

*From the ANNALS AND MAGAZINE OF NATURAL HISTORY,
Ser. 11, vol. xi. p. 586, September 1944.*

NEW OR LITTLE-KNOWN TIPULIDÆ.

New or little-known Tipulidæ (Diptera).—LXXI. Neotropical Species. By CHARLES P. ALEXANDER, Ph.D., F.R.E.S., Massachusetts State College, Amherst, Massachusetts, U.S.A.

VIRTUALLY all of the novelties discussed herewith were taken by Mr. Davis Laddey in southern Ecuador. A few additional species were included in extensive series of these flies collected in various parts of Ecuador by Professor F. Martin Brown and Mr. William Clarke-Macintyre. I am very greatly indebted to these entomologists for their continued interest in saving crane-flies in this most interesting region of Tropical America. The types are preserved in my personal collection of these flies.

In considering these species from Ecuador, particular attention should be directed to the very valuable paper published by Professor Brown (*Entomological Stations in Ecuador*, *Ann. Ent. Soc. America*, xxxiv, pp. 809-851,

1941). One of the stations visited by Mr. Laddey is Zumbie, on the Rio Zamora, in the Province of Santiago-Zamora (southern Oriente). This locality proved to be exceptionally rich in Tipulidæ, as discussed by the writer in another paper (Journ. N.Y. Ent. Soc. li. p. 206, 1943).

Tipula (Microtipula) percompressa, sp. n.

General coloration of thorax light grey, conspicuously patterned with dark brown or brownish black; antennæ (male) elongate, the flagellum black throughout; anterior vertex conspicuously patterned with brownish black, the interspaces light grey; legs yellow, the outer tarsal segments blackened; wings brownish yellow, the prearcular costal fields light yellow; R_{1+2} more or less atrophied; male hypopygium with the posterior border of the ninth tergite produced medially into a conspicuous, compressed-flattened blade; a single dististyle.

Male.—Length about 14 mm.; wing 14 mm.; antenna about 7.8 mm.

Female.—Length about 14.5–15 mm.; wing 14–15.5 mm.

Frontal prolongation of head above narrowly but abruptly brownish black, heavily pruinose, the sides and ventral portion yellow; nasus distinct; palpi obscure brownish yellow, the first segment and apex of the last one a little darker. Antennæ (male) elongate, exceeding one-half the length of body; scape and pedicel obscure brownish yellow, the former more darkened, especially at base; flagellum black; flagellar segments elongate, feebly incised; longest verticils about one-half the length of the segment. In female, antennæ much shorter, as is usual in the subgenus. Front polished brownish black, the posterior vertex and occiput paling to obscure yellow; no vertical tubercle anterior vertex about twice the diameter of the scape.

Pronotum brown medially, heavily light grey pruinose on sides. Mesonotal præscutum chiefly covered by three brown or brownish-black stripes, the interspaces light grey pruinose, more heavily so behind; median stripe and anterior end of lateral stripes more expanded and darkened at the margin, restricting the pruinose ground to small spots behind the pseudosutural foveæ and before the suture; scutum light grey, each lobe with two confluent brownish-black areas; scutellum testaceous brown, the

parascutella darker brown; postnotum brown, very heavily light grey pruinose. Pleura heavily grey pruinose, variegated with brown along the deeply impressed sutures; dorsopleural membrane buffy, darker behind. Halteres obscure yellow, knob blackened. Legs with coxæ pale brown, heavily grey pruinose; trochanters yellow; femora, tibiæ and basitarsi obscure yellow, the outer tarsal segments passing into brownish black; claws (male) with a single tooth. Wings with a strong brownish-yellow tinge, the prearcular and costal fields conspicuously light yellow; stigma oval, brown; outer radial field a little darker than the remainder of ground; veins pale brown, luteous in the yellowed fields. No stigmal trichia; vein M and its branches without trichia. Venation: R_{1+2} atrophied or represented only by a basal spur; petiole of cell M_1 nearly twice m ; cell 2nd A moderately wide. In the allotype, vein R_{1+2} of one wing is preserved though pale.

Abdominal tergites obscure brownish yellow, narrowly blackened medially; basal sternites more reddish yellow; in male, a black subterminal ring involving all of segment seven and the extreme base of segment eight; hypopygium chiefly yellow. Ovipositor with cerci relatively long and conspicuous, reddish brown, the tips broadly rounded; ventral margin of cerci with pale setæ almost to tip. Male hypopygium with the posterior border of tergite produced caudad into a long compressed-flattened blackened blade, subtended on either side by a dense group of seven or eight strong black spinous setæ. Proctiger long and pale, more or less scoop-shaped, jutting beyond the other tergal elements. Dististyle apparently single, suboval to subquadrate in general outline, the apex only a trifle narrower than the base, with obtuse blackened lobes. Appendage of ninth sternite not evident in the unique slide-mount of male, possibly broken. Ædeagus elongate, subtended by very narrow, pale apophyses; penis unusually long and slender, coiled in a loose spiral.

Hab. Ecuador (Pinchincha, Manabi).

Holotype, ♂, Santo Domingo de los Colorados, Pichincha, altitude 550 metres, March 8, 1941 (*Laddey*). *Allotopotype*, ♀, September 7, 1940 (*Laddey*). *Paratopotype*, 1 ♀, January 2, 1941; *paratype*, 1 ♀, Playones, Palmar, Manabi, altitude 150 metres, May 13–17, 1941 (*Laddey*).

The most similar described species is *Tipula* (*Microtipula*) *nigrovariegata* Alexander, likewise from Ecuador,

which differs conspicuously in the coloration of the body, antennæ, legs and wings. In this latter species, vein R_{1+2} is strongly persistent but without macrotrichia.

Tipula (Microtipula) mediocompressa, sp. n.

General coloration grey pruinose, variegated with polished black, including three very broad stripes on præscutum; antennal flagellum black, the segments only moderately incised; wings with a strong brownish tinge, the prearcular field and cells *C* and *Sc* more yellowed; vein R_{1+2} atrophied; abdominal tergites dark brown, the more basal ones patterned sublaterally with yellow; a broad black subterminal ring; male hypopygium with the ninth tergite produced medially into a relatively narrow, compressed black blade; dististyle unusually compact, its blackened rostral region very obtuse; eighth sternite unarmed.

Male.—Length about 13 mm. wing 14 mm.; antenna about 6.4 mm.

Frontal prolongation of head relatively long, only a little shorter than the remainder of head, narrowly blackened and pruinose above, broadly light yellow on sides and beneath; nasus distinct; palpi brown, the elongate terminal segment extensively paler on proximal half. Antennæ with scape yellow at tip, infuscated basally; pedicel yellow; flagellum black, the segments moderately incised, with verticils that are much shorter than the segments. Head with the anterior vertex and part of the posterior vertex blackened, the posterior portion of head extensively obscure yellow; front and the very narrow orbits narrowly grey; no vertical tubercle.

Pronotum greyish pruinose, more infuscated medially. Mesonotal præscutum with the restricted ground greyish pruinose, the surface with three very extensive polished black stripes, the median one very broad, especially in front; lateral stripes outcurved to the margins, isolating a small pruinose patch behind; scutum similarly grey, the lobes extensively variegated with black; scutellum yellowish testaceous, the parascutella a little darker mediotergite black, heavily grey pruinose; pleurotergite with the anapleurotergite more blackened, the katepleurotergite pruinose. Pleura extensively patterned with greyish pruinose and restricted blackened areas on the

anepisternum and pteropleurite ; dorospleural membrane silvery yellow. Halteres with stem obscure yellow, narrowly clearer yellow at base, the knob infuscated. Legs with the fore coxæ blackened, paler at tips ; remaining coxæ with the pale apices broader, especially on hind legs, the surface more or less pruinose ; trochanters brownish yellow ; femora and tibiæ yellowish brown, the tips exceedingly narrowly blackened ; tarsi passing through yellowish brown to black, very long and slender. Wings with a strong brownish tinge, the prearcular field, cells *C* and *Sc*, together with a seam behind *Cu*, more yellowish, especially *Sc* ; stigma oval, brown ; veins dark brown, the outer medial ones much more delicate than the radial veins. Squama naked ; trichia on distal half of R_{2+3} and basal two-thirds of R_3 , lacking on all outer medial branches. Venation : R_{1+2} atrophied ; *Rs* subequal to the long *m-cu*, the latter connecting with M_{3+4} shortly before the fork ; cell 1st M_2 narrowed outwardly, *m* being about two-thirds the basal section of M_{1+2} ; cell M_1 approximately twice its petiole ; cell 2nd *A* relatively wide.

