

broad, dullish, without hair-bands; hind margins of tergites 1 to 4 pallid.

Nyasaland: Mlanje Plateau, 6500 ft., Dec. 18, 1913 (*S. A. Neave*). Although the abdominal bands are rather obscure, this must be associated with the species having tegumentary bands. The following key separates some E. African species:—

Mesonotum shining on disc .....	<i>andersoni</i> Ckll.
Mesonotum entirely dull .....	1.
1. Abdomen with broad, sharply defined, pale yellowish bands .....	<i>kavironidicus</i> Ckll.
Abdomen with narrow or linear bands .....	2.
2. Larger; bands white and sharply defined .....	<i>aberdaricus</i> Ckll.
Smaller; bands paler yellowish, not conspicuous.	<i>neavei</i> Ckll.

XXXVIII.—*New or little-known Tipulidæ (Diptera).*—

LXXIV. *Neotropical Species.* By CHARLES P. ALEXANDER, Ph.D., F.R.E.S., Massachusetts State College, Amherst, Massachusetts, U.S.A.

IN this paper I am considering various species from Ecuador, the materials having been collected by my friends, Messrs. F. Martin Brown, David Laddey and William Clarke-MacIntyre, to all of whom I extend my deepest thanks. Through the courtesy of these entomologists I am privileged to retain the types of the new species in my collection.

*Brachypremna abitaguæ*, sp. n.

Size very large (wing, male, 30 mm. or more); mesonotum chiefly darkened, the præscutum with four stripes that are separated by paler interspaces; palpi with basal segment dark brown, the succeeding segments paler, the terminal one uniformly brownish black; antennæ with scape and pedicel yellow; legs with femora light brown on more than proximal half, thence deepening to black, the tips broadly whitened; tibiæ with base whitened, followed by a black ring occupying about one-third the length of the segment on all legs; remainder of tibiæ and the tarsi yellowish white; wings long and relatively narrow, fulvous-brown, restrictedly patterned with darker;

abdominal tergites chiefly dark brown, the lateral borders and basal rings paler; sternal dashes narrow, attenuated behind and not reaching the posterior border; male hypopygium with the tergite broadly notched medially; dististyle gradually narrowed to the obtuse tip.

*Male*.—Length about 19–20 mm.; wing 30–30.5 mm.

Frontal prolongation of head unusually tumid or bulbous, yellow above, including the very long nasus that is tipped with golden setæ; ventral half of prolongation dark brown; palpi with the first segment dark brown, segments two and three paler brown with narrow yellow incisures; terminal segment uniformly brownish black. Antennæ with scape and pedicel brownish yellow, clearer on the inner faces; flagellum blackened. Head chiefly brown, the front, narrow posterior orbits and a very narrow median vitta more yellowed.

Pronotum with four brown areas that are separated by narrow yellow pollinose lines. Mesonotal præscutum chiefly occupied by four brown stripes, the intermediate pair a trifle more reddened than the laterals; lateral præscutal border behind the pseudosutural fovea more yellowed; scutum, including its median area, dark brown; scutellum obscure brownish yellow with a central brown spot, parascutella uniformly darkened; mediotergite patterned with three darker brown stripes, the broad central one narrowed posteriorly and here subtended by two more greyish yellow spots; pleurotergite with the anapleurotergite chiefly brown, the cephalic fourth and most of the katapleurotergite whitish pruinose. Pleura greyish white, patterned with brown, more extensively so on propleura and mesepisternum; sternopleurite with an 8-shaped brown marking; mesepimeron and metapleura almost uniformly whitened, the ventral pteropleurite slightly darkened. Halteres elongate, infuscated, base of stem narrowly yellowish white. Legs with coxæ pale, the fore and hind pairs with brown spots on outer face, the mid-coxæ ringed apically with darker brown and with its anterior aspect paler brown; trochanters testaceous yellow; femora light brown on more than the proximal half, deepening to black before the abruptly whitened tips, the latter including slightly more than the distal tenth of segment; tibiæ with base abruptly whitened, in amount subequal to the

femoral tips, followed by a black ring; legs detached but mostly preserved, and on none of them does the black ring extend beyond mid-length of segment, approximately equal on all legs and includes nearly one-third the total length of tibia; remainder of tibiae and all tarsi yellowish white; claws with the tooth obtuse. Wings long and narrow, more so than in *basilica*, almost uniformly fulvous brown, the prearcular and costal fields a trifle darker; stigma deeper brown with a still darker border; *Cu* and the veins at the wing-tip bordered by brown, the latter more intensely so; small yellow spots at ends of cells  $R_5$  and  $M_1$ ; no pale spots before or beyond stigma; veins brown. Venation: *Rs* oblique at origin; *r-m* short but present; *m-cu* immediately beyond the fork of *M*.

Abdominal tergites chiefly dark brown, paler on lateral borders and on the basal rings of the outer segments; sternites yellow, with clearly defined brownish black median dashes, these narrow, particularly on outer segments, narrowed to long points behind and not reaching either margin; subterminal segment dark brown; hypopygium chiefly yellow, the proximal portions of basistyles and a median area on tergite slightly darkened. Male hypopygium with the posterior border of tergite with a very broad and shallow U-shaped notch, the lateral lobes thus formed narrowly obtuse, with abundant setulæ; major setæ pale and relatively sparse and inconspicuous, restricted to the lateral fourth of tergite. Dististyle with the spine darkened, stout, narrowly obtuse at tip; style gradually narrowed outwardly, its apex obtuse, before tip with a few inconspicuous setæ.

*Hab.* Ecuador (Napo-Pastaza).

*Holotype*, ♂, Abitagua, altitude 1800 metres, January 19, 1940 (*Laddey*). *Paratopotypes*, 3 ♂♂.

This is the largest species of the genus so far discovered. Among the described species in Tropical America it is perhaps most similar to *Brachyremna basilica* Alexander, of Amazonian Peru, yet is entirely distinct. It should be emphasized that the relatively broad black tibial rings are of approximately equal width on all legs, not as in *basilica* but somewhat as in the otherwise entirely different *B. pictipes* Osten Sacken, of south-eastern Brazil.

*Brachypremna appendigera*, sp. n.

Size above medium (wing, male, 22.5 mm.); mesonotum chiefly dark brown, the præscutum with reddish-brown interspaces; tip of terminal segment of palpus orange; antennal flagellum uniformly black; legs with genua broadly pale; tibiæ with black subbasal rings, unequal on the various legs, on the posterior pair the pale tips about twice the black ring; wings with the dark and yellow pattern restricted; intermediate abdominal sternites conspicuously patterned with three black areas, the central one widened behind and reaching the posterior border; male hypopygium with the apex of dististyle expanded into an obtuse blade that bears a dark spinous flange or appendage on its face.

*Male*.—Length about 16 mm.; wing 22.5 mm.

Frontal prolongation of head yellow above, including the clear yellow nasus which is tipped with long golden setæ; ventral half of prolongation dark brown; palpus with basal segment restrictedly darkened at proximal end, the outer half or more yellow; segments two and three chiefly yellow, weakly darkened on outer face; terminal segment black, the extreme tip abruptly orange. Antennæ with scape very weakly infuscated, constricted beneath; pedicel light yellow; flagellum uniformly black. Head with the anterior vertex brownish grey, the posterior vertex dark brown on either side of an elongate yellow pollinose median area.

Pronotum concealed in the unique type. Mesonotal præscutum with the restricted ground deep reddish brown, chiefly obliterated by dark brown stripes, lateral borders yellowish grey; remainder of mesonotum almost uniformly dark brown, the extreme lateral border of scutellum with a tiny yellow line; mediotergite not at all striped, paler and grey pruinose on the precipitous posterior portion; pleurotergite chiefly testaceous brown, the ventral portion of katapleurotergite with a blackened spot. Pleura obscure yellow, heavily patterned with dark brown on the propleura and mesepisternum; pteropleurite and meron more restrictedly marked with darker. Halteres with stem brownish yellow, narrowly clearer yellow at base, knob dark brown. Legs with the coxæ yellow, variegated with dark brown on outer faces; tro-

chanters clear yellow; femora brown, deepening to black before the relatively broad, light yellow tips; tibial bases slightly less extensively light yellow, followed by a broad black ring, the tips yellow, unequally so on the various legs; fore tibiae with about the distal tenth pale, posterior tibiae with the outer three-fifths pale, this nearly twice as extensive as the blackened ring; tarsi yellowish white. Wings with the cephalic prearcular field and the costal border darker brown than the generally infuscated ground; stigma dark brown, its centre conspicuously pale; vein *Cu* extensively bordered with brown in cell *M*; veins beyond cord bordered by brown, deepest at wing-tip; pale areas in cells *R*<sub>3</sub>, *R*<sub>5</sub> and *M*<sub>1</sub> diffuse and relatively inconspicuous, particularly the last; cell *R*<sub>2</sub> with the costal border uniformly but weakly infuscated; veins brown. Venation: *Rs* relatively long, about twice the basal section of *M*<sub>1+2</sub>, square at origin.

