

DESCRIPTIONS OF NEW AND LITTLE KNOWN DIPTERA OR TWO-WINGED FLIES

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The following descriptions of new genera and species, with notes on some previously described forms, are based upon material received from several sources, which are indicated in every case.

FAMILY CYRTIDAE

Genus OCNAEA Erichson

Ocnaea ERICHSON, Entomographien, 1840, p. 155.—COLE, Trans. Amer. Ent. Soc., vol. 45, 1919, p. 23.

OCNAEA FLAVIPES, new species

Male.—Head black, almost all included in the eyes, except the back; ocelli two; antennae blackish, the third joint reddish on the median side, deeply grooved on the lateral one, about five times as long as the two preceding taken together; palpi small but distinct, yellow; eyes with long brown pile. Thorax black or very dark brown in ground color, covered with a long pile which is yellow except on the middle of the dorsum, where it is mixed with blackish. Pleurae more brown than black; humeri whitish yellow; the postalar ridge extending from the root of the wing to the scutellum is brown. Calypters convex, translucent, with yellow border

Basal segment of abdomen brown, mostly concealed, with narrow pale hind border; second segment shining black on the dorsum except a narrow reddish hind border which widens toward the sides to include about half the length of the segment; third segment with somewhat shield-shaped black spot in the middle, not quite reaching the hind edge; fourth segment with a small oval black spot, not quite reaching the front edge and considerably separated from the hind edge; fifth segment with median narrow black stripe extending about two-thirds of its length; sixth segment with indistinct blackish spot in the middle; all the remainder of segments three to six is reddish-

yellow. The venter is paler yellow, except the basal part of the first three segments. Legs yellow, the femora indistinctly vittate with brown on the lower hind side. Hind tibiae brown, stouter than the others and ending in two sharp but stout points. Palpi yellow, the apical half of the last joint black; claws black; pulvilli yellowish. Wings hyaline, third vein with a branch near tip forming two submarginal cells; first posterior cell with a cross vein joining the third vein a little before its fork. The extra cell thus cut off is closed before the margin. Five posterior cells present, the veins separating them all extending to the margin; fourth posterior and anal closed before the margin.

Length, 8.4 mm.

Described from one male collected at Port au Prince, Haiti, by G. N. Wolcott.

Type.—Male, Cat. No. 28908, U.S.N.M.

Family MILICHIIDAE

MICROSIMUS, new genus

Nearest to *Neophyllomyza*, but has the front broad and swollen, the eyes small, the antennae considerably separated at base by the lunule, which is bristly; terminal joint of proboscis not so elongate and slender; several bristles on cheek near vibrissa.

Head broad and short, deeply concave behind, so that the vertex forms a rather sharp rim. The broad front consists of wide parafrontals and a large ocellar triangle, which are connected by a narrow area of less striking structure. Besides the two verticals (the outer divergent, the inner convergent) there are three upper frontals divergent and two or three lower convergent, all some distance from the eye; the convergent postverticals are large and strong, the ocellar divergent. The ocellar triangle reaches nearly to the lunule and bears a few reclinate hairs anteriorly. The lunule is broader than usual but mostly concealed above; it bears two proclinate bristles at its upper edge which have the appearance of being on the front. The antennae are separated at base and strongly bent laterally, the second joint as long as the third, both somewhat enlarged in the male; third joint round, arista short plumose. Palpi much enlarged, hairy; proboscis with terminal joint distinctly bent back and slender in the male, much less so in the female. Eyes microscopically pubescent, smaller in the male than in the female, the cheek being fully equal to the eye height in the male, but only half the eye height in the female. Chaetotaxy of thorax: Acrostichal, 1; dorsocentral, 2; humeral, 2; posthumeral, 1; presutural, 0; notopleural, 2; supraalar, 2; intraalar, 0; postalar, 2; scutellum, with two pairs; prothoracic, 1; mesothoracic, 0; sternopleural, 0, 1. The disk of the mesonotum is covered with

uniform hairs arranged in rather irregular rows, there being about 10 rows between the dorsocentrals. The scutellum is bare and flat. Wing as in *Neophyllomyza*; the auxiliary vein rudimentary, the first vein very short, costa slightly broken in two places before the first vein; second, third, and fourth veins parallel and ending in the apex; last section of fourth vein about two and a half times the preceding; second basal cell separated by a cross vein from the discal; anal cell very indistinct.

Type of genus.—*Microsimus luteus*, new species.

MICROSIMUS LUTEUS, new species

Female.—Color wholly luteous, including antennae, palpi, proboscis, halteres, and legs. Wing subhyaline with yellow veins. Legs with numerous brownish bristly hairs, the middle tibia with a long apical spine.

Male.—Somewhat darker in color, the front being brown, the thorax, abdomen, and legs brownish yellow. In the male the wing has a striking long fringe of hairs beginning before the apex and extending around the hind margin; these hairs are nearly as long as the hind cross vein.

Length, female 2.2–2.4 mm., male 2 mm.

Described from four females (including type) and one male (allotype) collected by Dr. William M. Mann in 1921 and 1922 while on the Mulford Biological Exploration. Three females, including the type, and one male were taken at Isiamas, Bolivia, in December, 1921, from the nest of the ant *Crematogaster stolli*; one additional female was taken at Rurrenabaque, Beni, Bolivia.

Type.—Cat. No. 28927, U.S.N.M.

Family TRYPETIDAE

Genus PELMATOPS Enderlein

Pelmatops ENDERLEIN, Zool. Jahrbücher, vol. 33, 1912, p. 355.

PELMATOPS ICHNEUMONEA Westwood

Achias ichneumoneus WESTWOOD, Trans. Ent. Soc. Lond., vol. 5, 1850, p. 235, pl.

23, figs. 8, *a, b, c, d.*—OSTEN SACKEN, Ann. Mus. Genoa, vol. 16, 1881, p. 74.

Pelmatops ichneumonea ENDERLEIN, Zool. Jahrb., vol. 33, 1912, p. 355.—HENDEL,

Wien, Ent. Ztg., vol. 33, 1914, p. 74; Abhandl. Zool. Bot. Ges. Wien, vol. 8,

1914, Heft 1, p. 219.

This is the type species of *Pelmatops*, and the only one at present known to belong to it; it was originally described from a male and a female in the Saunders collection, and a male in that of Westwood. No other specimens have ever been reported, as far as I know, and the references above are all in the nature of comments on Westwood's figures; even the establishment of the genus is no exception.

Osten Sacken perceived that the species could not belong to *Achias*, and Hendel referred it to the family Trypetidae.

The locality originally given was simply "East Indies." Our specimen is from western China. It is easily identifiable by the characters mentioned and figured by Westwood.

Female.—Eyestalks each about 4 mm. long, extending obliquely forward, diverging from each other at an angle of about 95° ; each stalk bears a black stripe above and one in front; aside from these stripes and a slight darkening in the largest portion of the abdomen the color is wholly reddish yellow. The head is globose and the stalks arise from the anterior portion, giving a very different effect from *Achias*, *Richardia*, etc. Directly behind the stalk the side of the head is transparent over a large area. The ocellar triangle is a little anterior to the vertex, and on account of the globosity of the back of the head it is about equally distant from the front and hind margins. The only bristles I can make out on the head are a single pair of reclinate verticals, rather far apart, standing close to the black stripe of the stalk which continues almost to the neck; and the remains of a small pair of postverticals, which are in such poor condition that I can not tell whether they are convergent or divergent. Front long, sloping obliquely, bare; lunula covered, face very receding, margin of mouth slightly prominent. Oral cavity rather large; proboscis and palpi not distinctly visible; third antennal joint rounded at tip, about one and a half times the second; arista with distinct, erect plumosity to the tip. Eyestalks with smallest diameter a little before the middle, gradually enlarging beyond; they have a few small hairs near base which increase in number until they are quite noticeable just before the eye. There is also some yellow hair all the way around the neck.