Abdomen with the tergites extensively infuscated, appearing especially as a central stripe and across the caudal and lateral borders ; basal tergites conspicuously yellow sublaterally, forming an almost unbroken stripe ; basal sternites almost uniformly yellow ; a broad black subterminal ring, involving segments six and seven, tergite eight, and the proximal two-thirds of the eighth sternite, the apex of the latter broadly yellow ; hypopygium yellow. Male hypopygium with the tergite transverse, narrowed outwardly, the median area produced caudad into a long, narrow, compressed, blackened blade, much smaller and narrower than in *percompressa* ; base of blade more expanded and provided with numerous appressed spinous setæ lateral tergal shoulders slightly produced, obtuse. Proctiger without spinous points. Basistyle without a blackened lobe on mesal face at base. Dististyle unusually compact, appearing angularly suboval in outline, the very obtuse beak extensively and heavily blackened ; anterior portion of outer margin with relatively few but very long setæ. Ædeagus elongate, subtended at base by small oval apophyses, these much broader than in *percompressa*. Eighth sternite with its caudal margin

evenly and gently rounded, with scattered normal setæ only.

Hab. Ecuador, Peru.

Holotype, ♂, Rio Zamora, Zumbi, Ecuador, altitude 700 metres, November 4, 1941 (*Laddey*). *Paratypes*, 2 ♂♂, Satipo, Junin, Peru, altitude 800–900 metres, May 27 and September 6, 1940 (*Paprzycki*).

The present fly is most nearly related to *Tipula* (*Microtipula*) *percompressa*, sp. n., from which it differs most evidently in the structure of the male hypopygium, as above compared, particularly the ninth tergite, dististyle, and gonapophyses.

Tipula (*Microtipula*) *terribilis*, sp. n.

Size medium (wing, male, 14 mm.); general coloration of thorax uniformly yellow or fulvous yellow; antennæ relatively long, exceeding one-half the length of body; flagellum almost uniformly blackened, the basal enlargements conspicuously developed; wings strongly tinged with yellow, the prearcular and costal fields light yellow; stigma pale brown; abdomen with a broad subterminal blackened ring; male hypopygium with proctiger bearing two slender arms, each of which forks into two long slender spines; eighth sternite long and sheathing, at its apex produced into two stout horns.

Male.—Length about 13 mm. wing 14 mm. antenna about 8.2 mm.

Frontal prolongation of head polished yellow, shorter than the remainder of head; nasus apparently lacking; palpi obscure testaceous yellow. Antennæ (male) elongate, exceeding one-half the length of body; basal three segments almost uniformly blackened, the conspicuous basal enlargements a little more intense; segments beyond the enlargements long-cylindrical, with dense erect pale setæ; longest verticils shorter than the segments. Head obscure yellow; anterior vertex moderately wide, a little more than three times the diameter of scape.

Thorax almost uniformly yellow or fulvous yellow, without clearly differentiated præscutal stripes or other markings; præscutum virtually glabrous, postnotum with scattered long yellow setæ. Halteres with stem yellow, knob infuscated. Legs with coxæ and trochanters yellow femora yellow, the tips very narrowly but con-

spicuously blackened, the amount subequal on all legs; remainder of legs light brown, the outer tarsal segments more blackened; claws long and slender, toothed. Wings with a strong yellow tinge, the prearcular and costal fields clear light yellow; stigma oval, pale brown; veins light brown, more yellowed in the brightened fields. Squama naked; veins beyond cord with relatively sparse trichia, including a few on outer portion of R_{2+3} , basal half of R_3 , a rather close series over the outer three-fourths of R_{4+5} ; no trichia on R_s or medial branches. Venation R_s relatively long, about one-third longer than R_{2+3} ; tip of R_{1+2} atrophied; R_3 long, nearly straight; cell M_1 about twice its petiole; cell 1st M_2 narrowed outwardly, m being about two-thirds the basal section of M_{1+2} ; cell 2nd A relatively wide.

Abdomen yellow, subnitidous, the outer segments a trifle more darkened; a blackened subterminal ring, including segment seven, all of six except the base, and the basal portion of the eighth sternite. Male hypopygium with the tergite large, its caudal border trilobed, the median lobe very broad and convexly rounded, glabrous; lateral lobes narrower, separated from the median one by narrow V-shaped notches; each lobe with its mesal portion more produced and truncated at apex, the outer portion more sloping; at the base of the small lateral notches a group of small setæ; disk of tergite with a transverse grouping of long black setæ, directed caudad. Proctiger very conspicuous, including a shallow, boat-shaped upper plate and two long arms, each of which forks into two long powerful spines that are slightly unequal in length and diameter. Basistyle relatively short, without a blackened plate on mesal face, as common in many species of the subgenus. Dististyle compact, but complex and difficult of description; beak blackened, relatively small and more or less emarginate at tip; dorsal crest moderately high, glabrous; two outer basal lobes, one a glabrous prolongation of the crest, the other of somewhat similar outline, provided with coarse setæ; lower margin of style further produced into a flattened obtusely-rounded plate, its margin set with a few elongate setæ. Eighth sternite long and sheathing at apex, produced into two stout horns that narrow into subacute blackened points.

Hab. Ecuador (Pichincha).

Holotype, ♂, Santo Domingo de los Colorados, altitude 500 metres, September 12, 1940 (*Laddey*).

Although generally similar to various other species of the subgenus, including *Tipula* (*Microtipula*) *diacanthos* Alexander and *T. (M.) smilodon* Alexander, the present fly is entirely distinct in the structure of the male hypopygium, very specifically in the somewhat remarkable proctiger.

Tipula (Microtipula) heterodactyla, sp. n.

Size relatively small (wing, male, about 10 mm.); general coloration of thoracic notum medium brown, without distinct pattern; antennæ of male less than one-half the length of wing; flagellum black, the segments nearly cylindrical, with very poorly-developed basal swellings; wings with a strong brownish tinge, cells *C* and *Sc*, together with the stigma, darker brown; cell *2nd A* narrow proximal abdominal tergites dark brown with paler basal rings; a broad subterminal black ring; hypopygium yellow, the tergite terminating in three slender lobes that are tipped with a few black setæ; outer dististyle elongate inner style produced into two slender lobes, the outer one spine-like gonapophyses closely adnate to the ædeagus.

Male.—Length about 9.5–10.5 mm. wing 9–10.5 mm. antenna about 4.3–4.4 mm.

Frontal prolongation of head testaceous yellow, relatively short, scarcely exceeding one-half the remainder of head; nasus lacking, the region provided with several long black setæ; palpi with the basal segment dark brown, the remaining segments obscure yellow. Antennæ (male) with scape and pedicel light yellow, flagellum black segments elongate, so very gently incised as to appear subcylindrical; verticils much shorter than the segments. Head brown, the front and narrow orbits grey vertical tubercle entirely lacking.

