particular individual fly bear its TD number. The early-stage and reproductive-system material obtained by dissection may thus at any time be referred to the individual adult specimen whence it came. The type-specimens that have been dissected are duly noted in the fol-

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<sup>1</sup> Vol. 4, 1911, pp. 127-152 and 328-329.

<sup>2</sup> Vol. 13, 1911, pp. 151-170.

lowing text by TD numbers. The dissections of same that will be figured in the above-mentioned completed paper are noted as *f. r. s.* = female reproductive system, *e.* = egg, *ch.* = chorion, *m.* = first-stage maggot, and *cph. sk.* = cephalopharyngeal skeleton of first-stage maggot. All published references to the forms described are cited in the text under the name employed in the reference, including the TD number when that was given.

### Family PHASIIDÆ.

#### Subfamily ECTOPHASIINÆ.

#### XANTHOMELANODES PERUANUS Townsend.

*Xanthomelanodes peruanus* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 128.—TD 3983.

Length of body, about 5.75 to 6.75 mm.; of wing, 4.5 to 5.5 mm. Numerous specimens of both sexes, Piura, Peru, July 17, 1910, on foliage; October 31 to November 6, 1910, on flowers of *Mikania*, sp., and noted abundantly on latter through November.

Head of male deeply golden pollinose, the parafrontals most strongly so; that of female silvery with a faint golden shade on parafrontals. Occiput ashy, deep golden on upper half in male. Frontalia velvet-brown; antennæ brown. Palpi yellowish, dusky at extreme tip. Only one vibrissa on each side. Thorax deep golden pollinose in male, silvery in female with a faint golden shade on mesoscutum, the usual four velvet-black vittæ present. Scutellum wholly blackish. Abdomen golden pollinose in male, silvery in female, the ground color in both pale yellowish, with brown median posterior triangles on segments two to five, and the shortened first segment wholly brown. The triangles vary, and are sometimes more or less obsolete on the second and fifth segments in the female. Legs wholly blackish. Wings infuscated, most strongly so on costal half. Apical cell closed in tip of wing. Tegulæ of male distinctly yellow, those of female faintly so.

*Type*.—Cat. No. 15140, U.S.N.M. Female, November 6, 1910; TD 3983, *f. r. s.*

Cotype, female, July 17, 1910; TD 3931, *e.*

Deposits flat-oval macrotype eggs on host, without incubation.

This species is probably parasitic in the adults of *Stenomacra*, sp. (near *limbatipennis* Stal; determined by Heidemann). I have repeatedly found in the abdomen of adults of this lygæid second and third stage maggots which I believe to be this species. The host is exceedingly abundant in the valley of the Rio Piura, on *Prosopis dulcis* and on species of *Gossypium*, attacking the fruits of both.

## Family EXORISTIDÆ.

## Subfamily EXORISTINÆ.

## EUPHOROCERA PERUVIANA, new species.

*Tricholyga*, sp. TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 131 and (*Euphorocera*) 328.—TD 3971.

*Euphorocera peruviana* TOWNSEND, Proc. Ent. Soc. Wash., vol. 13, 1911, p. 153. [*nomen nudum*].

Length of body of female, 10 to 11 mm.; of wing, 8 to 9 mm. Length of body of male, 14 to 15 mm.; of wing, about 10 mm. Numerous specimens of both sexes, Piura, Peru, October 28 and through November, 1910, on trunks of mesquite.

Facial plate and parafacials silvery-white pollinose, parafrontals pale golden pollinose. Antennæ blackish, first two joints and palpi reddish-yellow. Thorax, scutellum, and abdomen thickly cinereous pollinose, the mesoscutum with the usual five vittæ, the scutellum with the reddish ground color showing through the pollen. Female with first abdominal segment and indefinite hind borders of others black and less thickly pollinose. The abdomen of male is broadly reddish on sides of first to third segments. The anal segment in both sexes is the most thickly pollinose. First and second segments with a median marginal pair of short macrochætæ in both sexes, third segment with a marginal row of stronger ones. Wings clear, the basal costal area faintly straw-yellowish.

*Type*.—Cat. No. 15141, U.S.N.M. Female, October 28, 1910; TD 3971, *f. r. s.*

Deposits flat-oval macrotype eggs on host, without incubation.

## EUPHOROCERA MINOR, new species.

*Euphorocera minor* TOWNSEND, Proc. Ent. Soc. Wash., vol. 13, 1911, p. 153. [*nomen nudum*].

Length of body, 7 mm.; of wing, 5 mm. Several females, Chapairá and Piura, in valley of Rio Piura, Peru, January 4 to May 21, 1911, on mesquite trunks and vegetation.

Differs from *E. peruviana* in its uniform small size and in the greater contrast of the black and pollinose portions of the body. The wing-bases lack the yellowish shade almost entirely.

*Type*.—Cat. No. 15142, U.S.N.M. Female, Chapairá, May 21, 1911; TD 4058, *f. r. s.*

Deposits flat-oval macrotype eggs on host, without incubation.

## PLAGIOPS, new genus.

*Plagiops* comes near *Plagiprospherysa*, *Deuterammobia* (type, *Ammobia glabriventris* Wulp), and *Stomatomyia*, on external adult characters, running there in Brauer and Bergenstamm's tables. It may

be distinguished from *Stomatomyia* by the eyes being thinly but distinctly hairy. The type of *Stomatomyia* is *S. filipalpis* Rondani, hereby designated. It has discal and marginal macrochætæ, while *Plagiops* has only marginal. From *Deuterammobia* it differs in the palpi being short, small, and filiform. From *Plagiprospherysa* it differs in the distinctly but thinly hairy eyes. In the female the vertical and next three pairs of frontal bristles are differentiated by being stronger than the anterior frontal bristles; in the male the vertical and next two pairs only have this character.

Reproductive habit, oviposition on host of small flat-oval macrotype eggs, without incubation; uterus absent.

*Type-species.*—*Plagiops meridionalis*, new species.

The following table will separate these forms:

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|---|---------------------------|
| 1. Palpi rudimentary, short, small, filiform.....                                       | 2                         |
| Palpi filiform, but elongate; eyes thickly hairy, macrochætæ discal and marginal.....   | <i>Stomatomyia</i> .      |
| Palpi normal, somewhat thickened at tip, eyes bare or nearly so.....                    | <i>Deuterammobia</i> .    |
| 2. Eyes bare.....   | <i>Plagiprospherysa</i> . |
| Eyes very distinctly but not thickly hairy, macrochætæ only marginal in both sexes..... | <i>Plagiops</i> .         |

PLAGIOPS MERIDIONALIS, new species.

Length of body, 6 to 7 mm.; of wing, 4 to 5 mm. The males are the larger. Two females and one male, Piura, Peru, June 11, 1911, on foliage.

Parafrontals in both sexes silvery pollinose with a faint golden tinge, the golden being usually more pronounced in female. Frontalia rust-yellow, first two antennal joints reddish-yellow, third joint and arista dark brown in male but the base of third joint in female reddish-yellow. Parafacials, cheeks, facial plate, and orbits silvery-white. Occiput silvery with gray pile, upper portions faintly golden. Palpi yellowish. Pleuræ and humeri deeply silvery; mesoscutum and scutellum with pollen of a faint golden shade, five vittæ on former, the outer ones interrupted at suture, the next ones abbreviated at less than halfway behind suture; edges of scutellum yellowish. First abdominal segment blackish, the other three segments densely silvery pollinose with the same faint golden shade as front and thoracic scutum, leaving an irregular broad posterior margin of shining blackish. Legs dark brown, front femora pollinose exteriorly. Wings clear, tegulæ whitish.

*Type.*—Cat. No. 15143, U.S.N.M. Female, June 11, 1911; TD 4064, *f. r. s.*



## EUMYOTHYRIA MERIDIONALIS, new species.

*Eumyothyria*, sp. TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 131.—  
TD 3981.

Length of body, 7 mm.; of wing, 7 mm. Two females, Piura, Peru, November 5 and 12, 1910. One on flowers on *Mikania*, sp., the other on mesquite trunk.

Parafrontals and parafacials light golden pollinose, the facial plate with pollen of a lighter shade. Frontalia pale brown; antennæ brown, the first two joints and base of third reddish-yellow. Palpi pale reddish-yellow. Occiput cinerous pollinose, the orbits faintly golden. Thorax, scutellum, and abdomen thickly cinereous pollinose, with a golden shade on abdomen, especially posteriorly; the mesoscutum with the four usual vittæ, the sides of intermediate abdominal segments faintly reddish-yellow anteriorly, the hind borders of segments more or less distinctly and narrowly margined with blackish. Wings clear. Legs blackish. Three postsutural and three sternopleural bristles. Third antennal joint about two and one-fourth times as long as second.

*Type*.—Cat. No. 15144, U.S.N.M. Female, November 5, 1910; TD 3981, *f. r. s.*

Deposits flat-oval macrotypic eggs on host, after incubation in uterus.

## EUTHELAIIRA, new genus.

Fronto-facial profile much rounded, especially in male, eyes distinctly and fairly thickly hairy. Frontal bristles strong and more or less decussate, descending well below base of antennæ (only to middle of second antennal joint when the antennæ are downwardly exerted and fully to base of third when antennæ are retracted), but not diverging from the parafacial margin. Front of female anteriorly about the width of one eye, a little narrower at vertex; that of male anteriorly fully two-thirds of eye-width, about one-half eye-width at vertex; face gradually widening from front, that of male below more than twice and that of female less than twice vertex-width. Male with one strong pair of reclinate inner orbital bristles in line with frontals; female with same and behind it a strong outwardly directed or divergent inner orbital, with two proclinate outer orbitals. Male with a strong pair of long ocellar bristles, exactly and strongly divergent; female with only a pair of very fine divergent hairs, very delicate and not over one-half the length of the male ocellar bristles. This is one of the few cases known of the ocellar bristles furnishing sexual characters. Facial ridges ciliate nearly to fully halfway up, vibrissæ level with oral margin, latter cut off and not at all prominent. Second antennal joint short, third long and reaching nearly

to oral margin in both sexes; arista very long and thickened only on extreme base, basal joints short. Inner vertical bristles of ordinary strength, about like frontals or orbitals. Proboscis short and fleshy, palpi elongate and somewhat thickened apically.

Three strong sternopleural bristles, three postsutural. Two strong lateral scutellar pairs, the posterior twice as long as anterior; a strong long decussate apical pair; a very weak discal pair. Scutellum with erect short bristly hairs. Abdomen very elongate and narrow, especially narrowed posteriorly in female. A strong median marginal pair of macrochætæ on first and second segments, six or eight strong marginal in row on third, a discal and marginal row of weak ones on anal segment in female, but strong in male. Legs long, hind tibiæ with irregular bristles and neither ciliate nor pectinate, but subciliate, with very short bristles among the long ones. Claws of female moderately strong, those of male a very little stronger. Tibiæ and femora in general very bristly. Wings long, apical cell widely open just a little before tip of wing, fourth vein rounded at bend and without stump or wrinkle, hind cross vein nearer bend of fourth.

Reproductive habit, host-oviposition; uterus presumably present; eggs flat-oval, macrotype.

*Type-species.*—*Euthelaira inambarica*, new species.

This genus seems to approach *Ptilodegeeria*, running there in Brauer and Bergenstamm's tables. It differs in having third vein bristly only at base, facialia ciliate on more than lower one-third, and in the sexual character of the ocellar bristles.

EUTHELAIRA INAMBARICA, new species.

Length of body, 10 to 10.5 mm.; of wing, 8 to 9 mm. Three females and two males, Rio Inambari at junction of its affluent, the Rio Yahuarmayo, foot of eastern slope of Cordillera Oriental in the montaña of southern Peru, about 1,700 feet, February 8 to 11, 1910, on foliage.

Face, cheeks, front, and orbits pure silvery-white, with an almost snow-white shimmer; parafrontals usually faintly golden in middle and posteriorly in female, less so or not at all in male. Occiput cinereous, usually with a brassy tinge, the tergite of sixth segment blackish. Beard gray, not profuse. Frontalia and antennæ black or dark brown. Palpi brownish-yellow. Pleuræ silvery. Mesoscutum and scutellum silvery with a distinct golden tinge, the usual four vittæ fairly distinct. Second and third abdominal segments silvery-white pollinose on basal one-half above and below, the pollen sometimes with a faint suggestion of brassy, the rest of abdomen shining dark brown. Legs blackish, front femora silvery on outside. Wings smoky on costal border and long veins. Tegulæ nearly white,

often more or less yellowish on margins. One female shows practically no brassy tinge to pollen either on head, thorax, or abdomen.

*Type*.—Cat. No. 15145, U.S.N.M. Female, February 11, 1910; TD 3936, *e*.

Subfamily PSEUDODEXIINÆ.

Genus OPHIRODEXIA Townsend.

*Ophirodexia* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 134, 147.

Belongs in Pseudodexiinae, and runs to *Doleschalla*, *Graphia*, and *Pachygraphia* in Brauer and Bergenstramm's tables, but differs markedly from these forms. Front about twice length of face, the antennæ inserted far below middle of eyes. Eyes bare, extending lower in male than in female. Front of female fully width of one eye, that of male hardly two-thirds eye-width. Female with two proclinate orbital bristles, none in male. Parafacials and cheeks of female wide, former about one-third and latter about one-half eye-height; those of male narrower, former being less than one-fourth and latter hardly one-third eye-height. Facialia bare save several bristles next vibrissæ. Frontal bristles stopping at base of antennæ. Facial plate small, cut off below, oral margin not prominent, vibrissæ on oral margin. Antennæ reaching nearly to vibrissæ, second joint short. Arista short, densely plumose on both sides in female, less plumose on underside in male. Proboscis very short and fleshy, palpi slender. Ocellar bristles weak, distinct in female but reduced to a pair of delicate hairs in male. Occiput bulged below, especially noticeable in its invasion of cheek-area, sunken above leaving an excavated area between eyes especially noticeable in male.

Two sternopleural and three postsutural bristles. Scutellum with one strong basal lateral bristle, and an apical pair of same strength barely decussate at ends; discal pair hairlike, also a hairlike marginal bristle between the lateral and apical. Abdomen moderately elongated, subconical in male, first segment widest, tapering evenly to apex of anal segment, second and third segments equal in length and longer than others. Abdomen of female a little broadened in middle. First segment with a median marginal pair of very weak macrochætæ, hardly stronger in male than the bristly hairs of abdomen; second segment with a median marginal pair of stronger ones; third and fourth segments with a marginal row of eight or ten bristles, the upper ones strongest and those of third segment longest. Weak marginal bristles on sides of first two segments. Legs not elongate, without strong bristles, tarsi normal, claws and pulvilli moderately short in both sexes. Wings rather narrow; apical cell narrowly open to almost closed, terminating just before extreme wing-apex; apical crossvein lightly bowed in, parallel with the subsinuate hind cross-

vein which is a little approximated to it; fourth vein usually continued in extremely short stump. Costal spine very small and inconspicuous.

Reproductive habit, larviposition of uncolored maggots on or near host.

*Type-species*.—*Ophirodextia pulchra* Townsend.

**OPHIRODEXIA PULCHRA** Townsend.

*Ophirodextia pulchra* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 134 and 147.—TD 3999.

Length of body, 6 to 7 mm.; of wing, 4.5 to 5.5 mm. Three males and two females, Piura, Peru, November 12, 1910, to March 7, 1911, on bark of mesquite limbs.

Face, front, and cheeks silvery-white pollinose in both sexes, the cheek-grooves showing yellowish-brown in some lights. Facial plate of a duller shade. Antennæ and palpi brownish-yellow, the plumose hairs of arista blackish. Frontalia dark brown or blackish. Occiput and vertex ashy. Thorax silvery, with a cinereous shade dorsally. Scutellum and lateral posterior edge of mesoscutum, with median spot just behind suture, brown; the posterior two-thirds of third abdominal segment is brown, the tip of anal segment also, and less distinctly a broad median triangle on second segment and a median patch on first brownish. Rest of abdomen pale brownish-yellow, thickly silvery pollinose, the pollen with a tawny shade and showing in broad basal bands on second to fourth segments. Femora and tibiæ brownish-yellow, lightly pollinose; tarsi blackish. Wings infuscated on costal one-third, the infuscation also narrowly following the long veins and crossveins. Tegulæ white.

*Type*.—Cat. No. 15146, U.S.N.M. Female, November 13, 1910; TD 3999, *f. r. s.*

**DIAPHOROPEZA PERUANA** Townsend.

*Diaphoropeza peruana* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 147.—TD 4026.

Length of body, 6.5 to 7.5 mm.; of wing, 5 to 6 mm. Numerous females, Sullana, Peru, October 1, 1910, to April 11, 1911, on bark of trunk and large branches of tamarind tree in Rio Chira Valley.

Head silvery-cinereous. Frontalia brownish; antennæ reddish-yellow, third joint except base dusky, arista blackish. Palpi pale yellowish. Whole body black in ground color, pleuræ silvery, mesoscutum with three wide silvery vittæ, the middle one continued over scutellum, which it wholly suffuses in some lights. Intermediate abdominal segments silvery-white anteriorly, more broadly so on sides; sides of first segment and all of anal segment except tip silvery. Legs black. Wings faintly infuscated on costal region and



along veins, clear on inner border. The third antennal joint is four times as long as second.

*Type*.—Cat. No. 15147, U.S.N.M. Female, April 11, 1911; TD 4026, *f. r. s.*

Deposits uncolored maggots on or near host.

#### ÆSTROGASTER, new genus.

Head in profile flattened-hemispherical, the oral margin abruptly cut off and scarcely showing, the eyes extending from vertex almost to peristomalia. No palpi, proboscis very short and fleshy. Vibrissæ inserted a little above oral margin, facialia perfectly bare. Parafacialia reduced to mere lines, cheeks about as wide as third antennal joint. Front long and narrow, equilateral, about one-sixth greatest width of head. The parafrontals are only a little wider than the parafacialia, being about one-half width of frontalia. Antennæ inserted low, face being much shorter than front; arista long and hairlike, enlarged on extreme base. No ocellar bristles. There seem to be two proclinate orbital bristles, indicating the female, but they are almost in line with the frontal bristles, due to the very slight width of the parafrontals.

Two sternopleural bristles and three postsutural bristles. Scutellum with one long nondecussate apical pair, and one long subbasal lateral pair; only short bristles between these. Abdomen subglobose, arched and of unique build, the venter being subcarinate, the external genital opening approximated to posterior edge of first segment, the dorsal sclerites of intermediate segments narrowing rapidly on sides and their posterior margins directed obliquely forward to the hind margin of first segment where they meet on median line. The anal segment is invisible in a direct downward view, but is brought forward on venter in an arched surface extending to the point of meeting on median line of the lateral apices of dorsal sclerites of intermediate segments, the parts bounding genital orifice being evidently a continuation of the abdominal sclerites. A median marginal pair of macrochætæ but no discal on first two segments, the third segment with a discal pair and a marginal row; the anal segment with five or six median pairs in a line which appear to be and may be called discal, but which correspond to the normal discal and apical bristles. Claws and pulvilli short. Apical cell narrowly open in wingtip. Wings broad, fourth vein rounded at bend, hind crossvein in middle between small crossvein and bend. Costal spine hardly at all developed.

Reproductive habit unknown, but judged to be larviposition on or near host.