The thorax is not in very good condition to describe the chaetotaxy as it is considerably denuded and a little soiled. There are no acrostical bristles and no dorsocentrals, unless perhaps one pair close to the scutellum. The calypters are very minute, almost absent. The first abdominal segment is longer than the two following; the second to fourth are almost of the same length, while the fifth is as long as the two preceding. The only bristles I can make out are a row of about six small ones on the hind edge of the fifth segment, and two above and two below, near the tip of the sixth segment or ovipositor; this segment is conical, not flattened, and covered with dark hair, like the ones preceding it.

The legs are slender, none of the femora thickened or spinose; middle tibia with one large and two or three small bristles on the under side at tip, none on front and hind tibia.

Wing as figured by Westwood, the anal cell drawn out in a short point; the auxiliary vein joining the costa almost at a right angle, and the humeral cross vein oblique; the posterior cross vein is near the

tip of the wing, separated by its own length from the anterior cross vein. The stigma is long and reddish brown in color, the rest of the wing being yellow and shining without any brown pattern whatever.

The whole form of the insect is much more slender than that of *Achias*.

Length, 16 mm., without eyestalks.

Redescribed from a single female collected near Chengtu, Szechuen Province, China, by Rev. D. C. Graham. The locality is decidedly palaeartic, but contains, of course, some East Indian elements.

Family ANTHOMYIIDAE

Genus HYDROTAEA Robineau-Desvoidy

Hydrotaea ROBINEAU-DESVOIDY, Myodaires, 1830, p. 509.—STEIN, Verh. Zool.-Bot. Ges. Wien, 1903, pp. 285-337.—GRIMSHAW, Ent. Mo. Mag., sec. ser., vol. 16, 1905, pp. 239-246; vol. 17, 1906, pp. 8-11 and 72-77.—MALLOCH, Bull. Brooklyn Ent. Soc., vol. 11, 1916, p. 109; vol. 13, 1918, p. 30.

HYDROTAEA DISSIMILIS, new species

Male.—Eyes bare; front black, narrower than ocellar triangle; parafrontals on their lower third widening and silvery, linear above; parafacials silvery, narrow; antennae and palpi black, a silver dot in lunule; cheek narrow, hardly one-tenth the eye height.

Thorax black, with faint brownish pruinosity. Anterior acrostichal with two outer rows larger; between are minute hairs in two irregular rows. Intraalar bristles 2. Halteres yellow; calypters ivory-white with yellowish rim and fringe, the hind calypter rounded, not very strongly projecting beyond front one; no hairs on the sclerite anterior to the posterior thoracic spiracle.

Abdomen black, dorsum rather densely covered with pollen; that of the first segment is brown; the second and third have a large triangle of brown with its apex at front edge, its base stretching nearly the whole width of the hind edge; remainder of dorsum of second and third segments and whole dorsum of fourth subsilvery pollinose.

Legs a little slender; front femur with the usual thorns below; middle tibia with several irregular rows of long hairs on the flexor side from before the middle, which spread broadly to the front and hind sides. Hind tibia with a dense row of long, bristly cilia on outer hind side, longest near base; on the inner side it has, except at base and tip, another row of very sloping long hairs.

Wing subhyaline, fourth vein straight, third bent a little back at tip, ending in exact apex.

Female.—Front 0.34 of head width near vertex; ocellar triangle entirely shining, short and wide; parafrontals anteriorly becoming wide and polished black, which continues down to about the level of

the tip of the second antennal joint. Beyond this the parafacial is silvery, becoming more gray below, and this color covers the cheek and back of head. Thorax as in male. Abdomen black, covered with thin, dull-gray pollen. Legs plain, mid tibia without a bristle on outer front side.

Length, of male 4 mm., female 3.2 mm.

Described from one male (type) and one female (allotype) reared from a dead cat at Upland, California, by J. F. Illingworth; both specimens emerged May 25.

Type.—Cat. No. 28881, U.S.N.M.

The broad shining space between eye and root of antennae in the female is very unlike the silvery narrow corresponding part in the male.

HYDROTAEA ABDOMINALIS, new species

Male.—Eyes bare, front very narrow, composed for some distance of the linear parafrontals only; no frontals in and above the narrowest part; parafacials of moderate width and subsilvery pollinose above, more gray below. Cheek about one-eighth the eye height. Palpi and antennae black.

Thorax subshining black with very thin brown pollen. Hairs of mesonotum erect and long. Anterior acrostichal tall and slender, in about four rows but irregular; sternopleura with numerous long hairs besides the bristles; no hairs on the sclerite anterior to metathoracic spiracle. Halteres with black knob. Calypters pale, with yellowish rim and fringe.

Abdomen rather flat above, densely covered with pollen of a pale bluish color; a black median line is distinct.

Legs black. Front femora and the usual thorns directed forward; a row of setae extends toward the base from each thorn; outer flexor side of tibia with long hairs. The front femur has some long, truncate bristles close to base. Middle femur with several scattered truncate bristles in two rows below on basal half or more, and with several long bristles on upper front side, also on the basal half. Middle tibia with row of erect small hairs on front side, much as in *dentipes* Fabricius; without a bristle on outer front side, but with two on the outer hind side. Hind femur without truncate bristles, but with complete rows of long ones on upper front, lower front, and lower hind sides. Hind tibia with long delicate flexor hairs beginning a little beyond base, and with much longer scattered hairs or bristles in a row each side of the flexor surface, the rows being just about equal. Claws and pulvilli short.

Wings subhyaline, narrow apically, costa reddish beyond the auxiliary for some distance.

Length, 4 and 4.4 mm.

Described from two males. The type was taken at Kaslo, British Columbia, June 11, by Dyar and Caudell; the paratype was collected at Riverside, Yellowstone Park, August 4, 1918, by Prof. A. L. Melander.

Type.—Cat. No. 28882, U.S.N.M.

Genus MESEMBRINA Meigen

Mesembrina MEIGN, Systemat. Beschreib., vol. 5, 1826, p. 10.

Hypodermodes TOWNSEND, Proc. Ent. Soc. Wash., vol. 14, 1912, p. 46.—SEGUY, Anthomyides de France, 1923, p. 363.

MESEMBRINA TRISTIS, new species

Resembles *mystacea*, but the pile of the thorax is black and less dense, and the pale pile of the abdomen begins gradually near the base.

Female.—Front broad (measuring 0.36, 0.37, 0.37 of head width in the three specimens). Head black, only palpi and second antennal joint reddish yellow. Pollen of face brown; back of head and vertex with only black hair.

Thorax and scutellum shining black, with dense erect black pile, longer and denser on and just before the scutellum. Chaetotaxy of disk of mesonotum delicate, hardly distinct from the pile. Calypters blackish. Abdomen shining black, with black pile at base about to hind edge of first segment; thence to apex with light yellow pile, becoming much longer toward apex and extending to venter in that region.

Legs black. Wings clouded along the veins. Venation as in *mystacea*.

Length, 14 to 15 mm.