Abdomen with tergites almost uniformly infuscated except for the more yellowed basal rings; sternites conspicuously patterned with dark brown, between the second and eighth segments, each with three clearly defined brownish-black marks, the median one widened behind and reaching the posterior border, thus appearing as an elongate triangle; areas of the lateral margins long-oval in outline, not reaching either the cephalic or posterior borders; second sternite more abundantly patterned; eighth segment, excepting the yellow caudal border of the sternite and the basal portion of the tergite, dark brown; hypopygium chiefly yellow, the proximal third of basistyle infuscated. Male hypopygium with the caudal margin of tergite with a broad U-shaped emargination, the narrower lateral lobes slightly infuscated, provided with abundant setulae to their very tips. Dististyle with the outer spine relatively small and weak, dark-coloured, digitiform; lower lobe or style similarly dark-coloured; outer portion of style constricted before the obtuse apex, on face of outer blade bearing a dark flattened spinous flange that is gradually narrowed to the subacute tip.

*Hab.* Ecuador (Napo-Pastaza).

*Holotype*, ♂, Rio Jatun Yacu, altitude 700 metres, April 1937 (*Macintyre*).

The present fly is most similar to *Brachypremna basilica* Alexander, differing especially in the narrower wings,

coloration of the antennæ, pattern of the abdominal sternites, and the structure of the male hypopygium, particularly the very peculiar dististyle.

*Limonia (Dicranomyia) chimborazicola*, sp. n.

Size large (wing, male, over 10 mm.); general coloration of mesonotum opaque brown, more or less pruinose; thoracic pleura with a faintly indicated darkened dorsal stripe; halteres elongate, blackened; legs yellow; wings narrow, pale yellow, restrictedly patterned with pale brown, including a conspicuous seam in cell *M* adjoining vein *Cu*; *m-cu* before fork of *M*; male hypopygium with the rostral prolongation short and stout, the spines unequal, the longer one placed at the summit of the produced outer margin, the second spine beneath or even slightly more distad.

*Male*.—Length about 9 mm.; wing 10.5 × 2.1 mm.

*Female*.—Length about 10 mm.; wing 12.3 × 2.8 mm.

Rostrum and palpi black, the former relatively long and more or less pendant, about one-third to one-half the remainder of head. Antennæ with scape yellow, pedicel pale brown, flagellum black; flagellar segments oval to slightly elongate-oval, the verticils somewhat shorter than the segments; in male, the outer two segments more or less fused together. Head grey, slightly more infuscated on either side of the posterior vertex; anterior vertex (male) a little less than twice the diameter of the scape.

Pronotum dark brown above, obscure brownish yellow on sides. Mesonotum opaque, the præscutum almost covered by three brown stripes, the surface heavily pruinose, especially on the sides; humeral region more yellowed; posterior sclerites of notum dark brown, pruinose; scutellum obscure reddish on posterior border, more or less divided by a pale central line. Pleura reddish brown, with a slightly darker brown dorsal stripe. Halteres long and slender, blackened, the base of stem narrowly yellow. Legs with coxæ and trochanters yellowish testaceous, the fore coxæ somewhat darkened basally; remainder of legs yellow, the outer three tarsal segments dark brown. Wings narrow, especially in the male, as shown by the measurements; ground-colour pale yellow, restrictedly patterned with pale brown, as follows:—Origin of *Rs*; both ends of the otherwise yellow stigma.

cord and outer end of cell 1st  $M_2$ ; a broad conspicuous seam along vein  $Cu$ , mostly in cell  $M$ ; axillary portion of cell 2nd  $A$ ; veins brownish yellow, clearer yellow in the prearcular and costal fields, slightly more infuscated in the darkened portions. Venation:  $Sc_1$  ending about opposite origin of  $Rs$ ,  $Sc_2$  a distance from its tip from one-third to one-half  $Rs$ ; basal section of  $R_{4+5}$  nearly three-fourths  $Rs$  and about in oblique alignment with it; cell 1st  $M_2$  elongate, exceeding any of the veins beyond it;  $m-cu$  from one-third to one-fourth its own length before the fork of  $M$ .

Abdominal tergites of male weakly bicoloured, dark brown, the basal ring broadly yellowed, the apex of each segment more narrowly so; sternites less distinctly patterned, pale brown, the incisures yellow; hypopygium with the tergite and basistyle infuscated, the ventral dististyle pale; in female, abdominal tergites more uniformly dark brown, sternites yellowish brown. Male hypopygium with the ninth tergite relatively narrow, the sides at base nearly parallel; caudal margin with a broad V-shaped notch, the lobes obtusely rounded. Basistyle with the ventromesal lobe obtusely rounded. Dorsal dististyle a strongly curved sickle, the tip obtuse. Ventral dististyle large and fleshy, its area about two and one-half times that of the basistyle; rostral prolongation short and stout, about equal in length to the longest spine, the latter placed on the summit of the produced outer margin of the prolongation; inner spine placed beneath or even slightly more distad, its length about two-thirds to three-fourths that of the major spine; apex of prolongation beyond the spines more or less produced, with a conspicuous fringe of setæ. Gonapophysis with mesal-apical lobe small and slender, pale, curved to the acute tip. In *anax*, the notch of the tergite is deeper, the lobes longer and more conspicuous; rostral prolongation obtusely rounded at tip, the two spines elongate, the longest exceeding the prolongation in length, the slightly shorter second spine placed more basad than the first one.

*Hab.* Ecuador (Chimborazo).

*Holotype*, ♂, Southern slopes of Mount Chimborazo, altitude 4000 metres, May 12, 1939 (*Brown*). *Allotopotype*, ♀, May 9, 1939.

Although it is closely allied to the Peruvian *Limonia* (*Dicranomyia*) *anax* Alexander, I must consider the present

tly to be distinct, differing particularly in the details of structure of the male hypopygium, as discussed above.

*Limonia (Dicranomyia) peralta*, sp. n.

General coloration grey, the præscutum with three brown stripes, the lateral pair narrow and less distinct; antennæ black throughout; halteres elongate; legs light brown, the outer segments passing into black; wings relatively long and narrow, whitish subhyaline, stigma lacking; male hypopygium with the ventromesal lobe of basistyle simple; apex of dorsal dististyle narrowly obtuse; rostral prolongation of ventral dististyle small, short-cylindrical, the two spines placed at its apex.

*Male*.—Length about 7.5–8 mm.; wing 8.5–9 mm.

*Female*.—Length about 7.5–8.5 mm.; wing 9–9.5 mm.

Rostrum pendant, blackened, grey pruinose; palpi black. Antennæ black throughout; flagellar segments oval. Head clear light grey; anterior vertex (male) relatively narrow, about one-half wider than the diameter of scape.

Pronotum grey, more infuscated medially above. Mesonotal præscutum grey, clearer grey on sides, the disk with three brown stripes, the median one broad and distinct in front, becoming obsolete before the suture, lateral stripes much less distinct; scutal lobes grey, median region of scutum and the scutellum obscure yellow, sparsely pruinose; postnotum light grey. Pleura blackened, grey pruinose; dorsopleural membrane obscure yellow. Halteres elongate, stem brown, clear yellow basally, the knob dark brown. Legs with the coxæ brownish yellow; trochanters obscure yellow; femora and tibæ light brown, the outer tarsal segments passing into black. Wings relatively long and narrow, whitish subhyaline, a little clearer yellow at base; stigma lacking or barely indicated; veins brown, more yellowed at wing base. Venation:  $Sc_1$  ending opposite or immediately before origin of  $Rs$ ,  $Sc_2$  a short distance from its tip,  $Sc_1$  alone nearly one-third  $Rs$ ; free tip of  $Sc_2$  and  $R_2$  in alignment, the former short; cell 1st  $M_2$  elongate, subequal to vein  $M_{1+2}$  beyond it;  $m-cu$  before fork of  $M$ , in cases up to one-third its length.

