

NEW SPECIES OF CRANE-FLIES FROM SOUTH AMERICA PART IX.¹ (TIPULIDAE, DIPTERA)

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The majority of the species described in this report are preserved in the Natural History Museum, Vienna, from whence they were received for study through the appreciated interest of Dr. Hans Zerny. The remaining species are based on collections made in Chile by Bullock; in Bolivia by Steinbach; in Peru by Paprzycki and Woytkowski; and in Ecuador by F. Martin Brown. Except where stated to the contrary, the types of these latter are preserved in my personal collection through the generosity of the various collectors of the material.

Ozodicera Westwood

Ozodicera (*Dihexaclonus*) *gracilirama* sp. n.

Size small (wing less than 15 mm.); antennae (male) with the branches of unusual length; general coloration of mesonotum brownish gray, with four poorly-delimited reddish brown stripes; posterior sclerites of notum and the pleura pruinose; fore and middle femora blackened, the bases obscure yellow; wings tinged with brown, the costal border darker; abdominal tergites reddish brown with a blackened lateral stripe, the subterminal segments blackened; male hypopygium with the dististyles arising from a common bulbous base, the outer heavily blackened, with a slender rostrum; phallosome blackened, the outer apical angles produced into incurved black spines.

Male.—Length, about 15–16 mm.; wing, 13–14 mm.

Female.—Length, about 17 mm.; wing, 13 mm.

Frontal prolongation of head elongate, exceeding the remainder of head, brown, darker above; nasus short and blunt; palpi black. Antennae with scape and pedicel yellow, flagellum and its branches black; flagellar branches of male unusually long, exceeding twice the length of the segment, each branch about one-half longer than the scape. Head brownish gray.

Mesonotal praescutum with the ground color brownish gray, with four poorly delimited reddish brown stripes, the intermediate pair widely separated, especially behind, reaching the suture; posterior sclerites of notum brownish gray, the mediotergite more heavily pruinose. Pleura brown, the surface pruinose. Halteres dark brown. Legs with the coxae pale, sparsely pruinose; trochanters yellow; fore

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and middle femora brownish black, the bases narrowly obscure yellow; tibiae and tarsi black; posterior legs in male broken; in female, both femora and tibiae obscure yellow, the tips rather narrowly darkened. Wings with a strong brown tinge, the prearcular and costal borders, with the stigma, darker brown; veins yellowish brown to light brown. Venation: Cell M_1 broadly sessile.

Abdominal tergites yellowish to reddish brown, with a blackened lateral stripe; sternites darker brown; subterminal segments blackened; hypopygium brown. Male hypopygium with the caudal margin of tergite subtransverse, each lateral angle produced into an incurved horn, the margin with a deep median notch. Basistyle elongate, the dististyli at apex, both arising from a common bulbous base, the blackened inner style produced into a very slender beak. Phallosome heavily blackened, appearing as a median plate, expanded outwardly, the outer apical angles produced into incurved black spines.

Habitat: Bolivia. *Holotype*, ♂, Santa Cruz (J. Steinbach). *Allotopotype*, ♀. *Paratopotype*, ♂.

Ozodicerca (*Dihexaclonus*) *gracilirama* is readily told from the other described species of small size by the unusual length of the flagellar branches in the male. In the female that has been assigned to this species, the flagellar branches are short, much as in other species of the genus, and it is possible that the association with the male is incorrect.

Tanypremna Osten Sacken

Tanypremna (**Tanypremna**) **kadeni** sp. n.

Thorax with two narrow, dark brown, oblique stripes, one to the fore coxae, the other to above the mid-coxae; mesonotal praescutum with dark areas on cephalic and posterior medial portions; femora obscure yellow, the tips narrowly blackened; tibiae yellowish brown, the tips narrowly dark brown; tarsi brownish black; wings yellow, cell *Sc* uniformly darkened; a conspicuous brown cloud on anterior cord; veins beyond cord conspicuously seamed with brown; veins Sc_1 , free tip of Sc_2 and R_{1+2} all relatively distant from one another at margin; R_{2+3} about one-half longer than Rs , cell M_1 petiolate; cell *1st* M_2 long, its length slightly less than twice the greatest width; abdominal tergites variegated dark brown and reddish brown.

Female.—Length, about 26 mm.; wing, 19.5 mm.

Frontal prolongation of head obscure yellow above, darkened laterally; palpi brownish black. Frontal prolongation meeting remainder of front at an angle, forming a groove. Antennae with scape and pedicel yellow, flagellum broken. Head yellow with a broad brown crossband on vertex from eye to eye.

Mesonotal praescutum yellow, variegated with dark brown, including the anterior median portion and a posterior spot at the suture, the former continued ventrad to the fore coxae; a conspicuous lateral spot on praescutum before suture, crossing pleural membrane

and continued ventrad across the posterior mesepisternum, almost reaching the mid-coxae; scutal lobes weakly darkened, the median area pale; scutellum obscure yellow; mediotergite and pleurotergite weakly darkened. Pleura yellow, with two narrow, obliquely transverse stripes, as described above. Halteres relatively long and slender, brown, the base of stem yellow. Legs with the bases of fore coxae blackened, remaining coxae yellow; trochanters yellow; femora obscure yellow, the tips narrowly blackened; tibiae yellowish brown, the tips narrowly dark brown; tarsi brown basally, brownish black outwardly. Wings yellowish, cell *Sc* uniformly darkened; stigma yellowish brown, connected with a conspicuous brown cloud on anterior cord; veins beyond cord conspicuously seamed with brown; veins brown. Venation: Sc_1 , free tip of Sc_2 and R_{1+2} all relatively distant from one another at margin, the latter two a little more separated than the former pair, the distance exceeding vein R_{1+2} alone; R_s strongly arcuated to feebly angulated near outer end; R_{2+3} strongly arcuated at origin, about one-half longer than R_s ; cell M_1 a little longer than its petiole, the latter one-half longer than m ; cell 1st M_2 long, its length slightly less than twice the greatest width.

Abdominal tergites with basal ring brown, sparsely pruinose, the wider posterior ring darker brown, variegated before suture with deep reddish brown; sternites more uniformly pale; valves of ovipositor long and slender, brownish black.

Habitat: Venezuela. *Holotype*, ♀, collected by Kaden, August, 1857; Vienna Museum, Alte Sammlung.

Tanypremna (*Tanypremna*) *kadeni* is named in honor of the collector, Carl Gotthelf Kaden. It is quite different from the other species of the subgenus having darkened tarsi, including *T. (T.) carbonipes* Alexander, *T. (T.) fuscitarsis* Alexander, *T. (T.) hodgei* Alexander, and *T. (T.) invaripes* Alexander, in the pattern of the thorax and wings, and in the venation, as the widely separated veins of the anterior radial field and the long cell 1st M_2 .

***Tanypremna* (*Tanypremna*) *ornatipes* sp. n.**

General coloration orange-yellow; antennae yellow, the outer segments a trifle darker; halteres relatively short, brownish yellow, the knobs clear yellow; tibiae yellow, passing into brown at mid-length, the tips black, preceded by a wider whitish yellow ring; wings fulvous brown, the prearcular region and costal border more intensely fulvous; a restricted dark pattern, including a cloud, on anterior cord; weak spurs of veinlets on vein M , jutting into cell M ; cell M_1 long-petiolate.

Sex? —Wing, 19 mm.

Frontal prolongation of head very short, sloping steeply and directly down from the vertical tubercle so there is no notch or indentation before the antennae; nasus short and stout, subtended by golden setae; palpi short, pale brown; terminal segment only a trifle longer than the

penultimate. Antennae yellow, the outer flagellar segments a trifle darker; basal six flagellar segments short and crowded, with short verticils; outer segments elongate, with the sutures poorly delimited, provided with very long coarse verticils that exceed the segments in length; terminal segment very long, weakly binodose. Head fulvous yellow, the posterior vertex and occiput deeper fulvous orange; vertical tubercle entire.