Described from three females collected by D. C. Graham in the mountains of Szechuen Province, China. Two, including the type, were collected in Yellow Dragon Gorge near Songpan, altitude 12,000–14,000 feet; the other near Tatsienlu, 13,000–14,500 feet.

Type.—Cat. No. 28901, U.S.N.M.

This species would belong to *Hypodermodes* Townsend if that were valid. I can see, however, no sufficient characters to justify its separation from *Mesembrina*.

Family CALLIPHORIDAE

Genus METALLEA Van der Wulp

Metallea VAN DER WULP, Tijdsch. v. Ent., vol. 33, 1880, p. 174.—TOWNSEND, Records Ind. Mus., vol. 13, 1917, pt. 4, p. 193.—SENIOR-WHITE, Records Ind. Mus., vol. 27, 1925, pt. 2, p. 90.

METALLEA ILLINGWORTHII, new species

Male.—Front very narrow, the eyes separated by only twice the width of the front ocellus; frontal bristles beginning below the narrowest place and scarcely reaching to the antennae. The whole head

except the back is yellow in ground color, overlaid on the parafacial and parafacial by silvery shining pollen which becomes duller on the cheek; parafacial with a few minute delicate pale hairs difficult to see. Antennae red, third joint about twice the second, arista bare, red at base; vibrissae almost the entire length of the third joint above the oral margin which projects strongly forward below them. Hairs of the cheek wholly white except a single row of bristles along the margin of the mouth and extending up to the vibrissae. These bristles do not extend back around the posterior edge of the mouth. Palpi yellow, proboscis black.

Thorax metallic green, heavily overlaid with white pollen which on the dorsum is interspersed with very conspicuous dots where the hairs and bristles originate. The metallic ground color shows dark on pleurae and dorsum as well as the metanotum. The hair of the pleura is almost entirely white, the bristles, however, black. Prosternum with very conspicuous tuft of white hair. Acrostichal 2, 4 (none immediately before suture); dorsocentral 2, 4; humeral 3; posthumeral 2; presutural 2; supraalar 3; intraalar 4; postalar 2; scutellum with two lateral and one large apical, the discal pair indistinct; sternopleural 1, 1; pteropleural short. Calypters almost pure white, the hind one slightly yellow in the middle. Abdomen short, broad, and rounded, yellow in ground color except on the median line and the posterior edge of the third and a large part of the fourth segments. First segment without median marginals; the second only with depressed hairs along the hind margin; the third with small bristles also depressed along the hind margin; the fourth without discals, but a row of erect marginals. Genital segments black, the two side pieces of the fifth sternite bearing a dense brush of short spines on each side of the cleft which become more scattered and longer toward the tips of the lobes.

Legs black, the coxae and front femora with metallic green reflection; all the knees, tibiae except apices, and basal part of first tarsal segments, yellow or brownish yellow. Claws and pulvilli but little elongated. Middle femur with a row of bristles on the basal half of the lower posterior edge. Hind femur with a row on the lower anterior and on the basal half of the lower posterior. Middle tibia with one bristle on outer front side; hind tibia with three bristles on the outer and three on the inner extensor side.

Wing subhyaline; fourth vein with rounded oblique bend, at its tip becoming almost parallel with the third, ending only a little before the apex. Third vein with only two or three minute setules at base; stem vein distinctly ciliated, as in all this tribe.

Female.—With the front at vertex 0.27 (average of three specimens 0.24, 0.28, 0.28); one upper frontal is reclinate, the remainder decussate; pollen of front and face more yellowish than in the male.

Abdomen mostly black in ground color, only the first segment conspicuous yellow above and below; the remaining segments are covered with gray pollen which bears numerous large and striking dark spots out of which the hairs arise; third and fourth segments more convergent than in the male, the latter with a discal row of bristles. In the female the parafacial hairs are sometimes dark colored and then appear quite distinct.

Length, male 6.5 mm., female from 6–8 mm.

Described from seven males and five females; three males (including type) and four females (including allotype) collected at Cairns, North Queensland, Australia, in 1918 to 1920, by Dr. J. F. Illingworth and A. P. Dodd; one male was collected at Gordonvale, North Queensland, January, 1920; two males and one female collected by Edmund Jarvis from "scrub" in the same general region of North Queensland.

Type.—Cat. No. 28883, U.S.N.M.

As compared with *Metallea notata* Van der Wulp, type of the genus, which is identified by Townsend in the National Museum from India and Java, the new species is larger, the whole upper surface is much more sprinkled with dots, and the characteristic deep black spots on the lateral ventral part of the second and third abdominal segments are lacking. The genitalia are also quite distinct and the lobes of the fifth sternite in *notata* do not possess the brushes of spines. The single female of *notata* in the collection has a subshining translucent region in the lower face including the transverse impression and the anterior portion of the cheek to a line extending from its lower anterior angle to the lower curve of the eye (this is the Java specimen).

Mr. Malloch informs me that he has identified this species in some of his recent work, not at present published, as *Metallea gracilipalpis* Macquart (described as *Rhynchomyia gracilipalpis*¹ I hesitate to admit this identification because Macquart's specimen was considerably smaller, with wholly yellow abdomen, palpi which to him appeared to be remarkably slender and were so figured, and with, according to his figure, quite an unusual row of vibrissae.

METALLEA ROBUSTA, new species

Male.—The front at narrowest twice the width of the ocellar triangle; parafacials not quite twice as wide as the front, with numerous coarse but short black hairs. Antennae brownish red, the penultimate joint longer than in the related species, twice as long as wide. Cheek with pale yellow hair, very conspicuous on the hind portion and a brown spot on the anterior upper part. Thorax about the same as in *nigribarba*, the dorsum being decidedly coppery, the pleural hairs, however, being almost entirely pale as in *illingworthi*.

¹ Dipt. Exot., Suppl. 5, p. 129 (sep. p. 109), pl. 6, fig. 3

Abdomen mostly yellow in ground color with a median black stripe, the fourth segment metallic with a coppery reflection and bearing two irregular discal rows of bristles besides the marginals. Fifth sternite with a few spines at the base of the lobes, but apparently not so many as in the preceding species. Legs as in *illingworthi*, but femora rather stouter and the tibia very slightly infuscated at tip. Calypters with a distinctly yellowish cast.

Length, 9.3 mm.

Described from one male, Geraldton, Western Australia (Clarke, 1916), received from Mr. W. W. Froggatt, of Sidney, New South Wales.

Type.—Cat. No. 28885, U.S.N.M.

METALEA NIGRIBARBA, new species

Male.—Head as in *illingworthi*, but the ground color is more brownish yellow, the parafacials a little wider, more shining and with a few dark hairs, and the cheek is clothed with brown hairs in its whole width from the lower edge of the eye to the border of the mouth. Dorsum of thorax much more coppery and with thinner pollen, the hairs longer and more erect. The hair of pleurae black. Both calypters distinctly infuscated.

Abdomen with bluer median black ground color, expanding on the hind margins of segments 2 and 3 and showing a slight green tinge; fourth segment with scattered, erect, bristly hairs from very distinct spots; fifth sternite with brushes on the lobes as in the preceding. Tibia yellow, not infuscated at tip; tarsi almost black, not much lighter on the basal segment.

Length, 7 to 7.4 mm.

Described from three males collected at Seaford, Victoria, Australia, by W. F. Hill. One of the specimens is returned to Gerald F. Hill, of Melbourne, Australia. The specimens are accompanied by two puparia, which it is expected will be figured by Charles T. Greene in a later publication.

