

Records and descriptions of Brazilian Tipu-  
lidae (Dipt.). Part VII

by

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# Records and descriptions of Brazilian Tipulidae (Dipt.). Part VII

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(With 12 figures)

The species discussed herewith are derived from a number of sources, the most important being the following:

Collections made by José Blaser in Minas Geraes; Museum of Comparative Zoölogy, Cambridge, Massachusetts.

Material taken by Mr. H. de Souza Lopes and by P. Thomaz Borgmeier, in the states of Rio de Janeiro and Goyaz; received through Father Borgmeier, preserved in authors collection.

Further extensive series from Nova Teutonia, Santa Catharina, collected by Mr. Fritz Plaumann, in author's collection.

Material from the Serra do Itatiaya and from the Lower Amazons, collected by Dr. Hans Zerny; received from Dr. Zerny, in the Vienna Museum.

I am greatly indebted to all of the above mentioned entomologists for their continued interest in saving these neglected flies. A few additional records from other sources are listed in the text.

## Records of distribution

*Brachypremna variitibia* Alexander. — Nova Teutonia, November 1-24, 1939 (Plaumann).

*Macromastix lustralis* (Alexander). — Nova Teutonia, September 20 to October 10, 1939 (Plaumann).

*Holorusia horni* Alexander. — Leopoldo Bulhões, Goyaz, December 1935 (R. Spitz).

*Holorusia ringens* Alexander. — Campinas, Goyaz, December 17, 1935 (Lopes). Formerly from Paraguay.

*Tipula armatipennis* Alexander. — Goyaz, December 1935 (Lopes).

*Limonia (Limonia) umbrosa* (de Meijere). — Rio de Janeiro, Santa Luzia, D. F., March 1940 (Lério Gomez). This Oriental species has been carried by commerce to various American countries. The present is the first record for South America.

*Limonia (Dicranomyia) pampoecila* (Alexander). — Teutonia, October 11, 1939 (Plaumann).

*Limonia (Geranomyia) tibialis* (Loew). — Rio de Janeiro, Quinta Bôa Vista, D. F., March 1940 (Lério Gomez).

*Limonia (Rhipidia) simplicicornis* Alexander. — Nova Teutonia, October 3, 1939 (Plaumann).

*Polymera (Polymera) obscura* Macquart. — Rio de Janeiro, Bento Ribeiro, D. F., March 1940 (Lério Gomez).

*Limnophila leucostigma* Alexander. — Nova Teutonia, August 13, 1936 (Plaumann).

*Shannonomyia justa* Alexander. — Nova Teutonia, August 24, 1938 (Plaumann).

*Gynoplistia (Paralimnophila) irrorata* (Enderlein). — Nova Teutonia, September 30 — November 30, 1939 (Plaumann).

*Hexatoma (Eriocera) nigrochalybea* (Alexander). — Petropolis, Rio de Janeiro, altitude 850 metres, March 28, 1939 (Plaumann).

*Hexatoma (Eriocera) plaumanni* Alexander. — Nova Teutonia, September 22 — October 9, 1939 (Plaumann).

*Teucholabis (Paratropesa) nigrocoxalis* Alexander. — Nova Teutonia, October 3, 1939 (Plaumann).

### Descriptions of species

#### *Tanypremna (Tanypremna) borgmeieri*, sp. n.

General coloration of praescutum chestnut brown, bordered sublaterally by darker brown; posterior sclerites of notum blackened; antennae with scape pale yellow, flagellum black; pleura yellow, with a narrow, transverse, brownish black stripe extending from behind the humeral region of the praescutum to the mid-coxae; legs black; wings with a strong brownish yellow suffusion, cells *C* and *Sc* darker brown; stigma dark brown; tip of *Sc*<sub>1</sub> atrophied; cell *M*<sub>1</sub> long-petiolate; *m-cu* at or before midlength of *M*<sub>3-4</sub>; male hypopygium with the inner dististyle dilated on more than basal third, the outer margin with four or five widely separated spines.

Male. — Length, about 19 mm.; wing, 13 mm.; antenna, about 1.3 mm.