*Type-species*.—*Æstrogaster fumosus*, new species.

## CESTROGASTER FUMOSUS, new species.

Length of body, 5.5 mm.; of wing, 6 mm. One female, Rio Charape, in the montaña of the east slope of Cordillera Oriental in Province of Jaen, northern Peru, about 5,000 feet, September 12, 1911, on foliage.

Black, lightly silvery. The narrow parafrontals, linear parafacials, facial plate, facialia and orbits are silvery-white pollinose, though appearing blackish in some lights. Occiput and cheeks ashy. Frontalia and antennæ soft black, showing a grayish bloom in some lights. Pleuræ and humeri silvery-white pollinose. The silvery pollen of presutural mesoscutum leaves a median pair of black vittæ confluent anteriorly and a black spot on each side joined by a line with the broadened confluent area in front of the vittæ. The postsutural mesoscutum is broadly silvery pollinose on hind margin, more than anterior half being soft dark brown like the entire scutellum which is without pollen. First abdominal segment wholly dark brown, but with a brassy-cinereous bloom in oblique view; second and third segments broadly silvery-white pollinose on anterior margins, most broadly so on sides and extending on venter, the rest of surface being shining dark brown with the same faint bloom as first segment showing in oblique view; anal segment broadly bordered on each side with silvery-white pollen, brown in middle. Legs brown. Wings lightly infuscated on distal half and costal margin, rest nearly clear; tegulæ deeply yellowish-fuscous, the anterior portion of hind scale and whole of front scale nearly white.

*Type*.—Cat. No. 15148, U.S.N.M.

## Subfamily PYRRHOSIINÆ.

## Genus OPHIRION Townsend.

*Ophirion* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 134, 146.

Belongs in the group with *Pyrrhosia* and *Micromyobia*. Differs from former genus in the short proboscis, bare arista, narrow front of male, oral margin not prominent, claws of male slightly elongate, etc. Differs from *Micromyobia* in the male being without orbital bristles, male claws a little longer than those of female, etc.

Front of female about or nearly width of one eye, the face being but slightly widened from this; front of male but little more than one-half eye-width, the face below being twice this width. Frontal bristles all reclinate in both sexes except the pair on each side of antennal insertion. Two proclinate orbital bristles in female, none in male. No ocellar bristles in either sex. Frontalia very narrow, parafacials bare and very narrowed below; cheeks a little wider than length of second antennal joint, the eyes descending almost as low as vibrissal angles, which are practically level with the middle of oral

margin, the latter cut off and not produced. Antennæ nearly reaching oral margin, second joint short; arista enlarged at base, with hardly discernible microscopic pubescence, the basal joints indistinct. Proboscis short and fleshy; palpi normal, elongate and rather slender.

Two sternopleural and two postsutural bristles. Scutellum with one strong basal lateral bristle, a short weak marginal bristle next to it, and a long divergent apical pair; discal small pair atrophied or barely distinct. Both sexes with median marginal pair of bristles of first abdominal segment atrophied but usually distinguishable, second segment with median marginal pair, third with marginal row of about eight stronger ones, anal segment with marginal row of same number of weaker ones. Legs not elongate, with very few bristles. Claws and pulvilli of male but little longer than those of female, which are themselves slightly elongate. Apical cell ending just before extreme wingtip, narrowly open, sometimes almost closed. Fourth vein gently rounded at bend, its apical section being nearly parallel with inner wing-margin. Hind crossvein almost in middle between bend of fourth vein and small crossvein, and almost at right angle to fourth vein, nearly straight.

Reproductive habit, larviposition of slightly colored maggots probably near host.

*Type-species.*—*Ophirion mirabile* Townsend.

OPHIRION MIRABILE Townsend.

*Ophirion mirabile* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 134 and 146.

*Ophirion*, sp. TOWNSEND, Proc. Ent. Soc. Wash., vol. 13, 1911, p. 161.—TD 3980.

Length of body, 4.75 to 5.5 mm.; of wing, 4.5 to 5.5 mm. Four females and three males, Piura, Peru, November 4, 1910, May 13, 1911, on bark of mesquite trunks and on window screens of house surrounded by these trees.

Pale brownish-yellow, thinly dusted with silvery pollen. Parafrontals faintly golden in both sexes, more distinctly so in male. Antennæ and palpi pale brownish-yellow, frontalia brownish. Mesoscutum of a darker ground color than rest of body, with same shade of pollen as parafrontals; a median pair of linear vittæ that become obsolescent posteriorly, and a heavier lateral vitta that is interrupted at suture. Scutellum, abdomen, femora, and tibiæ very pale brownish-yellow, the first two silvery dusted, tarsi dusky. Wings faintly infuscated on costal half, tegulæ whitish.

*Type.*—Cat. No. 15149, U.S.N.M. Female, November 4, 1910; TD 3980, *f. r. s., m., cph. sk.*

## Genus EUMYOBIA Townsend.

*Eumyobia* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 146.

Allied to *Leskia* and *Pyrrhosia*, with following characters: Frontal bristles descending nearly to base of third antennal joint. Arista pubescent. Ocellar bristles very small but distinct. Second antennal joint not elongate, the third three times as long. Proboscis below geniculation longer than head-height, slender, horny, but labella conspicuous. Female with two orbital bristles, approximated to vertex. Three sternopleural and three postsutural bristles. Scutellum with only two marginal pairs of bristles, apical pair wanting, a short subdiscal pair present. No bristles on first abdominal segment except a very small lateral one; a long median marginal pair on second segment and a long lateral one; a marginal row of long bristles on third segment, being eight long ones, with six shorter ones on venter; a marginal row of shorter ones on anal segment, those below shorter than those above, all erect. Apical cell narrowly open, ending just before wingtip. Fourth vein continued in very short stump toward inner wing-margin, hind crossvein nearer to apical crossvein.

Reproductive habit, larviposition on or near host, the eggs and maggots being irregularly packed in the thick tubular twice-coiled uterus.

*Type-species.*—*Eumyobia flava* Townsend.

## EUMYOBIA FLAVA Townsend.

*Eumyobia flava* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 146-147.—TD 4021.

Length of body, about 10 mm.; of wing, 8 mm. One female, Sullana, valley of the Rio Chira, Peru, March 25, 1911, on foliage.

Whole face, cheeks, and lower half of occiput silvery-white, the parafrontals and upper portions of occiput with a deep but variable golden shade. Frontalia honey-yellowish, antennæ nearly same shade, the third joint dusky on apical half, the arista and its pubescence blackish. Palpi pale yellowish. Pleuræ silvery-white. Mesoscutum and scutellum deeply golden pollinose, the former with only faint indication of five vittæ. Abdomen straw-yellow with brown patches on second and third segments, that on third larger. Legs yellowish, tarsi brownish. Wings nearly clear, the costal margin yellowish, the veins accompanied by a faint infuscation.

*Type.*—Cat. No. 15150, U.S.N.M. TD 4021, *f. r. s.*

## TROPIDOPSIS CONNECTANS, new species.

Length of body, 13 mm.; of wing, 13 mm. One male, Rio Charape, montaña of eastern slopes of Cordillera Oriental in the Province of



Jaen, northern Peru, about 5,000 feet, September 12, 1911, on foliage.

Differs from Wiedemann's description of *T. pyrhraspis* by having the mesoscutum deeply golden instead of sulphur-yellow, and the third abdominal segment wholly rust-yellow. The frontalia are brown. The entire fourth segment above and below is velvety-black. The hairs of the abdomen appear black on the third and fourth segments.

This is evidently the genus *Tropidopsis*. It does not belong to the Hystriciidæ, but is a member of the subfamily Pyrrhosiinæ of the Exoristidæ. This is indicated by its comparatively slight epistomal production on level with the vibrissal angles, the frontal bristles descending but little below base of antennæ, the structure of antennæ, the venation and the rather weak spinelike macrochætæ. The tarsi are much elongated, the metatarsi being over half the length of tibiæ. The genus closely approximates the tribe Saundersiini in general habitus.

*Type*.—Cat. No. 15151 U.S.N.M.

Probably deposits colored maggots, but not on foliage.

#### NEOTRAFOIA, new genus.

General characters of *Trafoia*, which form it apparently represents in the South American mountain regions. A pair of strong widely divergent ocellar bristles, long and slightly reclinate. Third antennal joint about three times as long as second, which is not elongate. Vibrissæ removed from oral margin, which is moderately prominent; three or four bristles above vibrissæ. Three pairs of strong decussate frontal bristles above antennæ, four or five pairs below. Two strong proclinate orbital bristles in female, no inner or upper orbitals. Outer vertical a little shorter than inner vertical bristles. Eyes thickly long-hairy. Cheeks less than one-half eye-height, female front about equal to eye-width, parafacials a little narrowed below, arista thickened on a little more than basal one-third. Proboscis short, palpi elongate and widened at tip.

Three sternopleural and three postsutural bristles. Two long lateral scutellar bristles, the posterior the longer; a slender elongate decussate apical pair, a single one on median line so close to apical pair as to be almost on apex of scutellum, just in front a widely separated pair of same strength, and in middle a single discal one on median line. There are thus two unpaired bristles on the median line. I have never noted such disposition of scutellar bristles in any other form. Abdomen very bristly, no median bristles on first segment, median discal and stronger median marginal pair on second segment, a lateral discal and two lateral marginal on second segment, median discal and lateral discal on third segment with marginal row

of eight strong ones, anal segment with discal and marginal rows. Thorax, abdomen, and scutellum metallic bluish or greenish-black. Claws of female about as long as last tarsal joint, hind and especially middle tibiæ strongly spinose. Anal cell widely open, ending conspicuously yet but little before wingtip, wrinkle and very slight stump marking fourth vein beyond the bowed-in apical crossvein, hind crossvein nearer to apical crossvein.

Reproductive habit, larviposition probably of colored maggots, but not on foliage.

*Type-species*.—*Neotrafoia incarum*, new species.

NEOTRAFOIA INCARUM, new species.

Length of body, 7.5 mm; of wing, 6 mm. One female, Cuzco, Peru, February 21, 1910, on foliage.

Face, cheek-grooves, and orbits dull golden pollinose. Occiput and bristly portion of cheeks ashy. Parafrontals, frontalia, and antennæ dark brown, the first showing faintly pollinose in some lights, the third antennal joint broadly reddish-yellow on base. Palpi pale reddish-yellow. Pleuræ, mesoscutum, and scutellum thinly and faintly silvery-white pollinose, the usual four or five vittæ very indistinct. Abdomen silvery-white pollinose, showing most deeply white on narrow bases of second, third, and fourth segments, but extending thinly over practically whole surface as seen in oblique view. Legs black. Wings clear. Tegulæ white to pellucid, according to lights.

*Type*.—Cat. No. 15152, U.S.N.M.

EUGYMNOCHÆTA, new genus.

This genus is proposed for *Gymnochaeta alcedo* H. Loew. It bears only a superficial resemblance to the Palearctic *Gymnochaeta*. The third antennal joint is of ordinary form, not more broadened than distal end of the elongated second joint. The second arisal joint is not elongate. Oral margin is prominent, distinctly produced. The antennæ are inserted on eye-middle. Cheeks are one-fourth to one-third eye-height. Frontal bristles descend to insertion of arista. The genus probably belongs in the subfamily Pyrrhosiinæ.

Reproductive habit, larviposition of colored maggots but not on foliage.

*Type-species*.—*Gymnochaeta alcedo* H. Loew.

EUGYMNOCHAETA EQUATORIALIS, new species.

*Gymnochaeta*, sp. TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 133-134 Proc. Ent. Soc. Wash., vol. 13, 1911, p. 161.—TD 3973.

Length of body, 9 to 12 mm.; of wing, 8 to 11 mm. Three males and one female, Piura, Peru, October 28 to November 1, 1910, on

flowers of species of *Mikania*; the female taken by Mrs. Charles H. T. Townsend.

Metallic bright green to bluish-green, the thorax and abdomen very thinly pollinose with silvery visible only in oblique view. Occiput and parafrontals green, with thin pollinose covering. Facial plate, parafacials, cheeks, and orbits pale golden pollinose, without green. Antennæ and palpi wholly brownish-yellow, arista brown. Frontalia brown. Third antennal joint two to two and one-fourth times as long as second in male, about two and one-half times as long as second in female. No median macrochætæ on first abdominal segment, but a median discal pair on second and third in both sexes and one median marginal pair on second segment. A small strongly decussate apical pair of scutellar bristles, and three strong lateral pairs, also a shorter discal pair. Three sternopleural and three postsutural bristles.

*Type*.—Cat. No. 15153, U.S.N.M. Female, November 1, 1910; TD 3973, *m.*, *eph. sk.*

#### Subfamily PHANIINÆ.

##### EUCELATORIA AUSTRALIS Townsend.

*Eucelatoria*, sp. TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 130 and 328.—TD 3906.

*Eucelatoria australis* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 140 and 328; Proc. Ent. Soc. Wash., vol. 13, 1911, p. 163.

Length of body, 6 to 7 mm.; of wing, 5 to 5.5 mm. The male smaller than female. Various females and one male, Piura, Peru, June 19, 1910, to April 5, 1911, on foliage; one female (TD 3906) taken by Mrs. C. H. T. Townsend.

Head silvery-cinereous pollinose, the parafrontals faintly golden in female and the facial plate with a less distinct golden shade; the parafrontals and cheeks of male are more distinctly golden. Frontalia and antennæ wholly dark brown. Palpi reddish-yellow. Thorax and abdomen silvery-cinereous, the pollen of mesoscutum, scutellum, and anal segment of female more or less distinctly golden. All the pollen of abdomen in male has the golden shade, but that of second and third segments of female and sometimes of scutellum practically lacks it. The usual five vittæ on mesoscutum; three sternopleural and three postsutural bristles. Scutellum with three pairs of strong marginal bristles, the weak apical pair entirely absent, the weak discal pair present. Male with one median marginal pair of weak bristles on first abdominal segment, two weak discal median pairs on second and a strong median marginal pair, a weaker discal median pair on third segment with weak discal lateral and a marginal row of ten strong bristles, the anal segment with a marginal row and straggling weak discal ones. The female has the discal bristles of first three segments and the marginal ones of first two segments less developed but present;

they are sometimes appressed to the surface and are almost indistinguishable from the bristly hairs of abdomen. Normally all the abdominal macrochætæ are erect. The marginal bristles of third segment in female consist of one strong median pair and two lateral ones on each side. The first segment and broad hind margin of second and third segments of female are black; segments two and three of male more narrowly black on hind margin; anal segment in male tipped with reddish-yellow, in female more broadly so. Piercer, ventral carina and spinulæ practically same as in *Dexodes*. Legs blackish, femora faintly pollinose, claws of male elongate. Wings clear, tegulæ whitish.

*Type*.—Cat. No. 15154, U.S.N.M. Female, April 5, 1911; TD 4025, *f. r. s.*, piercer and larvipositor.

Cotype, female, June 22, 1910; TD 3906, *m.*, *eph. sk.*

Deposits maggots subcutaneously in host.

DEXODES MERIDIONALIS, new species.

Length of body, 7 mm.; of wing, 5.5 mm. One female, Piura, Peru, July 17, 1910, on foliage.

This form is quite typical of the genus *Dexoïes*, having the elongate second antennal joint, the bare facialia save for about three bristles next vibrissæ, and the eyes thinly and faintly hairy. The description is from the single female specimen.

Head silvery cinereous, the parafrontals and cheeks with a faint golden tinge. Frontalia brown, antennæ wholly dark brown. Palpi reddish-yellow. Ocellar bristles atrophied, represented by two delicate hairs.

Three sternopleural and three postsutural bristles. Pleuræ silvery-cinereous, mesoscutum and scutellum with the same faintly golden pollen as front, the usual five vittæ on former. Scutellum with three lateral pairs of strong bristles, a weak decussate apical pair, and a weak discal pair. Abdomen blackish, the second to fourth segments silvery pollinose on irregular anterior half extending on venter. First segment with a short median marginal pair of bristles; second segment with a short discal and longer marginal median pair; third segment with a stronger discal pair and a marginal row of eight strong bristles; anal segment with a discal median and a discal lateral pair besides the marginal row; all the macrochætæ erect. The piercer, ventral carina, and spinulæ of latter characteristic of *Dexodes*. Wings clear, tegulæ whitish.

*Type*.—Cat. No. 15155, U.S.N.M. TD 3930, *m.*

Deposits maggots subcutaneously in host.



## INCAMYIA, new genus.

General characters of *Dexodes*, with the strongly elongate second antennal joint, and the frontal bristles descending low; but eyes hairy, facialia strongly ciliate about one-half way up, and ventral carina of female very pronounced and occupying second and third segments. Vibrissæ on level with the slightly prominent oral margin. Female front about one and one-half times the width of one eye, the face but slightly wider. Female with one proclinate and two divergent orbitals in line, and one reclinate orbital inside these. Pair of weak proclinate divergent ocellar bristles. Third antennal joint of female about one and one-half times as long as second. Arista abruptly thickened on less than basal one-third. Proboscis short, palpi slender.

Three sternopleural bristles, three postsutural bristles. Three lateral pairs of scutellar bristles, the two posterior pairs equal and very strong, the anterior pair little more than one-half as long; apical absent; two very weak discal pairs, the anterior pair closely approximated, the posterior pair separated. All segments except first with pair of median discal bristles, first and second with median marginal pair, third with marginal row of eight, anal with lateral discal bristles and marginal row; lateral marginal ones on first and second segments. Terminal segments with base of piercer and larvipositor deeply sunk within anal or fourth (actually fifth) segment, the piercer strongly thrust into the deep carina of third (actually fourth) segment, only latter having the short spines for holding skin of host. Claws of female nearly as long as last tarsal joint, hind tibix irregularly bristly. Anal cell closed in margin well before wingtip. Fourth vein rounded at bend, hind cross vein nearer bend. Strong costal spine.

Reproductive habit, subcutaneous larviposition; uterus slender, developing white maggots.

*Type-species*.—*Incamyia cuzcensis*, new species.

## INCAMYIA CUZCENSIS, new species.

Length of body, 5.5 mm.; of wing, 4.5 mm. One female, Cuzco, Peru, February 21, 1910, on foliage.

Black, with brassy pollen. Parafacials and parafrontals golden-brassy, vertex and orbits same, facial plate and facialia blackish with a faint silvery bloom, frontalia and antennæ dark brown, palpi pale brownish-yellow, cheek-grooves reddish-brown, cheeks narrowly brassy above, occiput ashy. Sternopleuræ brassy; mesoscutum thickly pollinose with pale brassy, leaving two heavy wide black vittæ which extend more or less distinctly on sides of scutellum, rest of latter brassy pollinose. Abdomen with golden-brassy pollen on second and third segments reaching on sides and in middle nearly to

hind margin, leaving a shining black triangle on each side of median line; fourth segment with posterior margin shining black, the rest thickly golden-brassy pollinose extending on underside; carina and venter on each side ashy. Legs black. Wings faintly yellowish on broad costal portion, the color following the veins. Tegulæ white, with some yellowish shading on borders.

*Type*.—Cat. No. 15156 U.S.N.M.

SPATHIMYIA, new genus.