Abdomen brownish black, sparsely pruinose; hypopygium more or less brightened. Ovipositor with cerci unusually slender, nearly straight, the tips acute. Male



hypopygium with the caudal border of tergite with a broad V-shaped notch, the lateral lobes broadly obtuse, their margins provided with long pale setæ. Basistyle darkened on outer face, the simple ventromesal lobe yellow. Dorsal dististyle strongly curved at outer end, the tip narrowly obtuse. Ventral dististyle large and fleshy, chiefly brownish yellow; rostral prolongation a small short-cylindrical lobe with the two spines at or close to the tip, directed outwardly. Gonapophysis with mesal-apical lobe small, curved laterad.

*Hab.* Ecuador (Bolivar-Chimborazo).

*Holotype*, ♂, Cumbres de Tililac, Chimborazo, altitude 4200 metres, April 21, 1939 (*Brown*); Alexander collection. *Allotopotype*, ♀. *Paratopotypes*, 6 ♂♀; part in American Museum of Natural History.

This fly is readily distinguished from the approximately similar regional species by the structure of the male hypopygium, especially the rostral prolongation of the ventral dististyle. In this character, the species somewhat resembles various forms that are allied to *Limonia* (*Dicranomyia*) *humidicola* (Osten Sacken), but from the elongate halteres, coloration and general appearance, it would seem that this resemblance is superficial only.

*Limonia* (*Dicranomyia*) *dorsolobata*, sp. n.

General coloration grey, the mesonotal præcutum with four darker brown stripes; antennæ blackened; wings with a weak brownish tinge, stigma pale brown;  $Sc_1$  ending opposite origin of  $R_s$ ,  $Sc_2$  far from its tip,  $Sc_1$  alone a little shorter than  $R_s$ ; basistyle of male hypopygium with a long conspicuous ventromesal lobe and a more slender dorsomesal one; ventral dististyle with two elongate fleshy lobes placed close to the base of the rostral prolongation.

*Male*.—Length about 6.5–7 mm.; wing 7.5–8 mm.

Rostrum dark brown, grey pruinose; palpi black. Antennæ with scape and pedicel brownish black, flagellum black; flagellar segments oval; longest verticils a trifle exceeding the segments; terminal segment about one-third longer than the penultimate. Head light grey; anterior vertex relatively wide, nearly four times the diameter of the scape.

Pronotum grey, lined with brown, especially medially behind. Mesonotal præscutum grey laterally, the disk more infuscated, with four darker brown stripes that are more or less confluent; scutum chiefly dark; scutellum brown, heavily grey pruinose; postnotum grey. Pleura grey, the pteropleurite and meral region with the underlying ground somewhat paler. Halteres relatively short, stem yellow, knob infuscated. Legs with the coxæ and trochanters brownish yellow or obscure yellow; remainder of legs brownish black, the tarsi passing into black. Wings with a weak brownish tinge, the stigma pale brown, only a little darker than the ground; veins brown. Venation:  $Sc_1$  ending opposite origin of  $R_s$ ,  $Sc_2$  far from its tip so  $Sc_1$  alone is only a little shorter than  $R_s$ ; free tip of  $Sc_2$  short, in approximate transverse alignment with  $R_2$ ;  $m-cu$  just before the fork of  $M$ .

Abdominal tergites dark brown, the basal sternites a little paler; hypopygium dark chestnut-brown. Male hypopygium with the tergite transverse, its posterior border very gently emarginate, the lobes very low, with abundant erect setæ. Basistyle with a long curved ventromesal lobe close to its base, the lower portions with very long setæ; a second more dorsal slender lobe on the extreme apical mesal angle, this provided with scattered setæ. Dorsal dististyle strongly curved to the acute tip. Ventral dististyle fleshy, its total area subequal to that of the basistyle; rostral prolongation slender on outer portion, with two long slender spines that are a little shorter than the lobe and more or less interconnected with one another by a narrow sclerotized base; two conspicuous fleshy lobes on mesal face of style near base of prolongation, with a third low setiferous cushion still closer to the proximal portion, this last with unusually long setæ. Gonapophyses with mesal-apical lobes short, slender curved to the acute tips.

*Hab.* Ecuador (Chimborazo, Tungurahua).

*Holotype*, ♂, Riobamba, Chimborazo, altitude 2700 metres, April 19, 1939 (*Brown*). *Paratypes*, 2 ♂♂, Baños, Tungurahua, altitude 1450 metres, April 23, 1939 (*Macintyre*); 1 ♂, El Salado, Baños, altitude 1900 metres, August 13, 1937 (*Macintyre*).

The present fly is readily distinguished by the peculiar structure of the male hypopygium, especially the arma-

ture of the basistyle and ventral dististyle. The most similar species are *Limonia* (*Dicranomyia*) *bicomifera* Alexander and *L. (D.) quadrituberculata* Alexander, but the resemblance is not particularly close.

*Limonia (Rhipidia) sybarita*, sp. n.

Allied to *pallatangæ*; size relatively large (wing, male, 9.5 mm.); general coloration of mesonotum reddish brown to dark brown, pruinose; antennæ (male) short-unipectinate, blackened, including the apical pedicels of the segments; longest branch a trifle less than the segment itself; knob of halteres dark brown; femora black, only their bases narrowly yellow; wings with a strong blackish tinge, very restrictedly patterned with darker clouds; stigma paler than the ground, encircled by pale brown; *Sc*<sub>1</sub> ending about opposite two-fifths the length of *R*<sub>s</sub>; a cross-vein in cell *M*<sub>1</sub>; *m-cu* more than one-half its length before the fork of *M*; male hypopygium with the rostral spines short, slightly separated at their bases; gonapophysis with tip of mesal-apical lobe narrowed into a blackened spinous point.

*Male*.—Length about 7.5 mm.; wing 9.5 mm.; antenna about 1.9 mm.

Rostrum black, relatively long, about two-thirds the remainder of head; palpi black. Antennæ with scape brownish black; remainder of antennæ black, including the stems or pedicels of the flagellar segments; flagellar segments short-unipectinate, the longest branches a little shorter than the segment itself; terminal segment about one-fourth longer than the penultimate. Head grey, posterior vertex with a small blackened triangle; anterior vertex relatively narrow, less than the diameter of scape.

Pronotum brown, blackened medially and on sides. Mesonotal præscutum unusually flattened, reddish brown, more infuscated on cephalic portion, the surface, especially of the sides, grey pruinose; scutum greyish testaceous, the lobes conspicuously patterned with brown; scutellum brown, postnotum still darker brown. Pleura and pleurotergite light grey, conspicuously striped longitudinally with black, the more dorsal stripe broader, passing beneath the root of the halteres to the abdomen; ventral stripe at near mid-height of the sternopleurite. Halteres with

stem yellow, knob dark brown. Legs with the coxæ pale, the basal portions narrowly infuscated; trochanters yellow; femora black, the bases narrowly yellow; tibiæ light brown, the tips narrowly brownish black; basitarsi obscure yellow, the tips darker; outer tarsal segments black. Wings narrow, with a strong blackish tinge, very restrictedly patterned with darker clouds, especially at wing-base, along vein *Cu* in cell *M*, along cord and outer end of cell 1st *M*<sub>2</sub>; stigma paler than the ground, encircled by pale brown; outer ends of cells at and near-wing-tip slightly brightened; veins brown. Venation: *Sc* relatively long, *Sc*<sub>1</sub> ending about opposite two-fifths the length of *Rs*, *Sc*<sub>2</sub> close to its extreme tip; *Rs* about one-half longer than *R*<sub>2+3</sub>; cell 1st *M*<sub>2</sub> rectangular, about as long as vein *M*<sub>3</sub> beyond it; a supernumerary or adventitious cross-vein in cell 2nd *M*<sub>2</sub>; *m-cu* more than one-half its length beyond the fork of *M*. In one wing of type, cell *M*<sub>1</sub> has a second adventitious vein.