Pronotum fulvous orange. Mesonotal praescutum pale brown, the disk almost covered by four more orange stripes; pseudosutural foveae appearing as small paired black impressions that are narrowly separated; scutal lobes orange yellow, the median area darker; scutellum infuscated, the parascutella a trifle paler; mediotergite weakly darkened on anterior half, the posterior half yellow. Pleura yellow, vaguely more darkened on dorsal sternopleurite. Halteres relatively short, brownish yellow, the knobs clear yellow. Legs with the coxae and trochanters orange-yellow; a single leg (fore) remains; femora yellow, the tips narrowly (outer tenth) blackened; tibiae yellow on basal third, passing into brown on less than central third; tip (about 2 mm.) blackened, preceded by a still wider (nearly 4 mm.) whitish yellow ring; tarsi black, the proximal end of basitarsi obscure yellow. Wings with a strong fulvous brown suffusion, the prearcular region and cells *C* and *Sc* even more intense; stigma weakly and diffusely darker, connected with a small darker brown cloud on anterior cord; narrow brown seams on outer end of cell 1st *M*₂ and on *m-cu*; three small dusky clouds on two or three short spurs of veins from vein *M* jutting into cell *M*; a linear whitish streak near outer end of cell *M*; veins beyond cord and the outer end of vein 2nd *A* weakly seamed with dusky; veins orange-fulvous. Venation: Veins *Sc*₁, free tip of *Sc*₂ and *R*₁₊₂ all narrowly and about equally separated on costal margin; *R*₁ beyond free tip of *Sc*₂ weak and shorter than *R*₂ alone, the latter perpendicular; basal section of *R*₄₊₅ exceeding one-half the nearly straight *Rs*; rudimentary spurs of veinlets on vein *M*, as above described; cell *M*₁ petiolate, the petiole nearly equal in length to *m*; *m-cu* uniting with *M*₃₊₄ just before fork, subequal in length to *M*₃₊₄.

Abdomen broken.

Habitat: Brazil. *Holotype*, Sex?; Vienna Museum, Alte Sammlung.

The most similar species is *Tanypremna* (*Tanypremna*) *porteriana* Alexander, of southern Brazil, which differs conspicuously in the pattern of the body, legs and wings, and in the venation. The present fly is similarly not unlike *Tanypremna* (*Aldrovandia*) *gesneri* (Enderlein), differing most notably in the long-petiolate cell *M*₁. It is evident that the subgenus *Aldrovandia* Enderlein is founded on very weak characters, the strongest being the broadly sessile cell *M*₁. The spurs of veinlets on vein *M* are likewise found in the very different *Tanypremna* (*Pehlkea*) *regina* Alexander of Colombia.

***Tanypremna (Tanypremna) horrida* sp. n.**

Allied to *opilio*; mesonotum dark brown with a paler central vitta; pleura with a broad black transverse girdle; femora uniformly black; tibiae black, with a conspicuous white basal ring occupying about the basal tenth; tarsi uniformly white; wings cream-yellow, extensively clouded and patterned with brown, the stigma and an area on anterior cord darker brown; basal section of R_{4+5} obliterated or very reduced; male hypopygium with the inner dististyle complex, the margin before the apical beak produced into a slender darkened arm.

Male.—Length, about 25–28 mm.; wing, 18–19 mm.

Frontal prolongation of head yellow; nasus broad and long, blackened; palpi black. Antennae with the basal segments yellow, the outer segments passing into brown. Head light yellow in front, darker on vertex, especially as lines paralleling the posterior orbits.

Pronotum and propleura very narrowly dark brown. Mesonotum chiefly dark brown, the praescutum and scutum with a paler central vitta; lateral borders of praescutum obscure yellow, opposite the anterior ends of the lateral stripes with a conspicuous black area that extends entirely across the posterior mesepisternum as a very conspicuous transverse girdle; posterior sclerites of notum dark brown, a trifle paler in central portion. Pleura, except as described above, light yellow, the pleurotergite darkened. Halteres elongate, stem pale brown, the base yellow, the knob dark brown. Legs with the coxae pale brown or brownish yellow, the cephalic faces of fore and middle coxae black; trochanters obscure yellow; femora black; tibiae black, with a relatively narrow but conspicuous white basal ring that occupies about one-tenth of the total length of the segment; tarsi uniformly white. Wings with the ground cream-colored, extensively clouded with pale brown areas, including a major one beyond midlength of cells R and M , with additional broad seams to many of the longitudinal veins; stigma and a major area on anterior cord darker brown; veins brown. Venation: Basal section of R_{4+5} obliterated or punctiform, with $r-m$ connecting directly with Rs at the fork or immediately beyond on R_{4+5} ; petiole of cell M_1 from one and one-half to twice m .

Abdomen elongate; tergites dark brown; sternites obscure yellow, with the caudal borders of the segments slightly darker; eighth segment more uniformly blackened; hypopygium yellow. Male hypopygium with the tergite conspicuous, the caudal margin with a broad V-shaped notch, the lateral lobes broad and with glabrous edges. Extreme apex of basistyle produced into a small spinous point. Outer dististyle relatively broad, truncated at apex. Inner dististyle complex, the margin before the apical beak produced into a slender darkened arm that is weakly expanded and bilobed at apex, the surface microscopically roughened.

Habitat: Peru. *Holotype*, ♂, Satipo, Junin, March 8, 1939 (P. Paprzycki). *Paratopotype*, ♂.

Tanypremna (Tanypremna) horrida is quite distinct from its nearest ally, the genotype, *T. (T.) opilio* Osten Sacken, of

Middle and northern South America. It differs especially in the patterned wings, venation, as the reduced or obliterated basal section of R_{4+5} , and especially in the structure of the male hypopygium. By my key to the species of *Tanypremna* (Journ. N. Y. Ent. Soc., 22: 207–208, 1914), the fly runs directly to *opilio*.

***Tanypremna* (*Tanypremnodes*) *subapicalis* sp. n.**

General coloration of mesothorax black, the praescutum with four more brownish to reddish brown stripes; head variegated orange and black; tibiae brown, the tips conspicuously black, preceded by a broad white ring; wings brownish, the base and cell *C* more yellow; stigma and an extensive cloud on anterior cord dark brown; vein R_{1+2} preserved but very short, at margin contiguous with the free tip of Sc_2 , forming a tiny triangular cell Sc_2 ; *m-cu* with a spur at near midlength; abdominal tergites dark brown, the basal segments with an incomplete light gray ring on basal portion.

Female.—Length, about 25 mm.; wing, 14.5 mm.

Frontal prolongation of head obscure orange; palpi brown. Antennae 13-segmented; scape and pedicel brown; basal flagellar segments obscure yellow, the pectinations dark brown; outer flagellar segments a little darker yellow; flagellar segments one to six each with a conspicuous branch, on segments two to five exceeding one-half the length of the segment, on the sixth segment very reduced; pectinate segments with inconspicuous verticils, the simple outer segments with long conspicuous setae that exceed the segments in length. Head with the broad anterior vertex obscure orange, the vertical tubercle bifid; posterior vertex black with a conspicuous orange area on either side paralleling the posterior orbits.

Pronotum black. Mesonotal praescutum with the ground color grayish black, with four more brownish stripes, the intermediate pair brightened to reddish brown, separated by a capillary black line; posterior sclerites of notum brownish black. Pleura almost uniformly dark brown, vaguely marked with paler. Halteres relatively short, black, the base of stem obscure yellow. Legs with the coxae black; trochanters brownish black; femora black, the bases restrictedly obscure yellow; tibiae brown, the tips broadly blackened, preceded by a very broad white ring, on the posterior tibiae involving approximately one-fourth the length of the segment, narrower on the other tibiae; basitarsi black, the proximal ends brown; outer tarsal segments black; claws (female) small, simple. Wings with a strong brown tinge, the prearcular region and costal cell more yellow; cell *Sc* dark brown; stigma and a large confluent area on anterior cord dark brown; veins beyond cord more or less seamed with brown, especially vein *Cu*; veins brown, the outer ends of anal veins paler. Venation: Sc_1 preserved; *Rs* relatively short, nearly straight, a little longer than the arcuated basal section of R_{4+5} ; R_2 unusually long, R_{1+2} preserved, almost erect and contiguous to confluent at margin with Sc_2 , forming a tiny cell Sc_2 at outer end of

stigma; *m-cu* with a spur at near midlength, jutting basad into cell *M*.