Frontal prolongation of head short, pale yellow; palpi black. Antennae short; scape pale yellow; pedicel brown; flagellum black; flagellar segments cylindrical; verticils of segments of outer half of organ long and conspicuous. Head orange yellow, the posterior vertex and occiput dark brown.

Pronotum orange yellow, weakly darkened medially. Mesonotal praescutum with the disk chiefly covered by confluent chestnut brown stripes, the cephalic and sublateral portions darker brown; humeral and lateral portions of praescutum yellow; scutal lobes darkened, the median area obscure yellow; scutellum black, parrascutella obscure yellow; mediotergite black, sparsely pruinose, paler laterally. Pleura yellow, including all of propleura; a narrow, transverse, brownish black stripe from behind the humeral region of praescutum, crossing the dorsopleural membrane and posterior mesepisternum to the mid-coxae; pleurotergite obscure yellow, weakly darkened. Halteres moderately long, infuscated. Legs with the fore coxae weakly darkened; mid-coxae blackened, posterior coxae obscure yellow; trochanters yellow, the middle pair darker; femora brownish black, the bases obscure yellow, the tips blackened; tibiae and tarsi uniformly brownish black. Wings (Fig. 1) with a strong brownish yellow suffusion, cells *C* and *Sc* darker brown; stigma dark brown; a small dark cloud on anterior cord; veins brown. Venation: *Sc* preserved as a basal spur, not reaching costa; *Rs* gently arcuated, a little longer than  $R_{2-3}$ ;  $R_{1-2}$  suberect;  $R_3$  long-extended; cell  $M_1$  subequal in length to its petiole; cell 1st  $M_2$  short-hexagonal; *m-cu* at or just before midlength of  $M_{3-4}$ .

Abdomen moderately long; tergites reddish brown, the segments more brownish black just before posterior borders, on outer segments more uniformly infuscated; hypopygium brownish yellow; sternites obscure yellow, narrowly darkened posteriorly. Male hypopygium (Fig. 7) with the lobes of the tergite, *gt*, relatively broad and obtuse, separated by a very narrow median notch; surface of lobes with numerous setae. Inner dististyle, *id*, dilated on more than the basal third, then narrowed, again expanding into a slightly developed head; outer margin of style with four or five widely separated spines, including two on the basal dilation.

Holotype, ♂, Jardim Botânico, Rio de Janeiro, September 29, 1936 (H. de Souza Lopes); in author's collection, received from Borgmeier.

It is with unusual pleasure that I dedicate this species to Father Thomaz Borgmeier, founder and editor of the «Revista de Entomologia». *Tanyremna (Tanyremna) borgmeieri* is quite distinct from all other species with uniformly blackened tibiae and tarsi. The two most similar species are *T. (T.) invaripes* Alexander and *T. (T.) proavita* Alexander, from which the present fly differs in coloration of the body, pattern and venation of the wings, and, especially, the structure of the male hypopygium.

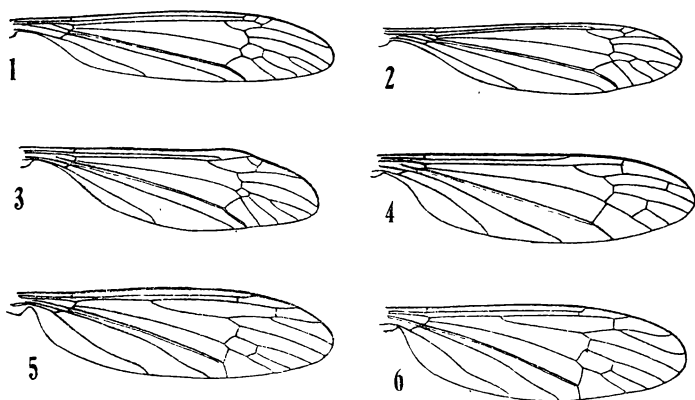


Fig. 1. *Tanyremna (Tanyremna) borgmeieri*, sp. n., venation. — Fig. 2. *Tipula lagotis*, sp. n. — Fig. 3. *Tipula blaseri*, sp. n. — Fig. 4. *Limonia (Neolimnobia) archangelica*, sp. n. — Fig. 5. *Hexatoma (Eriocera) flammeipennis*, sp. n. — Fig. 6. *Hexatoma (Eriocera) lopesi*, sp. n.