Type.—Cat. No. 28884, U.S.N.M.

Family SARCOPHAGIDAE

Genus WOHLFAHRTIA Brauer and Bergenstamm

Wohlfahrtia BRAUER and BERGENSTAMM, Zweifl. Kais. Museum Wien, pt. 4, 1889, p. 123; pt. 6, 1893, p. 165.

WOHLFAHRTIA ATRA, new species

Like *meigenii*, but the abdomen wholly shining black.

Male.—Front 0.31 of head width (in the best specimen), with rather plumbeous thin pollen; parafacials silvery with delicate hairs above; antennae reddish at base, arista bare. Palpi dark yellow.

Thorax with thin plumbeous pollen, no acrostichals except the prescutellar pair.

Abdomen wholly shining black; no median marginals on second segment. Genitalia black, structure almost exactly as in *meigenii*.

Legs black, front femora with gray pollen on outer side; all the tibiae with villosity, less on front ones, that on middle ones forming a tuft at tip; hind femora and tibiae curved.

Wings hyaline, third vein hairy less than halfway to cross vein.

Length, 13.5 mm.

Described from two males collected by D. C. Graham in Yellow Dragon Gorge, near Songpan, Szechuen Province, China, altitude 12,000–14,000 feet. This is a region strictly palaeartic in fauna.

Type.—Cat. No. 28902, U.S.N.M.

Family TACHINIDAE

Genus XIPHOMYIA Townsend

Xiphomyia TOWNSEND, *Insector Inscitiae Menstruus*, vol. 4, 1916, p. 125.

The type species of this genus, *gladiatrix* Townsend, was described in the same place as the genus and is from Panama. Reinhard has described a second species, *texana*,² from College Station, Texas.

Females of this genus have a very long, slender, curved piercer, too long to be concealed in an abdominal groove. In the type of *gladiatrix* the tip of the piercer reaches to the middle coxae. The males are much like those of *Eucelatoria*, but the parafacials in the latter are bristly about halfway, while in *Xiphomyia* there are only a few fine hairs above the vibrissae.

XIPHOMYIA AURICEPS, new species

Male.—Front 0.24 of head width at narrowest point; parafrontals and parafacials, middle of face, upper part of bucca, and posterior orbits, golden pollinose; one pair verticals, a very small pair of ocellars, frontals 9, the uppermost one large and reclinate, lowest one at level of base of third antennal joint, not close to eye. Bucca one-fifth the eye height. Palpi yellow. Antennae black, third joint three times the second, reaching almost to vibrissae; arista slender from the base; penultimate joint short.

Thorax black with yellowish-gray pollen, denser and more distinctly yellow from the humerus to the base of the wing. Pleurae gray pollinose; sternopleural bristles 2, 1; scutellum black at base, yellowish pollinose toward apex with two large divergent apical bristles, no small ones between. Calypters slightly infuscated.

Abdomen black, subshining, the second, third, and fourth segments broadly gray pollinose on basal half or more. This pollen has only a slight tinge of yellow. First segment with two pairs median mar-

² *Entomological News*, vol. 34, 1923, p. 267.

ginals; second with one pair discal and one median marginal; third segment with one pair discal and a marginal row of about 10; fourth segment with a single discal pair as in the two preceding segments, and a marginal row of about 12. Genitalia black, small, the inner forceps distinctly separate, quite minute; the outer a little longer and wider.

Legs black, pulvilli large; middle tibia with a single bristle on the outer front side; hind tibia with an irregular row on outer hind side.

Wings subhyaline, third vein with two or three hairs at base; fourth vein near apex with oblique rounded curve, thence nearly straight, ending somewhat before the tip of the wing.

Female.—Front 0.24 of the head width at vertex, widening a little more rapidly than in the male. The usual two pairs of orbital bristles present. Pulvilli of ordinary size for a female. The piercer is shining black, slender, curved and tapering, its tip just about reaching the hind coxae.

Length, 7 mm.

Described from one male (type) and one female (allotype) collected September 2 and 3, 1923, on the Shenandoah River, Clarke County, Virginia, by the writer.

Type—Cat. No. 28900, U.S.N.M.

SYNORIS, new genus

Distinguished from most Tachinid genera at a glance by the presence of only one pair of anterior acrostichals, which are large and placed considerably anterior to the suture in a transverse line, or nearly so, with the hindmost pair of anterior dorsocentrals. Postscutellum well developed; head rather flat, its length to the antennae when measured by micrometer is exactly half the greatest width when viewed from in front; the length at lower edge but little less than at antennae. Eyes bare; frontal bristles extending to arista, or thereabouts; parafacials and facial ridges bare; vibrissae at oral margin; third antennal joint long and slender, second also somewhat elongated, one-half the third; penultimate joint and arista short; palpi normal; proboscis short and fleshy.

Thoracic chaetotaxy of type species: Acrostichal 1, 2 (none just before or behind suture); dorsocentral 2, 3; humeral 2; posthumeral 1; presutural 1; notopleural 2; supraalar 2; intraalar 3; postalar 2; sternopleural 2, 1; pteropleural very small; scutellum with two lateral, one long apical pair (with or without small pair between them) and a good-sized discal pair.

Abdomen with discal bristles. Venation of wings bare, except two or three hairs at base of third; first posterior cell narrowly open or almost closed only a little before the apex of the wing; no costal spine.

Type of genus.—*Synoris coquilletti*, new species.

SYNORIS COQUILLETI, new species

Hypostena pedestris WALKER of Coquillett, Revision N. A. Tachinidae, 1897, p. 61.

Male.—Front at narrowest measuring 0.21, 0.24, 0.25, and 0.25 of the head width in the four specimens. Parafrontals with gray pollen becoming more white on the parafacial which is narrower than third antennal joint; cheek one-third the eye height; ocellar bristles small, proclinate; frontal stripe reddish brown; frontal bristles 8 or 9, the two uppermost reclinate, the second largest. Antennae yellow to the arista, the third joint infuscated for the remainder of its length except underneath near the base. Palpi and proboscis yellow. Mesonount with dense gray pollen with faint stripes. Scutellum broadly yellow at tip. Pleurae partly yellow in ground color; calypters with a white margin, the disk slightly infuscated.

Abdomen decidedly pointed with more or less of reddish-brown color at the sides near the base; the pollen is very uniformly placed, covering the whole abdomen except a little on the venter. The abdominal hairs are mostly placed on small bare spots. First segment with a pair of median marginals, one large marginal at the side and several smaller bristles before the latter; second segment with one discal and one median marginal pair, at the side with one discal and one marginal; third segment with one discal and a marginal row of 10 as well as one conspicuous discal at the side; fourth segment with discal and marginal bristles irregularly arranged, about 18 in all. Venter yellow in ground color. Genitalia small, yellow, retracted.

Legs entirely yellow, the tarsi on account of numerous black hairs appearing more brown; claws and pulvilli elongated; middle tibia with one bristle on outer front side and a much smaller one close above it; hind tibia with an irregular row on the outer side in the middle of which is one longer bristle, on the inner hind side a large bristle, and a smaller halfway between this and the base.

Wings grayish hyaline, the fourth vein with an oblique curve at the bend, thence nearly straight to the tip.

Length, 7 to 8.2 mm.

Described from four males, three of which, including the type, were collected by D. W. Coquillett in Los Angeles County, California, the other collected by Prof. T. D. A. Cockerell at Beulah, New Mexico, July 15. The last specimen is the largest and has the narrowest front. It also has a broader yellow spot on each side of the abdomen.