Abdomen relatively long; tergites dark brown, segments two to five each with a glabrous whitish gray triangle on either side in the position of the usual basal ring, the points of the triangle directed mesad but not meeting at the midline; extreme caudal borders of tergites pale; basal sternites paler brown, the outer segments darker.

Habitat: Brazil. *Holotype*, ♀, Blumenau, Santa Catharina (Loth. Hetschko); Vienna Museum.

Tanypremna (*Tanypremnodes*) *subapicalis* is very different from the only other species in the subgenus, *T. (T.) leucoplaca* Alexander, of Pará, Brazil. The subapical position of the white tibial rings and the retention of vein R_{1+2} furnish strong characters for the definition of the species. Recent keys to the subgenera of *Tanypremna* (Alexander, Rev. Chilena Hist. Nat. 40: 298–305, 1936. Ann. Mag. Nat. Hist (10) 20: 484–485; 1937) stress the loss of vein R_{1+2} in the subgenotype. The primary subgeneric characters evidently lie in the pectinate nature of the antennae rather than in the venation.

Brachypremna Osten Sacken

Brachypremna diversipes sp. n.

General coloration of mesonotum dark brown, the cephalic and lateral portions of the praescutum paling to buffy gray; all pairs of legs differing markedly in color, the tips of all femora broadly white; fore femora yellow with a broad black ring at near two-thirds the length; middle femora almost entirely black; posterior femora yellow with a very narrow brown subterminal ring; posterior tibiae without dark rings, the fore and middle pair each with a broad black subbasal annulus; all tarsi yellowish white; wings strongly suffused with brown, sparsely patterned with darker brown; abdominal tergites dark brown, sternites yellow, with median dark brown dashes.

Male.—Length, about 16–20 mm.; wing, 20–28 mm.

Female.—Length, about 18–20 mm.; wing, 20–21 mm.

Frontal prolongation of head brownish black; palpi variegated; basal segment uniformly black; segments two and three brownish black on basal half, the distal portion yellowish white; terminal segment black, a trifle paler outwardly. Antennae short; scape light brown; pedicel white; first flagellar segment white, narrowly darkened at base; succeeding segments white, the outer three or four segments brownish black. Head brown, the setigerous punctures darker; anterior vertex narrow, about one-half greater than the diameter of scape.

Pronotum buffy above, variegated with two darker spots, dark brown on sides. Mesonotal praescutum chiefly dark brown, with poorly defined darker stripes, the cephalic and lateral portions of the sclerite broadly buffy-gray; posterior sclerites of notum dark brown,

the mediotergite with two yellowish areas on caudal portion. Pleura gray, sparsely variegated with brown spots. Halteres brownish black, the base of stem narrowly pale yellow. Legs with the coxae light gray; trochanters pale yellow; all pairs of legs differing from one another in color; fore femora yellow, at near two-thirds the length with a broad black ring, the tips abruptly white; fore tibiae pale yellow with a broad black subbasal ring on proximal half, this including about two-fifths the total length of the segment; tarsi uniformly yellowish white; middle femora chiefly black, the bases narrowly paler, the tips abruptly white; mid-tibiae pale yellow with a broad black subbasal ring on proximal half, about equal in degree to the fore tibiae; mid-tarsi uniformly yellowish white; hind femora yellow with a very narrow brown ring before the wider white tip, the latter equal in amount to that of other femora; posterior tibiae and tarsi uniformly yellowish white, unmarked. Wings with a strong brown tinge, weakly patterned with darker brown, including the prearcular and costal fields; stigma obscure yellow, ringed with brown; certain of the veins margined with brown, the most conspicuous being *Cu* and the tips of veins R_{4+5} and M_1 at wing-apex, the two latter alternating with clearer yellow spots in outer ends of cells; veins brown. Venation: *r-m* present or obliterated by punctiform fusion of veins R_{4+5} and M_{1+2} .

Abdominal tergites dark brown, the extreme basal rings paler, the lateral portions of the proximal segments light gray; sternites gray with the usual linear dark brown median dashes.

Habitat: Peru. *Holotype*, ♂, Satipo, Junin, August 19, 1939 (P. Paprzycki). *Allotopotype*, ♀, August 12, 1939. *Paratopotypes*, several ♂♂, March 6, 1939, to August 19, 1939.

Brachypremna diversipes is entirely distinct from all other species of the genus so far described. The nature of the leg-pattern, especially the almost unvariegated hind legs, furnishes the most readily detected specific characters.

Tipula Linnaeus

Tipula (*Neotipula*) *paprzyckii* sp. n.

General coloration of thorax reddish yellow, the praescutum with four narrow brownish gray stripes that are conspicuously bordered by brownish black; mediotergite light gray, bordered laterally and posteriorly by brown; pleura yellow; flagellar segments slightly produced on ventral face before outer end; femora yellow, the tips conspicuously blackened; wings pale brown, conspicuously variegated with darker brown and large cream-colored areas; a conspicuous dark brown spot at point of union of *m-cu* and Cu_1 , the latter very constricted; abdominal tergites light brown, restrictedly patterned with darker.

Female.—Length, about 42 mm.; wing, 35 mm.

Frontal prolongation of head dark brown, elongate; nasus long and slender; palpi black throughout. Antennae short; basal segments

yellowish brown, the outer flagellar segments uniformly brown; first flagellar segment elongate, second about two-thirds the length of the first; flagellar segments three to eight, inclusive, with the lower face destitute of setae, before apex slightly produced; outer three segments simple, the last elongate, subequal to the penultimate. Head brown, the anterior vertex even darker; no distinct vertical tubercle; anterior vertex narrow, less than twice the diameter of scape.

Pronotum dark brown medially above, the remainder light yellow. Mesonotal praescutum with the ground color reddish yellow, with four narrow brownish gray stripes that are conspicuously bordered by brownish black; cephalic ends of intermediate stripes and the restricted humeral portions more brightened; scutum light brown, the posterior portion darker brown; scutellum a little paler; mediotergite chiefly light gray, bordered laterally and posteriorly by brown. Pleura and pleurotergite yellow, the dorsopleural region restrictedly darkened. Halteres with stem brown, the base and knob slightly brightened. Legs with the coxae yellow, the fore and middle pairs with a small dark spot on cephalic face near apex; trochanters yellow; femora yellow, the tips somewhat narrowly but very conspicuously blackened, the amount subequal on all legs; remainder of legs yellow, the tips of the tibiae narrowly and weakly darkened. Wings with the ground color pale brown, the prearcular and costal regions darker brown; major cream-colored areas in outer medial field; outer end of cell *M*, across outer two-thirds of cell *Cu* and in outer end of cell *1st A* near vein *2nd A*; proximal end of stigma yellow, the distal and caudal portions brown; a conspicuous dark brown spot at union of *m-cu* and *Cu*₁; veins pale brown, darker in the clouded portions. Veins unusually glabrous. Venation: *Rs* arcuated, a little shorter than *m-cu*; *R*₁ shorter than *R*₁₊₂₊₃; veins *R*₁₊₂ and *R*₃ straight, cell *R*₃ not constricted; cell *Sc*₂ long, parallel-sided; cell *1st M*₂ long, *m* shorter than petiole of cell *M*₁; cell *M*₄ unusually wide at margin, the distance greater than the last section of *Cu*₁; base of cell *2nd A* produced proximad of level of arculus.

Abdominal tergites light brown, restrictedly patterned with darker; sternites somewhat more uniformly yellowish brown. Ovipositor with cerci relatively short but slender.

Habitat: Peru. *Holotype*, ♂, Satipo, Junin, May 2, 1939 (P. Paprzycki).

Tipula (*Neotipula*) *paprzyckii* is named in honor of the collector, Mr. Pedro Paprzycki, who has collected numerous Tipulidae in the vicinity of Satipo. The fly is quite distinct from the two species of the subgenus hitherto defined, *T. (N.) maya* Alexander and *T. (N.) pectinella* Alexander, both of Central America. The wing-pattern of the present fly is distinctive. It is still uncertain in my mind as to whether *Neotipula* should be ranked as a valid genus rather than as a subgenus.