Pronotum brown. Mesonotum almost uniformly medium brown, without distinct pattern; surface opaque; præscutal setæ lacking. Pleura more testaceous yellow. Halteres infuscated. Legs with the coxæ and trochanters yellow; remainder of legs brown, the femoral bases restrictedly paler; outer tarsal segments blackened; claws (male) simple. Wings with a strong brownish tinge,

cells *C* and *Sc* conspicuously more infuscated to produce a narrow costal border; stigma dark brown; prearcular field not darker than the ground; very narrow dark seams on cord, particularly evident on the anterior cord; obliterative areas inconspicuous; veins dark brown. Wing-base long-petiolate; macrotrichia of radial veins beyond cord abundant, including a series on proximal half of R_{1+2} ; other trichia on M_1 , M_2 , distal end of M_{1+2} and *Rs*. Venation: *Rs* gently arcuated, a little longer than *m-cu*; R_{1+2} entire; cell 1st M_2 elongate, *m* subequal to basal section of M_{1+2} ; cell 2nd *A* narrow.

Proximal abdominal tergites dark brown, the basal rings paler; tergite five more uniformly paler; tergites six to eight and sternites seven and eight chiefly blackened to form a distinct subterminal ring; hypopygium yellow. Male hypopygium with the ninth tergite transverse, its caudal margin produced into three slender lobes, the median one a trifle shorter and stouter, tipped with about eight black spinous setæ lateral lobes gently incurved at tips, each with about four similar setæ. Proctiger appearing as an unmodified flattened hood-shaped structure, without spinous points. Basistyle with a modified lobe on mesal face at base, as is frequent in the subgenus; lobe subtriangular in outline, covered with isolated microscopic tubercles. Outer dististyle a long narrow pale setiferous lobe that is only a little shorter than the inner style. Inner dististyle produced into two slender lobes, the outer one a little shorter and more spine-like than the inner, the latter from a more swollen hairy base. Gonapophyses appearing as flattened plates, their mesal edges entirely united with the ædeagus. Eighth sternite not sheathing or projecting, the posterior half yellow.

Hab. Ecuador (Santiago-Zamora).

Holotype, ♂, Zumbi, Rio Zamora, altitude 700 metres, October 30, 1941 (*Laddey*). *Paratopotype*, 1 ♂; *paratype* 1 ♂, Mayaico, Rio Nangarico, altitude 1,000 metres, December 2, 1941 (*Laddey*).

It should be noted that both Zumbi and Mayaico are Ecuadorean military outposts in Jivaro Indian country. *Tipula* (*Microtipula*) *heterodactyla* is entirely distinct from other regional species. The structure of the ninth tergite is somewhat as in *T. (M.) tenuilobata* Alexander, whereas

the dististyles are more as in *T. (M.) didactyla* Alexander, though differing conspicuously in all details.

Tipula (Microtipula) falcifer, sp. n.

General coloration of head and thorax dark brownish grey; antennæ (male) unusually long, approximately three-fourths the length of the wing; flagellum black, the segments without basal enlargements; wings with a strong brownish tinge, particularly in the cells beyond the cord; cells *C* and *Sc*, with the stigma, still darker brown; R_{1+2} preserved; abdomen with a subterminal black ring; male hypopygium with the ninth tergite transversely oval, the caudal margin with two slender lobes; inner dististyle bearing a long curved spine at base; eighth sternite moderately projecting, the broad, slightly produced median portion with a marginal fringe of strong blackened setæ.

Male.—Length about 12 mm. wing 12.5 mm. antenna about 9 mm.

Frontal prolongation of head short, only about one-half as long as the remainder, yellow; nasus short and stout, with long black setæ; palpi with basal two segments black, the outer two pale yellow, the terminal one a little darkened at apex. Antennæ (male) elongate, approximately three-fourths the length of wing; scape and pedicel obscure yellow, flagellum black; flagellar segments elongate-cylindrical, the bases not enlarged; segments with a short dense erect pale pubescence; verticils longer than the pubescence, the longest on dorsal aspect, nearly one-third of segment, unilaterally distributed; verticils of lower face short and spinoid. Head dark brownish grey; the front more yellowish; posterior orbits narrowly grey.

Pronotum brownish yellow. Mesonotum chiefly and almost uniformly dark brownish grey, this including the scutellum; præscutal stripes not differentiated; præscutum glabrous; parascutella a trifle paler; pleurotergite brownish yellow. Pleura, including the dorsopleural membrane, clearer yellow. Halteres brownish black. Legs with the coxæ and trochanters yellow; femora and tibiæ obscure brownish yellow, their tips narrowly more blackened; tarsi passing into black; claws (male) with small tooth. Wings with a strong brownish tinge, particularly in the cells beyond cord, the base of cell R_3 slightly

brightened ; cells *C* and *Sc* dark brown, forming a narrow costal border, brightened on both sides of *h* ; stigma dark brown ; prestigmal area more whitened ; a narrow brown cloud over the anterior cord ; veins black. Veins beyond cord with numerous macrotrichia, involving veins R_{1+2} to M_2 inclusive, as well as *Rs* ; a few stigmal trichia. Venation R_{1+2} entire ; *Rs* long, more than one-half longer than R_{2+3} or one-third longer than *m-cu* petiole of cell M_1 and *m* subequal ; cell 2nd *A* narrow.

Abdomen with tergites chiefly blackened, more intensely so on outer portions, the basal rings of the more proximal segments yellow ; basal six sternites yellow a broad black subterminal ring involving tergites seven and eight, together with sternite eight with the exception of its distal third ; hypopygium obscure yellow. Male hypopygium with the tergite transversely oval in outline, its caudal margin nearly truncate, with a slender lobe on either side of a broad median space, the latter involving less than one-third the transverse length of the sclerite ; lobes tipped with long setæ, with further scattered bristles down the mesal face. Basistyle elongate, with a blackened lobe on mesal face near base, this strongly emarginate on its inner aspect. Outer dististyle a small simple lobe with relatively few setæ. Inner dististyle relatively simple, constricted before the outer head, the latter with a subequal beak and lower beak separated from one another by a deep, narrow incision outer crest of head with several long setæ ; at base of style with a long curved slender spine, its tip acute, its total length approximately equal to that part of style beyond its insertion. Notch of ninth sternite with a pair of slender hairy lobes from dilated bases. Gonapophyses with margins slightly angulated or crenulated, not evenly rounded as is common in the subgenus. Eighth sternite moderately sheathing, the broad central portion slightly more projecting, its apex truncated and provided with approximately forty strong black spinous setæ.

Hab. Ecaudor.

Holotype, ♂, Rio Zamora, Zumbi, altitude 700 metres, November 4, 1941 (*Laddey*).

From the other regional species of the subgenus having cell 2nd *A* of the wings very narrow, including *Tipula* (*Microtipula*) *ctenopyga* Alexander, *T.* (*M.*) *effeta* Alexander,

and others, the present fly differs conspicuously in the unusually long, nearly simple antennæ, and especially in the structure of the male hypopygium, particularly the ninth tergite, inner dististyle, lobes of the ninth sternite, gonapophyses and eighth sternite.

Limonia (Peripheroptera morgana), sp. n.

General coloration reddish, the mesonotum conspicuously variegated with black, including a transverse oval area at near mid-length of præscutum; femora yellow, the tips rather narrowly blackened; wings bright yellow, conspicuously variegated with light brown and whitish subhyaline; prearcular field relatively short in both sexes, less than the length of vein *M*; free tip of *Sc*₂ lying far basad of *R*₂; cell 1st *M*₂ longer than any of the veins beyond it, *M*₄ very short; abdomen reddish brown, segments four to six, inclusive, with their bases extensively blackened.

Male.—Length about 5–6.5 mm.; wing 6.8–8.5 mm.

Female.—Length about 5 mm.; wing 6 mm.

Rostrum reddish brown; palpi passing into dark brown. Antennæ brownish black; flagellar segments subcylindrical; verticils very long, on outer segments being approximately twice the length of the segments themselves. Head reddish; anterior vertex moderately wide, approximately three times the diameter of scape.