The description of this remarkable genus is made from a single female specimen. Eyes thinly hairy. Front about equal to width of one eye, face slightly and evenly widened from front. Parafacials much narrowed, bare. Cheeks a little over one-fifth eye-height, hardly one-fourth. Oral margin moderately prominent, vibrissæ about on level with median part of same. Facialia with four or five bristles not reaching lowest frontal bristles, which descend to insertion of arista. Second antennal joint of ordinary length, the third about three times as long as second or slightly more. Arista rather long, thickened on nearly basal one-third, basal joints short. Two outer proclinate anterior orbital bristles, and two inner reclinate posterior ones in line with frontals. Ocellar bristles present, slender but moderately long. Palpi nearly as long as the fleshy proboscis beyond geniculation, widened apically.

Three sternopleural and three postsutural bristles. Scutellum with two lateral pairs of moderately long curved bristles, a discal pair of weak ones, and an apical nondecussate pair of long straight ones reaching to base of anal abdominal segment. Abdomen with erect marginal and discal macrochætæ, the first segment with a median marginal pair, the other segments with discal as well as marginal, the median marginal pair of third segment much stronger than the marginal bristles on each side of them, the anal segment with a marginal row of equal bristles. Piercer of extraordinary development, about equal to the abdomen in length, gently curved, narrow, the edges strongly turned up on basal portion forming a deeply grooved dorsal aspect, in which lies the chitinized larvipositor extending fully two-fifths the length of the piercer. Ventral carina distinct but not especially salient, entirely devoid of the usual strong spinulæ of the Compsilurine flies and furnished only with weak bristly hairs. Apical cell narrowly open a little before wing tip, the bend of fourth vein normal and without stump or wrinkle, hind cross vein sinuate and nearer to bend of fourth than to small cross vein. Middle and hind tibiæ with three strong divergent bristles on middle, and three shorter apical ones.

Reproductive habit, subcutaneous larviposition, evidently in caterpillars whose skin is furnished with long hairs or spines. The absence

of the spinulæ from ventral carina of female indicates that the carina does not come into contact with skin of host during larviposition. Moreover the female abdomen is laterally compressed and the ventral carina is very salient and wedge-shaped, the ventral surface of the abdomen being thus especially adapted to turn aside the long spines of the host without injury to itself therefrom.

*Type-species.*—*Spathimyia ferox*, new species.

SPATHIMYIA FEROX, new species.

Length of body, 7 mm.; of wing, 6 mm.; of piercer, fully 3 mm., which is same as length of abdomen. One female, in the montaña of the Rio Charape on the eastern slopes of the Cordillera Oriental, Province of Jaen, in northern Peru, about 5,000 feet, September 13, 1911, on foliage,

Parafrontals, parafacials, cheeks, orbits, and vertical triangle faintly brassy-cinereous pollinose, the facial plate including facialia hardly at all brassy. Occiput ashy, with whitish pile. Frontalia dark brown or black, nearly equilateral, equaling the median width of one parafrontal. Antennæ brown, the third joint faintly grayish in some lights. Palpi reddish-yellow. Pleuræ, mesoscutum, scutellum, and abdomen silvery-cinereous pollinose, with a more or less distinct brassy shade; the mesoscutum with two very wide velvet-black vittæ uninterrupted at suture, scutellum blackish on base and disk; tergum of first abdominal segment, a more or less distinct median line, and posterior half of second, third, and fourth segments black. Piercer polished black, larvipositor of a soft scarcely shining black. Legs black, the femora faintly pollinose beneath. Claws moderately short. Wings with a narrow smoky-yellowish infuscation along costa. Tegulæ whitish, with a yellowish tinge on borders.

This fly represents an extreme specialization in the Compsilurine group, far exceeding any form hitherto known in the development of piercer and likewise of larvipositor. In token of its extremely developed piercer, I have given it the generic name of sword-fly.

*Type.*—Cat. No. 15157 U.S.N.M.

PSEUDOMYOTHYRIA PERPLEXA Townsend.

*Pseudomyothyria perplexa* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 148.—TD 4001, 4035.

Length of body, 3.75 to 4 mm.; of wing, 3 to 3.25 mm. Two males and one female, Somate, in the Rio Chira Valley, Peru, November 18, 1910, on flowers of species of *Telanthera*; and one female, Piura, Peru, April 17, 1911, on foliage.

Black, cinereous pollinose. Frontalia and antennæ blackish. Palpi brownish-yellow, darker basally. A very faint brassy shade to the pollen of parafrontals and parafacials, also to that of dorsal parts



of body. Scutellum with two moderately strong lateral bristles, a long and straight subapical pair, between the last a slightly decussate and very weak apical pair. Both sexes with a very short median discal pair of bristles on second and third abdominal segments, a median marginal very short pair on first segment, a stronger median marginal pair on second segment, and a submarginal row of strong ones on third and fourth segments, the anal segment being without discal bristles. Legs black, claws very short and practically equal in both sexes. Wings clear, tegulæ whitish.

*Type*.—Cat. No. 15158, U.S.N.M. Female, Piura, April 17, 1911; TD 4035, *f. r. s.*

This form is typical of the present genus, the facialia being ciliate about half way up, parafacialia much narrowed below, male front much narrower than that of female, eyes bare, apical cell closed and ending distinctly before wingtip.

Deposits white maggots, probably on host.

Subfamily ERYCIINÆ.

CHÆTOSISYROPS, new genus.

General characters of *Sisyropa*, but much more bristly and general form broad and robust. Eyes of female densely long-hairy, almost equidistant in front view above and below but slightly wider apart below, descending fully to level of vibrissæ; vertex about width of one eye or slightly more, frontal bristles long and descending nearly half way to vibrissal angles (more than two-fifths of the way); two proclinate orbital, and three reclinate orbital bristles but slightly inside them, the middle one of latter weaker; a pair of long outwardly proclinate ocellar bristles, nearly as long as orbital but much weaker. Facial plate wide and deeply set, vibrissæ on level with oral margin, latter cut off and not at all produced, vibrissal angles widely separated, facialia bristly about one-third way up, parafacialia narrowed below to less than one-half the greatest width of parafrontals. Second antennal joint slightly elongate; the third heavily developed and wide, three to four times as long as second, usually reaching almost exactly to oral margin. Arista very long, thickened on about basal one-third. Parafrontals hairy, parafacialia bare; cheeks fully one-eighth of eye-height; proboscis short and fleshy, with very large labella; palpi elongate, much swollen apically and a little flattened, bristly below.

Only two sternopleural bristles, four postsutural bristles. Three strong lateral scutellar pairs, one long but weak suberect decussate apical pair, one discal pair nearly same length and strength as apical. Scutellum quite thickly covered with erect rather long bristly hairs. Abdomen short-oval; one strong median marginal pair of macrochætæ on first and second segments, and a submarginal row of eight strong erect ones on third segment above with others below; shorter erect



discal macrochætæ thickly placed with erect bristles on second, third, and anal segments, the anal thickly hairy and bristly. Claws of female elongate but hardly as long as last tarsal joint; hind tibiæ subciliate, with one heavy bristle near middle about twice as long as cilia; middle tibiæ with an immense bristle on outer surface near middle, being about one-half as long as tibia. Wings rather large, anal cell widely open well before wingtip, fourth vein bent at rounded angle, no wrinkle or stump at bend, hind cross vein nearer bend.

Reproductive habit, larviposition on or as near host as fly can approach; uterus coiled, developing white maggots.

*Type-species*.—*Chætosisyrops montanus*, new species.

CHÆTOSISYROPS MONTANUS, new species.

Length of body, 10 mm.; of wing, 9 mm. Four females, Matucana, Peru, west slope of Cordillera Occidental, about 7,800 feet, April 4, 1910, on flowers of *Cyclanthera*, sp.

Black, with head and thorax faintly silvery. Head black, occiput ashy except the tergite of sixth segment, face and front thinly silvery-white frosted, the facial plate brownish-yellowish in ground color in middle below, palpi same brownish-yellow color, frontalia and antennæ dark brown. Thorax very thin and faintly pollinose, the four vittæ delicate and indistinct. Scutellum brick-yellowish. Abdomen soft deep brown, neither shining nor pollinose above, faintly silvery on middle of venter. Legs black. Wings smoky on baso-costal portion. Tegulæ deeply smoky.

*Type*.—Cat. No. 15159, U.S.N.M. TD 3929, *e., m., cph. sk.*

SIPHOSTURMIA POLLINOSA, new species.

*Siphosturmia*, sp. TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 135.—TD 4002.

Length of body, 7 to 8 mm.; of wing, 5.5 to 6 mm. Numerous females, Somate, valley of the Rio Chira, in the coast strip of northern Peru, November 18, 1910, on flowers of *Telanthera*, sp.

Head silvery-white pollinose, the front and upper part of occiput with a brassy-cinereous tinge. First two joints of antennæ reddish-yellow, third joint and arista black. Palpi reddish-yellow. Pleuræ silvery-cinereous; mesoscutum, scutellum, and abdomen with the same brassy-cinereous pollen as front. The usual five vittæ on mesoscutum; scutellum with three lateral pairs of marginal macrochætæ, a slender decussate apical pair, and a widely separated discal pair. First abdominal segment wholly blackish above, slightly pollinose below; second and third segments with black posterior border; posterior half of anal segment reddish-yellow; no median bristles on first segment, a median marginal pair on second, a lateral marginal on first and second,

a marginal row on third, discal row on anal segment behind which are apical bristles and hairs. Legs blackish, the tibiæ faintly tinged with reddish-brown, the front femora pollinose on outer surface. Wings clear, tegulæ whitish.

*Type*.—Cat. No. 15160, U.S.N.M. TD 4002, *f. r. s.*

Deposits white maggots, probably on host.

#### Genus AZYGOBOTHRIA Townsend.

*Azygobothria* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 142.

General approximation to external characters of *Sturmia*. Eyes quite thickly clothed with short hairs, which however, are inconspicuous and easily overlooked. Front of female at vertex hardly width of one eye, at antennæ greater than eye-width; face of female occupies three-sevenths of head-width below. Facialia ciliate nearly to lowest frontal bristles. Female with two proclinate and two reclinate orbital bristles on each side. A strong proclinate pair of ocellar bristles. Second antennal joint short, third in female four times as long as second. Arista long, thickened on basal half, basal joints inconspicuous. Cheeks hairy and about one-fourth eye-height. Face gently receding, front not prominent, epistoma subprominent, proboscis short and fleshy, palpi elongate and club-shaped. Vibrissæ almost on level with oral margin.

Four sternopleural bristles, the anterior and posterior strongest, the two middle ones situated a little lower. Four postsutural bristles, not counting a fifth one posteriorly a little outside the line of the others. Scutellum with three strong pairs of lateral bristles, a weak apical pair (not decussate in the single specimen showing them), and a stronger widely separated discal pair. Female with no median bristles on first segment, a median marginal pair on second, about ten strong marginal ones on third, weaker ones on anal. Hind tibiæ of female quite strongly ciliate, with a noticeably longer bristle near middle. Claws of female quite long, about same length as last tarsal joint. Apical cell open, ending well before wingtip. No stump or wrinkle at bend of fourth vein, hind crossvein nearer bend and normal in character. The genus is evidently allied to *Achætoneura*.

Reproductive habit, larviposition; uterus short strap-like, developing white maggots.

*Type-species*.—*Azygobothria aurea* Townsend.

#### AZYGOBOTHRIA AUREA Townsend.

*Azygobothria aurea* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 142.

Length of body, about 9 mm.; of wing, 6 mm. Two females, Sullana, Peru, March 25, 1911, on foliage in valley of Rio Chira.

Head wholly deep golden pollinose, the occiput with a slightly ashy tinge, tergite of sixth segment shining, frontalia and antennæ wholly dark brown, palpi pale brownish-yellowish. Pleuræ cinereous. Mesoscutum light golden pollinose; the five vittæ obscured in direct view, the disk of thorax appearing mostly black, but quite well defined in oblique view, the outer ones heaviest. Scutellum yellowish on apical half, golden pollinose over all. Abdomen with anterior half of second to fourth segments deeply golden pollinose, the golden rather widened in middle and on sides. Hind borders of the segments shining dark brown. Venter mostly ashy. Legs black, tibiæ faintly brownish. Wings clear, tegulæ whitish.

*Type*.—Cat. No. 15161, U.S.N.M. TD 4020.

#### Genus ZYGOSTURMIA Townsend.

*Zygosturmia* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 142.

With the characters of *Zygobothria*, except that the parafacials are perfectly bare, the facialia bare save for two or three bristles immediately next vibrissæ, and other points to be gleaned from the description of type species, including a distinct facies.

Reproductive habit, larviposition of uncolored maggots on or near host.

*Type-species*.—*Zygosturmia inca* Townsend.

#### ZYGOSTURMIA INCA Townsend.

*Zygosturmia inca* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 142.—TD 4031.

Length of body, 7 mm.; of wing, 5 mm. Two females, Sullana, Peru, valley of Rio Chira, April 11 and 12, 1911, on foliage.

Face and cheeks wholly silvery, parafrontals faintly to deeply brassy pollinose. Frontalia and antennæ dark brown. Palpi dark brown, brassy on tips. Occiput ashy. Pleuræ, mesoscutum and scutellum silvery pollinose, the pollen of last two with a faint brassy tinge. Two inner posteriorly abbreviated thoracic vittæ, an outer one interrupted at suture. Scutellum slightly yellowish on apex. Abdomen blackish, the second and third segments silvery pollinose except median line and rather narrow hind margin of each; anal segment reddish-yellow, silvery on about basal one-half. Legs blackish. Wings clear, tegulæ whitish.

*Type*.—Cat. No. 15162, U.S.N.M. TD 4031, *f. r. s.*

## Family HYSTRICIIDÆ.

## Subfamily ERNESTIINÆ.

## ECUADORANA, new genus.

Runs into section *Erigone* in Brauer and Bergenstamm's tables, and is evidently most allied therewith. Body short, broadened, especially in female. Front tarsal joints of female widened and flattened. Macrochætæ bristlelike, discal and marginal, female with none on first two abdominal segments, or only a very atrophied median marginal pair on second. Male with a discal and marginal pair on intermediate segments. Oral margin produced noselike, vibrissæ inserted far above same. Second antennal joint elongate, third longer than second. Cheeks about five-sixths of eye-height in female, two-thirds same in male. Front of male very narrowed behind, at vertex one-half the width of that in female. Frontal bristles descending to base of third antennal joint. Eyes thickly hairy. Ocellar bristles very weak, but distinct in both sexes. Male without, female with two orbital bristles. Proboscis rather short and fleshy. Palpi well developed, elongate, moderately slender. Three post-sutural and three sternopleural bristles. Long apical pair of straight nondecussate scutellar bristles, three lateral pairs, and a shorter discal pair. Apical crossvein strongly bowed in, forming nearly right angle with fourth vein, latter in female continued in very short stump, apical cell well open a little before tip of wing. Hind crossvein nearer apical crossvein. Claws of male elongate.

Reproductive habit, probably leaf-larviposition of colored maggots. *Type-species*.—*Ecuadorana bicolor*, new species.

The genus is named in honor of the Republic of Ecuador.

## ECUADORANA BICOLOR, new species.

Length of body, 8 to 9 mm.; of wing, 7 to 8 mm. The females are the larger. One female and three males, Manchi, below Utuana, in the Cordillera Occidental of southern Ecuador, about 7,500 feet, November 22 to 26, 1910, on flowers of *Baccharis floribunda*.

Palpi yellowish; cheeks, parafacials, and facial plate silvery-cinereous pollinose; frontalia brown; parafrontals blackish to lower limit of frontal bristles, where they abruptly give way to the silvery, but in very oblique view they appear also silvery pollinose. First and second antennal joints reddish-yellow, the third joint and arista blackish. Thorax and scutellum brown, very thinly pollinose. Abdomen yellowish-red; the median one-third of first segment in female blackish, median one-half or more blackish in male; broad median blackish patch on segments two to four, quite rectangular in male, irregular in female. Venter and hypopygium wholly yel-



lowish-red. Wings faintly infuscated, veins blackish with more or less definite linear smoky borders. Small crossvein narrowly black-clouded.

*Type*.—Cat. No. 15163, U.S.N.M. Female, November 22, 1910.

DOLICHOSTOMA, new genus.

Sarcophaga-like in facies of abdomen, but with the head characters of *Andinomyia* described farther on. Head extremely long, truncate-subconical, the parafacials almost as wide as eye-width. Eyes thickly hairy. Cheeks fully twice as long as mean width, greatly widened posteriorly, mean width rather less than eye-height. Female vertex about one and one-third times width of one eye, pair of proclinate-divergent ocellar bristles, two proclinate and two divergent orbitals in line in female. Frontal bristles descending low at widely divergent angle, outer short row of shorter bristles on parafrontals. Structure of facial plate, epistoma, vibrissæ, peristomal bristles, facialia and their bristles, antennæ, and arista quite same as in *Andinomyia*, except that the second antennal joint is not quite so elongate, arista is shorter with first and second joints both elongate, and lower or oral profile of head is almost straight. Third antennal joint rounded apically, slightly longer than second. Proboscis is awl-like, slender and horny, part below geniculation about as long as oral profile of head; palpi very long and slender, very gradually and slightly enlarged apically.

Three sternopleural and three postsutural macrochætæ; three lateral pairs of scutellar macrochætæ, the two posterior ones equal and very strong and the anterior one much shorter; very short weak apical pair, and a stronger longer widely separated discal pair, with a short pair between them. Abdomen flattened, submarmorate, no median bristles on first two segments, eight or ten weak marginal bristles on third segment and one or two lateral discal ones; several discal or submarginal and terminal ones on anal segment. Hind tibiæ with irregular bristles, claws of female nearly or quite as long as last tarsal joint. Apical cell very narrowly open well before wingtip, fourth vein prolonged in strong stump beyond apical crossvein, hind crossvein quite close to apical crossvein.

Reproductive habit, almost certainly leaf-larviposition; uterus probably strap-like, developing colored maggots.

*Type-species*.—*Dolichostoma alpina*, new species.

DOLICHOSTOMA ALPINA, new species.

Length of body, 9 mm.; of wing, 7.5 mm. One female, Tirapata, Peru, on the high puna of the Lake Titicaca region, about 13,000 feet, January 28, 1910, on flowers of a dwarf species of *Hypochoeris*.

Head cinereous pollinose, the parafrontals with a dusky shade, the parafacials more silvery, the cheek-grooves brownish-red, the frontalia brown; the entire facial plate pale brownish-yellow, thinly silvery pollinose. The frontalia show pollen in oblique view. Palpi brownish-yellow, faintly reddish. First two antennal joints reddish-yellow, third joint and arista dark brown. Occiput with brassy-gray pile. Thorax blackish, thinly silvery pollinose, with a heavy median black vitta extending to a point half way between suture and scutellum; on each side a narrower vitta interrupted at suture. Scutellum blackish, reddish on margin, thinly silvery pollinose. Abdomen blackish above except broad lateral and apical margins, which are brownish-yellow and thickly golden pollinose, the blackish portion silvery pollinose. Legs blackish or dark brown, the tibiæ reddish. Wings faintly yellowish on base, this color following the principal veins. Tegulæ whitish, narrowly margined with yellowish.

*Type*.—Cat. No. 15164, U.S.N.M.