***Tipula perlaticosta* sp. n.**

General coloration plumbeous; antennae elongate, flagellum black, the apex of each intermediate segment narrowly pale; legs yellow, the terminal tarsal segments blackened; more than the distal third of posterior tibiae abruptly white; wings dimidiate, with approximately the cephalic half dark brown, the posterior portion grayish hyaline; abdominal tergites brown, the lateral borders blackened, the sub-terminal segments more uniformly darkened; basal sternites and hypopygium yellow.

Male.—Length, about 16 mm.; wing, 14.5 mm.; antenna, about 6 mm.

Frontal prolongation of head relatively short and stout, obscure yellow; nasus long and conspicuous; palpi brown, the elongate terminal segment a little paler. Antennae elongate, as shown by the measurements, if bent backward extending to beyond the base of abdomen; basal three segments yellow, succeeding flagellar segments black, with the apex of each segment pale, the outer three or four segments uniformly black; pedicel with a dense group of about a dozen setae on upper face; each flagellar segment beyond the first elongate, gently incised; verticils shorter than the segments; terminal segment reduced. Head buffy in front, the posterior portion grayish brown; anterior vertex broad, exceeding three times the diameter of scape; a capillary black median vitta on anterior vertex.

Thorax almost uniformly plumbeous, the pteropleurite paler, more yellowish; mesonotal vestiture very short and reduced. Halteres infuscated throughout. Legs with the fore coxae yellow, middle and hind coxae plumbeous, the tips yellow; trochanters yellow; femora yellow, tibiae brownish yellow, the terminal tarsal segments black; posterior tibiae with more than the distal third (4.5 mm. out of 11.5 mm.) abruptly and conspicuously white; claws small, hairy. Wings with approximately the cephalic half dark brown, the posterior half grayish hyaline; the dark color includes the entire radial field excepting the very narrow outer posterior portion of cell *R* and an equal amount in cell *R*₅ above cell 1st *M*₂; cephalic half of cell *M*₁; basal two-thirds of cell *M*; extreme base of cell *Cu*, and the prearcular region; veins pale brown, darker in the clouded portions. Squama naked. Venation: *Rs* nearly twice *m-cu*; *R*₂ relatively long; *R*₁₊₂ entire; petiole of cell *M*₁ more than one-half longer than *m*; *M*₃₊₄ shorter than basal section of *M*₁₊₂; cell 2nd *A* relatively wide.

Abdominal tergites brown, the lateral borders blackened, the sub-terminal segments more uniformly darkened; basal sternites yellow; hypopygium light yellow, very small and of simple construction.

Habitat: Brazil. *Holotype*, ♂; Vienna Museum, Alte Sammlung; type specimen bears a small green label "Km."

The nearest ally of the present fly among the previously described species is *Tipula laticostata* Alexander, of southern Brazil, which has the brown costal border of the wings much narrower, involving about the cephalic third, and lacks the white annulus on the posterior tibiae.

***Tipula fiebrigi* sp. n.**

Belongs to the *laticostata* group; general coloration of praescutum reddish brown, with three entire brown stripes; antennal flagellum bicolored; legs obscure yellow, the tips of the tarsi dark brown; posterior tibiae without a white ring; wings with costal border broadly dark brown, the posterior portion grayish subhyaline; abdominal tergites reddish brown, the lateral borders conspicuously blackened; sternites orange-yellow, hypopygium yellow; male hypopygium with the caudal border of tergite convexly rounded, on either side on ventral surface with a small lobe that is set with blackened peg-like spines.

Male.—Length, about 14 mm.; wing, 14 mm.; antenna, about 6 mm.

Frontal prolongation of head brownish yellow; nasus distinct; palpi yellow throughout. Antennae (male) relatively long, a little less than one-half the length of wing; basal three segments yellow, succeeding segments bicolored, the small basal enlargement brown, the remainder yellow, passing into yellowish brown on outer segments; segments feebly incised, with long verticils; terminal segment thimble-shaped. Head dark gray, the front more brownish yellow.

Mesonotal praescutum glabrous, with the ground color reddish brown, with three entire brown stripes; scutum reddish brown, the centers of the lobes conspicuously darkened; scutellum and postnotum dark brownish gray. Pleura pale brownish yellow, the propleura, pteropleurite and meron clearer yellow. Halteres with stem obscure yellow, knob dark brown. Legs with coxae testaceous yellow; trochanters yellow; remainder of legs obscure yellow, the terminal tarsal segments passing into dark brown; no whitening of posterior tibiae, as in *perlaticosta*. Wings with the costal border broadly dark brown, the darkening in cells *R* and *M* paling to gray, the centers of the outer radial cells similarly gray, the veins seamed with brown; posterior cells of wing light grayish subhyaline; the dark color includes all of cell *R* except the outer lower edge, basal half of *M*, all of *R*₅ excepting posterior edge of basal half, and the outer anterior portion of cell *M*₁; veins pale brown, darker in the clouded portions. A few stigmal trichia present. Venation: *Rs* angulated and short-spurred at origin; vein *R*₃ a little extended, cell *R*₂ at margin only a trifle wider than cell *R*₃; *r-m* distinctly preserved. Both wings of type show a weak spur of a vein from *M*₃ at or close to *m*.

Abdominal tergites reddish brown, the lateral borders conspicuously blackened; sternites orange-yellow; hypopygium yellow. Male hypopygium with the caudal border of tergite convexly rounded, the ventral surface on either side bearing a small tubercle densely set with blackened peg-like spines. Basistyle with flattened, compressed, black lobe on mesal face. Outer dististyle elongate-flattened, the length about five times the greatest width. Inner dististyle small and compact, the beak trifold, with a fourth smaller spinous point lying more basad. Eighth sternite with margin convexly rounded, simple.

Habitat: Paraguay. *Holotype*, ♂, San Bernardino (C. Fiebrig); Vienna Museum.

Tipula fiebrigi is named in honor of the collector, Carl Fiebrig. It is allied to *T. laticostata* Alexander and *T. per-*

laticosta sp. n., both of Brazil, differing in the pattern of the wings and legs. In the former species, the brown costal border is more restricted while in the latter species the posterior tibiae are broadly ringed with white.

***Tipula pantherina* sp. n.**

Belongs to the *monilifera* group; most closely allied to *T. armillatus* Alexander (Colombia).

Male.—Length, about 15 mm.; wing, 16.5 mm.; antenna, about 13.5 mm.

Antennae (male) elongate, only a little shorter than either the body or the wing; basal flagellar segments only weakly bicolored, brown, the basal knot black; outer segments more uniformly blackened.

Capillary median praescutal vitta very narrow; lateral praescutal stripes evident; scutellum yellow, the parascutella darker; mediotergite yellow on central portion, broadly darkened sublaterally. Pleura and pleurotergite yellow. Fore femora yellow, with a subterminal dark ring; posterior femora with the actual tip infuscated; tibiae brownish yellow to pale brown, the tips very narrowly darkened. Wings with a contrasted brown and subhyaline pattern, as in *monilifera* and allies; pale spot in cell *C* beyond arculus scarcely evident. Venation: Cell M_1 much deeper than in *armillatus*, nearly three times its petiole; cell M_4 deep, nearly parallel-sided, *m-cu* only about one-half the distal section of Cu_1 .

Abdominal tergites obscure yellow, narrowly lined laterally with dark brown, not or scarcely darkened medially; sternites clearer yellow, outer segments more darkened. Male hypopygium with the median area of tergite produced, the dorsal furrow narrow but well-defined; lateral lobes conspicuous, produced caudad to beyond the level of the median lobe. Outer dististyle expanded on a little more than its distal half, the expanded portion about three times as wide as the stem. Inner dististyle with the dorsal flange projecting at outer end into a lobe, forming an emargination between it and the outer lobe of the style; dorsal crest with a row of setae that become much stouter and flattened outwardly, most conspicuously so on the outer lobe of the flange. Eighth sternite with a median lobe that is about as long as broad at base, the apex somewhat narrowed but still obtuse, the surface clothed with long yellow setae that exceed the lobe in length.