Type.—Cat. No. 28910, U.S.N.M.

According to the notes of Major Austen,³ Walker's *Dexia pedestris* is an entirely different species, having the parafacials hairy, and evidently belongs to the genus *Cryptomeigenia*.

³ Annals and Magazine of Natural History, vol. 19, 1867, p. 345.

As a synonym of his *pedestris*, Coquillett included *Masicera eucerrata* Bigot, but Brauer reported⁴ on this, and from his data it evidently belongs to the genus *Sipholeskia*.

URSOPHYTO, new genus

Similar to *Arctophyto*, but with parafacials hairy. Head somewhat globose, strongly developed below; bucca two-thirds the eye height; parafacial two-thirds as wide as bucca; antennae small, third joint much less than twice the second; arista pubescent; facial keel narrow, reaching a little below the antennae. Vibrissae just above oral margin, not large, a few small hairs on facial ridges above them. Palpi normal; proboscis short. Thoracic chaetotaxy: Acrostichal 2, 3; dorsocentral 4, 4; humeral 5; posthumeral 3; presutural 1; notopleural 2; supraalar 4; intraalar 3 (none near suture); postalar 2; scutellum with two or three pairs of marginals, a somewhat smaller pair of decussate apicals and an irregular row of about four pairs of submarginals; sternopleurals in male 0-2 anterior, 1 posterior; in the single female 3 anterior, 1 posterior.

Abdomen with no discal macrochaetae, even on the fourth segment; second segment usually with one pair median marginals; third with a marginal row of 8 or 10; fourth with a marginal row of 10 or 12.

Type of genus.—*Ursophyto rufigena*, new species

URSOPHYTO RUFIGENA, new species

Male.—Front 0.18 of the head width (average of three, 0.17, 0.19, 0.19), widening rapidly. Front somewhat inflated, the brown median stripe wide toward the antennae; frontal bristles beginning a little before the ocellar triangle, close together in the row, about 13 in all, reaching barely to the base of the antennae; parafacials reddish in ground color, almost destitute of pollen. Palpi yellow.

Thorax black, lightly and rather evenly pollinose, but showing some indications of stripes. Scutellum and postscutellum of the same color. Pleurae reddish brown; the hairs of the mesonotum are erect and rather dense, but do not hide the pollen.

Abdomen black in ground color with a considerably reddish tinge, the pollen covering the whole surface, but in some directions not showing distinctly. A median pollinose line is peculiarly changeable, sometimes lighter and sometimes darker than the adjacent portion. Genitalia very small, brownish; the inner forceps very small, slender, close together; the outer forceps in the form of large plates, as is usual in Dexiids.

⁴ Sitzungsber. Kais. Akad. Wien, vol. 106, 1895, p. 12.

Wings subhyaline, bend of fourth vein slightly angular, the tip of the vein a moderate distance before the apex of the wing; third vein with three or four small hairs at base.

Legs black, slender, but not elongate; the claws and pulvilli small; middle tibia with one or two bristles on the outer front side; hind tibia with short and rather appressed ciliation on outer hind side.

Female.—Front 0.33 of the head width. Antennae considerably larger than in the male. Middle tibia with an even row of five bristles on the outer front side.

Length, male 11 mm., female 12 mm.

Described from five males and one female; three males, including the type, were collected at Friday Harbor, Washington, by the writer on July 6 and 17, 1905; one male from the California Academy of Sciences, was collected by E. C. Van Dyke in Paradise Valley, Mount Rainier, Washington, July 25, 1920; one male, Eberts, B. C., June 19, 1914 (B. H. Chrystal, in Canadian National Collection); the female (allotype) was collected at Hood River, Oregon, by LeRoy Childs on August 1, 1917.

Type.—Cat. No. 28899, U.S.N.M.

This species appears to vary remarkably in the number of the bristles on the outer front side of the middle tibia as well as in the anterior bristles of the sternopleura. One male has none of the latter, while the female has a group of three. The specimen from Mount Rainier has a more dense pollen on the abdomen and the bristles on the second segment are depressed.

MELEDONUS, new genus

Similar to *Phytopsis*, but has greatly reduced palpi and a somewhat longer and thinner proboscis. Head in side view somewhat square, bulging behind the eye and projecting far before it, the face descending almost vertically. Palpi about as long as the third joint of the front tarsus, slightly swollen and entirely bare. Proboscis when folded up projecting forward out of the mouth cavity by the length of the labella.

Front rather wide in both sexes; the male without orbitals. A single, large, reclinate vertical on each side. The frontals about seven in number, hardly descending below base of the antennae and not at all diverging toward the eye; the uppermost frontal and the ocellar are turned almost exactly toward the side. Parafacials with small but distinct scattered hairs. Eyes bare. Thoracic chaetotaxy: Acrostichal 0, 1; dorsocentral 3, 3; humeral 2; posthumeral 1; presutural 1; notopleural 2; supraalar 3; intraalar 2; postalar 2; scutellum with two lateral and a smaller decussate apical pair, no discals;

sternopleurals 2, 1. Wing with an oblique bend in the fourth vein, which ends moderately far before the apex; the auxiliary and first longitudinal veins end rather close together in the costa. Veins bare except the base of third.

Type of genus.—*Meledonus latipennis*, new species.

MELEDONUS LATIPENNIS, new species

Male.—Front 0.35 of head width, entirely black, the median stripe four times as wide as one orbit when measured just in front of the ocellar triangle. Parafrontals widening downward, with gray pollen which continues on the parafacials and around the bucca. Antennae black, third joint only a little longer than second; the arista strikingly short, basal joints short; vibrissae not much above the oral margin, the angles not convergent; back of head with entirely black hair.

Thorax with thin grayish pollen, subshining in the middle; scutellum of same color; calypters white.

Abdomen rather elongated, the first three segments with uniform whitish pollen except on apical edge, which shows best when viewed from behind; fourth segment entirely shining black; the first and second segments each have a pair of median marginals, the third segment with a row of about 14; the last segment has only a marginal row of about the same number. Legs entirely black, pulvilli distinctly elongated, middle tibia with two bristles on outer front side.

Wings uniformly infuscated with the veins yellow, at base becoming brown. Base of third vein with about four large erect hairs rather far apart.

Female.—Front 0.40 of the head width (average of three, 0.37, 0.41, 0.42).

Wings considerably broader than in the male.

Length, 5.5 to 6.3 mm.

Described from one male and three females; two females are from southern Sonoma County, California, July 1, 1910, and May 23, 1911, collected by J. A. Kusche; the male was collected at San Francisco, California, June 11, 1910, by the same collector. Another female was collected at Stone Canyon, Monterey County, April 27, 1919, by E. P. Van Duzee.

Type male and allotype female (from Sonoma County) are in the collection of the California Academy of Sciences.

Paratypes.—Two females, Cat. No. 28901, U.S.N.M.

Genus *LIXOPHAGA* Townsend

Lixophaga TOWNSEND, Taxonomy Muscoid Flies, 1908, p. 86; Journ. N. Y. Ent. Soc., vol. 21, 1913, p. 303.—ALDRICH, Insector Menst., vol. 12, 1924, p. 146; Proc. Ent. Soc. Wash., vol. 27, 1925, p. 133.