### *Tipula lagotis*, sp. n.

General coloration obscure yellow, the thorax without evident stripes; antennae (male) relatively long, exceeding one-third the length of body; wings with a strong brownish yellow tinge, the costal field deeper; cell 1st  $M_2$  long and narrow; male hypopygium with the lateral portions of tergite produced caudad into very long conspicuous lobes that suggest the ears of a hare in appearance.

Male. — Length, about 14-15 mm.; wing, 13-13.5 mm.; antenna, 6-6.3 mm.

Female. — Length, about 16-17 mm.; wing; 13-13.5 mm.

Frontal prolongation of head relatively short, obscure yellow; nasus distinct; palpi pale yellow. Antennae (male) relatively long, exceeding one-third the length of body, as shown by the measurements; basal three segments yellow; succeeding segments bicolored, the basal enlargement black, the apices yellow, the intermediate portions of the pedicels infuscated; outer segments more uniformly darkened; flagellar

segments with small basal enlargements; verticels short and subspinous. Antennae (female) short. Head brownish yellow, sparsely pruinose, especially on the orbits and occiput.

Thoracic dorsum chiefly obscure yellow, without evident stripes; posterior sclerites a trifle darker but unvariegated; mediotergite short and broad; mesonotal praescutum glabrous, without setae on interspaces; mediotergite with scattered golden yellow setae. Pleura uniform yellow, with a sparse grayish bloom. Halteres with stem yellow, knob weakly darkened. Legs with the coxae grayish yellow; trochanters yellow; femora obscure yellow; tibiae brownish yellow; tarsi passing into brown; claws (male) with a strong tooth. Wings (Fig. 2) with a strong brownish yellow tinge, the prearcular and costal fields even deeper yellow; stigma pale brown, short-oval; veins yellowish brown to pale brown. Venation:  $Sc_2$  ending at near one-third the length of the short  $Rs$ ;  $R_{1-2}$  entire; cell  $1st\ M_2$  long and narrow;  $M_{3-4}$  subequal to basal section of  $M_{1-2}$ .

Abdominal tergites obscure brownish yellow, the subterminal segments darker brown; sternites yellow; hypopygium more castaneous, the long tergal lobes yellow. Male hypopygium (Fig. 8) with the lateral portions of the ninth tergite,  $9t$ , produced caudad into very long lobes that suggest the ears of a hare; caudal border of tergite with much shorter lobes inside the limits of the major ears, these with a terminal group of short black setae; a slender median tergal lobe, slightly expanded and bilobed at apex; ventral surface of tergite near the center with a small spinous protuberance or flange on either side of midline. Dististyles as figured; outer style,  $od$ , very slender, curved on distal third, the outer margin with long erect delicate setae; inner dististyle,  $id$ , terminating in a long cylindrical rod or beak that bears a blackened spine before tip. Ovipositor with valves relatively short; cerci compressed, with setae except at tips.

Holotype, ♂, Rio Bandeiro, Minas Geraes, February 1932 (José Blaser); Museum of Comparative Zoölogy, Cambridge, ♀, Barro Alto, November 1931. Paratopotypes, several ♂♂♀♀, with the types, November 1931 to February 1932 (José Blaser).

*Tipula lagotis* is entirely different from all described regional species of the genus. The great extensions of the lateral lobes of

the male hypopygium readily separate the fly from other generally similar forms.

*Tipula blaseri*, sp. n.

Belongs to the *armatipennis* group; allied to *subarmata*; antennae bicolored; mesonotum brownish yellow; without markings; male hypopygium with the lateral lobes of the eighth sternite relatively slender, their outer margins at base with five or six conspicuous chitinized points to produce a serrate appearance.

Male. — Length, about 12.5 mm.; wing, 13 mm.; antenna, about 5 mm.