Habitat: Venezuela. *Holotype*, ♂, without further data; Vienna Museum, Alte Sammlung.

I retain the manuscript name attached to the type specimen.

***Tipula unistriata* sp. n.**

Belongs to the *glaphyroptera* group; mesonotum yellow, with a broad brown median stripe extending the entire length; femora yellow, with a pale brown subterminal ring; wings brown, the central half occupied by a broad yellow longitudinal stripe; a conspicuous dark

brown area at outer end of cell *1st M*₂; abdominal tergites yellow, with three brown stripes; male hypopygium with the caudal border of the eighth sternite bearing a depressed-flattened lobe that is about twice as long as wide, its tip obtusely rounded.

Male.—Length, about 15 mm.; wing, 16.5 mm.; antenna, about 4.5 mm.

Frontal prolongation of head brownish yellow; nasus elongate; palpi brownish black. Antennae of moderate length, if bent backward extending approximately to wing-root; yellow, the bases of all flagellar segments beyond the first slightly darkened to produce a very weak bicolored appearance; flagellar segments only moderately incised; longest verticils subequal to the segments; terminal segment very small. Head buffy, the posterior vertex weakly infuscated, especially on sides; vertical tubercle very low.

Mesonotum light yellow pollinose, the praescutum with a conspicuous brown median and inconspicuous darkened lateral stripes, the latter scarcely differentiated from the ground; median vitta pale brown in front, darker behind and continued caudad as a broad median stripe to the abdomen; cephalic portion of median stripe on praescutum further divided by a capillary dark brown vitta. Pleura yellow, the cephalic portion of the mesepisternum brown, to form a transverse girdle, the color including the dorsopleural membrane and the cephalic portions of both anepisternum and sternopleurite; ventral pleurotergite darkened. Halteres pale. Legs with the coxae brownish yellow, the fore pair slightly lined with darker; trochanters yellow; femora yellow with a pale brown subterminal ring; tibiae and tarsi yellow, the outer tarsal segments black; claws (male) toothed. Wings with the central half chiefly occupied by a longitudinal yellowish area, the posterior border and cephalic radial field brown, giving the impression of a longitudinally striped wing; cells *C* and *Sc* less distinctly darkened; very small brown spots at arculus; one-third the length of cell *R* adjoining vein *R*; origin of *Rs*, and on the anterior cord; a conspicuous darker brown spot at outer end of cell *1st M*₂ in the otherwise yellow ground area; major yellow areas in cells *Cu*, *1st A* and *2nd A*, subequal in area to the brown, the latter a little darker in base of cell *Cu* and as two streaks in outer end of cell *M* adjoining vein *Cu*₁; narrow pale marginal droplets in cells *2nd M*₂, *M*₃, *M*₄ and two in *1st A*; axillary border narrowly lined with brown; veins yellow, darker in the infuscated areas. Venation: *Rs* nearly twice *m-cu*; *R*₁₊₂ entire, cell *R*₂ narrowed at base; petiole of cell *M*₁ a little exceeding *m*; *M*₃₊₄ a little longer than the basal section of *M*₁₊₂.

Abdominal tergites yellow, with three brown stripes, the mid-dorsal one broad and diffuse, the caudal borders of segments pale; sternites more uniformly yellow; hypopygium chiefly yellow. Male hypopygium relatively large; caudal border of ninth tergite convex, the margin smooth, with a very tiny U-shaped median notch. Basistyle with a large hemispherical lobe on mesal face; ventral lobe small, pale, with about five very long terminal setae that greatly exceed the lobe in length. Outer dististyle long and pale, gradually widening outwardly into a club. Inner dististyle long and narrow, with a dorsal crest of long

pale setae and a lateral flange bearing a fringe of shorter bristles. Eighth sternite with caudal border produced into a depressed liguliform lobe, about twice as long as wide, the apex obtusely rounded, the surface except medially at base bearing abundant long pale setae.

Habitat: Brazil. *Holotype*, ♂; Vienna Museum, Alte Sammlung.

The most similar species is *Tipula scriptella* Alexander, of northern Panama, which differs conspicuously in the patterns of the mesonotum and wings.

***Tipula riveti tolimensis* subsp. n.**

Male.—Length, about 19 mm.; wing, 23 mm.; antenna, about 13.5 mm.

Closely resembling the typical form (from high altitudes in Ecuador) differing as follows:

Size larger (*Tipula riveti riveti* Edwards—Length, 16 mm.; wing, 21 mm.; antenna, 11 mm.). Antennal flagellum bicolored, the small basal enlargement black, the long cylindrical stems brown; thirteenth segment present but reduced to a thimble-like button; longest pubescence of segments a little shorter than the diameter of the segment; longest verticils considerably shorter than the segments. Legs with the narrow dark subapical ring preceded by a subequal clearer yellow annulus. Wings marbled, the pattern much as in the typical form but the details different. Subbasal spot in cell R_3 strongly yellow, the outer pale spot lacking; dark areas in anal cells distinct, the axilla and prearcular field heavily darkened. Venation: Cell R_2 at margin more extensive than cell R_3 ; cell M_1 deep, its petiole about one-half m ; $m-cu$ at fork of M_{3+4} . Basal abdominal segments reddish brown, beyond the base of third segment darker brown to brownish black. Male hypopygium with the tergite bearing eight spinous points; in typical *riveti* with only six such points, the submedian pair low and obtuse. Inner dististyle bearing a conspicuous setiferous lobe on outer margin opposite the lower beak.

Habitat: Colombia. *Holotype*, ♂, Mount Tolima, Cordillera Central, altitude 14,430 feet (Fassl); Vienna Museum.

***Tipula subligulata* sp. n.**

Belongs to the *glaphyoptera* group; allied to *ligulata*; general coloration gray; mesonotal praescutum with four entire dark brown stripes; posterior sclerites of notum with a median dark stripe; antennal flagellum black, pedicel obscure yellow; femora brown, the tips blackened, preceded by a yellow subterminal ring; wings grayish brown, variegated and marbled by darker brown and whitish subhyaline; abdominal tergites obscure yellow, trilineate with black, the sublateral stripes wider; male hypopygium with the caudal margin of tergite entire and nearly truncate; both lobes of basistyle small, suboval; outer dististyle expanded at apex; eighth sternite with the median lobe simple, parallel-sided, the apex bilobed.

Male.—Length, about 14–16 mm.; wing, 16–18.5 mm.; antenna, about 4.5–4.8 mm.

Female.—Length, about 22 mm.; wing, 19 mm.

Frontal prolongation of head dark gray; nasus long and slender; palpi black. Antennae with scape brownish black, pedicel obscure yellow, flagellum black; flagellar segments moderately incised; longest verticils subequal to or a little shorter than the segments; terminal segment thimble-shaped. Head light gray, with a brown wash that encloses a capillary black median vitta; setigerous punctures distinct; vertical tubercle very low; anterior vertex about three times the diameter of scape.

Pronotum gray, darkened medially. Mesonotal praescutum gray, with four entire, dark brown stripes; lateral borders and an area in the humeral region blackened; scutum gray, each lobe with two brown areas, the median region darkened; scutellum light gray, with a median dark brown stripe, parascutella dark; mediotergite light gray with a conspicuous, dark brown, median dash that does not reach the posterior border, together with a smaller dark area in each cephalic-lateral corner; in cases, the mediotergite with two large rounded dark areas on posterior third, indistinct in some specimens. Pleura gray, variegated with darker gray on anepisternum, ventral sternopleurite and meron; dorso-pleural membrane buffy. Halteres with stem brownish yellow, brighter at base; knob dark brown, the apex obscure yellow. Legs with the coxae gray; trochanters brownish yellow; femora brown, the tips conspicuously blackened, preceded by a subequal yellow ring; tibiae dark brown, the tips blackened; tarsi black. Wings grayish brown, variegated by darker brown and whitish subhyaline areas; four dark brown areas in cell *Sc*, wider than the interspaces, virtually reaching vein *M* behind and here more or less confluent; stigma paler brown; white pattern marbled and more or less zigzag in outline, forming more or less extensive bands in the cells before cord; a conspicuous post-stigmal whitening; outer ends of cells *R*₃ and *R*₅ extensively whitened; white marginal spots in cells *M*₁ to 1st *A*, inclusive; cell 2nd *A* more extensively darkened except in axillary portion; prearcular field white; veins brown, *R*₁₊₂ yellow. Venation: *Rs* long, about two and one-half times *m-cu*; *R*₁₊₂ entire; *M*₃₊₄ subequal to or shorter than the basal section of *M*₁₊₂.