#### ERIGONOPSIS, new genus.

Characters of *Dolichostoma* except: Head much shortened, the parafacials hardly more than one-half eye-width. Mean width of cheeks about two-thirds eye-height. Three proclinate and one divergent orbital bristles in line in female. Male antennæ practically same as female, third joint being but little longer than second, vertex of male about two-thirds eye-width, male without any orbital bristles, mean width of cheeks about one-half of eye-height. Claws of male fully one-third longer than last tarsal joint. Proboscis below geniculation rather less than height of head, strongly laterally compressed; palpi slender, filiform, and short, one-half as long as in *Dolichostoma*. Abdominal macrochætæ stronger. Apical cell open to almost closed; the hind crossvein sometimes extremely close to apical crossvein, the distance not exceeding length of small cross vein.

Reproductive habit, leaf-larviposition; uterus straplike, with colored maggots.

*Type-species*.—*Erigonopsis arequipæ*, new species.

#### ERIGONOPSIS AREQUIPÆ, new species.

Length of body, 9.5 mm.; of wing, 6.5 mm. Six females and one male, Arequipa, Peru, January 25, 1910, on flowers of composites.

Parafrontals and parafacials deeply to faintly golden pollinose, those of male deeply silvery with golden reflections. Facial plate yellowish, silvery pollinose. Frontalia brown. First two antennal joints reddish-yellow, third joint and arista blackish. Palpi pale yellowish, smaller in the single male than in any of the females. Cheeks and occiput cinereous, the latter with light to deep golden pile. Pleuræ, mesoscutum and scutellum thinly silvery pollinose, pollen of mesoscutum with a faint golden tinge and leaving three black

vittæ, the median one broadest; apex of scutellum yellowish. Disk of abdomen blackish, shining, thinly silvery, the lateral edges and anal segment yellowish and golden pollinose; venter blackish and thinly silvery. In the male the small fifth or hypopygial abdominal segment is reddish-yellow. Legs brown, tibiæ slightly reddish. Wings nearly clear, the long veins yellowish. Tegulæ nearly white.

*Type*.—Cat. No. 15165, U.S.N.M. Female; TD 4059.

#### VIBRISSOMYIA, new genus.

General characters of the Micropalpine flies. Eyes bare, female vertex fully one and one-half times width of one eye, of male about eye-width. Face rapidly broadening from front. Checks about equal to eye-height in both sexes, clothed with sparse bristly hairs which extend on parafacials and parafrontals. Facial plate having rather a swollen or inflated appearance, feebly carinate above, the epistoma projected straight forward in a wedge-shaped production fully equaling length of second antennal joint. Vibrissæ barely distinguishable from the strongly vibrissiform peristomal bristles below them, being only slightly longer; facialia ciliate as far as ptilinal suture with shorter vibrissiform bristles usually three or four in number, these meeting both suture and peristomalia (peristomal row) almost at right angles, the facialia being abruptly bent inward below. Male with two pairs (exceptionally with an adventitious third pair) of reclinate orbitals next to frontalia, and two divergent pairs outside these; female with same and three proclinate orbitals in line with the two divergent ones. Inner vertical bristle long and decussate; outer vertical bristle nearly same strength but not quite so long, strongly divergent. A pair of divergent proclinate long ocellar bristles. Frontal bristles descending below base of antennæ at a widely divergent angle. A second nearly straight row of weaker frontal bristles outside, connecting ends of the inner bent row. Parafacials in both sexes as wide as or wider than length of second antennal joint, with a row of two to five strong facio-orbital macrochætæ with weak bristles more or less interspersed. Second antennal joint elongate; the third in female about same length as second, moderately widened and obliquely truncate at end; in male the third joint is considerably longer than second joint, greatly widened and obliquely truncate apically (not in *Vibrissomyia bicolor*). Arista stout, bare, subgeniculate, apical one-third slender, second joint long. Proboscis awl-like, very long, slender, and horny, part below geniculation longer than either height or length of head. Palpi absent.

Three strong sternopleural bristles; three postsutural bristles, sometimes a weak fourth. Two strong lateral scutellar pairs, two weak lateral pairs, one weak decussate apical pair, one weak discal pair. No median bristles on first abdominal segment, a median marginal

pair on second, third with eight strong marginal; anal with submarginal and terminal shorter bristles thickly interspersed with erect bristly hairs especially in male. Male hypopygium greatly developed, often strongly exerted. Claws of female long, about as long as last tarsal joint; those of male nearly twice as long, longest on front feet. Hind tibiæ with irregular bristles. Legs strongly spined, especially middle tibiæ. Apical cell open far before wingtip, fourth vein with wrinkle at end, hind crossvein nearer to apical crossvein.

Reproductive habit, leaf-larviposition; strap like uterus, developing colored maggots almost certainly.

*Type-species*.—*Vibrissomyia lineata*, new species.

VIBRISSOMYIA LINEATA, new species.

Length of body, 9.5 to 13 mm.; of wing, 7.5 to 10.5 mm. Three females and nine males, Tirapata, Peru, high puna of the Lake Titicaca region, about 13,000 feet, January 28, 1910, on flowers of dwarf species of *Hypochæris*.

Parafrontals very dark, shining blackish, thinly silvery pollinose, the pollen showing thickly in some lights. Entire face and cheeks luteous, silvery-white pollinose except the produced portion of clypeus and peristoma. Frontalia reddish-brown, first two antennal joints yellowish-red, third joint and arista dark brown, proboscis shining black or dark brown. Occiput ashy, with pale golden to grayish pile. Pleuræ and mesoscutum only very faintly silvery pollinose, latter with four faint vittæ of the usual pattern. Scutellum wholly pale yellowish-brown. Abdomen shining brown to blackish, with a distinct median line of pollen in both sexes; the first three segments of male more or less reddish, sometimes broadly rust-yellow or reddish-ocher, but in most males only faintly lighter on sides of second segment or wholly blackish. Legs black, claws black, pulvilli fuscous. Wings very faintly infuscated throughout, almost clear, the veins yellowish. Tegulæ whitish to watery, often with a smoky tinge, especially on front scale.

*Type*.—Cat. No. 15166 U.S.N.M. Female.

VIBRISSOMYIA BICOLOR, new species.

Length of body, 12 to 13 mm.; of wing, 9.5 to 10 mm. Two males with preceding species.

Differs from *V. lineata* as follows: Pile of occiput faintly to deeply golden. No median pollinose line on abdomen. First, second, and third abdominal segments entirely yellowish-red excepting only a broad median vitta of black above, and a vitta of black below bordering ventral plates. Tegulæ deeply fuscous throughout.

*Type*.—Cat. No. 15167 U.S.N.M.



## ANDINOMYIA, new genus.

General characters of Micropalpine flies and very similar in most characters to *Vibrissomyia*, but head much elongated anteriorly. Parafacials quite as wide as long, or nearly as wide as eye; cheeks quite as wide as eye-height, nearly twice as long as mean width, greatly widened and somewhat inflated posteriorly. Peristomal bristles conspicuously shorter than vibrissæ, only two or three bristles on facialia. Second antennal joint strongly elongate, longer than third even in male. Lower outline of the wedge-shaped production of epistoma in profile more sharply bent from the line of oral profile. Proboscis very long and slender, extremely awl-like, below geniculation conspicuously longer than greatest head-length. Otherwise in all head characters as in *Vibrissomyia*.

Three sternopleural and three postsutural bristles. Three lateral pairs of scutellar bristles, the two posterior very strong and equal, the anterior much weaker and not over half as long; pair of decussate apical bristles a little longer than anterior lateral. Abdomen with same disposition of macrochætæ as in *Vibrissomyia*, but the bristles not so strong and the erect bristly hairs of anal segment not present. Leg and wing characters the same as for *Vibrissomyia*, but hind cross-vein more deeply bulged out, legs a little more strongly spined.

Reproductive habit, leaf-larviposition; uterus strap like, developing colored maggots in all probability.

*Type-species*.—*Andinomyia cruciata*, new species.

## ANDINOMYIA CRUCIATA, new species.

Length of body, 10 to 12 mm.; of wing, 8 to 9 mm. Three females and five males, Tirapata, high puna region of Lake Titicaca, Peru, about 13,000 feet, January 28, 1910, on flowers of dwarf species of *Hypochoeris*.

Head in both sexes luteous and densely light golden pollinose, the facial plate without pollen on produced portions, the parafrontals blackish with pollen distinctly showing. In a direct view the parafacials are abruptly defined, without apparent pollen, of same deep luteous color as the produced epistoma and peristoma. Frontalia brownish. Third antennal joint and arista dark brown or blackish, the first antennal joint reddish, second joint brown or blackish, with apex more or less reddish. Pile of occiput golden to pale brassy. Pleuræ very thinly dusted with brassy pollen, mesoscutum more distinctly so leaving the four usual vittæ; scutellum broadly reddish on margin to wholly reddish-yellow, usually the latter. Abdomen shining blackish, a faint brassy pollinose median vitta, and anterior border of anal segment with same brassy pollen; female with the sides of first two abdominal segments reddish, in male extending on the third

segment. Legs black. Wings faintly and evenly infuscated, base and veins yellowish. Tegulae watery-fuscous.

*Type*.—Cat. No. 15168 U.S.N.M. Female.

#### EPALPODES, new genus.

General characters of *Andinomyia*, differing as follows: Head much shorter, parafacials about two-thirds eye-width. Mean width of cheeks about two-thirds eye-height. Second and third antennal joints in male about equal, the third not enlarged and widened apically. Lower profile of the wedgelike epistomal projection nearly in line with the lower border of head, only slightly bent at most. Proboscis much shorter, part below geniculation less than head-height, palpi microscopic and bristle-tipped.

Three sternopleural, four postsutural bristles. Practically only two lateral pairs of scutellar bristles, the anterior or third pair being represented by weak bristly hairs; a weak lateral submarginal bristle between the two strong lateral ones. Abdomen much approaching *Epalpus*, but the macrochætæ still of the Micropalpine type; second and third segments each with two median discal pairs and a marginal row, the second segment sometimes with three median discal pairs, the third segment sometimes with only one such pair; first segment without any median; anal segment in male slightly emarginate, with discal row and marginal and submarginal macrochætæ. Hind and especially middle tibiae strongly spined, male claws very strong and elongate. Fourth vein with spot at bend rather than wrinkle, hind crossvein hardly bulged.

Reproductive habit, leaf-larviposition; uterus strap-like, with colored maggots in all probability.

*Type-species*.—*Epalpodes equatorialis*, new species.

This genus may prove to belong to the Hystriciinae, in the neighborhood of the Laundersiine group.

#### EPALPODES EQUATORIALIS, new species.

Length of body, 9 to 10 mm.; of wing, 8 to 9 mm. Five males, Manchi to Colaisaca, Cordillera Occidental of southern Ecuador, about 7,500 to 8,500 feet, November 22 and 23, 1910, on flowers of *Baccharis floribunda*.

Parafacials and cheeks very pale golden pollinose, appearing almost silvery in some lights. Parafrontals dusky, thinly brassy pollinose. Frontalia and first two antennal joints brownish-yellow, third joint and arista dark brown. Facial plate pale yellowish, with a faint silvery to yellowish bloom. Occiput ashy, with grayish-golden pile. Pleuræ thinly brassy pollinosè. Mesoscutum brassy-cinereous, with five very faint dusky vittæ, the outer ones interrupted at suture, the next stopping a little behind suture. Scutellum wholly reddish-

yellow. The abdomen bears a complete median vitta of the same golden-silvery pollen as that of face and cheeks, crossed by a broad fascia of the same pollen occupying slightly more than anterior one-half of fourth segment, and leaving two brown areas on posterior half of same. The broad median disk of first segment is brown, as is also a broad area bordering the median vitta on second segment and a more or less well defined area bordering vitta on third segment; the rest of abdomen is deep yellowish-red, extending broadly on venter. Hypopygium yellowish-red. Legs brown, tibiae reddish. Wings evenly and lightly infuscated, the long veins yellowish, the crossveins blackish.

*Type*.—Cat. No. 15169, U.S.N.M.

ARCHYTTAS INCASANA, new species.

*Archytas*, sp. TOWNSEND, ANN. ENT. SOC. AMER., vol. 4, 1911, p. 132.—TD 3989.

Length of body, 12 to 13 mm.; of wing, 9 to 10 mm. Numerous specimens of both sexes, Piura, Peru, at nearly all times of year, on flowers of *Spilanthus*, sp., *Mikania*, sp., and others, and on foliage. Most numerous in November. The males run a little smaller than females.

Head silvery-white, the parafrontals in female of a distinct golden shade, those of male usually silvery-cinereous but sometimes slightly golden. Occiput silvery, the pile yellowish-gray to golden. Palpi light reddish-yellow, first two antennal joints and base of third nearly same shade or slightly darker, rest of third joint and all of arista dark brown. Frontalia pale honey-yellowish. Pleuræ faintly brassy on the dense cinereous pollen; mesoscutum of female deeply golden pollinose, that of male less so and often silvery without brassy shade, the usual four very faint vittæ, scutellum wholly pollinose. Abdomen shining metallic bluish-black, the last segment wholly silvery-white pollinose in male, with a faint tinge of brassy in female, but appearing blackish in oblique view. Scutellum with two strong and two shorter marginal bristles, a weak decussate apical pair, and an erect short stout pair immediately in front of last, also discal short bristles; of the marginal ones the basal one is shortest. Legs wholly blackish. Wings clear, brownish-yellow on costo-basal area, the color mostly following the long veins. Tegulæ white.

*Type*.—Cat. No. 15170, U.S.N.M. Female, November 8, 1910; TD 3989, *f. r. s.*

Cotype, female, June 19, 1910; TD 3908, *m., cph. sk.*

Deposits colored maggots on foliage.

## Subfamily HYSTRICIINÆ.

## CESTROHYSTRICIA, new genus.

Allied with *Epalpodes*, *Andinomyia*, and *Vibrissomyia*, from all of which it may be at once differentiated by the much broadened abdomen and densely placed spinelike macrochætæ of abdomen and scutellum. The description is drawn from a single female. Front broad and produced, at vertex rather more than width of one eye, broadening rapidly to face. Parafacials but little longer than wide, thickly beset with fine long hairs, these continued on parafrontals. Cheeks greatly widened and lengthened, as wide as eye-height and about one and one-half times as long as same, thinly set with bristly hairs. Peristomal bristles nearly same strength as vibrissæ, slightly shorter, about same as the two bristles which occur above vibrissæ, all directed same as latter. Epistoma extremely produced anteriorly beyond the peristomalium, the profile of upper half of facial plate being almost parallel with plane of occiput, the lower half of facial plate directed anteriorly downward from upper half at an angle of about 45°. Vibrissal angles not narrowing the facial plate. Second antennal joint elongated, third joint a little shorter than second and wider. Arista rather short, bare; basal joints short but distinct, hardly longer than wide. Frontal bristles slender, descending obliquely not quite as low as base of third antennal joint. Two slender proclinate orbital bristles, a pair of long delicate hairlike ocellar bristles. Eyes bare. Proboscis elongate and horny, part beyond geniculation hardly equal to head-height; palpi very small and short, vestigial.

Three sternopleural bristles, four very weak and hairlike postsutural bristles. A median pair of spinelike macrochætæ close to hind margin of mesoscutum. Scutellum with two pairs of strong lateral bristles, four heavy suberect spinelike marginal macrochætæ between them, two shorter submarginal median ones, and several still shorter erect ones on disk. Scutellum is very widened and shortened, nearly three times as wide as long, transversely subequilateral but bulged in middle. Abdominal macrochætæ are as follows: First segment with no dorsal, 5 or 6 lateral in a bunch, and a median ventral patch formed of about 18 in a widely open V-shaped double row. Second segment with 8 or 9 lateral in patch; more than median one-third of dorsum of segment covered with short erect ones, and a marginal row of 8 or 10 (9, 5 being on one side and 4 on other, these being slightly separated by a median submarginal pair like the median posterior pair of mesoscutum) heavy erect ones; venter of segment with median patch of 12, 9 being in an open V-shaped single row. Third segment without discal, with a marginal row composed of long heavy ones interspersed with much shorter ones, a median submarginal short pair, outside of which are 2 widely separated heavy ones; venter of



segment with a marginal row of shorter ones and a submarginal row of still shorter ones. Anal segment likewise without discal, with marginal and submarginal rows continued in short ones on venter. Apical cell open well before wingtip. Fourth vein bent at right angle, deeply bowed in beyond bend. Hind cross vein sinuate and nearer to bend of fourth than to small crossvein.

Reproductive habit, almost certainly leaf-larviposition of colored maggots.

*Type-species*.—*Æstrophystricia subalpina*, new species.

ÆSTROHYSTRICIA SUBALPINA, new species.

Length of body, about 12 mm.; of wing, 12 mm. One female, Watkins's camp in canyon of Rio San Gaban, montaña of southern Peru, about 11,500 feet, February 16, 1910, on flowers of a shrub.

General color yellow to brownish-yellow. Head yellow with slight brownish tinge, dusky on parafrontals, with faint silvery bloom over all, epistoma rather shining yellow and translucent. Peristomal region yellowish. Frontalia and first two antennal joints yellowish-red, third joint and arista blackish. Occiput ashy, with golden-gray pile. Pleuræ faintly silvery-cinereous, reddish above. Scutellum and lateral edges of mesoscutum reddish-brown; the middle of first abdominal segment, the spined median one-third of second segment, the hind margins of third and fourth segments and the femora practically same shade of reddish-brown. The disk of mesoscutum and disk of third and fourth abdominal segments dusky-olive, with faint brassy-cinereous bloom. Venter, lateral one-third on each side of first and second abdominal segments and lateral edge of third segment light yellow; tibiae and tarsi bright yellow. Claws and pulvilli moderately long. Wings smoky throughout, the basal-cell area and three crossveins clouded black, the extreme base and median costal area yellowish. Tegulæ blackish-infusate.

*Type*.—Cat. No. 15171, U.S.N.M.

DEJEANIA ANDINA, new species.

Length of body, 13 to 14 mm.; of wing, 11.5 to 12 mm. Four females and four males, Ollachea, canyon of the Rio San Gaban on east slopes of Cordillera Oriental in montaña of southern Peru, about 9,500 feet, February 2, 1910, on flowers of an euphorbiaceous shrub.

Close to *brasiliensis* Robineau-Desvoidy and *armata* Wiedemann. Differs in having no yellow whatever on legs. Front, frontalia, mesoscutum, and scutellum all nearly same shade of color, being a brownish-yellow. First three segments of abdomen are clear tawny-yellow, except black spot in middle of first. Fourth segment shining black except front border on sides yellow. Whole of face and cheeks soft light tawny-yellow. Pleuræ grayish-yellow. Legs wholly yel-

low, a rust-yellow tinge to the femora. Mesoscutum has an olive shade of ground color which shows through when greased and becomes brownish. The frontalia sometimes have a rust-yellow tinge, likewise scutellum is sometimes quite the shade of the abdominal yellow.

*Type*.—Cat. No. 15172, U.S.N.M. Female; TD 3937.

Deposits colored maggots on foliage.

#### EUDEJEANIA, new genus.

Characters of *Dejeania*, but abdomen broad and robust, that of female especially subquadrangular, nearly as wide behind as in middle, deeply emarginate, buttocks-like posteriorly; that of male broad if not emarginate, not narrowed or tapering anally. Claws of male only a little longer than those of female, and same characters of palpi and proboscis as in *Dejeania*. Very large forms, going up to 11,000 or 12,000 feet in the Peruvian Andes.