LIXOPHAGA ORBITALIS, new species

Male.—Front 0.345 of head width (average of two, 0.34 and 0.35), its pollen with a slight yellowish tinge on the upper half; two orbitals on each side; frontals seven, the upper two reclinate, the second largest, lowest at level of tip of second antennal joint; parafacial silvery, three-fourths as wide as third antennal joint, bare; face receding, the ridges with only a few fine hairs above vibrissae; antennae black, third joint five to six times as long as second, rather wide; arista with short basal joints; palpi yellow, bucca about one-fourth the eye height.

Thorax cinerous, showing when viewed from behind four black stripes to the suture and five behind it, the median one not extending before the suture. Chaetotaxy: Dorsocentral 3, 3; acrostichal 3, 3; humeral 3; posthumeral 2; presutural 2 (inner small); notopleural 2; supraalar 3; intraalar 3; postalar 2; sternopleural 2, 1; scutellum with 3 lateral, 1 discal, 1 small upturned decussate apical.

Abdomen with black ground color, tinged with reddish at sides; first segment black, the three following with dense pale yellowish pollen on basal three-fourths, the remainder black. The black on the second segment is more or less expanded forward on each side, and there is a narrow median dark stripe which shows on the second and third segments. First and second segments with one pair median marginals; third with a stout marginal row of 8; fourth with smaller marginal row of 8 or 10; no discals on any segment. Genital segments black or brown, very inconspicuous, the genitalia like those of *variabilis* in having the inner and outer forceps slender, long, nearly parallel; the inner are a trifle the shorter and sharp at tip: the outer rounded.

Legs black; mid tibia with one on outer front, one flexor, two behind. Hind tibia with irregular row on outer hind side. Pulvilli very small.

Wings hyaline; first posterior cell open, ending just before extreme tip of wing; third vein with 2-3 hairs at base.

Female.—Front 0.355 of head width at vertex (average of two, 0.36 and 0.35) widening anteriorly; antenna slightly shorter than in male. Without piercer. One of the two has four posterior dorso-centrals, but not evenly spaced.

Length, 4.2 to 5.6 mm.

Described from four males and two females, all reared from larvae of *Carpocapsa pomonella*, the codling moth, in three lots.

The oldest lot consists of a single male, Sonoma County, California (Koebele, 1891). This is the specimen mentioned by Coquillett in his host index ⁵ as *Hypostena variabilis*, and by Townsend as *Euzenillia*, species, ⁶ and referred to by me as a new species. ⁷

The second lot consists of a single female from Agnew, California, bred by J. F. Lamiman; emerged June 1, 1923. This specimen was included under *variabilis* by me,⁷ but I now believe it should go here.

The third lot consists of three males (including type) and one female (allotype) reared in 1925 at Saticoy, California, by S. E. Flanders. They came from the first brood of the codling moth.

Type.—Cat. No. 28904, U.S.N.M.

The males of this species are easily distinguished from those of *variabilis* by two characters—the presence of orbital bristles and the very minute size of the pulvilli. *Variabilis* has large pulvilli and no orbitals, and its front in the male is from 0.21 to 0.28 of the head width (five measured gave 0.21, 0.24, 0.25, 0.27, 0.28). The females are very hard to separate from *variabilis*, but seem to have a wider front, as in five females of the latter the front measured 0.30, 0.31, 0.32, 0.33, 0.33 of the head width, averaging 0.32.

LIXOPHAGA JENNEI, new species

Male.—Front 0.31 and 0.34 of the head width in the two specimens, with bristles as in other members of the genus. Parafacials narrow, about one-fourth the width of the third antennal joint; palpi yellow; antennae black, elongate, reaching the vibrissae; the third joint broader than in related species. Arista dark red at base for a considerable distance. Thorax, viewed from behind, with the usual four black stripes, the two inner narrower. Posterior dorsocentral 3; sternopleural 3; 1 pteropleural about as large as the smallest sternopleural; scutellum with three lateral and a minute upturned pair of apicals which in one specimen are a little above the usual position. The scutellum also has one pair of small discals beyond the middle. Abdomen with interrupted pollinose cross bands on the second and third segments which fade out posteriorly at about the middle, leaving the remainder shining black; the fourth segment has a denser and better defined cross band, very narrowly or not at all interrupted, covering more than one-half its length. All of these cross bands extend upon the venter. First segment with one pair median marginals, the second the same, third with marginal row of eight; fourth

⁵ Revision 1897, p. 17.

⁶ Insector Insectiae Menstruus, vol. 4, 1916, p. 31.

⁷ Proc. Ent. Soc., Wash., vol. 27, 1925, p. 134.

segment with a marginal row of about eight bristles and two or three feeble discal bristles which are not represented on the preceding segments. Wing hyaline, third vein with two or three bristles at base; bend of fourth vein rounded and oblique; first posterior cell distinctly closed in the margin in one specimen, in the other barely closed, in both cases ending just before the exact tip of the wing. Legs black; pulvilli not enlarged.

Length, 3.3 and 3.6 mm.

Described from two males reared by Eldred L. Jenne at Siloam Springs, Arkansas, on July 5 and 15, 1907 (Quaintance Nos. 4010 and 4011). The host is *Carpocapsa pomonella* Linnaeus, the codling moth.

Type.—Cat. No. 28905, U.S.N.M.

Named in honor of E. L. Jenne, whose early death was a loss to entomology.

In my key to *Lixophaga* this species would run to *mediocris*, from which it differs in having narrower parafacials, wider third antennal joint, more pollinose abdomen, and first posterior cell closed in the margin of the wing. It has a less protuberant front than *variabilis* and *orbitalis*.

Genus PETEINA

Peteina MEIGEN, Syst. Besch., vol. 7, 1838, p. 214.—BRAUER and BERGENSTAMM, Zweifl. Kais. Mus., pt. 4, 1889, p. 138; pt. 5, 1891, p. 387.

PETEINA HYPERDISCALIS, new species

Male and female.—Differs from the European *erinaceus* Fabricius, the type of the genus, in having very large discal bristles on the first, second, and third abdominal segments, which are larger than the marginals just behind them; this is especially remarkable on the first segment, where discals of any size are almost if not quite unknown. In this genus the apparent first segment is elongated, equal to the fourth and longer than the second or third. While *erinaceus* is said to have no discals, the marginals at the middle are set considerably forward of those at the sides in the single European specimen (determined by Bezzi) in the National Museum. The new species has the abdominal hair more erect and almost bristly.

Elongate, shining black, all parts very bristly, the thorax with only the thinnest white or bluish-white pruinosity. Head with thin bluish-white pollen, bulging behind, front prominent, bristles long and stout, a row on parafacial reaching nearly as far down as vibrissae. Palpi black. Eyes bare. Antennae black, second joint three-fourths as long as third. Male with large proclinate orbitals. Anterior acrostichals wanting. Third vein setulose far beyond cross vein. First posterior cell open far before wing tip. No pteropleural.

Length, 8.5 to 9 mm.

Described from three males (including type) and one female (allotype) collected on July 13-18, 1923, by D. C. Graham, west of Chetu Pass, near Tatsienlu, Szechuen Province, China; altitude over 13,000 feet.

Type.—Male, Cat. No. 28898, U.S.N.M.

MICROSILLUS, new genus

Type of genus.—*Houghia baccharis* Reinhard.⁸

The genus is related to *Siphosturmia* Townsend, from which it differs in having the first vein setulose near the base, the second antennal joint much shorter than the third, and the vibrissae considerably nearer the lower margin of the head. It differs from *Houghia*, to which it would run in Coquillett's and Adams's keys, in having the face flat and somewhat projecting below, while in *Houghia setipennis* it is very deeply excavated and strongly receding; also the proboscis in *Houghia* is very short. The female shows the same conical, pointed, red fourth abdominal segment as in *Siphosturmia*: the other structural characters are also substantially the same, including the form of the proboscis which is slender but not much elongated.