Abdominal tergites dark reddish brown, the caudal borders more darkened; outer segments, including hypopygium, more uniformly dark brown; basal sternites more brightened. Male hypopygium with the ninth tergite narrowly transverse. Basistyle small, the ventromesal lobe occupying all of its mesal face, with a second low lobule on its face near base. Dorsal dististyle relatively slender, strongly curved, the tip suddenly acute. Ventral dististyle fleshy, its area about twice that of the basistyle; rostral prolongation moderately long, the two spines short, separated from one another by a distance equal to about one-third to one-fourth their own length. Gonapophysis with mesal-apical lobe darkened, at apex suddenly narrowed into a blackened spinous point.

*Hab.* Ecuador (Bolivar).

*Holotype*, ♂, Hacienda Talahua, altitude 3100 metres, May 7, 1939 (*Brown*).

The present fly is entirely distinct from the various other regional species that have the male antennæ unipennate. The nearest relatives are *Limonia* (*Rhipidia*) *pallatangæ* (Alexander) and *L. (R.) thysbe* Alexander, but the similarity is not close. If the cross-vein in cell *M*<sub>1</sub> of the wings proves to be a supernumerary rather than an adventitious element, it will provide a unique character for the separation of the species.

*Limonia (Rhipidia) sycophanta*, sp. n.

Allied to *pallatangæ*; general coloration of mesonotum dark brown, more or less pruinose; thoracic pleura striped longitudinally with black; antennæ long-unipectinate in male, short-unipectinate to serrate in female; flagellum bicolored, the bases and branches black, the apical stems abruptly pale, femora yellow, with a nearly terminal black ring; wings whitish subhyaline, conspicuously patterned with brown subcostal areas and paler brownish grey clouds over most of wing; pale subcostal interspaces more extensive than the darkenings;  $Sc_1$  ending nearly opposite mid-length of  $Rs$ ;  $m-cu$  some distance before fork of  $M$ ; abdominal segments bicoloured, reddish brown, their posterior borders darker brown; male hypopygium with the dorsal dististyle unusually stout; ventral dististyle small, rostral spines short; mesal-apical lobe of gonapophysis blackened, terminating in a stout curved hook.

*Male*.—Length about 7.5 mm.; wing 8.5 mm.; antenna about 1.7 mm.

*Female*.—Length about 8–8.5 mm.; wing 9.5–10 mm.

Rostrum black, relatively long, nearly equal in length to remainder of head; plapi black. Antennæ black, the apical stems of the flagellar segments conspicuously pale; in male, segments relatively long-unipectinate, the longest branches about one-fourth longer than the segment; simple terminal segment suddenly narrowed on the distal third or less; in female, the pectinations are shorter, the longest approximately two-thirds the segment. Head brownish grey, the central portion of the posterior vertex still darker; anterior vertex (male) very narrow, approximately one-half the diameter of scape; in female broader, slightly exceeding the diameter of scape.

Pronotum yellowish grey pollinose over a brown ground. Mesonotal præscutum and scutal lobes chiefly dark brown, the sides of the former more reddened and pruinose; scutellum darkened at base, its apex broadly testaceous yellow; postnotum dark brown, grey pruinose. Pleura and pleurotergite dark grey, with longitudinal black stripes, the more conspicuous being dorsal in position, extending from the propleura across the dorsal mesopleura and ventral pleurotergite to the base of abdomen, passing beneath the wing-root. Halteres with stem obscure

yellow, the knob more infuscated, in male with the apex slightly yellowed. Legs with the coxæ dark brown, sparsely pruinose; trochanters obscure yellow; femora yellow, with a black, nearly terminal ring; tibiæ brownish yellow, the tips narrowly blackened; tarsi with proximal three segments light brown, their tips darkened; outer tarsal segments uniformly blackened. Wings whitish subhyaline, with a relatively heavy pale brownish-grey pattern, together with four darker brown subcostal areas that do not reach the costal border; pale subcostal interspaces subequal to or more extensive than the darkenings; stigma of male almost uniformly infuscated, the extreme centre paler; in female, stigma more extensively yellow, ringed with darker; the most conspicuous dark clouds occur at origin of *Rs*, cord, outer end of cell 1st *M*<sub>2</sub> and as a seam in cell *M* adjoining vein *Cu*; darkened clouds at ends of veins *R*<sub>3</sub> and the anals, much less evident on the other veins; veins brownish yellow, darker in the clouded portions. Venation: *Sc* relatively long, *Sc*<sub>1</sub> ending about opposite two-fifths to one-half the length of the long *Rs*, *Sc*<sub>2</sub> a short distance from its tip; *m-cu* variable in position, from more than one-half to almost its own length before the fork of *M*.

Abdomen indistinctly bicoloured, reddish brown, the posterior borders of the segments broadly dark brown. Male hypopygium with the tergite transverse, strongly narrowed outwardly, the margin very shallowly notched, the lobes correspondingly small and low. Basistyle with ventromesal lobe blackened, stout, simple. Dorsal dististyle unusually stout, gently curved, the tip a long spine. Ventral dististyle fleshy, small, its total area not exceeding one and one-half times that of the basistyle; prolongation slender, its tip obliquely truncated, provided with about three setæ; rostral spines placed on side of prolongation, short, less than the length of the prolongation beyond the outer spine. Gonapophysis with mesal-apical lobe elongate, blackened, terminating in a stout curved hook. Apical lobes of ædeagus unusually small.

*Hab.* Ecuador (Bolivar).

*Holotype*, ♂, Hacienda Talahua, altitude 3100 metres, May 7, 1939 (*Brown*). *Allotopotype*, ♀, with the type. *Paratopotypes*, 2 ♀♀, altitude 2900–3100 metres, April 30–May 5, 1939 (*Brown*).

The most similar regional species are *Limonia* (*Rhipidia*) *pallatangæ* Alexander, *L. (R.) sybarita*, sp. n., and *L. (R.) thysbe* Alexander, particularly the first named. These flies differ in the coloration of the legs and wings, and in the structure of the male hypopygium, especially the tergite, dorsal dististyle and gonapophyses.

*Limonia* (*Gerancmyia*) *pallidapex*, sp. n.

Size small (wing, male, 5.5 mm.); rostrum black except at base, exceeding two-thirds the length of body; head, mesonotum and dorsal thoracic pleura black, the ventral pleurites abruptly yellow; legs with posterior basitarsi dilated; wings strongly infuscated, the costal fourth abruptly whitened, the colour extending around the wing-tip into cell 2nd  $M_2$ ; *Sc* short,  $Sc_1$  ending just beyond origin of *Rs*; abdominal tergites dark brown, the posterior borders narrowly black; outer segments and hypopygium black; male hypopygium with the rostral spines arising from small inconspicuous tubercles.

*Male*.—Length, excluding rostrum, about 5.5 mm.; wing 5.5 mm.; rostrum about 3.9 mm.

Rostrum elongate, exceeding two-thirds the length of the body or wing, black, the base narrowly obscure yellow; palpi black. Antennæ black throughout. Head black.

Pronotum obscure yellow. Mesonotum and adjoining portions of pleura, including the dorsopleural region, anepisternum, dorsal pteropleurite and pleurotergite black, contrasting abruptly with the light yellow ventral pleurite; central portion of præscutum behind, with the adjoining portions of scutum, a little paler. Halteres infuscated. Legs with all coxæ and trochanters pale yellow; remainder of legs yellow, the femoral tips weakly infuscated; posterior basitarsi flattened, as in *lacteitarsis* and *luteimana*. Wings conspicuously bicoloured, the costal border broadly whitened, the posterior three-fourths strongly infuscated; the white costal portion variegated by three darker brown areas, including a small spot above arculus; an area over the supernumerary cross-vein in cell *Sc*, not involving cell *C*; a third common area over the fork of *Sc* and origin of *Rs*; fourth dark costal area stigmal; the white costal markings reach *Rs* behind, include all but the posterior portion of cell  $Sc_2$  and involve the narrow wing apex in cells  $R_3$  to 2nd  $M_2$ , inclusive;

veins pale brown, darker in the clouded portions. Venation : *Sc* short, *Sc*<sub>1</sub> ending a little beyond origin of *Rs*, *Sc*<sub>2</sub> at its tip ; *Rs* strongly angulated to nearly square at origin ; second section of vein *R*<sub>4+5</sub> arcuated on its basal third ; cell 1st *M*<sub>2</sub> a little shorter than vein *M*<sub>1+2</sub> beyond it ; *m-cu* close to fork of *M*.