Reproductive habit, leaf-larviposition; uterus very long and strap-like, developing colored maggots.

*Type-species*.—*Eudejeania subalpina*, new species.

#### EUDEJEANIA SUBALPINA, new species.

Length of body, 18 to 18.5 mm.; same to end of abdominal spines, about 20 mm.; of wing, 18 to nearly 19 mm.; of palpi, 4.5 mm. Breadth of abdomen, 10.5 mm. Two males, Watkins's Camp, in the canyon of the Rio San Gaban, eastern slope of Cordillera Oriental, southern Peru, about 11,500 feet, February 16, 1910, on flowers of a shrub.

Face and cheeks smoky-fuscous, the facial plate with a thin bloom, the parafacials and cheeks thinly pale brassy pollinose. Parafrontals brownish, with an olive tinge due to the brassy pollen. Frontalia, antennæ and arista dark brown. Palpi deep soft black. Occiput cinereous, with pale brassy pile, fringed with black pile. Pleuræ reddish and very faintly and thinly silvery. Mesoscutum brownish on disk, with a faint silvery to cinereous bloom leaving the usual five vittæ, the median one indistinct; lateral and hind margins obscure brownish-yellowish, the scutellum same color or slightly more reddish and without bloom. Abdomen wholly light brownish-blood-red above and below, with no trace of bloom above, very faintly and thinly silvery on sides of venter. Femora of nearly same reddish as abdomen, tibiæ deep rust-yellow or reddish-yellow; tarsi deep yellow, the spurs and hairs with more or less of a reddish tinge. Claws not greatly elongate, black-tipped. Wings deeply smoky-fuscous throughout; tegulæ deep fuscous with darker margin. Longitudinal veins of wings reddish.

*Type*.—Cat. No. 15173, U.S.N.M.

## EUDEJEANIA NIGRA, new species.

Length of body, 15 to 16 mm.; same to end of abdominal spines, 18 to 19 mm.; of wing, 15.5 to 16 mm.; of palpi, 3.75 to 4.5 mm. Breadth of abdomen, 9 to 10 mm. Two females and one male, Matucana, Peru, on west slope of Cordillera Occidental, valley of Rio Rimac, about 7,800 feet, April 4, 1910, on flowers of *Cyclanthera*, sp.

Differs from *E. subalpina* as follows: Head luteous, only faintly fuscous on facial plate if at all, the pollen entirely golden, the beard or main occipital pile rather deep golden. Palpi rust-yellow. Entire thorax and abdomen soft deep black, practically without pollen, only the faintest traces showing on sides of venter and pleuræ. Legs nearly concolorous throughout, of a deep yellow with a rust tinge, the tibiæ a little clearer yellow, the femora slightly if at all darker. Tegulæ deep soft black, being same color as the body and the dense spinose macrochætæ, and much darker than wings. Longitudinal veins of wings distinctly yellow.

*Type*.—Cat. No. 15174, U.S.N.M. Female; TD 4061.

## LASIOPALPUS SUBALPINUS, new species.

Length of body, 11 mm. not including the apical abdominal macrochætæ; of wing 12 mm. One female, Watkins's Camp in canyon of the Rio San Gaban, east slope of Cordillera Oriental in high montaña of southern Peru, about 11,500 feet, February 16, 1910, on flowers of a shrub.

Head fuscous, thinly clothed with silvery pollen, the cheeks pale yellowish-brown. Antennæ black, frontalia light brown. Palpi and their cilia deep black. Thorax, scutellum, and abdomen yellowish-red, the disk of mesoscutum dull olive. Femora nearly same yellowish-red as abdomen or a little lighter, tibiæ still lighter, tarsi bright yellow. The anterior tarsi are much widened and flattened (female). Wings deeply smoky throughout. The abdomen is emarginate posteriorly, bearing two thick bunches of spines.

*Type*.—Cat. No. 15175, U.S.N.M.

Deposits colored maggots on foliage.

## Family MASICERATIDÆ.

## Subfamily MASICERATINÆ.

## Genus OPHIROSTURMIA Townsend.

*Ophirosturmia* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 133, 145.

General characters of *Sturmia*, but hind tibiæ not ciliate and head rather of a Meigeniine cast. Eyes of female very indistinctly and sparsely short-hairy. Front of female at vertex about one and one-fourth times width of one eye, evenly widening forward and face

widening in same proportion, face at lower angle of eyes about one and three-fourths times eye-width. Frontal bristles more or less decussate, female with two proclinate orbitals, and two reclinate ones inside them, strong pair of proclinate ocellar bristles. Parafacials wide, about one-half width of space between crests of facialia, the latter bristly from one-third to nearly one-half way up. Oral margin cut off but quite produced, the vibrissæ distinctly removed from it. Cheeks nearly one-fourth eye-height, eyes descending a little short of vibrissæ. Proboscis short and fleshy; palpi elongate, bowed, slightly thickened apically. Second antennal joint moderately short; the third in female elongate and narrow, giving a linear effect; arista long, bare, thickened on basal one-third.

Three sternopleural bristles, the middle one weaker and approximated to the anterior. Four postsutural bristles. Three strong lateral pairs of scutellar bristles, the posterior longest; a long but weak decussate apical pair, a slightly shorter weak discal pair. First segment without median macrochætæ; second with a median discal short pair and a median marginal long pair, sometimes an adventitious weak bristle or two between these two pairs; third segment with a discal short pair and a marginal row of eight strong ones, not counting others below; anal segment with a discal row of shorter ones and a marginal row. Hind tibiæ with a sparse row of short bristles, a longer one or two among them. Claws of female about as long as last tarsal joint, appearing moderately elongate. Wings moderately elongate; anal cell very narrowly to widely open, sometimes appearing almost closed, ending well before wingtip. No wrinkle or stump at bend of fourth vein, hind crossvein nearer to bend.

Reproductive habit, leaf-oviposition; uterus long and slender, with yellow honeycomb-reticulate microtype eggs.

*Type-species.*—*Ophirosturmia cincta* Townsend.

This genus bears some affinity with *Pseudatractocera*, but second antennal joint is not very elongate, third joint is about three or more times as long as second, facialia are ciliate on lower two-fifths, and discal bristles are present on intermediate abdominal segments. It bears a strong resemblance to *Siphosturmia* in coloration of abdomen, latter being fasciate black and white with yellowish-red anal segment.

OPHIROSTURMIA CINCTA Townsend.

*Ophirosturmia cincta* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 133 and 145.—TD 4012.

Length of body, 7 to 9.5 mm.; of wing, 5.5 to 7.5 mm. Two females, Piura, Peru, February 18 and 19, 1911, both taken indoors.

Whole head gray-silvery, the parafrontals and vertex lightly golden, the occiput cinereous, tergite of sixth segment dark brown,



frontalia brown. Antennæ reddish-yellow, the third joint mostly brownish except base. Arista brownish, sometimes lighter on base. Palpi pale reddish-yellow. Pleuræ thickly silvery-gray pollinose; mesoscutum and scutellum same with a faint golden shade, former with four delicate but distinct black vittæ, outer ones interrupted at suture. Abdomen with the second, third, and fourth segments thickly silvery with faint golden tinge, the hind margin for about one-third of width of each segment being shining brown. Reddish ground color of abdomen shows on sides. Pollen extends on venter. First abdominal segment brownish. Legs reddish-yellow to reddish-brown, tarsi dusky. Wings clear. Tegulæ white.

*Type*.—Cat. No. 15176, U.S.N.M. TD 4013, *f. r. s.*

Cotype, TD 4012, *ch.*

#### Genus OMMASICERA Townsend.

*Ommasicera* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 145.

General external characters of *Carcelia*, but apical cell ending just a little before wingtip. Eyes thickly short-hairy. Facialia bare save a few bristles above vibrissæ, latter on level with oral margin which is cut off and only slightly prominent. Front of female in middle equal to width of one eye, front and face evenly but slightly widening below from vertex. Cheeks narrow, not over one-eighth eye-height, the eyes descending almost to vibrissæ. Female with two proclinate orbital bristles and two reclinate ones inside these, the hindmost one weaker. Pair of proclinate ocellar bristles which are weaker than the strong orbitals. Second antennal joint short, third in female about four times as long as second; arista long, practically bare, thickened on basal one-third, basal joints short. Proboscis short and fleshy, palpi elongate and slightly thickened apically.

Three or four sternopleural bristles, the middle one or two very weak. Four postsutural bristles, the posterior one much stronger than the others. Three lateral pairs of scutellar bristles, the middle one weaker; a very delicate suberect apical pair curved forward, a less delicate discal pair. First abdominal segment with a median marginal pair of short macrochætæ, second with short median discal and marginal pairs, third with short median discal pair and marginal row of eight long ones, anal segment with discal and marginal rows of moderately long ones. Claws of female quite short, hind tibiæ subpectinate with sparse short bristles among which is a long one near middle. Apical cell narrowly open a very little before actual wingtip; fourth vein bent roundedly at right angle, its last section deeply and evenly bowed in, no stump or wrinkle at bend; hind cross-vein nearer to bend of fourth.

Reproductive habit, leaf-oviposition; uterus long and thick, with yellowish microtype eggs whose choria have a stretched-honeycomb reticulation.

*Type-species*.—*Ommasicerca chætosa* Townsend.

OMMASICERA CHÆTOSA Townsend.

*Ommasicerca chætosa* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 145.—TD 4018.

Length of body, about 6 mm.; of wing, 5 mm. One female, Sullana, Peru, March 25, 1911, on foliage in valley of Rio Chira.

Parafrontals deeply golden pollinose; the parafacials, facial plate, cheeks, and greater part of orbits silvery pollinose, the vertex and upper orbits golden. Frontalia and antennæ dark brown. Palpi reddish-yellow. Occiput ashy, with grayish pile, faintly brassy on upper portions, the tergite of sixth segment dark brown. Pleuræ and outer side of front femora silvery. Mesoscutum densely brassy pollinose, leaving a median pair of very slender vittæ, the usual outer vitta which is interrupted at suture being represented by a subtriangular presutural spot and a broad posteriorly attenuate postsutural marking. Scutellum brassy pollinose, the extreme base dusky. Abdomen blackish, the second and third segments densely brassy pollinose leaving only irregular hind margin of black, anal segment wholly brassy pollinose. Venter cinereous. Legs blackish. Wings clear; tegulæ watery, front scale more distinctly whitish.

*Type*.—Cat. No. 15177, U.S.N.M. TD 4018, *f. r. s., ch.*

METOPIOPS, new genus.

General external characters of *Masicera* and *Sisyropa*, but with a wonderful approach to the peculiar sexual head-characters of *Metopia*.

Front and face in both sexes quite equilateral, in both nearly or quite one and one-half times eye-width. Whole of parafrontals and parafacials in male burnished silvery-white, those of female golden. Both sexes with two proclinate orbital bristles, and a row of three or four (usually four) reclinate ones inside them. Facialia strongly ciliate, reaching nearly to second antennal joint and even with lowest frontal bristles, sometimes above latter in male. Front not strongly or conically produced in profile as in *Metopia*, but produced only moderately into an obtuse angle, slightly less obtuse in male perhaps. Frontalia very narrow; nearly or quite covered in middle by the inward extension of the parafrontals in male, not at all so in female. Face receding, vibrissæ on level with the slightly produced oral margin, proboscis short and fleshy, palpi elongate and club-like. Eyes thinly hairy in both sexes.

Three sternopleural bristles, often a weak fourth one, in both sexes. Four postsutural bristles. Two strong pairs of lateral

bristles on scutellum, one very weak pair between these, one weak decussate apical pair, one weak separated discal pair. The posterior one of the two strong lateral pairs reaches beyond base of third abdominal segment when well appressed. No true macrochætæ whatever on first abdominal segment even on sides, one short median marginal pair on second, with two lateral ones on each side, a row of ten marginal on third segment, and a marginal and discal row on fourth, the anal discal ones weaker in female. Hind tibiæ equally pectinate in both sexes, with a stronger hardly longer bristle or two near middle. Claws nearly equal in both sexes, fairly short. Venation typical, apical cell open and ending well before wing tip, fourth vein without stump or wrinkle at bend, hind cross vein nearer to bend of fourth.

Reproductive habit, leaf-oviposition; uterus short and thick, with black microtype eggs.

*Type-species*.—*Metopiops mirabilis*, new species.

**METOPIOPS MIRABILIS**, new species.

Length of body of female 6 mm., of male 7 mm.; wing of female 4.5 mm., of male 5 mm. Three females and two males. Piura and Chapairá, in valley of Rio Piura, Peru, June 19, 1910, to May 21, 1911, on foliage.

Parafrontals, parafacials, cheeks, and orbits of female deep golden pollinose throughout, sometimes the orbits nearly silvery; corresponding parts of male burnished silvery-white, but the orbits, vertex, and cheeks have a very faint golden tinge in some lights. Facial plate and facialia of male dull silvery, those of female ashy. Occiput ashy. Frontalia of female brown, not visible in male or only slightly so. Antennæ of male wholly blackish, the first two joints in female sometimes reddish. Palpi of female brownish-yellow, those of male reddish-brown or brownish. Thorax silvery pollinose, thinly so on mesoscutum, with a tinge of golden on pleuræ and sides and middle of mesoscutum in male, but only a faint suggestion of golden in female. The usual four vittæ on thorax, the two median vittæ narrow and distinct, the outer ones broad, broken, and obscure; a short, more or less distinct fifth vitta between the median pair behind. Scutellum pale brick-yellowish, thinly silvery. Second to fourth abdominal segments silvery pollinose, with a faint tinge of golden in female and a distinct golden shade in male, only the narrow hind borders of second and third segments brownish; first segment brown. Venter silvery, last segment faintly golden in female, distinctly so in male. Ground color of abdomen shows reddish on sides and venter in both sexes. Legs black, wings clear. Tegulæ whitish, faintly bordered with yellowish.

*Type*.—Cat. No. 15178, U.S.N.M. Female, Chapairá, May 21, 1911; TD 4056, *f. r. s.*

Gotype, female, June 19, 1910; TD 3919, *ch., m., cph. sk.*

## BLEPHARIPA POLITANA Townsend.

*Blepharipa politana* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 132.—  
TD 3977.

Length of body, 9 to 10 mm.; of wing, 7 to 8 mm. Numerous females, Piura, Peru, June 19 to November 3, 1910, on foliage.

Whole front, face, cheeks, and orbits light golden pollinose, the occiput ashy pollinose, the frontalia brown. Third antennal joint and arista brown; first two antennal joints and palpi yellowish-brown. Thorax, scutellum, and abdomen thickly silvery-cinereous pollinose, the usual five vittæ on mesoscutum, and a dark median line on abdomen. First abdominal segment largely blackish, the hind borders of second and third segments dusky, the anal segment wholly golden pollinose like the head. The sides of abdomen show more or less distinctly reddish. The first abdominal segment is without median macrochætæ, and with at most very small lateral ones. Second segment has at most a very weak median marginal pair, sometimes hardly to be differentiated from the bristly hairs; it has a distinct lateral macrochæta. The third segment has a marginal row of 10 strong bristles. There are 4 sternopleural and 4 postsutural bristles. The ocellar bristles are very small but distinct. The scutellar bristles are 4 marginal pairs, the one next to the basal much shorter than the others, the apical pair not decussate, a short discal pair present.

*Type*.—Cat. No. 15179, U.S.N.M. Female, November 3, 1910; TD 3977, *f. r. s.*

Cotype, female, June 19, 1910; TD 3911, *ch., cph. sk.*

Deposits black microtype eggs on leaves; uterus long.

## Genus BRACHYMASICERA Townsend.

*Brachymasicera* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 133, 143.

General external characters of *Masicera* and *Sisyropa*. Eyes thinly hairy. Facialia ciliate less than half way up, but truly ciliate on more than lower one-third. Vibrissæ quite on level with oral margin, latter cut off and but very slightly produced. Second antennal joint short, proboscis short and fleshy, palpi elongate and club-shaped, third antennal joint four times as long in female as the short second. Front and face almost equilateral (female), the latter only perceptibly widened, about one and one-half times as wide as one eye. Female with two proclinate orbital bristles, and two reclinate ones inside these. Long proclinate pair of ocellar bristles. Arista thickened only on basal one-fourth.

Two sternopleural bristles, sometimes a very weak third one between them. Three postsutural bristles, not counting one behind which is outside the line of the others and does not properly belong with them. Three strong lateral pairs of scutellar bristles, the pos-



terior pair especially long and nearly reaching base of third abdominal segment; a weak decussate apical pair, and a weak discal pair. A weak median marginal pair of macrochætæ on first abdominal segment, a strong median marginal pair on second, a marginal row on third and fourth. Hind tibiæ thinly pectinate, the bristles not flattened or cilia-like, with a longer bristle near the middle. Claws of female fairly long, about equal to last tarsal joint. Venation typical, the apical cell open and ending well before wingtip, the hind crossvein nearer bend of fourth, no wrinkle or stump at bend of latter.

Reproductive habit, leaf-oviposition; uterus shortened and thickened, with black microtype eggs.

*Type-species.*—*Brachymasicera polita* Townsend.

BRACHYMASICERA POLITA Townsend.

*Brachymasicera polita* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 133, 143.—TD 3987.

Length of body, 8 mm.; of wing, 6 mm. One female, Piura, Peru, November 7, 1910, on flowers of species of *Mikania*.

Front, face, cheeks, orbits, and ocellar area deeply golden pollinose, the facial plate a little less distinctly so. Frontalia brown. Antennæ brown, first two joints and palpi reddish-yellow. Occiput densely ashy pollinose, the tergite of sixth segment conspicuously soft dark brown. Occipital pile gray, not very thick. Thorax, scutellum, and abdomen with pollen of a faint golden shade, most distinctly golden on sides of last three and especially last two segments of abdomen, nearly silvery on pleuræ, venter of first abdominal segment except narrow hind margin silvery-cinereous. Four vittæ on mesoscutum, the outer ones interrupted at suture. First abdominal segment above blackish, hind borders of second and third segments blackish in some lights. Legs dark brown. Wings clear, tegulæ whitish.

*Type.*—Cat. No. 15180, U.S.N.M. TD 3987, *e., ch., m.*

BRACHYMASICERA SUBPOLITA, new species.

Length of body, 7.5 mm.; of wing, 5.5 mm. One female, Piura, Peru, June 19, 1910, on foliage.

Differs from preceding species as follows: All of head except occiput silvery-white pollinose, only faint shade of brassy at vertex. Occiput ashy pollinose, with a brassy tinge, tergite of sixth segment dark brown. Palpi and first two antennal joints paler yellowish. Pollen of venter of first abdominal segment more nearly concolorous with rest, having a faint tinge of golden. Legs wholly yellowish-red to reddish-yellow, tarsi dusky.

*Type.*—Cat. No. 15181, U.S.N.M. TD 3907, *e., cph. sk.*

## CHÆTOPHOROCERA, new genus.

General external characters of *Phorocera*, but more bristly throughout and all bristles heavy, long, and strongly developed; legs elongate.