The palpi are normal; vertical bristles two pairs; ocellars well developed and proclinate; two upper frontals reclinate, stout but not very long; two large proclinate orbitals; four sternopleurals; about three stout bristles on the outer front side of middle tibia.

The single type specimen, now in the National Museum, was collected at College Station, Texas.

A second species, very closely related to *setipennis*, is *Siphosturmia pollinosa* Townsend.⁹ This also has the first vein setulose near the base, although the fact was not mentioned in the original description. It may even be identical with *baccharis*, in which case it will take priority, but the single specimen of *baccharis* seems to differ slightly from the six specimens of *pollinosa* (four types from Somate, Peru; two specimens from Piura, Peru) in the National Museum collection in having the pollen a little whiter or more silvery and that on the abdominal segments a little more defined at the bases, so that in *baccharis* there are very distinct, alternating crossbands of black and white, which to the naked eye are of about equal width. I can see no structural differences, but having only one specimen of *baccharis* I can not judge of the extent of variation which may occur. I therefore consider the two species distinct for the present.

SIMOMA, new genus

Runs to *Erynnia* in Stein's 1924 Key to the European Genera, but is different in having the antennae inserted below middle of eyes, the

⁸ Annals Entomological Society of America, vol. 14, 1921, p. 332, with figs. 5 and 6.

⁹ Proc. U. S. National Museum, vol. 43, 1912, p. 321.

entire series of frontal bristles reclinate, and back of head with only white hair behind the single row of orbital cilia.

Eyes bare, front narrow above, ocellars minute, proclinate, frontals extending to tip of second antennal joint; parafacials bare, narrow, frontal ridges with bristles almost meeting lowest frontals. Face only a little receding; vibrissae at edge of mouth. Palpi normal, proboscis small. Antennae slender, second joint more than half the third, which reaches almost to vibrissae; arista slender, bare, basal joints short.

Thoracic chaetotaxy of genotype: Acrostichal, 3, 3; dorsocentral, 2, 3; humeral, 4; posthumeral, 1; presutural, 2; notopleural, 2; supraalar, 3; intraalar, 3; postalar, 2; sternopleural, 1, 1; scutellum, with three lateral, one irregular and upturned apical.

Abdomen with discals, several pairs large and small, more numerous in male.

Wing with petiolate apical cell, the third vein ending far before tip. Veins bare except a few hairs at base of third.

Type of genus.—*Simoma grahami*, new species.

SIMOMA GRAHAMI, new species

Male.—Color black throughout, including antennae and palpi. Front narrow, 0.17 of head width (three measured 0.17, 0.17, and 0.18); the frontal stripe black, very narrow near the ocelli. Parafrontals comparatively broad, shining black above, gradually changing to silvery on the parafacials, a single pair of large verticals; the frontal row slightly double in the diverging part below; cheek about one-fourth of eye height, bristly almost to the eye.

Thorax subshining black; viewed from behind the dorsum has enough pruinosity to leave four incomplete black stripes. Scutellum wholly subshining black; postscutellum pollinose. Calypters white, the hind one with a slight and variable infuscation.

Abdomen in some lights almost shining black or with slight bluish metallic tinge, in other directions showing a considerable amount of pollen except on the tips of segments. Several pairs of erect bristles of varying size are present on each of second, third, and fourth segments. Venter entirely shining with a slight metallic tinge. Legs black; pulvilli moderately elongated and distinctly infuscated. Middle tibia with two bristles on outer front side near middle; hind tibia with a rather uniform row of bristles on the outer side, interrupted by one longer just below the middle.

Wing distinctly infuscated, third vein with about three bristles at base; costal spine present but small, last section of fifth vein barely one-third the preceding.

Female.—Front considerably wider than in the male, gradually narrowing to the vertex, where in three specimens it measures 0.22,

0.23, and 0.25 of the head width. Parafrontals each about as wide as the median stripe and distinctly shining black. Pollen developing toward the lower end as in the male; only one pair of vertical bristles developed as in the male. Cheek about one-third the eye height.

Abdomen wholly shining black except a narrow silvery band at base of segments 1 and 2. There are not so many erect discal bristles and hairs as in the male. No trace of a piercing organ is visible.

Length, of male 5.6–6.2 mm., female 4–6.4 mm.

Described from four males (including type) and five females (including allotype) collected at Suifu, Szechuen, China, by Rev. D. C. Graham.

Type.—Cat. No. 28930. U.S.N.M.

EUCOMUS, new genus

A bright green species resembling *Gymnochaeta*, but with numerous long hairs on the parafacials; eyes densely hairy, front narrow in male, prominent below, face concave below, but its lower margin projecting as much as at front. Facial ridges bearing several long hairs above vibrissae, but the uppermost only at level of tips of antennae; third antennal joint only a little longer than the second; penultimate joint of arista short; palpi of usual length, but unusually slender; proboscis slender and a little elongated, but with well-developed labella.

Abdomen with discals. Bend of fourth vein with abrupt curvature but not appendiculate; veins bare except base of third; first posterior cell open considerably before the wing tip.

Type of genus.—*Eucomus strictus*, new species.

EUCOMUS STRICTUS, new species

Male.—Cheeks, back of head, thorax, and abdomen bright green; front very narrow, at narrowest hardly more than twice the width of anterior ocellus; frontal bristles reduced to hairs from this part upward. Postocular cilia long and conspicuous; parafrontals and parafacials with greenish tinge in certain directions, but somewhat overlaid with rather dark pollen; the parafacial wider than the third antennal joint. Antennae black, palpi yellow, rather dark at base. Back of head flat with dense yellow hairs forming a distinct ruff, between which and the eye there is only one row of hairs above, but two or three below. Thoracic chaetotaxy: Acrostichal 3 (posterior damaged); dorsocentral 3, 3; humeral 4; posthumeral 2; presutural 1; notopleural 2; supraalar 3 (the middle one large); intraalar 3; postalar 2; sternopleural 2, 1; pteropleural 1 (smaller than sternopleural); scutellum with three lateral pairs, apparently no apical, the discal hairs erect, one pair bristly. Halteres with blackish knob; squamae yellow, the posterior more brown, both with a yellow rim and fringe.

Abdomen brilliant green without any pollen, the bristles erect and numerous, erect bristly hairs between them in the middle region. Genital segments rather small, somewhat greenish, both with numerous erect hairs, which are largely on the second. Genitalia black, the inner forceps united into a slender shining beak, its tip bent backward but with a very minute hook forward, the outer forceps also slender and about as long as the inner, also with microscopic hook at tip. Fifth sternite rather prominent, the lobes brown, not with any remarkable spines or other structures. Legs black, the femora with metallic green reflections, the tibiae more or less yellowish in the middle, especially the hind ones. Middle tibiae with three bristles on outer front side, hind tibiae with irregular cilia mixed with longer bristles on the outer side. All the claws and pulvilli greatly elongated, the latter light brown. Wings uniformly infuscated, third vein with small setules extending about halfway to the cross vein.

Length, 7.5 mm.

Described from one male collected at Yellow Dragon Gorge, near Songpan, Szechuen, China, in late July, 1924, by Rev. D. C. Graham. The altitude of this gorge is from 12,000 to 14,000 feet, and the region is strikingly palaeartic.