Abdominal tergites weakly bicoloured, dark brown, the posterior borders narrowly blackened, the pleural membrane less evidently so ; sternites more conspicuously bicoloured, yellow, the posterior margins very narrowly infuscated ; outer segments and hypopygium more uniformly darkened. Male hypopygium generally as in *luteimana*, differing in the details. Dorsal dististyle larger, extending to opposite three-fourths the width of the ventral dististyle, the latter with the spines distinctive ; larger or more basal spine from a low inconspicuous basal tubercle, the spine straight ; outer or smaller spine about two-thirds as long and more slender. In *luteimana*, both spines much longer, the larger one from a conspicuous elongate basal tubercle that is nearly one-half as long as the outer spine.

*Hab.* Ecuador (Santiago-Zamora).

*Holotype*, ♂, Zumbi, Rio Zamora, altitude 700 metres, November 1, 1941 (*Laddey*).

The most similar known species are *Limonia* (*Geranomyia*) *lacteitarsis* (Alexander) and *L.* (*G.*) *luteimana* Alexander, both of which have the same dilated posterior basitarsi and unusually elongate rostrum. These species differ in the larger size and in the details of coloration of the body, antennæ, halteres and wings. The structure of the male hypopygium of *lacteitarsis* is still not known to me ; that of *luteimana* has been discussed and compared above.

*Limonia* (*Geranomyia*) *opulens*, sp. n.

Size large (wing, male, 9 mm.) ; general coloration of mesonotum grey, the præscutum with three intermediate black stripes ; knobs of halteres infuscated ; fore coxæ darkened ; wings yellow, with a conspicuous brown pattern, including a common area over the fork of *Sc* and origin of *Rs* ; a yellow band in outer radial field before the uniformly darkened wing-tip ; vein *Sc*<sub>1</sub> ending about opposite one-fifth the length of *Rs* ; cell 1st *M*<sub>2</sub> a little



longer than vein  $M_{1+2}$  beyond it; male hypopygium with the caudal margin of the ninth tergite having a deep V-shaped notch; dorsal dististyle slender; rostral prolongation of ventral dististyle widened outwardly, its tip obtuse; rostral spines from a conspicuous common tubercle; mesal-apical lobe of gonapophysis long and slender, pale throughout.

*Male*.—Length, excluding rostrum, about 8 mm.; wing 9 mm.; rostrum about 5.1 mm.

Rostrum elongate, exceeding one-half the length of wing, black throughout; palpi black. Antennæ black throughout; flagellar segments oval; terminal segment elongate, about one-third longer than the penultimate. Head with a narrow central light grey line extending from the anterior vertex to the centre of the posterior vertex, on the latter subtended on either side by a more blackened area.

Pronotum grey, trivittate with brownish black, the central area wider. Mesonotal præscutum grey, with three narrow black stripes that are subequal in width to the ground interspaces; humeral region and lateral borders grey; the sublateral portions more reddened; scutum grey, clearer medially, the mesal portion of each lobe black, this being a direct posterior prolongation of the sublateral præscutal stripe; scutellum dark basally, more reddened along posterior border; postnotum brown, grey pruinose. Pleura darker grey above, more reddish brown, grey pruinose, on the sternopleurite, particularly its dorsal portion. Halteres with stem yellow, knob infuscated. Legs with the coxæ and trochanters yellow, the fore coxæ weakly infuscated; remainder of legs broken. Wings with the ground colour creamy yellow, the prearcular and costal fields more saturated yellow; a heavy brown pattern, as follows:—at and above the arculus, the latter chiefly in cell *Sc*; over the supernumerary cross-vein in cell *Sc*, including cell *C* and almost crossing *R*; a common area over the fork of *Sc* and origin of *Rs*; stigma; wing tip broadly and continuously darkened, variegated by yellow near the bases of the outer medial cells; a broad yellow band before wing apex, extending from costa obliquely into cell 1st  $M_2$ ; brown seams along cord and outer end of cell 1st  $M_2$ ; large marginal spots at ends of anal veins; veins yellow, brown in the patterned fields. Vena-

tion:  $Sc_1$  ending about opposite one-fifth the length of  $Rs$ ,  $Sc_2$  not far from its tip; cell 1st  $M_2$  large, a little longer than vein  $M_{1+2}$  beyond it;  $m-cu$  shortly beyond fork of  $M$ .

Abdomen dark reddish brown; hypopygium more brownish yellow. Male hypopygium with the tergite large, narrowed outwardly, its caudal margin with a deep and narrow V-shaped notch, the thickened lobes conspicuous, provided with coarse setæ. Basistyle small, its total area only about one-third that of the ventral dististyle; ventromesal lobe large, simple; body of style with relatively few setæ. Dorsal dististyle slender, curved, the tip narrowed into a long black spine. Ventral dististyle fleshy; rostral prolongation slightly widened outwardly, the tip obtuse; spines arising from summit of a conspicuous common tubercle, nearly equal to one another in length, the outer spine placed a little lower on the tubercle. Gonapophysis with mesal-apical lobe pale, long and slender, gently sinuous, the apex narrowly obtuse.

*Hab.* Ecuador (Tungurahua).

*Holotype*, ♂, Baños, altitude 1900 metres, April 29, 1939 (*Macintyre*).

The present fly is most similar in its general appearance to *Limonia (Geranomyia) dstricta* Alexander, which differs especially in the structure of the male hypopygium, particularly the transverse, shallowly emarginate tergite, the distinctive rostral prolongation and spines, broader dorsal dististyle, and the even narrower, more pointed lobes of the gonapophyses.

*Limonia (Geranomyia) parilis*, sp. n.

Size large (wing, male, 10 mm.); rostrum approximately one-half the length of wing; general coloration of mesonotum dark plumbeous grey, the præscutum with two conspicuous black stripes, the usual median one much fainter; humeral angles of præscutum abruptly buffy yellow; wings whitish subhyaline, heavily patterned with brown, the cells at wing-tip variegated with pale;  $Sc_1$  opposite mid-length of  $Rs$ ; cell 1st  $M_2$  long, exceeding vein  $M_{1+2}$  beyond it; male hypopygium with the ninth tergite narrowly transverse, its caudal margin very broadly and shallowly notched, the lobes low; rostral spines from a large common basal tubercle, but each from its own

individual elevation ; gonapophysis with mesal-apical lobe darkened, the tip very obtuse.

*Male*.—Length, excluding rostrum, about 10 mm. ; wing 10 mm. ; rostrum about 5 mm.

Rostrum black, elongate, approximately one-half as long as the wing or remainder of body ; palpi black. Antennæ black throughout ; flagellar segments oval, with truncated ends ; verticils of outer segments very small. Head with anterior vertex buffy grey, the colour extending backward onto the posterior vertex for a short distance ; the vertex immediately behind the antennal bases and most of the posterior portion of head uniformly dark plumbeous grey ; occipital region more reddened.

Cervical conspicuously elongate, brownish black. Pronotum buffy medially, more pruinose on sides, with a narrow brown median vitta. Mesonotal præscutum chiefly dark plumbeous grey, the usual interspaces with a narrow, almost entire black stripe, the usual median blackened vitta much fainter to scarcely indicated against the ground ; humeral triangle conspicuous, abruptly buffy yellow ; scutal lobes dark grey, more or less variegated with blackish on the lateral and mesal borders, the central region of scutum light grey ; scutellum darkened at base, its caudal border broadly reddened ; postnotum grey, somewhat more blackish grey on the posterior portion. Pleura grey, variegated with darker grey to produce vague incomplete stripes ; dorsopleural membrane pale yellow. Halteres with stem yellow, knob brownish black. Legs with the coxæ reddish yellow, the fore and middle pairs slightly more infuscated ; trochanters obscure yellow ; remainder of legs broken. Wings with the ground-colour whitish subhyaline, heavily patterned with brown, including four somewhat darker subcostal areas that are more extensive than the yellowish white interspaces ; the paler brown pattern is arranged much as in *laudanda*, appearing as extensive areas in all cells, subequal in extent to the ground interspaces, distributed as follows:—subcostal dark areas extended caudad into cell *R* ; stigma confluent with broad seams along cord, extended caudad into cell *R*<sub>3</sub>, isolating a pale spot at base of cell *R*<sub>3</sub> ; outer end of cell 1st *M*<sub>2</sub> and very extensive marginal clouds in the cubital and anal fields ; wing-tip variegated with pale spots in all cells ; veins

yellow in the ground, more infuscated in the clouded portions. Venation: *Sc* relatively long, *Sc*<sub>1</sub> ending about opposite mid-length *Rs*, *Sc*<sub>2</sub> at its tip; *Rs* long, about three times the basal section of *R*<sub>4+5</sub>; cell 1st *M*<sub>2</sub> elongate, exceeding vein *M*<sub>1+2</sub> beyond it; *m-cu* at fork of *M*; cell 2nd *A* wide.