Abdominal tergites obscure yellow, very conspicuously blackened sublaterally; first tergite pruinose; median dark stripe narrower and less conspicuous; all stripes broken at posterior ends of segments; lateral tergal margins buffy; basal sternites obscure yellow; outer segments more uniformly blackened. Male hypopygium with the caudal margin of tergite entire, nearly truncate, the central portion very feebly and gently emarginate. Basistyle with both ventral and mesal lobes small, suboval. Outer dististyle short, the apex expanded into a flattened spatulate head. Inner dististyle with the setae very conspicuous before midlength, the smallest setae continued to apex of beak; lower lobe of beak short and obtuse. Eighth sternite with a simple median lobe that is about two and one-half times as long as wide, nearly parallel-sided, the distal half pale, the apex bilobed by a median notch. Ovipositor

with cerci long and slender, nearly straight; hypovalvae much shorter and higher.

Habitat: Chile. *Holotype*, ♂, Termas Rio Blanco, Cura Cautin, Cautin, altitude 3,415 feet, March 28, 1938 (D. S. Bullock). *Allotopotype*, ♀, March 29, 1938. *Paratopotype*, ♂, March 26, 1938.

Tipula subligulata is most similar to *T. lanigera* Alexander and *T. ligulata* Alexander, differing most evidently in the details of wing-pattern, lack of elongate pale setae on the outer abdominal sternites, as in *lanigera*, and in the structure of the male hypopygium.

***Tipula serrilobata* sp. n.**

Belongs to the *glaphyoptera* group; mesonotal praescutum with the median stripe more or less trifold; antennae (male) elongate, basal flagellar segments weakly bicolored; femora yellow, the tips blackened, preceded by a narrower, clear yellow ring; wings yellowish subhyaline, with a relatively sparse dark pattern; male hypopygium having the ninth tergite with a deep U-shaped notch, the truncated lateral lobes with serrate margins; eighth sternite with the lobe very small and simple.

Male.—Length, about 14 mm.; wing, 15.5 mm.; antenna, about 6 mm.

Female.—Length, about 18–20 mm.; wing, 16–18.5 mm.

Frontal prolongation of head brown, darker basally and at sides, paler beneath; palpi black, the tips of the segments pale, the terminal segment whitened beyond the base. Antenna (male) elongate, if bent backward extending to beyond base of abdomen; scape yellow, a little darkened at base; pedicel and first flagellar segment yellow; succeeding flagellar segments weakly bicolored, brown, the basal enlargements black; outer flagellar segments uniformly black; in female, the intermediate flagellar segments more evidently bicolored, yellow, the basal swelling black; flagellar segments of male feebly incised; longest verticils subequal in length to the segments; terminal segment reduced. Head with front light gray; vertex darker gray, more or less infuscated medially and behind.

Mesonotal praescutum yellow pollinose on sides, the interspaces gray; lateral dark brown stripes entire, median stripe more or less trifold, in male less evidently so, the median vitta being delimited on either side by pale streaks, all within the stripe itself; in female, the pale lines are much more distinct and better defined; scutum light gray, each lobe variegated with dark brown, the median line with a nearly entire brown vitta; posterior sclerites of notum gray, with a scarcely broken median brown stripe. Pleura variegated yellow and gray, the latter more extensive on the mesopleura of male, leaving the propleura, dorso-pleural membrane, metapleura and pleurotergite more yellow; in female, the pale colors are even more extensive. Halteres with stem yellow, knob dark brown with paler apex. Legs with coxae yellow, very

sparsely pruinose; trochanters yellow; femora yellow basally, passing into pale yellowish brown, the tips blackened, preceded by a narrower, clear yellow ring; tibiae obscure yellow, the tips narrowly brownish black; tarsi black. Wings with the ground color yellowish subhyaline, of the cells beyond cord and in outer end of cell 1st *A* weakly darkened; stigma brown, the cephalic portion yellow; dark subcostal areas greatly reduced, the small cloud at origin of *Rs* not including cell *Sc*; obliterative areas beyond stigma and across cord relatively conspicuous, especially in female where a more or less complete crossband is formed; cell *Cu*₁ extensively blackened; veins dark. Venation: *Rs* long, nearly two times *m-cu*; *R*₁₊₂ and *R*₃ strongly divergent, cell *R*₂ widened at margin.

Abdominal tergites yellow, trivittate with dark brown, the median stripe narrow but nearly entire, broken only at posterior borders of segments; lateral stripes extensively interrupted into linear dashes; sternites yellow, in female extensively variegated by brownish black; subterminal segments darker. Male hypopygium with the tergite brown basally, with more than the outer half abruptly yellow; caudal margin with a deep U-shaped notch, the lateral lobes truncated, their margins conspicuously and irregularly serrate. Basistyle with ventral lobe only a little longer than thick, oval, provided with long setae; mesal lobe a little larger, appearing as a compressed oval cushion. Outer dististyle long-cylindrical. Eighth sternite with the lobe small, simple, only about as long as the width across base, clothed with numerous long yellow setae.

Habitat: Chile. *Holotype*, ♂, Termas Rio Blanco, Cura Cautin, Cautin, altitude 3,415 feet, March 29, 1938 (D. S. Bullock). *Allotopotype*, ♀, March 28, 1938. *Paratopotype*, ♀, with allotype.

Tipula serrilobata is closest to *T. parviloba* Alexander, differing especially in the structure of the male hypopygium, as the truncated serrate lobes of the ninth tergite.

***Tipula subarmata* sp. n.**

Belongs to the *armatipennis* group; general coloration yellowish brown, the praescutum unstriped; antennal flagellum bicolored; wings with a strong brownish yellow tinge, the costal region clearer yellow; costal margin opposite stigma strongly produced; *R*₁ atrophied, *R*₁₊₂ perpendicular, cell 1st *M*₂ very small; male hypopygium with the eighth sternite large and sheathing, the caudal margin with a deep U-shaped notch, the cylindrical lateral lobes each tipped with a circlet of blackened spines.

Male.—Length, about 18 mm.; wing, 15 mm.; antenna, about 6 mm.

Frontal prolongation of head moderately long, fulvous yellow; nasus stout; palpi yellow. Antennae with the scape and pedicel yellow, the former short, the latter with a group of long setae on outer half; first flagellar segment yellow, succeeding segments bicolored, brown, the basal enlargement brownish black to black, the outer segments more uniformly dark brown; flagellar segments moderately incised; longest verticils shorter than the segments; terminal segment reduced to an elongate

thimble. Head light brown, the low anterior vertex darker brown medially.

Pronotum and mesonotum almost uniform yellowish brown, the praescutum without stripes; setae of praescutum very small and sparse. Pleura yellow. Halteres with stem obscure yellow, knob brown. Legs with coxae and trochanters yellow; remainder of legs yellow, the outer tarsal segments darkened; claws (male) toothed. Wings with a strong brownish yellow tinge, the prearcular, costal and stigmal fields clearer yellow; stigmal region (male) much larger than in *armatipennis*; obliterative areas very reduced; veins brownish yellow, clearer yellow in the more saturated portions. Costal border opposite stigma strongly produced but not spinous as in *armatipennis*. Venation: *Rs* relatively short, arcuated, about one-half longer than *m-cu*; R_{1+2} nearly perpendicular, not connecting with the main stem of *R* by vein R_1 , as is common in the genus; distance on costal margin between free tip of Sc_2 and R_{1+2} nearly one-half the length of latter; cell 1st M_2 very small; cell M_1 longer than its petiole.