Pronotum reddish, sparsely pruinose, especially laterally. Mesonotum dark reddish, conspicuously patterned with black, this occurring as a transverse-oval area at near mid-length of præscutum, broadly interrupted at the mid-line; no cephalic median blackening on præscutum; posterior sclerites of notum reddish, variegated with black, including conspicuous areas on the cephalic portion of scutal lobes; posterior margin of scutellum broadly blackened; postnotum reddish, the cephalic and median portion more darkened. Pleura uniformly reddish. Halteres with stem yellow, knob black. Legs with coxæ and trochanters reddish; femora light yellow, the tips rather narrowly but conspicuously black, the amount subequal on all legs; tibiæ brownish yellow, the tips weakly infuscated; tarsi short, black. Wings conspicuously variegated with bright yellow, light brown and whitish subhyaline; ground-colour yellow, occupying

much or all of the prearcular field, cell *Sc*, and cell R_3 , together with the basal portion of cell R_1 ; subhyaline areas occupying much of centres of cells *R*, *M* and 1st M_2 , with a small area in the base of 2nd M_2 , and more rarely also in M_3 ; the brown areas include the stigma; outer end of cell *C*; a seam along vein *M*, darkest near the arculus; most of cell R_5 , and seams along veins M_3 , M_4 and the anal veins; veins brown, yellow in the flavous portions. Wing-tip very obtuse; prearcular field relatively short, less than vein *M*. Venation free tip of Sc_2 far removed basad from level of vein R_2 , these two elements occupying the two ends of the long stigma; Sc_1 ending about opposite origin of *Rs*, both with a yellowish bullate spot; cell 1st M_2 longer than any of the veins beyond it, M_4 very short, less than the sinuous *m-cu*; cell 2nd *A* narrow, constricted on its proximal half.

Abdomen chiefly reddish brown, extensively variegated with brownish black to black on bases of segments four to six, inclusive; subterminal segments reddish brown, the styli more infuscated. Female with abdomen more uniformly reddish, the blackened bases of intermediate segments even more restricted; genital shield blackened; ovipositor with cerci unusually small and slender, strongly upcurved.

Hab. Ecuador.

Holotype, ♂, Rio Zamora, Zumbi, altitude 700 metres, November 5, 1941 (*Laddey*). *Allotopotype*, ♀, with the type. *Paratopotypes*, 10 ♂♂ 1 ♀, October 28–November 5, 1941 (*Laddey*).

Limonia (*Peripheroptera*) *morgana* is an exceptionally beautiful species that is very different from all others of the subgenus hitherto described. The unusually variegated wings somewhat suggest those of *L. (P.) nitens* (Schiner) but the coloration and venation are entirely different. The unusually long cell 1st M_2 , with correspondingly shortened vein M_4 , in conjunction with the very receded free tip of Sc_2 , is quite different from all other species with the exception of the otherwise entirely different *L. (P.) atrosignata* Alexander, of northern Panama.

Limonia (*Limonia*) *singularis*, sp. n.

General coloration of thorax reddish brown, the præscutum darker brown medially; antennæ black throughout,

the flagellar segments with short apical necks; legs brownish black; wings with a strong brownish tinge; stigma small, subcircular; *Sc* very long; abdominal tergites brownish black, the sternites bicoloured, dark brown with broad yellow incisures; male hypopygium with caudal margin of tergite straight, without lobes; basistyle apparently without a ventromesal lobe; a single complex dististyle, the main body bilobed and provided with long strong setæ, further produced into a more slender finger-like lobe; rostral prolongation strong, narrowed to the obtuse tip, the outer face on basal portion with raised papillose areas to produce a more or less distinct reticulated appearance.

Male.—Length about 5 mm.; wing 5.2 mm.

Rostrum and palpi black. Antennæ black throughout; flagellar segments oval, the outer ones becoming slightly more elongate-oval, with short glabrous necks; verticils relatively short, subequal in length to the segments. Head grey, slightly darker medially behind anterior vertex reduced to a linear strip.

Pronotum dark brown, the pretergites obscure yellow. Mesonotal præscutum reddish, darker brown medially scutal lobes infuscated, paling to reddish brown on sides, median region obscure brownish yellow scutellum and mediotergite darker brown. Pleura and pleurotergite uniform reddish brown. Halteres brownish black, the base of stem narrowly yellow. Legs with coxæ and trochanters reddish yellow; remainder of legs brownish black to black. Wings with a strong brownish tinge, the prearcular and costal fields slightly more whitened; stigma subcircular, very small, darker brown; a more or less distinct darkening behind vein Cu_1 , more evident basally. Veins brown. Macrotrichia of veins conspicuous. Venation *Sc* long, Sc_1 ending immediately before fork of *Rs*, Sc_2 a short distance from its tip. *Rs* nearly three times the basal section of R_{4+5} , the latter about equal in length to cell 1st M_2 . *m-cu* a short distance beyond the fork of *M*. Cell 1st M_2 shorter than any of the veins beyond it. vein 2nd *A* beyond its origin long and nearly straight.

Abdominal tergites brownish black; sternites more bicoloured, dark brown, the incisures rather broadly yellow; hypopygium yellowish brown. Male hypopygium with the tergite transverse, its caudal margin straight, without

lobes, the cephalic border more gently convex ; a row of about eighteen strong setigerous punctures across the caudal third of sclerite. Basistyle without clearly developed ventromesal lobe. A single complex disistyle, this consisting of a long rostral portion and a strongly bilobed body, the latter further produced into a more slender finger-like lobe, all three of these lobes with abundant dense setæ, with additional long strong bristles on the two major lobes ; rostral portion widest at base, thence gradually narrowed to the obtuse or slightly recurved tip ; outer face of base densely set, with raised papillose areas to produce a more or less distinct reticulated appearance ; no evident rostral spines. Gonapophyses appearing as broad flattened blades, each at apex produced mesad into a subacute spinous point.

Hab. Ecuador.

Holotype, ♂, Rio Zamora, Zumbi, altitude 700 metres, October 30, 1941 (*Laddey*).

Limonia (*Limonia*) *singularis* has no close ally in the Neotropical fauna. The structure of the male hypopygium is unique in regard to almost every part.

Artarba (*Artarba*) *laddeyana*, sp. n.

General coloration of thorax pale brown or brownish testaceous, the ventral pleurites more yellowish white antennæ (male) very long, considerably exceeding the wing in length, white, the incisures of the more proximal flagellar segments very restrictedly blackened flagellar segments with very long, white, erect pubescence, in addition to the abundant verticils ; wings with a weak brownish-yellow tinge, stigma lacking *Sc* very long, *Sc*₁ ending about opposite three-fourths the length of the long *Rs* ; cell 1st *M*₂ closed ; male hypopygium with the ædeagus conspicuously bifurcate, the arms shorter than the base.

Male.—Length about 5 mm. wing 5.2–5.3 mm. antenna about 6.2–6.3 mm.

Female.—Length about 5 mm. wing 5 mm.

Rostrum and palpi light brown. Antennæ (male) of unusual length, exceeding either the body or wing in length ; segments white, the basal seven or eight flagellar segments with the incisures very restrictedly blackened. this colour involving both the apex and the base of each

segment ; succeeding segments passing into pale brown flagellar segments elongate-cylindrical, with abundant conspicuous verticils that are unilaterally distributed, and even longer erect pale setæ that are very delicate, the longest ones subequal to or exceeding the segments in length, except on the more proximal flagellar segments where they are a little shorter than the segments. In the female, the antennæ are broken beyond the pedicel but are undoubtedly shorter. Head pale greyish testaceous ; anterior vertex of male narrow, about one and one-half times the diameter of scape ; in female, the anterior vertex much wider, exceeding two and one-half times the diameter of scape.