Abdomen with basal tergite light fulvous yellow, remaining tergites dark brown, sparsely pruinose; sternites more obscure yellow; hypopygium brownish yellow. Male hypopygium with the ninth tergite narrowly transverse, its caudal margin very broadly and shallowly notched, the lateral lobes correspondingly low and only slightly thickened. Basistyle with its total area about one-third that of the large fleshy ventral dististyle; ventromesal lobe relatively small, more or less constricted at base. Dorsal dististyle relatively slender, gradually narrowed, tapering very gradually into a long apical spine. Ventral dististyle with the rostral prolongation small, the apex obtusely rounded; spines subequal, slender, from a common tubercle at base of prolongation, but each spine from its own individual, much smaller tuberculate swelling. Gonapophysis with mesal-apical lobe darkened, curved, the tip very obtuse; lateral margin of each lobe extended into a low flange.

*Hab.* Ecuador (Tungurahua).

*Holotype*, ♂, Runtun, above Baños, altitude 2200 metres, July 21, 1939 (*Macintyre*).

*Limonia* (*Geranomyia*) *parilis* is allied to *L.* (*G.*) *dstricta* Alexander, *L.* (*G.*) *laudanda* Alexander, and other large and showy species. It has a wing-pattern much as in *laudanda*, but the structure of the male hypopygium is quite different from the latter and from other generally similar species.

*Polymera* (*Polymera*) *nimbipennis*, sp. n.

Mesonotum medium brown, unpatterned; thoracic pleura with a relatively broad black dorsal stripe, the ventral pleurites abruptly yellow; antennal flagellum brownish black, the segments binodose; legs black, the outer tarsal segments white, on the hind legs including all of the tarsi excepting the last segment; all coxæ yellow; tips of femora and tibiæ blackened; wings with a very strong brownish suffusion; *Sc* short, *Sc*<sub>1</sub> ending

opposite or before two-fifths the length of  $R_{2+3+4}$ ;  $R_{1+2}$  subequal to  $R_{2+3}$ ;  $m-cu$  nearly its own length beyond the fork of  $M$ .

*Male*.—Length about 4.5–4.6 mm.; wing 5.6–5.8 mm.; antenna about 5.9–6 mm.

Rostrum yellow; basal segments of palpus yellow, the outer ones pale brown. Antennæ (male) slightly longer than the wing; brownish black, the scape and pedicel a trifle brighter, particularly the latter; flagellar segments strongly binodose, both swellings subequal; verticils very long and conspicuous, about equal in length on both swellings. Head brown.

Pronotum concealed in the type. Mesonotum almost uniformly medium brown, without pattern, the scutellum and postnotum sparsely pruinose. Pleura with a relatively broad black dorsal stripe, the sternopleurite and meron abruptly yellow. Halteres infuscated, especially the knob, the base of stem very restrictedly brightened. Legs with all coxæ and trochanters yellow; femora brownish black, the bases narrowly more yellow; tibiae almost uniformly brownish black, the tips more blackened; fore basitarsi black, the tips very narrowly whitened; remainder of fore tarsi and all of middle legs broken; hind tarsi snowy white, only the terminal segment brownish black. Wings with a very strong dark brown suffusion, the prearcular and proximal costal fields slightly more yellow; veins and macrotrichia darker brown. Venation:  $Sc$  short,  $Sc_1$  ending about opposite or before two-fifths  $R_{2+3+4}$ ,  $Sc_2$  near its tip;  $Rs$  about one-sixth longer than  $R_{2+3+4}$ , the latter about three-fourths  $R_{2+3}$ ;  $R_{1+2}$  subequal to  $R_{2+3}$ ;  $m-cu$  nearly its own length beyond the fork of  $M$ . In the paratype  $R_{1+2}$  is shorter, only about one-half  $R_{2+3}$ .

Abdomen piceous, more blackened laterally; subterminal segments more uniformly blackened; hypopygium dark chestnut-brown.

*Hab.* Ecuador (Santiago-Zamora).

*Holotype*, ♂, Zumbi, Rio Zamora, altitude 700 metres, November 2, 1941 (*Laddey*). *Paratopotype*, 1 ♂, November 5, 1941.

*Polymera (Polymera) nimbipennis* is most similar to *P. (P.) leucopeza* Alexander, of southern Mexico, which differs in various regards, as the longer antennæ of male

and the paler wings, with distinct venational details, including the relative proportions of the outer radial veins. Both flies have the leg pattern much the same.

*Limnophila spinulosa*, sp. n.

Allied to *lloydi*; general coloration of thorax brownish grey, with a restricted dark brown pattern, including paired spots on the præscutum on either side of the median line before the suture; halteres uniformly pale yellow; legs yellow, the segments, especially the femora, with conspicuous erect spinose setæ; wings whitish subhyaline, with a dark brown reticulated pattern, the transverse darkenings more or less expanded at either end to produce a dumb-bell shaped figure;  $R_{2+3+4}$  long, about one-third the anterior branch of  $R_s$ ;  $R_2$  either lacking or very faint, subequal in length to  $R_{1+2}$ ; male hypopygium with the outer dististyle setiferous, terminating abruptly in a single slender spine; gonapophysis ending in a single spine; ædeagus short.

*Male*.—Length about 6.5 mm.; wing 7 mm.

Rostrum dark brown; palpi black. Antennæ short; basal segments yellow, flagellum pale brown; verticils of the flagellum exceeding the segments in length. Head grey.

Pronotum grey above, narrowly lined with darker on sides. Mesonotal præscutum brownish grey, with a restricted dark brown pattern, including a spot on either side of the mid-line immediately before the suture and less evident lateral darkenings behind the pseudosutural foveæ; a faintly indicated median præscutal stripe, slightly widened behind; scutum pale brownish grey, the lobes variegated by brown, especially behind, restricting the grey central area to a narrow marking at the base of the greyish-brown scutellum; central portion of mediotergite grey, the lateral portions and the pleurotergite dark brown. Pleura chiefly dark brown, pruinose, the central portion somewhat paler; dorsopleural region buffy. Halteres uniformly pale yellow. Legs with the coxæ and trochanters brownish yellow, the latter with a dark apical spot beneath; femora yellow; remainder of legs yellow, the terminal tarsal segment infuscated, the apices of the remaining tarsal segments narrowly darkened; legs with unusually strong erect spinous setæ on most of the segments, including a ventral series on almost the basal

half of at least the posterior femora (remaining legs broken), these setæ arranged generally in two rows and more or less equidistantly spaced. Wings whitish subhyaline, with a relatively heavy dark brown reticulated pattern that consists of narrow transverse dashes in most of the cells, *Sc* and *R* being most nearly free of markings; larger brown areas at origin of *Rs*; at stigma, extending backward as a narrower line over the cord; and a major mass in the outer radial field, chiefly in cells  $R_3$  and  $R_4$ ; the dark lines are narrow and transverse, completely crossing the cells, being more or less expanded at either end to produce a dumb-bell like effect; in outer medial field the margin is narrowly and more extensively darkened; dark areas over veins  $Cu_1$  and 2nd *A* more extensive; veins yellow, darker in the patterned fields. Venation:  $Sc_1$  ending about opposite two-fifths the length of  $R_{2+3+4}$ ,  $Sc_2$  at its tip; *Rs* elongate, weakly angulated at origin;  $R_{2+3+4}$  unusually long for a member of this group, about one-third as long as the anterior branch of *Rs*;  $R_2$  very faintly indicated or lacking, if present, evidently subequal to  $R_{1+2}$ ; cell 1st  $M_2$  elongate, gently widened outwardly, nearly as long as vein  $M_3$  beyond it; *m-cu* at from two-thirds to three-fourths its length beyond the fork of *M*; cell  $M_1$  subequal to its petiole; cell 2nd *A* wide, the vein sinuous; anterior arculus preserved.