Type.—Cat. No. 28931, U.S.N.M.

PSILONEURA, new genus

Third vein without any bristles at base; first posterior cell ending in the apex, closed or slightly open, back of head with only black hairs. Abdomen broad and rather flat, with numerous erect bristles which occupy the middle of the first and second and the whole of the third and fourth segments and are irregularly arranged. Scutellum with three pairs of marginal bristles of equal size and all equally diverging, besides a lateral basal pair higher up and a discal pair. Front decidedly prominent, face receding, back of head bulging below, cheek fully one-half the eye height; lower edge of head sloping upward to the vibrissae; facial ridges and parafacials bare. Eyes distinctly but not densely hairy; proboscis and palpi normal. Third antennal joint hardly longer than second; penultimate joint of arista short, beadlike; last joint strikingly enlarged at the extreme base. Ocellars proclinate, divergent; frontals in a single row, the uppermost divergent in female, erect in male, the lowest hardly reaching the middle of the second antennal joint.

Type of genus.—*Psiloneura flavisquama*, new species.

PSILONEURA FLAVISQUAMA, new species

Male.—Entirely black, including antennae, palpi, and legs, the wings, however, with venation yellow at base and the squamae and

halteres deep yellow. Front narrow, 0.20 and 0.21 of the head width in two specimens, with cinereous or slightly brownish pollen on the parafrontals extending down around the eye; frontal bristles quite erect. Proboscis retracted, small. Thorax shining black, with very thin subcinereous pollen visible only in certain directions.

Chaetotaxy: Acrostichal 2, 2; dorsocentral 3, 4; humeral 4; post-humeral 1; presutural 1; notopleural 2; supraalar 3; intraalar 3; postalar 2; sternopleural 2, 1 (the lower almost equally separated by the two upper). Scutellum as above. Postscutellum distinctly gray pollinose, somewhat contrasting with the scutellum and metanotum. Abdomen as above. Genitalia black. Legs black; all the claws and pulvilli enlarged, the latter brown. Front tibiae with rather conspicuous flexor row and still larger outer row; middle tibiae with three or four bristles on the outer front side and four or five on the outer hind side, besides one flexor, and one directly on the posterior side; hind tibiae with eight or ten alternating large and small bristles on the outer side, five or six long bristles on the extensor surface. Wings long and rather narrow, slightly infuscated throughout, toward the base more yellow; fourth vein with a rounded bend, slightly concave beyond, closing the first posterior cell in the apex. All the veins bare.

Female.—Front narrow, 0.33 and 0.34 of the head width at apex in the two specimens. Palpi rather brown than black; first posterior cell distinctly open, last section of fifth vein very short, decidedly less than half the cross vein (in the male, full half the cross vein).

Length, male 5.4 mm., female 5.8 mm.

Described from two males (including type) and two females (including allotype) collected at Belding, Michigan, June 3, 1925, by L. G. Gentner, received from H. J. Reinhard.

Type.—Cat. No. 28929, U.S.N.M.

Genus LYPHA Robineau-Desvoidy

Lypha ROBINEAU-DESVOIDY, Myodaires, 1830, p. 141.—ALDRICH and WEBBER Proc. U. S. National Museum, vol. 63, art. 17, 1924, p. 10.

LYPHA MACULIPENNIS, new species

Female.—Readily distinct from *Lypha dubia* Fallen in having a large blackish spot covering the small cross vein and the tip of the scutellum broadly reddish. Like *dubia*, it has the eyes densely pilose, the frontal bristles descending below the level of the arista and a single large pteropleural bristle which is nearly as large as the principal supraalar.

Front rather narrow at vertex (0.15 of the head width), widening uniformly as viewed from in front; the bucca one-half the eye height; antennae black, the third joint about twice the second; penultimate

joint of arista about three times as long as thick, the last joint thickened to the middle; the facial ridges with only a few hairs above the vibrissae; palpi yellow.

Thorax black with changeable stripes. In an oblique direction from behind the median stripe is distinctly silvery and ends abruptly at the suture.

Chaetotaxy as in *dubia*, but the bristles more slender, and the scutellum has on its disk one pair of smallish bristles and one pair of slender, erect hairs, besides smaller hairs.

Abdomen subshining with bronze reflections, bases of the segments two, three, and four with broad but changeable pollinose bands. Discal bristles somewhat mixed with large erect hairs on the middle part of segments two, three, and four.

Wings subhyaline, the third vein with from four to seven coarse hairs rather far apart; calypters distinctly infuscated.

Legs black, the front tarsi distinctly broadened on the last four segments. Middle tibia with three long bristles on outer front side; hind tibia with irregular, long bristles on outer hind side.

Length, 6.6 mm.

Described from one female collected at Forks, Clallam County, Washington, July 1, 1920, by E. P. Van Duzee.

Type.—In collection of California Academy of Sciences.

Genus CUPHOCERA Macquart

Cuphocera MACQUART, Annales Soc. Ent. France, 1845, p. 267.

CUPHOCERA AUREA, new species

Male.—Front 0.36 and 0.34 of head width in the two specimens, widening rapidly below, black with plumbeous pollen, a shining black stripe on each side of ocellar triangle; inner verticals long, strong, decussate; outer a little smaller, divergent; frontal bristles about 12 in the row, the upper one largest, reclinate and divaricate, the lower one close to eye at level of middle of second antennal joint; an extra row of three or four frontals outside the lower part of the main row. Ocellars present. Parafacials hairy with one or two stout bristles below, yellow in ground color and golden pollinose, this color beginning just below the frontals and extending on bucca almost to back of head; middle of face also yellow and golden pollinose, its lower border protuberant, its ridges bare except a few hairs next to vibrissae. First and second joints of antennae deep yellow, the third black except at extreme base, strongly convex in front, longer than second joint; arista black, short, evenly tapering, penultimate joint long. Palpi very minute, hardly visible but bearing a few distinct hairs. Proboscis black, short.

Thorax with plumbeous pollen and when viewed from behind with four shining black stripes. Chaetotaxy: Acrostichal 2 or 3, 3 (none or a small just before suture); dorsocentral 3, 4; humeral 5; post-humeral 2; presutural 2; notopleural 2; supraalar 3; intraalar 3; postalar 2; sternopleural 2, 1; scutellum with two marginal and a rather long decussate apical pair, disk with several erect spiny bristles of smaller size.

Abdomen subshining black, with thin rather silvery pollen, a sharply marked reddish-yellow tip, including most of the fourth segment, extending forward in the middle almost to the front edge of the segment; one pair discal bristles on second and third segments, fourth with numerous erect bristles over most of its surface. Genitalia small, black; a large flat lobe on each side yellow.

Legs black; middle tibia with two large bristles on outer front side; pulvilli elongated, the front ones considerably longer than last tarsal joint.

Wings subhyaline, bend of fourth vein with a small stump, beyond which the vein is not transverse, but gradually narrows the first posterior cell, which is open far before the wing tip.

Length, 10 mm.

Described from two males collected at Angol, Chile, by D. S. Bullock, April 9 and March 29, 1925.

Type.—Cat. No. 28903, U.S.N.M.

The species differs from the genotype of *Cuphocera* in having still smaller palpi, ocellar bristles, and discal abdominal bristles. The striking golden color of the face and bucca, the contrasting color of the basal and apical part of the antennae, and the striking yellow tip of the abdomen make it easily recognizable.