Pronotum and mesonotum very pale brown or brownish testaceous, with a sparse greyish bloom, unpatterned. Dorsal pleurites pale brown, the ventral ones paling to yellowish white. Halteres pale, the knobs weakly darkened. Legs with the coxæ and trochanters whitened ; remainder of legs broken. Wings with a very weak brownish-yellow tinge, the prearcular and costal fields clearer yellow not differentiated ; veins brownish yellow, those in the brightened fields somewhat clearer yellow. Macrotrichia of veins abundant and in unbroken series. Venation *Sc* long, *Sc*₁ ending about opposite three-fourths the length of the long *Rs*, *Sc*₂ a short distance from its tip cell 1st *M*₂ closed ; *m-cu* more than one-half its length beyond the fork of *M*.

Abdomen obscure yellowish brown, the lateral borders narrowly dark brown ; basal sternites clearer yellow ; in male, the subterminal segments, particularly seven and eight, blackened to form a conspicuous ring hypopygium yellow abdomen with conspicuous erect pale setæ. Male hypopygium with the outer dististyle, with the exception of the spines, only slightly blackened, relatively broad, the outer margin of the apical half with five or six spines additional to the apical point, the more basal spines smaller, the outermost subequal in length to the apical point. Inner disistyle a gently curved yellow blade that is generally parrallel-sided, its tip obtuse, the outer margin with a series of conspicuous setæ. Ædeagus conspicuously bifurcate, the arms shorter than the expanded suboval base.

Hab. Ecuador.

Holotype, ♂, Rio Zamora, Zumbi, altitude 700 metres, October 30, 1941 (*Laddey*). *Allotopotype*, ♀, pinned with type. *Paratopotype*, ♂, November 2, 1941 (*Laddey*).

Atarba (Atarba) laddeyana is named in honor of the collector, Mr. David Laddey, who has added most materially to our knowledge of the Tipulidæ of Ecuador. The species is one of the most distinct so far discovered, differing from all known relatives in the nature of the antennæ, the elongate vein *Sc*, and the structure of the male hypopygium, particularly the bifurcate ædeagus. This latter character is approached by other species, as *A. (A.) bifurcula* Alexander and *A. (A.) punctiscuta* Alexander, but these latter differ from the present fly in all other characters. The male antennæ of the present insect are the longest so far discovered in the subgenus within the Neotropical fauna.

Atarba (Atarba) microphallus, sp. n.

General coloration reddish yellow; antennæ relatively long; flagellum black, the proximal segments weakly bicolored, the incisures being narrowly yellow; knobs of halteres brownish black; femora yellow, the tips very narrowly blackened; wings brownish yellow, stigma pale brown; *Rs* unusually short, only a little longer than the basal section of *R*₅; abdomen in male with a black subterminal ring male hypopygium with the plate of the ninth sternite quadrate, the outer lateral angles produced into unusually strong spines; outer dististyle slender, the apical point long, the outer margin with six or seven spines, the more distal ones larger gonapophyses terminating in a compact group of spinous points; ædeagus unusually small and slender, near its apex with several short spinous points.

Male.—Length about 4.5 mm. wing 5 mm. antenna about 3.6 mm.

Female.—Length about 6 mm. wing 6 mm.; antenna about 3 mm.

Rostrum yellow; palpi darker. Antennæ relatively long in both sexes but especially in the male; scape and pedicel obscure yellow; flagellar segments black, the proximal seven or eight with the incisures restrictedly yellow, involving both the extreme tips and bases of the segments; flagellar segments cylindrical; longest verticils

of the proximal and intermediate segments shorter than the segments. Head brownish yellow, very sparsely pruinose, clearer yellow behind.

Pronotum and mesonotum reddish yellow, unpatterned; pleura slightly more pruinose. Halteres with stem yellow, knob brownish black. Legs with the coxæ and trochanters yellow; femora yellow, the tips very narrowly yet evidently blackened, the amount subequal on all legs; remainder of legs yellow, the outer tarsal segments infuscated. Wings brownish yellow, the prearcular and costal fields clearer yellow stigma oval, pale brown, relatively conspicuous; veins yellow, a trifle darker over the anterior cord, clearer yellow in the brightened portions. Venation *Sc* short, *Sc*₁ ending about opposite origin of *Rs*, *Sc*₂ a short distance from its tip; *Rs* unusually short, only a little longer than the basal section of *R*₅; cell 1st *M*₂ irregularly rectangular to pentagonal in outline; *m* about one-third the length of the basal section of *M*₃; *m-cu* more than one-third its length beyond the fork of *M*.

Abdominal tergites chiefly dark brown; basal sternites yellow a black subterminal ring (male); hypopygium yellow. In female, tergites dark brown, with paler caudal margins, the ground-colour of the sternites paler. Male hypopygium with the plate of ninth sternite about quadrate in outline, the caudal-lateral angles produced almost directly laterad as acute glabrous dusky horns; caudal border of plate very gently emarginate. Basistyle with a group of six or seven unusually powerful setæ on mesal face near base. Outer dististyle slender, blackened, terminating in an unusually long spine, with six or seven further spines along the outer margin, the distal two or three very long and slender, the remainder reduced in size, the most basal ones barely evident. Inner dististyle longer than the outer, dusky in colour, appearing like a slender boomerang. Gonapophyses terminating in a group of 14 or 15 short strong spinous points to produce a mace-like appearance, the spines continued down the outer face of the apophysis, there becoming more reduced and appressed. Ædeagus arising from a broad base, beyond which point it is unusually small and slender, the total length approximately that of the basistyle; apex narrowed, back from the tip with several short, strong, spinous points.

Hab. Ecuador (Los Rios).

Holotype, ♂, Playas de Juan Montalvo, altitude 15 metres, March 5, 1938 (*Macintyre*). *Allotopotype*, ♀, April 15, 1938.

Atarba (Atarba) microphallus is quite distinct from all other regional species, differing especially in the structure of the male hypopygium, particularly the plate of the ninth sternite, outer dististyle, gonapophyses and ædeagus. The unusually small ædeagus, with spinous points before the narrow apex, is distinctive of the species.

Shannonomyia vocator, sp. n.

General coloration light grey, the head, pronotum and præscutum with a median brown line; lateral præscutal stripes distinct; antennæ short, black throughout; halteres pale yellow; legs uniformly black; wings whitish, with an abundant dotted and spotted brown pattern, including a costal series of eight or nine spots; cell 1st M_2 elongate; abdomen black, sparsely pruinose.

Male.—Length about 7–8 mm. wing 7·8–9 mm.

Female.—Length about 9 mm.; wing 9 mm.

Rostrum light grey palpi black. Antennæ short, black, scape more or less pruinose. Head light grey, with a narrow blackish median stripe; anterior vertex wide, nearly four times the diameter of scape; head rather strongly narrowed behind.

Pronotum light grey, with a delicate brown median vitta. Mesonotal præscutum grey with three brown stripes on posterior portion of sclerite, the median line fainter in front, in cases reduced to a capillary, dark brown, median line with a faint clouding on either side to represent the usual stripe; posterior sclerites of notum grey, the scutal lobes weakly darkened. Pleura light grey. Halteres pale yellow throughout. Legs with the coxæ light grey; trochanters brownish yellow; remainder of legs black. Wings whitish, with a relatively abundant and conspicuous brown pattern, as follows:—stigma and a confluent band across anterior cord; prearcular field in cells *C* and *Sc*; a series of eight or nine brown spots in the costal and subcostal fields; a more or less continuous brown seam along vein *Cu*, chiefly in cell *M*, becoming more broken and discontinuous near *m-cu*; veins beyond cord with broad brown seams, especially the more distal

sections, these particularly long and conspicuous on veins R_4 and 2nd A posterior border of cell 2nd A with broken brown clouds; veins light yellow, darker in the clouded portions. Venation R_{2+3+4} short, subequal to or shorter than R_2 or the basal section of R_5 ; cell 1st M_2 long and narrow, irregular in shape; upper face of cell (second section of vein M_{1+2}) more than twice the length of distal section of this vein m shorter than basal section of vein M_3 , the latter more or less angulated and spurred at near mid-length, the spur jutting into cell 1st M_2 ; $m-cu$ about one and one-half times its own length beyond fork of M .