Frontal prolongation of head light yellow; nasus short and stout; palpi yellow. Antennae with basal three segments yellow; succeeding segments bicolored, the small basal enlargements brown, the remainder yellow; outer segments more uniformly darkened; flagellar segments moderately incised; longest verticils shorter than the segments. Head obscure yellow, a trifle darkened behind.

Mesonotum uniformly brownish yellow, without markings, the posterior sclerites a little more pruinose. Halteres with stem yellow, the knob weakly infuscated. Legs with the coxae obscure yellow; trochanters yellow; remainder of legs broken. Wings (Fig. 3) with a brownish yellow tinge, the prearcular and costal fields more saturated yellow; stigma pale brown; veins brown, brighter in the flavous areas. Costal border (male) strongly produced opposite the stigma but not spinous, as in *armatipennis*. Venation:  $R_1$  very faint but preserved on outer fourth of stigma, connecting with  $R_2$  at an acute angle; cell 1st  $M_2$  very small.

Abdomen obscure yellow, the outer tergites with a poorly-indicated median darker stripe; hypopygium yellow. Male hypopygium (Fig. 9) much as in *subarmata* but differing in all details. Ninth tergite,  $9t$ , with the lateral lobes extending caudad into sharp-edged blades; base of median notch with a small convex lobe; lateral shoulders of tergite with a dense group of setigerous punctures. Dististyle,  $d$ , complex, as shown; apical tail slender. Eighth sternite,  $8s$ , with lateral lobes more slender than in *subarmata*, their outer margins at base with five or six conspicuous chitinized points that are lacking in *subarmata*. The eighth sternite of the latter species is shown for comparison (Fig. 9, A).

Holotype, ♂, Minas Geraes, January 1933 (José Blaser); Museum of Comparative Zoölogy, Cambridge.

The species is named in honor of the collector, Mr. José Blaser. The nearest ally is *Tipula subarmata* Alexander, of Paraguay, which differs especially in the longer, more nearly uniform darkened antennae, and in the structure of the male hypopygium, detailed above.

*Tipula flavopolita*, sp. n.

General coloration polished yellow and black; antennae 11-segmented, the intermediate flagellar segments with lower face triangularly produced, giving a weak serrated appearance; darkened area on posterior vertex; mesonotal praescutum with three liver brown stripes, the humeral margin narrowly blackened; mediotergite and pleurotergite darkened posteriorly; pleura variegated yellow and brownish black; legs yellow, the tips of femora abruptly black; wings brownish yellow, stigma oval, pale brown; *Rs* shorter than *m-cu*, the latter close to fork of *M*<sub>3-4</sub>; abdominal tergites polished castaneous, with a narrow blackened median stripe; valves of ovipositor long and slender.

Female. — Length, about 18 mm.; wing, 15.5 mm.; antenna, about 2.2 mm.

Frontal prolongation of head relatively short and stout, yellow, subnitidous; nasus short and broad; palpi dark brown. Antennae (Fig. 10) with scape yellow, the apex darkened; remainder of organ dark brown; antennae 11-segmented; intermediate flagellar segments (4 to 8, inclusive) with lower face strongly and triangularly produced, giving a weak serrated appearance; outer segments linear; setae scattered over the segments, not arranged as basal verticils. Head with a high, narrow vertical tubercle, its apex weakly notched; head polished yellow; center of posterior vertex with a dark area; anterior vertex relatively wide, nearly three times the diameter of scape.

Pronotum light yellow, darkened laterally. Mesonotal praescutum polished yellow, with three entire, polished, liver brown stripes, the median one more blackened in front, narrowly expanded along the margin of humeral region as far back as level of anterior ends of lateral stripes; lateral stripes straight, crossing the suture onto the scutal lobes; posterior sclerites of notum polished yellow, scutellum more testaceous; mediotergite with two geminate dark brown areas on posterior border, pleurotergite yellow, the ventral portion dark brown.