Abdominal tergites yellow, with three nearly entire brown stripes that are more widened behind; sternites yellow; hypopygium relatively large, brownish yellow. Male hypopygium with the caudal margin of tergite with a small V-shaped median notch, the short acute lateral lobes blackened, divergent, set with numerous short setae; outer lateral shoulders of tergite with abundant long dark setae. Dististyle compressed, short and compact, subrectangular in outline; ventral inner angle produced into a tail-like lobe that is tipped with conspicuous setae. Gonapophyses short and stout, subtending the short aedeagus; penis stout and conspicuous. Eighth sternite large and sheathing, the caudal margin with a deep U-shaped notch, the cylindrical lateral lobes long-produced; apex of each a circular cup, surrounded by a crown of blackened spines; ventral surface at lateral margin with a small pale lobule, but without spinous points.

Habitat: Paraguay. *Holotype*, ♂, San Bernardino (C. Fiebrig); Vienna Museum.

The present fly is closer to *Tipula armatipennis* Alexander than to *T. inarmata* Alexander, as shown by the atrophy of vein R_1 in the stigmal field of the male (though presumably not in the female, as is the case in *armatipennis*) and in the very small cell 1st M_2 . The but slightly produced costa is quite distinct from the condition obtaining in *armatipennis* while the structure of the male hypopygium is likewise entirely different.

Limonia Meigen

Limonia (Limonia) pernobilis sp. n.

Belongs to the *insularis* group; size very large (wing, male, over 17 mm.); general coloration polished black; legs black, the tips of femora, tibiae, and intermediate tarsal segments restrictedly pale yellow; wings with apex very obtuse; wings broadly seamed with dark

brown, leaving the centers of the cells grayish; stigma large, deep yellow; *Sc* long; free tip of *Sc*₂ lying distad of level of *R*₂; *R*₁₊₂ preserved as a long spur; *m-cu* before fork of *M*.

Male.—Length, about 12–13 mm.; wing, 17.5–18.5 mm.; antenna, about 2.9–3 mm.

Rostrum and palpi black. Antennae black throughout; flagellar segments short-cylindrical, more elongated outwardly, with conspicuous glabrous apical necks; verticils long and conspicuous, much exceeding the segments in length; terminal segment very long, more than one-half longer than the penultimate. Head black; anterior vertex narrower than the diameter of scape.

Thorax uniformly polished black. Halteres black. Legs with the coxae and trochanters black; femora yellowish brown, darkened outwardly, deepest just before the narrow, pale yellow tips; tibiae black, the tips narrowly obscure yellow, the bases very narrowly of the same color; tarsi black, the tip of basitarsus, all of segment two and base of segment three yellow; claws with a single conspicuous tooth. Wings with apex very obtuse; ground color of wings chiefly dark brown, appearing as very broad seams to all the veins, leaving the centers of the cells more grayish; stigmal area deep yellow, large and conspicuous, interrupted by dark seams at outer end of vein *R*; veins brown, yellow in the stigmal area. Venation: *Sc* long, *Sc*₁ ending opposite fork of *Rs*, *Sc*₂ at its tip; free tip of *Sc*₂ lying distad of level of *R*₂, *R*₁₊₂ preserved as a long straight spur that exceeds *R*₂ in length; *Rs* nearly square at origin; veins *R*₃ and *R*₄₊₅ very strongly decurved at outer ends, terminating at or beyond the wing-tip; cell 1st *M*₂ subequal to vein *M*₄ beyond it; *m-cu* some distance before fork of *M*.

Abdomen black, including the hypopygium, the more basal sternites a little brightened.

Habitat: Peru. *Holotype*, ♂, Satipo, Junin, March 1, 1939 (P. Paprzycki). *Paratype*, ♂, vicinity of Leonpampa, Huanuco, in jungle, altitude about 2,500 feet, December 7, 1937 (F. Woytkowski).

Limonia (*Limonia*) *pernobilis* is one of the most striking species of the genus so far discovered. There is no described species with which it can be confused.

***Limonia* (*Limonia*) *limbinervis* sp. n.**

Belongs to the *insularis* group; general coloration dark brown, the mesonotum variegated with yellow, especially medially; legs black, the tips of femora, tibiae and basitarsi whitened; wings grayish, the veins broadly and conspicuously seamed with brown to produce a streaked appearance; *Sc*₁ ending about opposite two-thirds the length of *Rs*; *m-cu* at or close to fork of *M*; abdominal tergites brownish black, the sternites obscure yellow, the incisures darker; hypopygium black, the rostral prolongation of the ventral dististyle long and narrow, boomerang-shaped.

Male.—Length, about 8 mm.; wing, 9.5 mm.

Female.—Length, about 7 mm.; wing, 8.5 mm.

Rostrum obscure yellow; palpi black. Antennae black throughout; basal flagellar segments short-oval, the outer ones more elongate; terminal segment unusually long, nearly twice the penultimate; verticils long and conspicuous, much exceeding the segments, the longest ones unilaterally arranged. Head obscure yellow in front, darker behind; anterior vertex wide.

Pronotum obscure brownish yellow. Mesonotal praescutum brownish yellow with two darker brown intermediate stripes on posterior two-thirds of sclerite, the lateral stripes indistinct; scutum and scutellum brownish black, broadly pale yellow medially; mediotergite dark brown; pleurotergite paler, especially on cephalic portion. Pleura yellow, vaguely darker on posterior sternopleurite. Halteres brownish black, the extreme base of stem yellow. Legs with the coxae and trochanters yellow; femora obscure yellow at base, passing into black, the tips narrowly and abruptly snowy white; tibiae black, the tips white, in degree about twice as extensive as the femoral tips; fore basitarsi darkened at proximal end, white at tips; posterior tarsi with basitarsus and second segment darkened basally, white at tips; segments three and four pale yellowish white; terminal segment brownish black. Wings with the ground color grayish, veins broadly and conspicuously seamed with brown to give a streaked appearance to the wing, the anal veins less distinctly margined; veins brown. Venation: Sc_1 ending about opposite or beyond two-thirds the length of the long Rs , Sc_2 at its tip; free tip of Sc_2 and R_2 in approximate transverse alignment; $m-cu$ at or close to fork of M .

Abdominal tergites brownish black; sternites obscure yellow, the incisures, especially the basal triangles, darkened; hypopygium black. Ovipositor with cerci slender, upcurved. Male hypopygium with caudal margin of tergite very gently emarginate. Lobe of basistyle simple, with long conspicuous setae. Dorsal dististyle a straight rod, the apex a trifle expanded, the acute tip decurved. Ventral dististyle with the rostral prolongation long and narrow, boomerang-shaped. Gonapophyses with mesal apical lobe stout. Apex of aedeagus obtusely rounded.

Habitat: Peru. *Holotype*, ♂, Satipo, Junin, March 1, 1939 (P. Paprzycki). *Allotopotype*, ♀, March 6, 1939.

Limonia (*Limonia*) *limbinervis* is readily told from other members of the *insularis* group, having white rings on the legs, by the striped pattern of the wings and by the structure of the male hypopygium.

***Limonia* (Peripheroptera) thioptera sp. n.**

Head and abdomen polished black; mesothorax polished red, the cephalic two-thirds of the praescutum with a conspicuous black median area, pointed behind; legs uniformly black; wings intense sulphur-yellow, the color including the veins; costal vein narrowly but con-

spicuously black; free tip of Sc_2 some distance before level of R_2 ; inner ends of cells R_3 , R_5 and $1st\ M_2$ in transverse alignment.

Male.—Length, about 8 mm.; wing, 11 mm.

Rostrum and palpi black. Antennae black throughout; flagellar segments oval. Head polished black, the genae more reddish brown; anterior vertex wide, exceeding three times the diameter of scape.

Pronotum blackened medially, paling to reddish brown on sides. Mesonotal praescutum reddish, the cephalic two-thirds with a conspicuous, polished black, median area, its point directed backward; remainder of mesonotum and the pleura reddish. Halteres with stem blackened, knob broken. Legs with coxae and trochanters reddish; remainder of legs black throughout. Wings of an intense sulphur-yellow color, the costal vein to the point of termination of vein R_{4+5} narrowly but conspicuously black; remainder of wing broader more narrowly and less conspicuously darkened; $m-cu$ and outer end of cell $1st\ M_2$ narrowly darkened, chiefly shown by a darkening of the veins; remainder of veins deep sulphur-yellow. Venation: Prearcular field relatively short; free tip of Sc_2 some distance before level of R_2 ; inner ends of cells R_3 , R_5 and $1st\ M_2$ in transverse alignment; cell $1st\ M_2$ about equal in length to vein M_{1+2} beyond it; $m-cu$ about one-third its length beyond the fork of M .