Abdomen black, sparsely pruinose, the hypopygium scarcely brightened. Male hypopygium with the spinous apical points of the outer dististyle unequal, the outer or subapical one being longer and more slender. What appear to be gonapophyses are massive structures provided with abundant and conspicuous spines and spinous points. Base of ædeagus sinuous.

Hab. Ecuador.

Holotype, ♂, Hacienda Talahua, Bolivar, altitude 3,100 metres, May 7, 1939 (*Brown*). *Allotype*, ♀, La Calere, near San Juan, Chimborazo, altitude 3,400 metres, April 22, 1939 (*Brown*). *Paratopotype*, 1 ♂, with the type, April 28, 1939; *paratypes*, 2 ♂♂, with the allotype.

The most similar described species are *Shannonomyia austrolathræa* Alexander and *S. lathræa* (Alexander), which have the wings only restrictedly patterned and with the hypopygial details distinct, especially the very different bispinous gonapophyses.

Oxydiscus (Oxydiscus) æquatorialis, sp. n.

General coloration dark chestnut-brown, the surface subnitidous; pleura darker brown; legs brown, the tarsi paling to yellowish brown; stigmal trichia relatively numerous; vein R_{2+3+4} relatively long, subequal to cell 1st M_2 ; petiole of cell M_1 approximately twice the cell; cell 1st M_2 only slightly widened distally, the outer end approximately twice as wide as the base.

Female.—Length about 5 mm.; wing 4.7 mm.

Rostrum and palpi black. Antennæ black throughout, 16-segmented; basal flagellar segments enlarged, the outer ones becoming elongate; basal segments with verticils.

chiefly unilaterally distributed, on outer segments occurring on both faces and greatly exceeding them in length. Head dark brown throughout; anterior vertex broad.

Pronotum brownish black. Mesonotal præscutum almost uniform dark chestnut-brown, the surface subnitidous; præscutum with long scattered erect setæ. Pleura dark brown. Halteres infuscated, the base of stem restrictedly yellow. Legs with the coxæ dark brown, the posterior pair somewhat more testaceous; trochanters obscure yellow femora and tibiæ brown, the tarsi paling to yellowish brown. Wings with a weak brownish tinge, the stigmal region very slightly darker, ill-delimited; prearcular and costal fields very slightly more yellowish; veins brown, those in the more brightened costal portions a little paler. Sparse macrotrichia in outer ends of cells R_3 to 2nd M_2 , inclusive, most conspicuous as a series on outer two-fifths of cell R_4 ; stigmal trichia relatively numerous. Venation Sc_1 ending just before level of fork of R_s , Sc_2 some distance from its tip, Sc_1 alone being about two-thirds as long as R_{2+3+4} ; vein R_2 very faint to nearly atrophied, close to fork of R_{2+3+4} or approximately its own length beyond this fork, the position variable; $r-m$ strongly arcuated; $m-cu$ about its own length beyond the fork of M ; petiole of cell M_1 approximately twice vein M_2 alone.

Abdomen dark brown, the elongate valves of ovipositor more horn-yellow.

Hab. Ecuador.

Holotype, ♀, Zamora, Santiago-Zamora, altitude 1,000 metres, October 19, 1941 (*Laddey*).

The present is the first record of occurrence of the genus *Oxydiscus* de Meijere in South America. The most similar regional species is *Oxydiscus* (*Oxydiscus*) *costaricensis* (Alexander) of Costa Rica, which differs in the venation and degree of trichiation on the wing-disk, especially in the stigmal field. In this latter fly, R_{2+3+4} is distinctly shorter than cell 1st M_2 , which is very strongly widened outwardly so that it is approximately three times as wide across its outer end as it is across the base.

Teucholabis (*Paratropesa*) *neocollaris*, sp. n.

Allied to *collaris*; general coloration of mesonotum and abdomen blue-black; all three femora differing in coloration.

tion from one another; wings whitish subhyaline, with three brown cross-bands, the first reaching the costal margin at *h*; male abdomen having the sternal pocket with numerous strong spines; hypopygium with the spine on mesal face of basistyle slender and acute.

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

Rostrum obscure yellow; palpi dark brown. Antennæ with scape obscure yellow, more darkened above; pedicel obscure yellow; flagellum black; basal flagellar segments oval, the outer ones more elongate; verticils abundant and relatively conspicuous; terminal segment subequal in length to the penultimate. Head with front obscure yellow, the vertex extensively blue-black; posterior genæ restrictedly yellow.

Pronotum yellowish white, the scutellum and pretergites blackened. Mesonotum uniformly blue-black, highly polished. Pleura similarly blue-black; cephalic portion of pteropleurite with a transverse band of appressed silvery pubescence; dorsopleural membrane dusky; meral region pale yellow. Halteres with stem black, knob abruptly pale yellow. Legs with the fore and middle coxæ and trochanters yellow, posterior coxæ and trochanters abruptly black; fore femora black, with only the extreme base obscure yellow; remainder of fore legs uniformly black; middle femora obscure yellow, tibiæ dark brown, passing into black; tarsi black; posterior femora yellow, with two conspicuous black rings, one nearly basal in position, the other nearly apical, these rings subequal in extent and each about one-half as wide as the yellow intervening space; tibiæ dark brown, the tips and the tarsi black; posterior basitarsi swollen on proximal half and here provided with a dense linear series of short black setæ. Wings whitish subhyaline, with three brown cross-bands; basal band beginning at costa at and beyond *h*, occupying the bases of cells *R*, *M* and *Cu* and crossing cell 1st *A*; second band completely crossing the wing at the cord, darker in the stigmal field; outer band occupying the broad wing-tip, its inner edge at the fork of R_{3+4} and just beyond the level of outer end of cell 1st M_2 ; veins dark brown, a little paler in the ground areas. Venation: *Sc* relatively short, Sc_1 ending shortly beyond origin of *Rs*, Sc_2 before this origin; *Rs*

strongly arcuated to almost square at origin; R_2 at end of R_s , in direct transverse alignment with remainder of cord; vein R_3 oblique; R_5 fused with M_{1+2} along the cephalic face of cell 1st M_2 ; $m-cu$ about one-third its length beyond the fork of M .

Abdominal tergites blue-black, the sternites beyond the base with obscure yellow posterior borders. Sternal pocket of fifth segment longer and with more abundant setæ than in *subcollaris*. Male hypopygium differing from that of *subcollaris* in several regards, especially of the basistyle and dististyles; lobe of mesal face of basistyle a slender blackened spine; inner dististyle with its outer arm a long cylindrical lobe that is more than one-half longer than the inner or rostral blade, the lobe with more numerous setæ that are well-scattered over the outer half of lobe; outer dististyle a long slender spinous point that is much longer than the apical blade of the inner dististyle.

Hab. Ecuador.

Holotype, ♂, Rio Zamora, Zumbi, altitude 700 metres, October 30, 1941 (*Laddey*).

The present fly is most closely allied to *Teucholabis* (*Paratropesa*) *subcollaris* Alexander, which differs chiefly in the hypopygial characters outlined above. It is evident that many specific characters will be found in the arrangement of spines and setæ on the sternal pockets in the males of the genus *Teucholabis*. To this date, this wealth of characters has scarcely been touched except to help delimit certain groups of species within the genus.

Teucholabis (*Teucholabis*) *diana*, sp. n.