Female front at vertex about two-thirds eye-width or slightly more, that of male about one-half eye-width. Male with two reclinate orbital bristles nearly in line with frontals; female with same and two proclinate ones outside them. Face strongly receding, front prominent in profile. Proboscis short and fleshy; palpi long, curved, much thickened apically, with long bristles below on basal part of thickening. Facialia ciliate usually to above lowest frontal bristle with long strong bristles, a row of fine hairs outside them. Parafrontals hairy. Eyes densely long-hairy. Facial plate broad, the vibrissæ nearly on level with the slightly prominent oral margin. Cheeks about two-fifths eye-height in both sexes. Face below as wide as both eyes in male, wider in female. Second antennal joint not elongate, third joint about four times in female and five times in male the length of second. Arista long, thickened on basal one-third, microscopically short-pubescent basally. Inner vertical bristle strong, like the orbitals.

Three sternopleural bristles; three postsutural bristles, very long. Three lateral pairs of scutellar macrochætæ, the posterior pair very long; one pair of long but weaker suberect apical decussate bristles, and one discal pair of same strength. Scutellum with erect moderately long bristly hairs. First abdominal segment with median marginal pair of macrochætæ, second with median discal and marginal pairs, third with median discal pair and marginal row of 16 or 18 extending below, anal segment with marginal and discal row. Hind tibiæ with row of sparse bristles, about three of them longer, a row of fine hairs among them. Female claws long and strong, those of male much longer and stronger. Tibiæ and femora moderately bristly. Apical cell open well before wing tip, hind crossvein sinuate and nearer to bend of fourth vein, usually no wrinkle or stump at bend.

Reproductive habit, leaf-oviposition; uterus with black microtype eggs whose choria show an arc-band pattern.

*Type-species*.—*Chætophorocera andina*, new species.

## CHÆTOPHOROCERA ANDINA, new species.

Length of body, 10.5 to 11 mm.; of wing, 9.5 to 10 mm. Nine males and eight females, Matucana, Peru, west slope of Cordillera Occidental, about 7,800 feet, April 4, 1910, on flowers of *Cyclanthera*, sp.

Head wholly dusky-cinereous pollinose with a faint brassy shimmer, the occiput ashy. Ground color of head black, except the epistoma and cheek-grooves which show brownish to brownish-yel-

low when the pollinose covering is destroyed. Frontalia and antennæ dark brown. Palpi pale reddish-yellow. Pleuræ thinly cinerous. Mesoscutum thinly silvery, with a median pair of narrow black vittæ and an outer vitta broken by suture, presutural portion of latter broader. Scutellum light brownish-red, blackish on base, thinly silvery. Abdomen soft dark brown, faintly silvery on bases of second and third segments, the silvery broadening on sides of segments, widely silvery on base of anal segment and on bases of ventral portions of other segments. The sides of abdomen are reddish in male. Legs black to dark brown, tibiæ reddish. Wings rather deeply yellowish-smoky in the costo-basal region of the long veins. Tegulæ whitish, yellowish on borders.

*Type*.—Cat. No. 15182, U.S.N.M. Female; TD 3928, *e., ch.*

CHÆTOPHOROCERA FUSCOSA, new species.

Length of body, 9 mm.; of wing, 9 mm. One female, canyon of the Rio San Gaban at Uruhuasi bridge, February 3, 1910, on flowers of species of *Baccharis*.

Differs from preceding species as follows: General color darker. Scutellum entirely black. Abdomen dark brown to black, the anal segment wholly silvery pollinose, the third segment with only the faintest trace of pollen laterally on anterior margin. Legs black except the reddish tibiæ, wings more deeply smoky on costal third or more, and tegulæ distinctly smoky. Palpi reddish-yellow, or rust-yellow.

*Type*.—Cat. No. 15183, U.S.N.M. TD 3960.

Subfamily SALMACIINÆ.

Genus PHASIATACTA Townsend.

*Phasiatacta* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 144, 329.

Female front three-sevenths, male front one-third of head-width. Female with one proclinate and two reclinate orbital bristles; male with one reclinate. Ocellar bristles strong, reclinate. Front with three rows of bristles on each side; parafacials with short bristles, more developed in male. Facial plate plus facialia fully as wide as the two parafacials. Oral margin abruptly and narrowly produced, vibrissæ well above same, few bristles above vibrissæ. Second antennal joint elongated in both sexes, the third slightly longer. Arista moderately short, bowed, thickened throughout; second joint elongate, two or three times as long as wide. Eyes bare. Proboscis stout but horny, part below geniculation equal to that above, entire length exceeding head-height. Palpi slender, strongly bowed at the slightly thickened ends. Cheeks same width as parafacials. Eyes descending nearly or quite to level of oral margin.

Four sternopleural bristles, the posterior one much the strongest. Four postsutural bristles. Scutellum with three strong pairs of lateral bristles, and a very short pair of subapical bristles in male hardly stronger than rest of dorsal scutellar bristles. First abdominal segment of male with 1 lateral macrochaeta, second with 2 lateral and 2 short median marginal, third with row of 10 marginal and still others below, fourth with 8 marginal counting those below. Female without dorsal bristles on first and second segments, with 1 lateral on each; third and fourth segments like male. Hind tibiae ciliate, with a slightly longer cilia-like bristle in middle which is perhaps better developed in female as a rule. Claws of female about equal to her shortened last tarsal joint, of male a little longer than his elongate last tarsal joint. Apical cell open, ending well before wingtip. No wrinkle or stump at the abruptly rounded rectangular bend of fourth vein, hind crossvein a little nearer to bend of fourth than to small crossvein.

Reproductive habit, leaf-oviposition; uterus very long and slender, with black elongate microtype eggs somewhat pointed at ends, chorion not honeycomb-reticulate but with alveolæ surrounding a central opaque area.

*Type-species.*—*Phasiatacta elongata* Townsend.

PHASIATACTA ELONGATA Townsend.

*Phasiatacta elongata* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, pp. 144, 329.—TD 4019.

Length of body, 9.5 mm.; of wing, 6.5 mm. One male and one female, the latter Sullana, Peru, March 25, 1911, on foliage in Rio Chira valley; the former Chapairá, in the Rio Piura valley, May 21, 1911, on foliage.

Face and cheeks silvery-white, the parafrontals deeply golden extending on occiput and upper orbits. First two antennal joints reddish-yellow or yellowish-red, third joint and arista dark brown. Palpi pale brownish-yellow. Occiput with grayish pile appearing faintly brassy above. Pleuræ and outside of anterior femora silvery pollinose; mesoscutum faintly brassy pollinose in female, decidedly brassy in male, leaving four heavy and practically equal black vittæ, the median pair appearing shorter when viewed from behind. Scutellum pale brownish-yellow. Abdomen of female reddish on sides, tip, and whole of venter; blackish on disk; covered with silvery pollen which has a faint brassy tinge on upper portion. Abdomen of male blackish nearly throughout, faintly reddish on sides of second segment, anal segment tipped with reddish, thickly brassy pollinose above in a submarmorate pattern, leaving median and lateral blackish areas irregularly defined on second and third segments; venter deeply silvery-white pollinose except on sides



and narrow hind margins of second and third segments and sides of first segment. Legs dark brown. Wings clear, tegulæ whitish.

*Type*.—Cat. No. 15184, U.S.N.M. Female; TD 4019, *f. r. s.*, *e.*, *ch.*, *m.*

Genus CNEPHALODOPSIS, new name.

*Cnephalodes* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 145 [preoccupied].

Practically all the characters of *Phasiatacta*, excepting only as follows: Facialia ciliate more than half way up; facial plate plus facialia in male wider than, to about same width as, one parafacial, but parafacial wider than same in female. Third antennal joint longer, one and one-third to one and one-half times the elongate second joint in female, nearly to fully twice or more the shorter second joint in male. Mean frontal width of male equal to a little more than one-third the head-width, that of female nearly one-half same. Proboscis perhaps a little longer. Cheeks narrower than parafacials.

Three to five sternopleural bristles. First and second abdominal segments with 1 lateral macrochæta each; first with no median, second with a median marginal pair, third with 8 strong marginal and only short ones below, fourth with 8 to 10 strong marginal. Same in both sexes. Middle longer bristle of cilia of hind tibiæ pronounced, especially long in female. Claws about equal in both sexes, barely as long as last tarsal joint in both.

Reproductive habit same; uterus and eggs same in general character, but chorion markedly different in structure, honeycomb-reticulate.

*Type-species*.—*Cnephalodes* (= *Cnephalodopsis*) *pollinosus* Townsend.

CNEPHALODOPSIS POLLINOSA Townsend.

*Cnephalodes pollinosus* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 145.—TD 4038.

Length of body, 10 to 12.5 mm.; of wing, 8 to 9 mm. The smaller measurement is of the male. Numerous specimens of both sexes, Piura, Peru, November 5, 1910, to April 21, 1911, on flowers of *Spilanthes*, sp., and on foliage.

Head silvery-white pollinose throughout, the vertex and facial plate pale yellowish. Frontalia brownish, but thickly dusted with a silvery pollen. First two antennal joints reddish-yellow, third joint and arista dark brown. Palpi yellow with a faint rusty tinge. Occiput with gray pile, the pollen of upper portions distinctly golden in male. Entire thorax, scutellum, and abdomen of female silvery-white pollinose, but rather thinly and irregularly distributed, producing a submarmorate appearance on abdomen. The pollen of male has a distinct brassy-cinereous tinge from vertex to tip of abdomen. By this slight difference in shade of pollen the two sexes, so closely similar in

anatomical characters, can be distinguished at a glance with the naked eye. The sides of abdomen in male are very faintly reddish, this color only apparent on close inspection. The female has the second antennal joint longer in proportion than male. Legs blackish, the anterior femora and tibiæ pollinose on outside. Wings clear, faintly yellowish on extreme base; tegulæ white, usually faintly margined with yellowish in female but wholly white in male.

*Type*.—Cat. No. 15185, U.S.N.M. Female, April 21, 1911; TD 4038, *f. r. s.*

Cotype, female, April 21, 1911; TD 4040, *ch., m., cph. sk.*

SALMACIA PERUVIANA, new species.

*Gonia*, sp. TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 143-144; Proc. Ent. Soc. Wash., vol. 13, 1911, pp. 156-157.—TD 4011, 4037.

Length of body, 10 to 13 mm.; of wing, 7.5 to 9.5 mm. Numerous specimens of both sexes, Piura, Sullana, Lima, Ñaña (near Lima), and Arequipa, Peru, on flowers of *Spilanthes*, sp., *Flaveria contrayerba*, other composites, *Polygonum*, sp., and on foliage.

This form, whether species, variety, or race, whether it interbreeds with other forms here given or does not so interbreed, is distinguishable by the following characters and may best be referred to under the present name. The prevailing color of abdomen is luteous, the hind margin of third segment and the tip of anal segment are blackish, and there is usually a small median marginal blackish spot on second segment. Abdomen and especially thorax and head with pronounced brassy pollen. Front luteous, with the bristles rather sparsely set and usually distinguishable as arranged in not over four rows on each parafrontal, not counting the orbital bristles. Third antennal joint in female is yellowish on base, rest blackish; that of male is wholly black or blackish.

*Type*.—Cat. No. 15186, U.S.N.M. Female, Piura, February 2, 1911; TD 4011, *f. r. s.* (short uterus).

Cotype, female, Piura, April 21, 1911; TD 4037, *f. r. s.* (long uterus), *e., m.*

Deposits black microtype eggs on leaves.

SALMACIA PACIFICA, new species.

Practically same size as preceding. Five females, Ñaña and Arequipa, Peru; four males, Piura, Lima, and Ñaña, Peru. On same flowers as preceding.

Abdomen reddish to dark, sometimes nearly same as in preceding, but the pollen of abdomen and all other parts silvery, especially that of thorax. The sparsely bristly luteous front same as in preceding, and with not over four bristle rows on each parafrontal. Antennæ same as in preceding.

*Type*.—Cat. No. 15187, U.S.N.M. Female, Ñaña, January 9, 1910; TD 4047 (long uterus).

Cotype, female, Arequipa, January 25, 1910; TD 4044 (long uterus), *m.*, *eph. sk.*

Same reproductive habit.

SALMACIA CHÆTOSA, new species.

Same size as the others. Four females from Ñaña, on flowers of *Flaveria*; six males from Lima, Ñaña, Sullana, and Somate, Peru, on flowers of *Flaveria*, *Spilanthes*, *Polygonum*, and *Telanthera*.

Abdomen reddish to dark; pollen silvery, especially on thorax and head. Five bristle rows distinguishable on each parafrontal, the bristles being thickly set. The front is whitish in ground color rather than luteous, conspicuously silvery and especially noticeable as being thickly bristly. The abdomen is narrowed and pointed in male, being subconical, and often so in female. Antennæ same as in preceding.

*Type*.—Cat. No. 15188, U.S.N.M. Female, Ñaña, January 9, 1910; TD 4046 (short uterus with fully developed maggots), *e.*, *m.*

Same reproductive habit.

SALMACIA ALPINA, new species.

Length of body, 7.5 mm.; of wing, 6 mm. One male, Tirapata, on the high puna of the Lake Titicaca region, Peru, about 13,000 feet, January 28, 1910, on flowers.

Abdomen wholly black, silvery-white pollen on anterior portion of segments. Thorax blackish or dusky, the pollen faint. Scutellum luteous. Front luteous, with only two bristle rows on each parafrontal. Face and front silvery-white pollinose, the pollen almost invisible on parafrontals except anteriorly. Third antennal joint and arista wholly deep black. Occiput blackish, ashy, vertical area luteous. Legs black. Wings yellowish on base and veins, tegulæ white.

*Type*.—Cat. No. 15189, U.S.N.M.

Same reproductive habit.

PROTOGONIA, new genus.

The description is drawn from a single male specimen. Differs from *Triachora* in the following characters: Second antennal joint not at all elongate. Second aristal joint strongly elongate. Parafacials beset with fine hairs. The inner row of frontal bristles is the main one, the two rows outside same being independent of the strong descending frontals. No orbital bristles in male. A strong pair of proclinate ocellar bristles. Scutellum with a pair of weak apical decussate bristles, a stronger widely separated pair of discal bristles,

and three strong and long pairs of lateral bristles. First abdominal segment without median macrochætæ, second with a median marginal pair of short ones, third with a marginal row of ten or twelve counting those on venter, anal segment with several subapical bristles.

Differs from *Salmacia* in the head not being excessively swollen, in the proclinate ocellar bristles, and other characters as given. Differs from *Goniomima* in the long second aristal joint, the stouter arista, and other characters as given above.

Reproductive habit unknown, but almost certainly leaf-oviposition of microtype eggs.

*Type-species.*—*Protogonia ocellaris*, new species.

**PROTOGONIA OCELLARIS, new species.**

Length of body, 11 mm.; of wing, 9.5 mm. One male, Rio Suyo, western base of Cordillera Occidental, extreme northern Peru, about 1,500 feet, November 20, 1910.

Head silvery-white with a more or less distinct golden tinge below which becomes pronounced on parafrontals. Frontalia dark brown. First two antennal joints reddish-yellow, third joint and arista dark brown. Palpi light brownish-yellow. Occiput ashy, beard grayish-white. Pleuræ and mesoscutum silvery, five distinct vittæ. Scutellum reddish, base darker, thinly silvery over all. Abdomen reddish throughout, posterior portion of third segment brownish, an indistinct median vitta brownish, anal segment thickly light golden pollinose, other segments silvery-white pollinose appearing thinly or thickly so according to varying light, third segment more thickly so and with a tinge of golden to the pollen. All of venter silvery-white except the light golden anal segment. Legs brownish, tibiæ reddish, femora silvery. Wings clear, tegulæ white.

*Type.*—Cat. No. 15190, U.S.N.M.

**TRIACHORA EQUINOCTIALIS, new species.**

Length of body, 10 to 11 mm.; of wing, about 8 mm. Numerous specimens of both sexes, Piura, Peru, October 28 to November 8, 1910, and later, on flowers of species of *Mikania*.

This form has orbital bristles in both sexes, normally three proclinate and one reclinate. The male has the front not quite so wide, the claws and pulvilli more elongate, the second antennal joint only moderately elongate and the third joint strongly so, latter being three or four times length of second. The female has the second antennal joint more strongly elongate, the third joint being hardly more than twice length of second.

All of face and cheeks silvery-white pollinose, the facial plate being same as the other parts. Entire front pellucid brownish-golden, the



parafrontals pollinose but showing pollen only in oblique view. Antennæ reddish-yellow, arista and third joint except base blackish or brown. Palpi pale brownish-yellow. Occiput ashy. Pleuræ silvery-cinereous, the mesoscutum less thickly so. Four sternopleural bristles, the end ones very strong, the intermediate ones weak; four postsutural bristles. Scutellum of the same leaden ground color as mesoscutum, brownish-yellow on margin, pollinose basally, with four strong marginal pairs of bristles, and a subapical erect nondescussate very short pair; discal pair weak and hardly distinguishable in some cases. First abdominal segment dark brown, second segment brown with the basal portion silvery-cinereous pollinose, the third segment thickly golden-yellow pollinose leaving the posterior margin brown, anal segment entirely densely deep golden pollinose. A weak pair of median marginal bristles on first abdominal segment in both sexes, a much stronger median marginal pair on second segment, marginal row on third and fourth segments. Legs blackish. Wings faintly infuscated throughout, more distinctly so on costal margin. Tegulæ whitish, faintly yellowish on margins.

*Type*.—Cat. No. 15191, U.S.N.M. Female. October 28, 1910; TD 3969, *e*.

Deposits black microtype eggs on foliage.

**BELVOSIA PIURANA, new species.**

*Belvosia piurana* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 143.—TD 4032.

Length of body, 13 to 14 mm.; of wing, same measurement. Numerous males and females, Piura, Peru, October 30 and 31 and early part of November, 1910, on flowers of species of *Mikania*, and Sullana, in the valley of the Rio Chira, on flowers of *Philibertella flava*, an asclepiadaceous vine.

Black, the entire head white-silvery pollinose, only the occiput and parafrontals with dark ground color showing through the pollen, and frontalia reddish-brown in a direct view. Antennæ brown, the first two joints and base of third more or less distinctly reddish-yellow. Palpi reddish-yellow. Hair of occiput white. Thorax faintly silvery pollinose, the pollen only showing in oblique view. Scutellum pale reddish-brown. Abdomen black, the second segment very narrowly margined with silvery pollen anteriorly, the third segment more widely so, the fourth segment wholly silvery pollinose excepting only the spinose apex. Some individuals show a pale golden shade to the pollen, while in others it is pure silvery-white. Legs black. Wings smoky throughout.

*Type*.—Cat. No. 15192, U.S.N.M. Female, Sullana, April 12, 1911; TD 4032, *ch., m*.

Deposits black microtype eggs on foliage.

## Subfamily BLEPHARIZEINÆ.

## JÆNIMYIA, new genus.

The description of this interesting genus is made from the male only. No ocellar bristles. Hind tibiæ densely plumose without longer bristle. No macrochætæ on first two abdominal segments except short lateral ones and sometimes a very short inconspicuous atrophied median marginal pair on second. Third segment with a marginal row of short spinelike macrochætæ. Fourth segment without spinelike macrochætæ but thickly furnished with bristles and hairs. Scutellum with four pairs of strong marginal bristles, none decussate, the apical pair longest and widely separated. Disk of scutellum near posterior apical edge with a few very short stubby spinelike macrochætæ. The genus quite unmistakably belongs to the Blepharizeinæ, in the neighborhood of *Parachæta*, on the characters of macrochætæ, ciliate hind tibiæ, head, venation, etc.