Basal abdominal tergites dark brown, the intermediate segments more variegated apically with obscure yellow; sternites clearer yellow; subterminal segments more uniformly dark brown; hypopygium brownish yellow. Male hypopygium with the outer dististyle relatively broad, slightly widened outwardly, at apex suddenly narrowed into a slender, gently curved spine, the outer ventral angle, before the spine, with a shorter point; surface of style with abundant long setæ. Gonapophysis broad at base, terminating in a slender spine. Ædeagus short, broad-based, the penis slightly sinuous within the sheath.

*Hab.* Ecuador (Napo-Pastaza).

*Holotype*, ♂, Abitagua altitude 1800 metres, April 15, 1940 (*Laddey*).

The most similar described species is *Limnophila lloydi* Alexander, of Colombia, which differs conspicuously in

the coloration of the body, and in the pattern and venation of the wings.

*Atarba (Atarba) cucullata*, sp. n.

General coloration of thorax dark reddish brown, the surface sparsely pruinose; antennæ (male) about one-half as long as body, the proximal flagellar segments weakly bicoloured, black, with both base and apex narrowly yellow; legs yellow, the outer tarsal segments weakly infuscated; wings with a faint brownish-yellow tinge; stigma small, pale brown; *m-cu* at near mid-length of lower face of cell 1st  $M_2$ ; male hypopygium with the apical spine of the outer dististyle short; gonapophysis pale, the apex obtuse and smooth; ædeagus at apex greatly expanded into a transverse hood-shaped blade.

*Male*.—Length about 6 mm.; wing 5.2 mm.; antenna about 3 mm.

Head, with the exception of the antennæ, lost. Antennæ of moderate length; scape and pedicel pale brown, flagellum darker brown, the incisures of about the proximal five segments very narrowly yellow, involving both the base and the apex of the segment; basal segments long-cylindrical, the outer ones shorter, more elongate-oval; besides the basal verticils, segments provided with a dense erect shorter pubescence, each with a short subtending point to produce a scabrous appearance.

Thorax almost uniformly dark reddish brown, the surface sparsely pruinose; ventral pleurites a little more reddened. Halteres with stem pale, knob infuscated. Legs with the coxæ reddish yellow; trochanters yellow; remainder of legs yellow, the femoral tips not darkened; outer tarsal segments weakly infuscated. Wings with a faint brownish-yellow tinge, the prearcular and costal fields somewhat clearer yellow; stigma small, pale brown; veins yellow, macrotrichia dark brown. Macrotrichia on veins beyond cord abundant and conspicuous; basad of cord with trichia on distal third of first section of  $Cu_1$  and on more than the outer half of vein 2nd *A*. Venation: *Sc* short,  $Sc_1$  ending about opposite one-fifth the length of the short arcuated *Rs*,  $Sc_2$  shortly before the origin of the latter; basal section of  $R_5$  about two-thirds *Rs*; anterior branch of the latter long and gently sinuous; cell 1st  $M_2$  short-subpentagonal, *m-cu* at mid-length of its lower face.



Abdomen dark reddish brown, more blackened laterally: subterminal segments more uniformly blackened; hypopygium with the sternal plate not clearly evident in the unique type-slide. Outer dististyle moderately slender, the apical spine subequal to or shorter than the subterminal outer tooth; about nine or ten spines on outer margin of style, forming an irregular double row. Inner dististyle slender, about one-fourth longer than the outer style, its apex obliquely obtuse. Gonapophysis with apex obtusely rounded, entirely smooth and pale. Ædeagus of unusually powerful development, especially the apex which is expanded into a flaring hood-shaped structure, in the slide-mount spreading flat, its total width subequal to the full length of the basistyle.

*Hab.* Ecuador (Santiago-Zamora).

*Holotype*, ♂, Zamora, altitude 1000 metres, December 20, 1941 (*Laddey*).

The present fly is most closely related to *Atarba* (*Atarba*) *megaphallus* Alexander, of Amazonian Brazil, which has the same somewhat peculiar type of ædeagus. The latter species differs in the much longer, differently patterned antennæ of the male, and in the details of structure of the hypopygium, including both dististyles.

*Atarba* (*Atarba*) *circe*, sp. n.

General coloration light brown; antennæ (male) elongate, approximately four-fifths the length of body; proximal flagellar segments bicolored, black, the basal fifth yellow, the amount of the latter colour decreasing on outer segments; knobs of halteres infuscated; legs yellow, the femoral tips very narrowly blackened; wings with a greyish yellow tinge, stigma medium brown, relatively conspicuous:  $Sc_1$  ending just beyond origin of  $Rs$ ; cell 1st  $M_2$  irregularly-pentagonal, shorter than any of the veins beyond it; abdominal tergites bicolored, yellow basally, the subapical portions brown; no distinct blackened subterminal abdominal ring; male hypopygium with the outer dististyle expanded on basal half, the long tip terminating in a conspicuous spine, with about two more appressed spines back from the tip; inner dististyle slender, strongly arcuated; gonapophysis with numerous short spinous points at tip.

*Male*.—Length about 5 mm.; wing 5.5 mm.; antenna about 4 mm.

Rostrum brown; palpi relatively elongate, brownish black. Antennæ (male) long, as shown by the measurements; scape and pedicel dark brown; flagellar segments black, the bases conspicuously yellow, the extreme tips similarly brightened; the amount of yellow at bases of the more proximal segments involves about one-fifth the segment, the amount decreasing on the outer segments; besides a relatively inconspicuous erect pale pubescence, each segment with a single long verticil, placed at or before mid-length of segment. Head brown

Thoracic dorsum almost uniformly light brown, very sparsely pruinose but without pattern. Pleura brownish testaceous, paler on the ventral sclerites. Halteres with stem yellow, knob infuscated. Legs with the coxæ obscure yellow; trochanters yellow; femora yellow, the tips very narrowly blackened; tibiæ and tarsi yellow, the outer segments of the latter a trifle more darkened; tibial spurs small but evident. Wings with a greyish yellow tinge, the prearcular and costal fields clear light yellow, the latter colour continued to the end of cell  $R_3$ ; stigma medium brown, relatively conspicuous; veins brownish yellow, clearer in the luteous fields. Venation:  $Sc_1$  ending just beyond origin of  $Rs$ ,  $Sc_2$  immediately before this origin;  $Rs$  about one-third longer than the basal section of  $R_5$ ; cell 1st  $M_2$  irregularly pentagonal, shorter than any of the veins beyond it;  $m-cu$  about one-fourth its length beyond the fork of  $M$ .

Basal abdominal tergites medium brown, darker laterally; intermediate segments bicolored, the basal half yellow, the outer portions brown with the extreme margins again yellow; no distinct blackened subterminal ring, as is frequent in the genus; sternites more extensively yellow; segments eight and nine yellow. Male hypopygium with the outer dististyle of distinctive conformation, appearing as a slender flattened blade, at near mid-length strongly narrowed into a blackened spine, with one or two appressed spinules back from the tip; on the more expanded basal half the blackened outer margin bears about six or seven spines, the outer ones larger and becoming more erect; beyond the last of these, on the narrowed outer portion, a long space, equal to about one-third to one-fourth the total length, unprovided with denticles. Inner dististyle slender, blackened, almost parallel-sided, at mid-length bent at a strong angle. Gona-

pophysis apex with numerous short spinous points, these much shorter than in *multiarmata*. Ædeagus long, nearly straight, the tip moderately flaring and more or less hood-shaped.

*Hab.* Ecuador (Santiago-Zamora).

*Holotype*, ♂, Zamora, altitude 1000 metres, October 19, 1941 (*Laddey*).

*Atarba* (*Atarba*) *circe* is readily told from its nearest relatives, *A. (A.) idonea* Alexander and *A. (A.) multiarmata* Alexander, by the coloration of the body, wings and antennæ, and by the structure of the male hypopygium, especially the outer dististyle and the gonapophysis.