General coloration of mesonotum reddish yellow, variegated with black on the cephalic half of the præscutum and on the pleurotergite; head black; thoracic pleura bicolored, the dorsal sclerites obscure yellow, the ventral ones blackened; halteres and legs black, all tarsi with the proximal segments obscure yellow; wings broad, with a strong blackish tinge, the prearcular and costal fields, together with the wing-tip and a seam along cord, more suffused; sternal pockets of male diffuse, without lateral rows of delimiting setæ; male hypopy-

gium with the mesal face of basistyle at extreme cephalic border produced mesad into strong lobe; apical spine of basistyle a strongly sinuous rod that terminates in a blackened spine; outer dististyle a broadly flattened blade, its outer margin with unusually long setæ.

Male.—Length about 8–8.5 mm.; wing 7.2–7.5 mm.

Rostrum and palpi black. Antennæ black throughout; basal flagellar segments oval, the outer ones more narrowed and elongate; verticils very long and conspicuous. Head black, strongly narrowed behind; anterior vertex relatively narrow, about one-third wider than the diameter of scape.

Pronotum black. Mesonotum reddish yellow, variegated with black, including a conspicuous median præscutal stripe that becomes reddish and finally obsolete beyond mid-length of the sclerite, lateral præscutal stripes indicated as dark brown transverse areas behind the humeral triangles, not quite reaching the median stripe; posterior half of præscutum uniformly of the ground-colour, posterior sclerites of notum reddish yellow, the pleurotergite chiefly occupied by a large oval brownish-black area. Dorsal pleurites, including the dorsopleural region, obscure yellow, the ventral sclerites, including the propleura, sternopleura, meron and metapleura, blackened. Halteres uniformly black, the stem short, knob very large. Legs with all coxæ and trochanters black; femora and tibiæ uniformly black; proximal two or three tarsal segments obscure yellow with narrowly blackened tips, the outer segments uniformly black; claws long and simple; legs conspicuously hairy; posterior basitarsi a little dilated and modified at extreme base. Wings broad, with a strong blackish tinge, still darker in the prearcular and costal fields, as a band along the cord, and at the wing-tip; stigma still darker brown; veins brown. Venation: Sc_1 ending about opposite three-fifths the length of R_s , Sc_2 a short distance from its tip; R_2 transverse, subequal to R_{1+2} and a little shorter than R_{2+3+4} ; branches of R_s generally parallel to one another for most of their length; cell 1st M_2 elongate, a little shorter than vein M_{1+2} beyond it; *m-cu* approximately its own length beyond the fork of M .

Abdomen, including hypopygium, black. Sternal pockets of male unusually diffuse, without lateral rows of stronger setæ as usual; on sternites five and six with broad pale central areas of abundant short spinous setæ, with scattered elongate bristles on sides, not in rows; area of pocket on segment six about one-third as extensive as that of segment five. Male hypopygium with the mesal face of basistyle at cephalic border produced mesad into a strong darkened lobe; apical rod of basistyle a long, sinous, yellow structure that terminates abruptly in a strong black spine, the surface of rod with abundant appressed setulæ. Outer dististyle a broadly flattened blade, its apex obtuse, weakly bidentate, the outer margin and surface with setæ; some of the former of unusual length being approximately as long as the style itself. Inner dististyle bilobed, the inner lobe with the apex terminating in two short blackened teeth; outer lobe short, stout, slightly arcuate, before the tip with a single short spinous seta. Ædeagus narrowed outwardly, terminating in a relatively short, stout, decurved, blackened point.

Hab. Ecuador.

Holotype, ♂, Rio Zamora, Zumbi, altitude 700 metres, October 31, 1941 (*Laddey*). *Paratopotype*, 1 ♂, November 1, 1941 (*Laddey*).

Teucholabis (*Teucholabis*) *diana* bears a general resemblance to *T. (T.) flavithorax* (Wiedemann) and allies, but has the male hypopygium entirely different. The peculiar flattened outer dististyle is much as in the otherwise very different *T. (T.) mendax* Alexander.

Teucholabis (*Teucholabis*) *jivaro*, sp. n.

General coloration polished black, the humeral and posterior portions of the præscutum more reddish; head polished black, the anterior vertex narrow; thoracic pleura black, with conspicuous areas of silvery-grey pruinosity; knobs of halteres obscure yellow; legs black; wings whitish subhyaline, unpatterned except for the small dark brown stigma; cell 1st M_2 closed; abdomen black, the incisures of the more basal segments yellow; male hypopygium having the basistyle without a modified

apical spine; outer dististyle a simple rod, narrowed apically, terminating in a blackened claw, before tip with a few unusually strong setæ.

Male.—Length about 9 mm.; wing 7.3 mm.; antenna about 1.8 mm.

Rostrum black, shorter than remainder of head; palpi black. Antennæ black, the scape sparsely pruinose; flagellar segments elongate-oval to elongate, with conspicuous verticils, the longest ones unilaterally distributed. Head polished black; anterior vertex relatively narrow, about equal in width to the diameter of scape.

Pronotum black, the scutellum and restricted lateral pretergites yellow. Mesonotal præscutum polished black, more reddish brown on the humeral portions and again on the median area at the suture; posterior sclerites of notum black, the surface sparsely pruinose, especially the postnotum. Pleura black, with conspicuous areas of silvery-grey pruinosity, especially evident on the dorsal sternopleurite, pteropleurite and metapleura; dorso-pleural region restrictedly yellow. Halteres with stem brownish black, the knob paling to obscure yellow. Legs with fore and middle coxæ brownish black, paler apically, posterior coxæ more extensively chestnut-brown; trochanters obscure yellow; remainder of legs uniformly black; legs chiefly detached, what seems to represent the posterior leg with the proximal third of basitarsus conspicuously dilated, more than twice as thick as the remainder; apex of basitarsus with two unusually strong, spinous setæ. Wings whitish subhyaline, unpatterned except for the subtriangular dark brown stigma and a dusky suffusion at base of cell *Sc*; veins brown, those at extreme base yellow. Venation: Sc_1 ending almost opposite mid-length of *Rs*, Sc_2 about equidistant between origin of *Rs* and tip of Sc_1 ; R_{2+3+4} a little shorter than the slightly oblique R_2 ; branches of *Rs* generally parallel to one another for most of their lengths; cell 1st M_2 relatively narrow, slightly widened outwardly, a little longer than vein M_4 beyond it; *m-cu* about one-half its length beyond the fork of *M*.

Abdomen black, the basal sternites and the incisures of the more proximal tergites yellow; subterminal segments a little brightened; hypopygium black. Sternal

pockets of male conspicuous, on fifth sternite consisting of a dense central area of long slender setæ directed caudad, on either side with five or six stronger black setæ ; on sixth sternite with an oval darkened area, the surface with delicate longitudinal striæ, on either side of this with a row of about six strong black setæ that are directed mesad, the more posterior ones stouter. Male hypopygium with the basistyle unprovided with a modified spine, as is common in the subgenus ; on mesal face near base with a blackened scabrous flange, densely set with numerous blackened tubercles and long conspicuous setæ. Outer dististyle a moderately long, simple rod, its basal two-thirds stouter, provided with conspicuous setæ and roughened points, the distal third narrowed and bent strongly mesad, terminating in a strong blackened claw-like point ; just before apex with five or six very strong and powerful setæ. Inner dististyle consisting primarily of two strongly compressed blades, the two together forming a sinuous structure, the apical beak being one of the blades, its apex simple, cultriform ; posterior blade obtuse at apex. *Ædeagus* at tip produced into a slender blackened lateral point.

Hab. Ecuador.

Holotype, ♂, Rio Zamora, Zumbi, altitude 700 metres, October 30, 1941 (*Laddey*).

Teucholabis (Teucholabis) jivaro is very different from all other regional species having the body coloration polished black, the legs uniformly blackened, and the wings unpatterned. The structure of the male hypopygium, especially the lack of a modified spine or arm on the basistyle, well-distinguishes the fly from all other generally similar species.