Proboscis short and stout, palpi curved and thickened at tip. Vibrissal angles placed far above oral margin, distance being fully one-half length of the third antennal joint, or more than length of second antennal joint. Oral margin prominent but not nasute. Facialia bare. Front at vertex about equal to width of one eye. Cheeks rather more than one-half eye-height. One pair of strongly reclinate vertical bristles. Frontal bristles descending to base of third antennal joint. Second aristal joint about as long as wide. Four postsutural and two sternopleural bristles. Apical cell open just a little before wingtip. Bend of fourth vein rounded-rectangular, hind crossvein nearer bend. Claws and pulvilli only moderately elongate.

Reproductive habit, almost certainly leaf-oviposition of black microtype eggs.

*Type-species*.—*Jænimyia albicincta*, new species.

Named for the Province of Jaen, Department of Cajamarca, Peru.

## JÆNIMYIA ALBICINCTA, new species.

Length of body, 12 to 13 mm.; of wing, 11 to 12 mm. Four males, Rio Charape, in the montaña of east slope of Cordillera Oriental, Province of Jaen in northern Peru, about 5,000 feet, September 12 to 16, 1911, on foliage and on damp soil by stream.

Face and cheeks wholly and densely silvery-white pollinose. Parafrontals black, silvery-white pollinose showing densely so on anterior two-thirds in some lights, less distinctly so at vertex. Frontalia, antennæ and palpi wholly dark brown or blackish. Occiput silvery, with silvery-white pile. Thorax and scutellum black, pleuræ faintly silvery; mesoscutum thinly silvery, with five black vittæ, median one nearly reaching scutellum, next one on each side

stopping a third of way behind suture, the outer one interrupted at suture and attenuated posteriorly. Scutellum thinly silvery-white on posterior half, showing thickly so in some lights, the apex of metanotum below it also silvery-white pollinose. First abdominal segment wholly soft black above and below; second segment wholly densely silvery-white pollinose like face above and below, excepting only the very narrow hind margin of soft black which becomes attenuated laterally to continue again on venter; third segment black, with four large densely silvery-white pollinose spots reaching a little more than two-thirds of way to hind margin, the lateral spot on each side continued on venter in an arm of silvery-white on anterior margin broadening at end; anal segment black, with four very small silvery-white pollinose spots on anterior margin, the lateral ones not continued on venter. Femora and tibiæ blackish, except distal half of front tibiæ which is thickly golden short-hairy on the inside. Hind tarsi brownish, but with golden short thick hairs on inside; other tarsi yellowish. Wings wholly and evenly infuscated with deep tawny-blackish, only the costal cells lighter. Both pairs of tegulæ pearly-black throughout.

*Type*.—Cat. No. 15193, U.S.N.M.

**JÆNIMYIA PUNCTATA, new species.**

Length of body, 13 mm.; of wing, 12 mm. One male with preceding specimens, September 15, 1911. Differs from preceding species in following points: Face and cheeks densely buff-golden pollinose. Palpi light brownish-yellow. Parafrontals dusky-olive and brassy marmorate. Occiput ashy, with brassy-gray pile. Pollen of pleuræ, sternum and front coxæ more cinereous, hardly brassy. Scutellum wholly soft black; abdomen same, with four small silvery-white spots on front margin of second, third, and fourth segments, those of second segment smallest and those of third segment largest. The second and third segments show some silvery narrowly on anterior margin on venter, that of second segment wider. The middle and front tibiæ are brownish-yellow, also tips of front femora and inside of tips of middle ones; tarsi yellow to rust-yellow. The basal and costal cells of wing are lighter.

*Type*.—Cat. No. 15194, U.S.N.M.

**BLEPHARIZEPA MONTAGNA, new species.**

Length of body, 12 mm.; of wing, 11.5 mm. One female, Uruhuasi bridge, canyon of the Rio San Gaban, montaña of southern Peru, about 6,500 to 7,000 feet, February 15, 1910, on flowers of *Baccharis*, sp.

Head silvery-white pollinose, including facial plate and occiput. Parafrontals with blackish ground color which gives them a dark shade in some lights. Frontalia brown, antennæ dark brown. Palpi

pale brownish-yellow, dusky basally. Beard silvery-white. Pleuræ and mesoscutum thinly silvery-white pollinose, showing thickly in some lights, the usual five vittæ distinct. Scutellum wholly brownish-red to reddish-brown, shining and without bloom. Abdomen of same reddish-brown as scutellum, varying to shining dark brown or blackish on disk. Legs brown, femora dark brown with silvery bloom. Wings clear, more or less deeply infuscated at base. Tegulæ deep smoky-blackish.

*Type*.—Cat. No. 15195, U.S.N.M. TD 3947, *e., ch., m., cph. sk.*

Deposits black microtype eggs on foliage.

### Family PHASIOPTERYGIDÆ.

#### Subfamily PHASIOPTERYGINÆ.

##### PHASIOPTERYX AUSTRALIS Townsend.

*Phasiopteryx australis* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 136-137 and 149-150.—TD 4005.

Length of body, 7.5 mm.; of wing, same measurement. Two females, Piura, Peru; one at light in house January 14, 1911, the other taken on window screen of house February 7, 1912.

Wholly pale straw-color, with black bristles, the third antennal joint and proboscis more deeply tinged, and the frontalia more deeply colored in one specimen. The thorax is very faintly tinged with flesh-color, more appreciable in perfectly fresh specimens. Disk of mesoscutum is grayish-dusky centrally, especially behind suture; four broken vittæ of deeper straw-color are faintly apparent, the median pair dividing the dusky area more or less clearly into three vittæ. The entire body is very thinly silvery pollinose, the bloom only visible on close inspection. The first abdominal segment has only lateral macrochætæ; second has lateral, and six very small almost atrophied marginal ones; third has marginal row of eight pronounced ones besides the lateral, which they equal in strength; anal segment has a discal row of about same strength, and a marginal row of weaker ones. Three equal pairs of marginal scutellar bristles, the apical pair decussate; a small separated discal pair. Two sternopleural and three postsutural bristles. A small round black spot is situated on front border of extreme wing-base, and the small cross-vein of wing is narrowly clouded with black. The wing veins are pale yellowish, the marginal cell is deeply yellowish, and the costal cells are hardly less so. The apical cell is well open in both specimens. The third antennal joint is scarcely twice as long as second, and the arista is delicately thinly hairy. There are four outwardly-proclinate orbital bristles in a row on each side.

*Type*.—Cat. No. 15196, U.S.N.M. Female, January 14, 1911; TD 4005, *f. r. s.*



A third female of this genus, taken indoors at Piura, December 15, 1911, measures only 6 mm. in length. The apical cell is absolutely closed, the tip of wing slightly more rounded, and the two costal cells wholly clear. The discal row of bristles of anal segment is practically wanting, and the small discal scutellar bristles are more approximated. There are three sternopleural bristles on one side, but the middle one of opposite side is atrophied. It remains to be seen whether this specimen represents a distinct form. These flies are so rarely met with that sufficiently large series for study do not yet exist in collections.

Deposits isopodiform maggots with dorsal and lateral chitinized segmental plates, which evidently have often to endure long exposure before reaching their hosts.

As throwing possible light on the host habit of this genus, it may be mentioned that *Trixa* has been reared in Europe from certain coprophagous scarabs. On external characters *Phasiapteryx*, *Oestrophasia*, and their immediate allies seem more or less nearly related to *Trixa*. A certain small coprophagous scarab allied to *Onthophagus* is common in Piura, where it feeds and breeds in dung of horses and burros, evidently burying dung-pellets with its eggs. It may be that the present species of *Phasiapteryx* is parasitic in its larva. The structure of the first-stage *Phasiapteryx* maggot seems very well adapted for attachment to the legs or ventral surface of the female scarab, awaiting the formation by latter of the dung-pellet which it afterwards rolls away for burial. The maggot may easily transfer its attachment from the scarab to the pellet during the rolling process. The maggot is evidently adapted, in a greater degree than is any other first-stage maggot so far known in the Muscoidea, not only for exposure in the open but also for external attachment to heavily chitinized surfaces during such exposure. Its hard highly chitinized and polished segmental plates afford it protection from air, light, and external contacts, while its soft unchitinized and sucker-like ventral surface affords it means of external attachment. The peculiar cephalic bunches of talon-like spines possessed by the first-stage maggot of *Phasiapteryx bilimeki* (TD 1791a from Vera Cruz) may well be a further special adaptation for external attachment. It is thus possible if not probable that the female *Phasiapteryx* deposits her maggots on or at the edge of fresh dung, where they would have excellent opportunities for attaching themselves to the arriving scarabs. The fecundity of *Phasiapteryx* is apparently very moderate, in the neighborhood of only 500 or 600, and this indicates a larviposition habit that would make reasonably sure of the maggot encountering the host.

Unfortunately the character of the first-stage maggot of *Trixa* is unknown. It is possible that it is somewhat similar to that of *Phasiapteryx*.

### Family DEXIIDÆ.

#### Subfamily DEXIINÆ.

##### MICROCHÆTINA ARIDA Townsend.

*Almugmyia arida* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 136, 148; Proc. Ent. Soc. Wash., vol. 13, 1911, pp. 154-155.—TD 3979.

Length of body, 6 to 7 mm.; of wing, 5 to 6 mm. Numerous specimens of both sexes, Piura, Peru, August 9 to November 4 and later, 1910, on trunks of mesquite.

Wholly thickly cinereous pollinose, the face and front quite silvery. Frontalia and antennæ brown. Cheeks with a light brownish tinge. Thoracic vittæ very faint, hardly showing through the thick pollen. The pollen of hind borders of abdominal segments is faintly yellowish. The female lacks median macrochætæ on the first two abdominal segments or has at most atrophied ones, but the male has a median marginal pair on the second segment. Both sexes with the long median pair of third segment subdiscally placed. Anal segment with discal row. The wings are faintly straw-colored on base and costa. Costal spine strong. Apical cell long-petiolate. Male front greatly narrowed at vertex. Third antennal joint in both sexes about one and one-half times as long as second. Claws of male very long.

*Type*.—Cat. No. 15197, U.S.N.M. Female, November 4, 1910; TD 3979, *f. r. s.*

Deposits white maggots in choria where they can reach host.

This is the type of the genus *Almugmyia*, which I prefer for the present to leave in *Microchætina*. It may be employed, if found desirable, on comparison of the types of the two genera.

#### AGLUMMYIA, new genus.

This genus differs from *Almugmyia* by having the hind crossvein in middle between small crossvein and apical crossvein, the petiole of apical cell short, end of fourth vein not greatly removed from hind margin of wing, parafrontals and parafacials much narrower, the latter with fine hairs throughout, third abdominal segment with marginal row of macrochætæ. *Almugmyia* has apical cell with a very long petiole, the hind crossvein much approximated to small cross vein, the bend of the fourth vein far removed from hind margin of wing, the parafrontals and parafacials wide, the latter with a few short black bristles on lower extent near inferior eye-border, and third abdominal segment with only a median subdiscal pair of macrochætæ besides the lateral pairs. The other characters are very similar in the two genera. Three sternopleural and three postsutural

bristles. Scutellum with two long marginal pairs of bristles, a shorter decussate apical pair and a discal pair equal to last.

Reproductive habit, larviposition of white maggots in choria where they can reach host.

*Type-species.*—*Aglummyia percinerea*, new species.

AGLUMMYIA PERCINEREA, new species.

*Aglummyia major* TOWNSEND, Proc. Ent. Soc. Wash., vol. 13, 1911, pp. 154–155 [nomen nudum].

Length of body, 6.5 to 7.5 mm.; of wing, 5.5 to 7.5 mm. Numerous females, Piura, Peru, October 18, 1910, to March 15, 1911. Taken only in house, on one occasion at light.

Deeply cinereous pollinose over whole body, a faint yellowish tinge to the pollen on front, mesoscutum, scutellum, and especially abdomen. Frontalia pale brownish. Antennæ brown, first two joints reddish-yellow. Arista and its short pubescence brown. Cheek-grooves broadly reddish-brown, palpi reddish-yellow. First abdominal segment without median macrochætæ; second segment with a median pair a little removed from hind margin; third segment with a row of six or eight equally removed from hind margin; anal segment with a discal row of six or eight, and several apical bristles. All the segments have lateral marginal macrochætæ, and the third segment has also one or more lateral discal bristles. Femora distinctly brownish-yellow, the tibiæ less so, the tarsi quite dusky. Claws and pulvilli moderately long. Wings nearly clear, tegulæ whitish.

*Type.*—Cat. No. 15198, U.S.N.M. Female, November 8, 1910; TD 3991, *m.*, *cph. sk.*

Cotype, female, October 18, 1910; TD 3959, *e.*

ÆSTROPSIS, new genus.

Body-facies of a *Calliphorine*, but head rather Æstrid to Dexiid in characters. The description is made from a single male specimen. Front produced, at vertex rather less than width of one eye, widening rapidly forward from posterior third to face. Frontalia greatly widened anteriorly. Eyes bare. Parafacials nearly as wide as long, appearing wider than front at vertex, beset with rather long bristly hairs, which extend on parafrontals. The parafrontals are very wide anteriorly, but greatly narrowed posteriorly. The single row of slender frontal bristles on each side stops about opposite base of antennæ. A pair of proclinate ocellar bristles equaling frontals in strength. Cheeks about as wide as eye-height, and including their occipital area longer than wide, bare save for the invading hairs of parafacials and those of the occipital area. The occipital area extends obliquely far forward on cheeks, reaching peristomalia at a point about as far forward as anterior margin of eye. Antennæ short, third joint but slightly longer than second. Arista of moderate



length, crooked, practically bare with only faint indication of a microscopic pubescence, somewhat enlarged on basal one-fifth, thence tapering, basal joints short. Facial plate above vibrissæ broad-oval, lightly carinate, the vibrissal angles narrowing its lower portion and situated about as far above oral margin as length of second antennal joint. Vibrissæ twice as long as the peristomal bristles below them. Facialia bowed, bare save for a very few bristles next vibrissæ. Oral margin not prominent, cut off, the whole facial plate nearly vertical in profile. Proboscis short, but horny rather than fleshy, part below geniculation distinctly less than cheek-width. Palpi well developed, about as long as antennæ, hardly thickened apically.

Three sternopleural and four postsutural bristles. Scutellum with two long pairs of lateral bristles, a very slender apical decussate pair about half as long, and a discal pair of about same length as latter. First two abdominal segments with only a lateral marginal macrochæta, third segment with a marginal row of about 10 rather long bristles, anal with discal and marginal rather shorter ones. Legs long, with stout macrochætæ on the tibiæ; claws and pulvilli very long and strong. Wings without costal spine. Apical cell open well before wing-tip. Apical crossvein hardly bowed in, fourth vein continued in extremely short stump directed toward inner margin of wing and without wrinkle, hind crossvein gently sinuate and nearer to apical than to small crossvein.

Reproductive habit unknown, but judging from the head and wing characters it should be larviposition after the manner of Dexiids.

*Type-species.*—*Æstropsis viridis*, new species.

**ÆSTROPSIS VIRIDIS, new species.**

Length of body, 11.5 mm.; of wing, 10 mm. One male, Tam-boraque, on the western slope of the Cordillera Occidental, valley of the Rio Rimac, Peru, about 9,000 feet, April 3, 1910, on flowers of *Cyclanthera*, sp.

Front, face and cheeks blackish, thickly covered with a changeable satin-like yellowish-silvery pollen, even the broad frontalia so covered, but the facial plate and facialia not pollinose. Occiput shining metallic greenish-purple, thinly dusted with silvery which does not obscure its ground color, considerably invading the cheek-area. First two joints of antennæ reddish-yellow, third joint and arista dark brown. Facialia and sides of facial plate brownish-yellowish, the carina and epistoma blackish. Palpi pale brownish-yellow, little darker apically. Pleuræ and mesoscutum metallic greenish-purple like the occiput, thinly silvery, appearing thickly so in some lights, four heavy velvet-black vittæ, the outer ones subinterrupted and wider. Scutellum metallic green, purplish on disk and base. Abdomen metallic bright green; the hind borders of first three segments



with more or less of purplish reflection, the fourth segment with a rust-gold tinge in middle, all very thinly silvery pollinose but appearing very thickly so in oblique view. Legs brownish-yellowish to reddish, the femora more or less metallic purplish. Wings faintly infuscated with smoky-yellowish along the veins. Tegulæ smoky-whitish, deeply smoky on margins.

*Type*.—Cat. No. 15199, U.S.N.M.

### Family SARCOPHAGIDÆ.

#### Subfamily SARCOPHAGINÆ.

##### SARCOPHAGA AURIBARBATA, new species.

*Sarcophaga auribarбата* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 129-130, 139 [*nomen nudum*].

Length of body, 10.5 to 14 mm.; of wing, 8.75 to 11 mm. Numerous specimens of both sexes, Piura, Peru, indoors and on foliage.

Head of female wholly densely deep golden pollinose, even including whole of occiput, only excepting the frontalia dark brown, the facialia brownish and not pollinose or with only a faint silvery bloom, and the tergite of sixth segment, which is brown with silvery bloom, while the facial plate is less deeply golden and sometimes only faintly so. The head of male is sometimes, if not usually, less deeply golden. Antennæ and palpi dark brown to blackish. Occiput with more or less deeply golden pile, the beard most deeply golden in both sexes. Humeri deeply golden pollinose, the color running back along edge of mesoscutum to root of wing. Mesopleuræ with lighter golden or brassy pollen, rest of pleuræ silvery or cinereous pollinose. Three heavy black vittæ on mesoscutum, the median one extending over scutellum; rest of mesoscutum and scutellum silvery-white to silvery-cinereous pollinose. Abdomen marmorate with shining black or brown and silvery-white pollinose surfaces, the pollen thickest on sides and front half of segments, the anal or fifth segment of female reddish and deep golden pollinose, hypopygium of male reddish. Legs blackish, femora more or less pollinose outwardly. Wings clear, tegulæ white.

*Type*.—Cat. No. 15200, U.S.N.M. Female, November 2, 1910; TD 3975, *f. r. s.*

Cotype, female, June 19, 1910; TD 3900, *m., cph. sk.*

Deposits maggots from a double-sac uterus in proximity to food supply or host, being at times pseudoparasitic.

##### SARCOPHAGA AURIGENA, new species.

*Sarcophaga aurigena* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 129-130, 139 [*nomen nudum*].

Length of body, 9.5 to 11 mm.; of wing, 7.5 to 9 mm. Numerous specimens of both sexes, Piura, Peru, indoors and on foliage.

Differs from preceding species as follows: The golden pollen is confined to front of head, the whole occiput being ashy. Beard scanty and faintly brassy, occipital pile very little developed. Pollen of thorax and scutellum same shade as that of occiput, with only a suggestion of brassy on mesopleuræ and mesoscutum in female, that of male silvery. The thoracic vittæ are not so heavy, but they are broad and well defined. The abdominal pollen in male is distinctly brassy on fourth segment, less so on sides of third segment; the fourth segment in female is deeply golden pollinose like cheeks, third segment less so, second segment sometimes slightly so. The narrow hind margins of first to third segments and a well defined median vitta are black.