*Gonomyia* (*Lipophleps*) *arajuno*, sp. n.

Belongs to the *manca* group, allied to *haploides*; general coloration brown, the thoracic pleura brown, faintly striped with paler; legs brown; male hypopygium with the dististyle terminal, entirely fleshy, relatively large, provided with a series of from four to six strong setæ down the face and mesal margin; a single elongate rod jutting from the cup of the phallosome.

*Male*.—Length about 3·8 mm.; wing 4 mm.

*Female*.—Length about 4·5 mm.; wing 4·4 mm.

Rostrum obscure yellow; palpi black. Antennæ black; pedicel (male) enlarged. Head dark grey, lighter grey on orbits.

Pronotum and pretergites light yellow, the sides of the former darker. Mesonotal præscutum and the scutal lobes dark brown, sparsely pruinose; central region of scutum light grey; scutellum with posterior border broadly yellow, the base infuscated; postnotum brown, more yellow on the dorsal portion. Pleura dark brownish grey, with a broad yellowish grey longitudinal stripe, ill-delimited and becoming wider behind. Halteres weakly infuscated, especially the knobs. Legs with the coxæ yellow, the fore pair more infuscated; trochanters obscure yellow; remainder of legs brownish black. Wing with a weak brownish tinge, the prearcular and costal fields light yellow; stigma scarcely indicated; veins brown, those in the brightened fields paler brown. Venation:  $Sc_1$  ending a short distance before origin of  $Rs$ ,  $Sc_2$  far from its tip,  $Sc_1$  alone being more than one-third  $Rs$ ; cell 1st  $M_2$  shorter than vein  $M_4$ ; *m-cu* at or shortly before the fork of  $M$ .

Abdominal tergites brown; sternites paler; hypopygium brownish yellow. Male hypopygium with the dististyle terminal in position, entirely fleshy, relatively large, the length being about one-fifth that of the basistyle; shape roughly rectangular; two fasciculate setæ, one from the outer mesal angle, the second from near mid-width of the truncated apex; mesal edge of style with a row of five or six normal but elongate setæ, the face of style with an oblique row of four or five similar ones, the row reaching almost to the base of style. Phallosome a simple pale cup-like structure, with a single elongate element jutting therefrom, this presumably being the aedeagus, tapering gradually to a very delicate point.

*Hab.* Ecuador (Napo-Pastaza).

*Holotype*, ♂, Rio Arajuno, Napo Watershed, altitude 1000 metres, April 22, 1941 (*Macintyre*).

The present species has the hypopygium most like that of the Mexican *Gonomyia* (*Lipophleps*) *haploides* Alexander, which differs in the coloration of the body and in the details of structure of the male hypopygium, especially the size, shape and vestiture of the dististyle.

*Gnophomyia* (*Gnophomyia*) *tungurahuaana*, sp. n.

Allied to *mæstitia*; general coloration dark plumbeous grey; antennæ black throughout; legs brown, the tarsi passing into black; wings weakly bicolored, the basal two-thirds brown, the outer third more greyish brown; male hypopygium with the caudal margin of tergite gently emarginate, bordered by virtually continuous rows of spinous setæ; lateral tergal angles produced into distinct tubercles that are tipped with about ten similar setæ of various sizes; a setiferous tubercle at proximal end of mesal face of basistyle; outer dististyle long and slender; inner dististyle terminating in a small apical tooth; distal portion of style with unusually strong setæ.

*Male*.—Length about 5.5–5.6 mm.; wing 5.3–5.5 mm.; antenna about 2 mm.

Rostrum and palpi brownish black. Antennæ black; flagellar segments long-oval, the outer ones conspicuously smaller; longest verticils slightly exceeding the segments in length. Head grey, the vertex with a brown central spot.

Thorax chiefly dark plumbeous grey, the pretergites restrictedly paler; central portion of mesonotum not

visible in type, due to the mounting. Pleura grey, the meral region light yellow. Halteres infuscated. Legs with the coxæ dark grey; trochanters brown; remainder of legs brown, the femora paler on ventral surface; tarsi darkening to black. Wings weakly bicoloured, the basal two-thirds to beyond the general level of cord brown, the outer third paler greyish brown, this colour likewise including the anal cells; stigma elongate-oval, darker brown; veins dark brown. Venation:  $Sc_1$  ending shortly before the level of the outer end of vein  $R_{2+3+4}$ ;  $R_{2+3}$  a little longer than vein  $R_2$ ; cell 1st  $M_2$  long and narrow, only slightly widened outwardly, subequal in length to vein  $M_4$  beyond it;  $m-cu$  at near mid-length of cell. In both wings of type with an extra cross-vein in cell  $R_3$ .

Abdomen brown, the tergites darker than the sternites; pleural membrane yellow. Male hypopygium with the tergite large and conspicuous as in the group, its caudal margin broadly and gently emarginate, bordered by virtually continuous rows of elongate blackened spinous setæ, these rows being approximately three deep and totalling in excess of 60 spines; lateral angles of tergite produced into a conspicuous lobe that is tipped with about ten further similar setæ of unequal lengths, a single one being unusually strong and powerful. In *kerteszi* the row of spinous setæ is single or virtually so and is interrupted at the mid-line. Basistyle with a setiferous tubercle on proximal end of mesal face, but without modified spines such as are found in *coxitalis*. Outer dististyle long and slender, gently curved, the blackened tip subobtusate. Inner dististyle less than half as long, terminating in a small apical blackened tooth, the distal two-thirds of style with unusually strong coarse setæ, with fewer longer and more delicate ones on outer portion.

*Hab.* Ecuador (Tungurahua).

*Holotype*, ♂, Mount Tungurahua, altitude 3000 metres, May 12, 1937 (*Macintyre*). *Paratopotype*, ♂.

Among the now rather numerous described species that are allied to *Gnophomyia* (*Gnophomyia mæstitia* Alexander, the present fly is closest to *G. (G.) coxitalis* Alexander and *G. (G.) kerteszi* Alexander, both of which have the outer lateral angles of the male hypopygium produced but of entirely different conformation and

armature from that of the present fly. The details of the basistyle and dististyles are distinctive in all three species.

*Styringomyia dorsolineata*, sp. n.

General coloration brownish yellow, patterned with brown; abdominal tergites with a nearly continuous median brown stripe that is narrowly broken at near mid-length of the individual segments.

*Male*.—Length about 8 mm.; wing 5.5 mm.

*Female*.—Length about 5.5 mm.; wing 5 mm.

Rostrum pale brown; palpi darker brown, especially the outer segments. Antennæ with the scape infuscated beneath, yellow above; pedicel brown, flagellum yellow. Head light yellow, the centre of vertex more or less infuscated; setæ of vertex erect, slender.

Thoracic notum obscure brownish yellow, the sides of the postnotal mediotergite darker brown, the præscutal humeri more pruinose. Legs yellow, the fore and middle femora with a narrow brown subterminal ring and with the basal half or more weakly infuscated; tips of tibiæ narrowly infuscated; terminal tarsal segment abruptly darkened. Wings yellow; a restricted dark cloud over anterior cord; veins yellow, the outer medial ones more infuscated. Venation: Cell 2nd  $M_2$  barely sessile or very short-petiolate; vein 2nd  $A$  gently curved to the margin.

Abdomen of male broken at mid-length of fourth segment; tergites yellow, the posterior rings with a conspicuous brown triangle, the basal rings a little less intensely darkened, the general effect being of a continuous dark median stripe that is barely interrupted on the proximal portion of outer ring of the segment; sternites uniformly yellow. Ovipositor with the tips of the cerci produced into a slender extension, its tip truncate and glabrous, less extensively so than in *mystica*.

*Hab.* Ecuador (El Oro).

*Holotype*, a broken ♂, Morro Morro, altitude 1500 metres, July 20, 1941 (*Laddey*). *Allotopotype*, ♀.

*Styringomyia dorsolineata* seems well-distinguished from the other Neotropical species of the genus in the pattern of the basal abdominal tergites which are much more heavily marked than in either *S. americana* Alexander or *S. mystica* Alexander. It is unfortunate that the hypopygium of the holotype male is lost, since the decisive specific characters are to be found in this structure.