Gonomyia (Gonomyia) platymerina, sp. n.

General coloration of mesonotum dark brown, very sparsely pruinose ; scutellum abruptly pale yellowish white ; pleura dark brown, with a conspicuous whitish longitudinal stripe, antennæ, halteres and legs blackened ; legs provided with linear flattened scales, in addition to sparse normal setæ ; wings strongly blackened ; Sc_1 ending a short distance beyond origin of R_s ; R_{2+3+4} longer

than R_s ; cell 1st M_2 closed; male hypopygium with the inner dististyle a compressed-flattened disk, its outer margin blackened and produced into a sharp black spine some distance back from tip; phallosome with two pairs of blackened spines, the outer ones acicular.

Male.—Length about 4.5 mm.; wing 4.7 mm.

Rostrum obscure yellow; palpi black. Antennæ black throughout; flagellar segments long-oval. Head grey.

Pronotum and pretergites white, abruptly brownish black on sides. Mesonotal præscutum and scutum dark brown, very sparsely pruinose; scutellum pale yellowish white, the parascutella darker; postnotum brown, heavily grey pruinose. Pleura dark brown, with a conspicuous whitened longitudinal stripe extending from behind the fore coxæ across the ventral pleurites to the meral region, the sternites paler brown. Halteres blackened, the extreme base of stem pale. Legs with the coxæ and trochanters dark brown; remainder of legs dark brown to brownish black, the outer tarsal segments black; leg-segments with abundant elongate flattened scales, in addition to the fewer normal setæ. Wings with a strong blackish tinge, the prearcular and costal fields more whitened; stigma ill-defined, a trifle darker than the ground; central portion of disk adjoining vein M a little paler; veins brown. Venation: Sc short, Sc_1 ending a little beyond the origin of R_s , Sc_2 a short distance before this origin; R_{2+3+4} very long, gently arcuated, slightly exceeding R_s ; veins R_3 and R_4 only moderately divergent; cell 1st M_2 closed; $m-cu$ a short distance beyond fork of M ; cell 2nd A relatively wide.

Abdomen, including hypopygium, brownish black. Male hypopygium with the basistyle relatively short and stout, the dististyles terminal in position. Outer dististyle a slender fleshy lobe, a trifle dilated on mesal face of basal third. Inner dististyle a shorter compressed-flattened disk, its outer edge blackened and produced into a sharp black spine before the apex; disk and inner margin of style with numerous setæ, two of the latter longer and more fasciculate, placed some distance back from the apex of blade. Phallosome consisting of a flattened pale central blade and two pairs of rods, the outer pair of the latter

appearing as acicular spines, their outer third acutely pointed and blackened; inner rods shorter and stouter, heavily blackened, their tips acute.

Hab. Ecuador.

Holotype. ♂, Rio Zamora, Zumbi, altitude 700 metres, October 28, 1941 (*Laddey*).

Gonomyia (*Gonomyia*) *platymerina* is very different from all previously-known regional species of the subgenus, differing especially in the structure of the male hypopygium, particularly the inner dististyle and the phallosome. The linear flattened scales of the legs have not been reported hitherto in the genus, but are known to me to occur in various regional members of the subgenus while being quite lacking in others that seem to be allied.

Erioptera (*Erioptera*) *urania*, sp. n.

General coloration of thorax dark brown, the pleura somewhat paler brown with a conspicuous blackish longitudinal stripe; femora yellow, with two conspicuous brownish-black rings; wings with a strong brownish-yellow suffusion, restrictedly patterned with brown, including a broad seam along cord, with isolated spots at Sc_2 and tips of R_{1+2} and R_3 ; cell M_2 open by the atrophy of m ; abdomen brownish black, the elongate valves of the ovipositor yellow, the hypovalvæ blackened basally

Female.—Length about 4 mm.; wing 3.8 mm.

Rostrum and palpi dark brown. Antennæ dark brown; flagellar segments oval, with very long, conspicuous verticils. Head dark.

Pronotum dark brown, paler on sides. Mesonotum almost uniformly dark brown, without a well-defined pattern; præscutal setæ long and conspicuous but sparse. Pleura and pleurotergite pale brown, the former with a more blackish longitudinal stripe extending from the fore coxæ to the pleurotergite, the ventral pleurites less evidently darkened. Halteres obscure yellow. Legs with the coxæ and trochanters yellow; femora yellow, each with two conspicuous brownish-black rings, one nearly medial in position, the second much wider, subterminal, tibiæ and basitarsi brown, their tips narrowly yellowish; succeeding tarsal segments clearer yellow, the outer two

brown. Wings with a strong brownish-yellow suffusion, restrictedly patterned with brown, including a broad seam along cord, with isolated further spots at Sc_2 and at tips of veins R_{1+2} and R_3 ; very tiny brown marginal clouds at ends of veins M_3 to 2nd A , inclusive; veins obscure yellow, dark brown in the patterned areas. Venation: Sc_1 ending just before level of R_2 , Sc_2 far from its tip, about opposite one-third Rs ; R_{2+3+4} a trifle longer than R_{2+3} ; cell M_2 open by atrophy of m ; $r-m$ and $m-cu$ almost in transverse alignment; vein 2nd A gently sinuous.

Abdomen brownish black, the very long valves of the ovipositor light yellow; hypovalvæ blackened at their bases.

Hab. Ecuador.

Holotype, ♀, Zamora, Santiago-Zamora, altitude 1,000 metres, December 20, 1941 (*Laddey*).

Erioptera (Erioptera) urama is very distinct from other described regional members of the subgenus, being most similar to *E. (E.) celestis* Alexander. The biannulate femora and nature of the wing-pattern readily separate the species from all allied forms.

Erioptera (Empeda) coangustata, sp. n.

Size very small (wing, male, 2.7 mm.); general coloration brown; halteres brownish black, the base of stem restrictedly obscure yellow; legs brownish black, provided with linear scales, in addition to the usual setæ; wings with a strong brownish suffusion; Sc short; male hypopygium with the outer dististyle unequally branched, the longer or axial branch a gently flattened blade; lateral branch short, weakly bidentate at apex.

Male.—Length about 2.2 mm.; wing 2.7 mm.

Rostrum brown; palpi brownish black. Antennæ of unique type broken. Head dark brown; eyes relatively large, with coarse ommatidia.

Pronotum dark brown. Mesonotum almost uniformly medium brown; scutellum and mediotergite with a darker central line. Pleura brown, the meron somewhat brighter. Halteres brownish black, the base of stem restrictedly obscure yellow. Legs with the coxæ and trochanters testaceous yellow; remainder of legs brownish black; legs

with linear scales, additional to the more sparse setæ. Wings with a strong brownish suffusion, the stigma scarcely darker; veins and macrotrichia dark brown. Venation: Sc short, Sc_1 ending about opposite one-fifth the length of R_s , Sc_2 exactly opposite the origin; R_{2+3+4} about one-half longer than R_2 ; R_3 and R_4 extending generally parallel to one another for the entire length of the former $m-cu$ at fork of M ; vein 2nd A straight.

Abdomen, including hypopygium, brownish black. Male hypopygium with the outer dististyle a little longer than the inner, unequally branched just beyond mid-length; axial branch longest, appearing as a gently flattened blade, its apex obtuse; lateral branch short, flattened, weakly bidentate at apex. Inner dististyle a long narrow parallel-sided blade, its apex obtuse.

Hab. Ecuador.

Holotype, ♂, Rio Zamora, Zumbi, altitude 700 metres, October 31, 1941 (*Laddey*).

The most similar described regional species is *Erioptera* (*Emperla*) *boliviana* Alexander, of Bolivia, which differs especially in the much larger size, paler wings with longer fork of cell R_3 , and, especially the structure of the male hypopygium, notably of the inner dististyle.