Abdomen, including hypopygium, polished black, the basal tergite a little paler.

Habitat: Ecuador. *Holotype*, ♂, Minza Chica, Mount Tungurahua, altitude 11,375 feet, April 13, 1939 (F. M. Brown).

Limonia (*Peripheroptera*) *thioptera* is most nearly allied to *L. (P.) prindlei* Alexander, likewise from the vicinity of Mount Tungurahua, which differs conspicuously in the black coloration of the body and in the distinct wing venation and pattern.

***Limonia* (*Dicranomyia*) *cautinensis* sp. n.**

General coloration reddish yellow; antennae black, the scape yellow; head buffy yellow, the anterior vertex wide; halteres with knob weakly infumed; femora brownish yellow to pale brown; wings with a pale yellow tinge; cell M_2 open by atrophy of m ; male hypopygium with the two rostral spines slightly separated at base; ovipositor with cerci short, the hypovalvae short and deep.

Male.—Length, about 6.5 mm.; wing, 7.5 mm.

Female.—Length, about 6.5 mm.; wing, 8 mm.

Rostrum and palpi black. Antennae with scape yellow, pedicel and flagellum black; flagellar segments passing through short-oval to oval; terminal segment longer than the penultimate. Head buffy yellow; anterior vertex wide.

Thorax uniformly reddish yellow, without markings. Halteres with stem yellow, knob weakly infumed. Legs with coxae and trochanters yellow; femora brownish yellow to pale brown; tibiae brown; tarsi brownish black. Wings with a pale yellow tinge; stigma lacking or barely darkened; veins yellowish brown. Venation: Sc short, Sc_1 ending opposite origin of Rs , Sc_2 far from its tip, so Sc_1 alone exceeds three-

fourths the length of Rs ; cell M_2 open by atrophy of m ; $m-cu$ a short distance before fork of M .

Abdomen obscure yellow. Male hypopygium with the ventral dististyle much larger than the basistyle; rostral prolongation of moderate size, narrowed at tip; two separate rostral spines, at base parted by a distance about equal to their own diameter, the outer spine a little shorter, both spines bent slightly backward but nearly straight. Dorsal dististyle a gently curved rod, the tip narrowed to an acute point. Gonapophyses with mesal apical lobe relatively long, the outer margin microscopically toothed. Ovipositor with the cerci short and relatively stout, a little shorter than the small deep hypovalvae.

Habitat: Chile. *Holotype*, ♂, Termas Rio Blanco, Cura Cautin, Cautin, altitude 3,415 feet, March 28, 1938 (D. S. Bullock). *Allotopotype*, ♀, March 26, 1938. *Paratopotype*, ♂, March 29, 1938.

Limonia (*Dicranomyia*) *cautinensis* is readily told from *L. (D.) ambigua* Alexander, the only other described regional species of the subgenus having cell M_2 of the wings open, by the yellow coloration and by the structure of the male hypopygium.

***Limonia* (*Dicranomyia*) *flavaperta* sp. n.**

General coloration yellow; antennae with scape yellow, flagellum brownish black; legs yellow, the terminal tarsal segments blackened; wings with a strong yellow tinge; Sc_1 about one-half Rs , cell M_2 open by the atrophy of m ; male hypopygium with the rostral prolongation of the ventral dististyle very small, with two spines of moderate length; dorsal dististyle a strongly curved sickle; gonapophyses with mesal apical lobes slender, the margins smooth; ovipositor with cerci and hypovalvae long and slender.

Male.—Length, about 7 mm.; wing, 8 mm.

Female.—Length, about 8 mm.; wing, 9.5 mm.

Rostrum yellow; first segment of palpus yellow, the outer segments black. Antennae with scape obscure yellow, pedicel brownish yellow; flagellum brownish black; basal flagellar segments short-oval, the outer ones more elongate. Head obscure yellow, with a sparse gray bloom; anterior vertex wide.

Pronotum obscure yellow. Mesonotum yellow, the praescutum with vague indications of brownish stripes, especially of the median one. Pleura yellow. Halteres pale. Legs yellow, the terminal tarsal segments blackened. Wings with a strong yellow tinge; stigma poorly indicated, deeper yellow; veins yellow. Venation: Sc_1 ending about opposite the origin of Rs , Sc_2 a relatively short distance from its tip, Sc_1 alone about one-half Rs ; cell M_2 open by atrophy of m ; $m-cu$ at or very close to fork of M .

Abdomen yellow, including hypopygium. Male hypopygium with the ventral dististyle more extensive than the basistyle; rostral pro-

longation very small, with two spines of moderate length, placed close together at near midlength. Dorsal dististyle a strongly curved sickle, the tip narrowly obtuse. Gonapophyses with mesal apical lobes slender, gently curved, their margins smooth. Ovipositor with both cerci and hypoalvae long and slender, the former gently upcurved.

Habitat: Chile. *Holotype*, ♂, Termas Rio Blanco, Cura Cautin, Cautin, altitude 3,415 feet, March 26, 1938 (D. S. Bullock). *Allotopotype*, ♀, March 28, 1938.

Limonia (*Dicranomyia*) *flavaperta* is closest to *L. (D.) cautinensis* sp. n., which is the nearest ally. It is readily told by the more intensely yellow wings, with Sc_1 shorter, by the structure of the male hypopygium, and by the long slender valves of the ovipositor.

Pedicia Latreille

Pedicia (*Tricyphona*) *guttistigma* sp. n.

General coloration brown, the praescutum with three slightly darker brown stripes, the median one darker in central portion; halteres brownish testaceous; legs yellow, the terminal tarsal segments darker; wings subhyaline, the subcircular stigma dark brown; a brown cloud on anterior cord; cell *1st M*₂ closed; cell *M*₁ with short petiole; male hypopygium with apex of basistyle produced into a triangular earlike point; interbasal rod a strong flattened blade.

Male.—Length, about 6.5 mm.; wing, 8 mm.

Rostrum and palpi brown. Antennae with scape and pedicel black; flagellum broken beyond the first segment. Head dark gray.

Mesonotum almost uniformly brown, the praescutum with three slightly darker brown stripes, the central portion of the median one still darker; centers of scutal lobes darkened. Pleura medium brown. Halteres brownish testaceous, the base of stem a trifle brightened. Legs with coxae testaceous yellow; trochanters yellow; remainder of legs yellow, the two terminal tarsal segments darker. Wings subhyaline; stigma subcircular, dark brown, situated above midlength of R_{2+3} and far before R_2 ; a conspicuous brown cloud on anterior cord, extending from the fork of R_{2+3+4} to the fork of *M*; more basal veins yellow, at near midlength veins passing into brown. Venation: Sc_2 some distance before origin of *Rs*; R_{2+3+4} variable, in one wing of type present as a very short element that is subequal to the basal section of R_5 , in the opposite wing lacking, cell R_3 being sessile; R_2 slightly oblique, subequal to R_{1+2} ; cell *1st M*₂ closed, narrowed at proximal end; cell *M*₁ with petiole short, subequal to or shorter than *m*; *m-cu* a little less than its own length beyond fork of *M*.

Abdomen dark brown, the caudal borders of the segments somewhat paler. Male hypopygium with the apex of basistyle produced into a small triangular earlike point; interbasal rod a strong, gently curved, flattened blade, gradually narrowed to the acute tip, the outer edge sclerotized, provided with numerous small setae, the inner margin paling

to a hyaline membrane whose limits are hard to determine on a microscope slide.

Habitat: Chile. *Holotype*, ♂, Angol, October 18, 1935 (D. S. Bullock).

Allied to *Pedicia* (*Tricyphona*) *platyptera* Alexander, of Chiloë Island, south Chile, differing in the inconspicuous praescutal stripes, dark brown cloud on anterior cord of wing, and in the structure of the male hypopygium, especially the basistyle and the interbasal process.