*Type*.—Cat. No. 15201, U.S.N.M. Female, March 29, 1911; TD 4024, *f. r. s.*

Same reproductive habit as preceding.

**SARCOPHAGA ARGENTEA, new species.**

*Sarcophaga argentea* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, pp. 129-130, 139 [*nomen nudum*].

Length of body, about 10 mm.; of wing, 7.5 mm. One female, Piura, Peru, November 3, 1910.

Differs from *S. aurigena* as follows: Occiput, face, and cheeks nearly concolorous in a gray-cinereous pollen, with at most a faint suggestion of brassy on cheeks. Parafrontals lightly brassy. Thoracic vittæ still weaker and not so well defined, not black, rather brown to dark brown. Abdomen cinereous pollinose, with a faint tinge of brassy, especially on sides and fourth segment.

*Type*.—Cat. No. 15202, U.S.N.M. TD 3976, *f. r. s.*

Same reproductive habit as preceding.

**SARCOPHAGULA PERUANA, new species.**

*Sarcophagula peruana* TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 139 [*nomen nudum*].

Length of body, 3.75 to 4.75 mm.; of wing, 3 to 4 mm. Numerous females, Piura, Peru.

Face and cheeks silvery, occiput ashy, parafrontals silvery with a more or less distinct golden tinge. Frontalia brownish, pale anteriorly; antennæ pale brownish, palpi pale. Thorax and abdomen cinereous pollinose, mesoscutum with three very faint narrow dusky vittæ. Pollen of thorax is more or less silvery, that of abdomen more or less brassy, the latter with usual marmorations. Legs blackish. Wings clear, tegulæ white.

*Type*.—Cat. No. 15203, U.S.N.M. Female, November 9, 1910; TD 3990, *m.*

Same reproductive habit as preceding.

## EUPARAPHYTO, new genus.

Belongs in the Sarcophagidæ in the neighborhood of *Sarcophaga*, from which it differs in the practically bare arista, the strong bristles of parafacials, the facial and antennal structure, strong costal spine, etc. From *Paraphyto* it differs in the single row of frontal bristles, which descend below base of second antennal joint, the bristles of parafacials, etc. The description is drawn from a single female specimen.

Front elongate and broad, longer than facial plate, wider at vertex than one eye, a strong pair of ocellar bristles, two proclinate and one divergent-reclinate pairs of orbital bristles. Parafacials very broad, with about four strong bristles in a row near lower eye-margin; between these and frontal bristles are several weak hairs. Facial plate short, deeply bowed, the oral margin thus being prominent, the vibrissæ inserted practically on same. Facialia with a few short bristles next vibrissæ, latter a little longer than the peristomal bristles. Second antennal joint hardly elongate, third joint no longer than second; arista thickened on basal one-third, with only the faintest microscopic pubescence on thickened portion, basal joints short. Cheeks nearly two-thirds of eye-height, fully one-half same in least width, fully twice as long as wide, sparsely set with bristly hairs. Proboscis subhorny but stout, part beyond geniculation much less than head-height; palpi elongate, widened apically, a little shorter than proboscis beyond geniculation.

Three sternopleural and three postsutural bristles. Scutellum with four rather strong, long, nearly straight marginal bristles, the inner pair widely separated; the discal weak pair nearly atrophied, but distinct. Abdomen without dorsal bristles on first three segments, but second and third segments with one lateral marginal bristle, and first segment with several lateral bristles and a median ventral pair, the venter otherwise without bristles; fourth segment with a marginal row, becoming gradually hairlike on venter. Wings with a long and strong costal spine, the venation as in *Sarcophaga*, the apical cell very widely open.

Reproductive habit unknown, but most likely larviposition from a double-sac uterus.

*Type-species.*—*Euparaphyto alpina*, new species.

## EUPARAPHYTO ALPINA, new species.

Length of body, ♂ mm.; of wing, 8 mm. One female, Tirapata, Peru, on the high puna of the Lake Titicaca region, about 13,000 feet, January 28, 1910, on flowers of the dwarf flora.

Head black, more or less silvery. Antennæ and palpi soft black. Facial plate black, thinly silvery pollinose. Parafrontals silvery, faintly golden on middle. The broad frontalia soft black in a direct

view, but showing a thin silvery bloom in oblique view. The wide parafacials are silvery-white pollinose, with a soft black vitta running from the middle of anterior eye-margin to apex of second antennal joint, and a black spot at lower front corner of eye; the latter appears in oblique view as though continued across parafacial, and in very oblique view the entire parafacial may appear soft black. Cheeks silvery; occiput same, the narrow occipital orbits faintly golden. Thorax, scutellum and abdomen black, golden pollinose; pleuræ with four golden pollinose spots; mesoscutum with three heavy black vittæ, the middle one continued over scutellum; dorsum of abdomen brassy pollinose, with dark median vitta and dusky marmorations on sides of the four main segments, anal or fifth segment wholly reddish-yellow; on venter the golden pollen is very distinct and deeply colored, leaving a blackish hind border to the four main segments. Legs black. Wings clear, long veins deeply yellow, crossveins blackish, faint cloud on small crossvein. Third vein bristly one-half way to small crossvein. In both wings the hind crossvein has a very short stump on inner side of proximal curve. Tegulæ white.

*Type*.—Cat. No. 15204, U.S.N.M.

#### CHLORONESIA, new genus.

Evidently belonging to the Sarcophagidæ, in the group of *Sarconesia* and *Blepharicnema*. Differs from *Sarconesia* in the ground color of entire body and legs being metallic green, facialia with only single row of hairs, vibrissæ close on oral margin, front of female less than eye-width, cheeks about one-fifth of eye-height.

Parafacials beset with a few short hairs. Facialia ciliate with weak bristles more than one-half way up. Arista pubescent on basal one-half. Eyes bare. A pair of weak ocellar bristles. Two orbital bristles in female. Frontal bristles descending below base of antennæ, but not reaching base of third joint. Proboscis short, palpi well developed. Second antennal joint short; third joint long and equilateral, reaching almost to vibrissæ, which are exactly on oral margin. Epistoma cut off, but the edge turned so as to make oral margin slightly prominent.

Two sternopleural and three postsutural bristles, sometimes a small third sternopleural. Scutellum with one lateral and a long straight nondecussate apical pair of bristles, between the lateral and apical is a short bristle, and between the two apical is a short submarginal pair of straight bristles. No bristles on dorsum of first two abdominal segments except at sides; third and fourth segments with a marginal row. Legs neither slender nor elongate, middle and hind tibiæ with strong bristles. Apical cell open immediately before wingtip, fourth vein continued in slight stump at



times and always with wrinkle, hind crossvein nearer to apical crossvein.

Reproductive habit unknown, but probably larviposition from a double-sac uterus.

*Type-species.*—*Chloronesia andina*, new species.

CHLORONESIA ANDINA, new species.

Length of body, 7 to 8 mm.; of wing 6.5 to 7.5 mm. Two females, near Manchi, on the western slope of the Cordillera Occidental in southern Ecuador, in a humid montaña region, about 7,000 to 7,500 feet, November 22 to 26, 1910, on flowers of *Baccharis floribunda* and on foliage.

Wholly bright metallic green with some bluish or darker reflections. Parafrontals, parafacials, cheeks and orbits thickly light brassy pollinose. Occiput thinly silvery pollinose. Facial plate and facialia obscure yellowish and faintly brassy. Frontalia dark brown to reddish-brown. Antennæ wholly dark brown, arista blackish. Palpi blackish. Pleuræ rather thickly silvery, mesoseutum very thinly so, five very obscure and delicate metallic golden vittæ not due to pollen. Scutellum and abdomen bright green with faint bluish reflections, the venter silvery, the scutellum less silvery, and dorsum of abdomen scarcely or not at all so. Legs black; femora metallic greenish, faintly silvery. Wings nearly clear, with very faint infuscation along veins. Tegulæ white.

*Type.*—Cat. No. 15205, U.S.N.M.

Subfamily MILTOGRAMMINÆ.

METOPIA MERIDIANA, new species.

*Metopia*, sp. TOWNSEND, Ant. Ent. Soc. Amer., vol. 4, 1911, p. 130.—TD 3988.

Length of body, 4 to 4.75 mm.; of wing, about 3.5 mm. Five males and one female, Piura, Peru, November 8, 1910, and one male April 7, 1911, on sand and foliage in sunshine.

The males have the inner edge of forward half of parafrontals developed entirely over the part of frontalia between them and meeting on median line like the peak of a roof, the whole of this portion of parafrontals and all of parafacials being like burnished silver. The female lacks all this and in consequence her front is not so sharply produced nor so acute above. She has no silvery on head, all being cinereous with the parafrontals faintly golden, frontalia and antennæ wholly dark brown. Facial plate of male cinereous, antennæ and visible portion of frontalia dark brown, posterior half of parafrontals cinereous with a very faint golden shade. Palpi black. Occiput ashy. All of thorax and abdomen cinereous, with a very faint golden tinge on dorsal portions including scutellum, the usual four faint narrow vittæ on mesoscutum, the second to fourth

abdominal segments showing dusky-golden marmorations in varying lights. Scutellum with two lateral pairs and an apical decussate pair of bristles, all equal; discal pair atrophied and indistinguishable as a rule. First three abdominal segments with a median marginal pair of bristles in both sexes, but those of first very small in female; anal segment with marginal row. Legs black, claws very short in both sexes. Wings clear, tegulæ white.

*Type*.—Cat. No. 15206, U.S.N.M. Female; TD 3988, *f. r. s.*  
Deposits maggots from a double-sac uterus.

#### PHÆNOPSIS, new genus.

Frontal characters like *Metopia* and *Araba*, but eyes thickly hairy. Bend of fourth vein without stump or wrinkle and ending very close to wingtip. Comes from wholly distinct stock from *Metopia* and allies. The description is made from the male.

Male front in middle about equal to eye-width, vertex about four-fifths of eye-width. Two pairs of reclinate inner orbital bristles. No ocellar bristles. Frontal bristles descending about to base of third antennal joint, facialia strongly ciliate to lowest frontals. Facial plate cut off, epistoma not prominent, vibrissæ at oral margin. Eyes descending almost to vibrissæ; cheeks very narrow, hardly one-eighth of eye-height. Parafacials bare, narrowed below to almost a line. Front conical in profile, face strongly receding. Second antennal joint very short; third in male very long, straight, perfectly equilateral, reaching exactly to oral margin. Arista bare, thickened on basal one-third or so. Male with burnished-silver crescent bounding eye anteriorly and taking up parafacial and oblique outer anterior part of parafrontal, the two silver crescents almost meeting on the median line over the frontalia. Two sternopleural and three postsutural bristles. Three lateral scutellar bristles, the middle one much shorter than the others; an erect slightly forwardly-curved apical pair about same length as middle lateral; a weak separated discal pair. Abdomen short subconical, first segment without median bristles, second with a median marginal pair, third with a marginal row, anal with marginal. Hind tibiæ of male sparsely delicately pectinate, with a longer bristle near middle. Claws of male very short. Apical cell narrowly open just before wingtip, fourth vein bent at obtuse angle, hind cross vein about in middle between small crossvein and bend of fourth vein.

Reproductive habit unknown, but judged to be larviposition from a double-sac uterus.

*Type-species*.—*Phænopsis arabella*, new species.

## PHÆNOPSIS ARABELLA, new species.

Length of body, 4.5 mm.; of wing, 3.5 mm. One male, Sullana, Peru, valley of Rio Chira, April 11, 1911, on foliage.

Shining polished black; head thinly to thickly pollinose with silvery-white, showing in a densely silvery crescent on parafacials and parafrontals, the oblique inner-posterior portion of latter shining. Antennæ and palpi wholly black, the frontalia brownish. Thorax including pleuræ faintly and thinly silvery pollinose, hardly apparent in some lights, in others very distinct. Two vittæ are indicated on mesoscutum, but indistinctly. Scutellum wholly black and shining. Abdomen shining black, the very narrow anterior margins of second and third segments silvery-white. Legs black. Wings clear; tegulæ watery, the front pair whitish.

*Type*.—Cat. No. 15207, U.S.N.M.

## SARCOMACRONYCHIA TRIVITTATA, new species.

*Sarcomacronychia*, sp. TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 130.—  
TD 3996.

Length of body, 6.5 to 7 mm.; of wing, 4.75 to 5.5 mm. Two males and two females, Piura, Peru, November 4, 1910, to March 20, 1911, on flowers of species of *Mikania*, on foliage and in house.

Head silvery pollinose, the parafrontals in both sexes faintly golden. Front narrow in both sexes, at vertex about one-sixth of head-width, conspicuously narrowed on anterior half in female but hardly at all so in male. Occiput ashy. Palpi and antennæ black. Body silvery-cinereous pollinose, three heavy black vittæ running uninterruptedly the full length of mesoscutum and scutellum and continued on abdomen a little less definitely to hind border of third segment. The anal segment is wholly rust-golden in both sexes, the other segments silvery pollinose save for the vittæ and narrow blackish hind margins. Two sternopleural and three postsutural bristles. Scutellum with two lateral strong pairs of bristles and a decussate apical pair nearly as strong; discal pair hairlike. Abdomen in both sexes with a median marginal pair of macrochætæ on second segment and a marginal row on third and fourth segments. Legs black, femora faintly pollinose on outer surface, front ones thickly so; claws and pulvilli of male quite strongly elongate, those of female short. Wings clear, tegulæ whitish.

*Type*.—Cat. No. 15208, U.S.N.M. Female, November 12, 1910; TD 3996.

Deposits maggots from a double-sac uterus.

## EUSELENOMYIA, new genus.

Differs from *Selenomyia* in the macrochætæ being only marginal, the cheeks only about one-fourth of eye-height in female and about one-third in male. Parafacials hairy. Front nearly same width in both sexes, slightly narrower near vertex in male. Both sexes with two strong proclinate orbital bristles. Male with long claws and pulvilli, the female with shorter claws. Only one row of frontal bristles on each side. Antennæ inserted on or below eye-middle. Eyes bare. Arista short, swollen at base. Antennæ short. Facialia bare. Fourth vein with wrinkle at end. Differs from *Paramacronychia* in anterior tarsi of female not being dilated.

Reproductive habit, larviposition from a double-sac uterus.

*Type-species*.—*Euselenomyia peruviansis*, new species.

## EUSELENOMYIA PERUVIENSIS, new species.

*Selenomyia*, sp. TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 130.—TD 3998.

Length of body, 5 to 6.5 mm.; of wing, 4 to 5.5 mm. Numerous specimens of both sexes, Piura, Peru, November 12 and 13, 1910, on foliage.

Whole body cinereous pollinose, the face and front with a distinct golden shade in female, a dusky-golden shade in male. Antennæ wholly dark brown; frontalia brown in a direct view, golden in oblique view. Palpi yellowish or reddish, dusky on tip. Pollen of thorax and abdomen with a faint yellowish tinge, the usual vittæ on mesoscutum, the usual marmorations on abdomen. Two strong sternopleural bristles, a bunch of small bristles between them; three postsutural bristles. Scutellum with two lateral pairs and an apical decussate pair of bristles, all long; also a very short discal pair. First abdominal segment in male with a median marginal pair of macrochætæ, which are either lacking or atrophied in female; second segment in both sexes with a median marginal pair, and third and fourth segments with a marginal row each. Legs black, wings clear, tegulæ watery-whitish.

*Type*.—Cat. No. 15209, U.S.N.M. Female, November 13, 1910; TD 3998.

## Family MEGAPROSOPIDÆ.

## Subfamily MEGAPROSOPINÆ.

## PERUA, new genus.

Differs from *Neophyto* by having the frontal bristles strong, fourth vein continued in a stump beyond apical crossvein, hind crossvein nearer to apical crossvein, and no discal bristles on intermediate abdominal segments; also in being decidedly more robust and melanic. The apical cell is narrowly open in wing-margin. The arista is bare,



eyes very sparsely and indistinctly short-hairy, vibrissæ far exceeding the peristomal bristles, frontal bristles descending to opposite base of third antennal joint. Facial plate feebly carinate. Macrochætæ of abdomen normal, rather long. All macrochætæ, including those of front, thorax, scutellum, and legs consisting of rather long bristles. Scutellum with a long apical decussate pair of bristles; two long lateral bristles, the anterior one curved, the posterior one straight and longer; a third very short lateral bristle between the last and the apical pair; a weak discal pair in front of apical pair. Two orbital bristles in female. Front fully as wide in female as both eyes. Long pair of divergent ocellar bristles present. Three postsutural and three sternopleural bristles. Wings with a conspicuous costal spine.

Reproductive habit unknown, but probably larviposition in vicinity of hosts.

*Type-species*.—*Perua cuzcana*, new species.

The genus is named in honor of the Republic of Peru.

**PERUA CUZCANA, new species.**

Length of body, 7.5 mm.; of wing, 6.5 mm. One female, Cuzco, Peru, February 21, 1910, on foliage.

Blackish, silvery-cinereous pollinose. Frontalia, cheeks, second antennal joint, and shafts (not including ends) of tibiæ fulvous or yellowish-brown, the palpi paler yellowish. Parafacials, parafrontals, occiput, mesoscutum and pleuræ silvery-cinereous pollinose, the scutellum slightly so. Pollen continued over all of abdomen, except that the posterior borders of second and third segments appear more shining. Third antennal joint but little longer than the slightly elongated second. Wings slightly yellowish on base, the color following the longitudinal veins, the crossveins black.

*Type*.—Cat. No. 15210, U.S.N.M.

**MEGAPROSOPUS ANDINUS, new species.**

*Microphthalma*, sp. TOWNSEND, Ann. Ent. Soc. Amer., vol. 4, 1911, p. 137.—TD 3915.

Length of body, about 14 mm.; of wing, 13 mm. Numerous specimens of both sexes, Matucana, in the valley of the Rio Rimac, western slope of Cordillera Occidental in central Peru, about 7,800 feet, April 4, 1910, on flowers of species of *Cyclanthera*.

Brownish-red in general ground color; the mesoscutum, disk of first abdominal segment, anterior discal part of second segment, anterior median triangle on third and another on fourth segment, and front blackish. Face, cheeks, and occiput faintly brassy-cinereous pollinose. Antennæ reddish, palpi yellowish. Frontalia brownish. Scutellum and edges of mesoscutum brownish-red, the abdomen except as above noted being of a rather deeper red. Legs and pleuræ of a lighter

brownish-red. Thorax and abdomen with a faint silvery bloom. Wings faintly infuscated, their bases yellowish. Tegulæ whitish.

The macrochætæ of abdomen are spinelike and as follows: First segment with only one lateral marginal; second with two lateral marginal, and four closely placed median marginal in straight line; third with a marginal row of about 10 above and others below; anal segment with a submarginal or subdiscal row of about 8 above, and a few weaker terminal bristles mixed with the hairs of abdomen. Venter with strong spinelike macrochætæ even on first and second segments where they are aggregated in median patches, being closely set rows with some borne on the ventral plates, the third and fourth segments with complete rows. Scutellum with three strong marginal pairs of rather spinelike bristles, but without short spinelike macrochætæ. Three sternopleural and four postsutural bristles.

*Type*.—Cat. No. 15211, U.S.N.M. Female; TD 4009, coiled uterus. Cotype, female; TD 3915, *e*.

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