Pleura yellow, variegated with polished brownish black on propleura, ventral anepisternum and ventral sternopleurite. Halteres yellow, the knobs scarcely darkened. Legs with coxae yellow, the fore pair narrowly blackened at bases, the posterior pair darkened on cephalic border; trochanters yellow; femora yellow, the tips (including about the distal tenth) abruptly blackened, the amount subequal on all legs; tibiae and basitarsi obscure yellow, the tips narrowly blackened; remainder of tarsi black; tibial spur formula 1-2-2. Wings brownish yellow, the prearcular region and broad cell C deeper yellow; stigma oval, pale brown; somewhat clearer streaks at outer end of vein  $M$ , across cell  $1st\ M_2$  and along veins  $M_2$ ,  $M_3$  and  $M_4$ ; veins brown, brighter in the yellow costal portions. Venation:  $R_s$  arcuated, shorter than  $m-cu$ ;  $R_{1-2}$  entire; petiole of cell  $M_1$  subequal to  $m$ ;  $m-cu$  close to fork of  $M_{3-4}$ ; cell  $2nd\ A$  relatively wide.

Abdominal tergites polished castaneous, the basal segments clear yellow laterally; a narrow blackened median stripe; extreme posterior borders of second to sixth tergites blackened, of the outer segments less conspicuously so; sternites castaneous, with a blackened median line. Ovipositor with cerci straight, very slender, darkened basally, the tips paling to yellow; hypovalvae shorter but slender.

Holotype, ♀, Serra do Itatiaya, «Südabhang, Waldreg.», October 16-26, 1927 (Zerny); Vienna Museum.

The general appearance of this fly is quite that of a *Nephrotoma* but from the venation the species is more nearly allied to *Tipula*. The peculiar structure of the antennae indicates an isolated species whose strict generic assignment must be held in question until the male sex is discovered.

*Limonia (Neolimnobia) archangelica*, sp. n.

Size large (wing, male, 13 mm.); mesonotal praescutum with three grayish stripes, the median one occupying a little more than anterior half of the sclerite; scutellum black; legs black, the femora with a narrow yellow ring at or beyond three-fourths the length and with a restricted yellow apical spot on outer face; fore femora with basal sixth yellow; wings pale yellowish subhyaline, with a reticulate brown pattern, stigma conspicuously yellow; abdominal segments obscure yellow, the caudal margins narrowly ringed with darker; male hypopygium with the spines of the rostral pro-

longation of the ventral dististyle relatively long, flattened bladeliike, from basal tubercles.

Male. — Length, about 13 mm.; wing, 13 mm.

Rostrum and palpi black. Antennae with scape greenish yellow; pedicel brownish black; first flagellar segment yellow, darkened at base; succeeding three segments light yellow, passing into green; outer flagellar segments elongate. Head black, the orbits and a central line on posterior vertex narrowly silvery.

Pronotum obscure yellow above, slightly darker on sides. Mesonotal praescutum with three grayish stripes, the interspaces more infuscated, the median stripe restricted to the anterior two-thirds of the sclerite; scutal lobes strongly darkened, the median area abruptly light yellow; scutellum black, the parascutella paler; mediotergite with cephalic two-fifths blackened, variegated with gray pruinose areas, the posterior three-fifths yellow; pleurotergite gray pruinose. Pleura greenish yellow, the cephalic anepisternum and adjoining portions of the dorsopleural membrane infuscated. Halteres greenish yellow. Legs with the coxae and trochanters yellow; femora chiefly black, the basal sixth of fore femora yellow, the remaining femora with bases scarcely brightened; a narrow yellow ring at or beyond three-fourths the length; a restricted yellow apical spot on outer face only; tibiae and tarsi black. Wings (Fig. 4) pale yellowish subhyaline, the prearcular and costal portions more strongly yellow; stigma deep yellow; a heavy reticulated brown pattern, arranged as in the *diva* group, the major area at cord paler brown, narrowly bordered by darker; veins yellow. Venation:  $Sc_1$  ending opposite origin of the short arcuated  $Rs$ ;  $m-cu$  at fork of  $M$ .

Abdomen obscure yellow, the caudal margins of the segments narrowly ringed with dark brown, the extreme borders of the tergites vaguely paler; hypopygium yellow. Male hypopygium (Fig. 11) with the caudal margin of tergite,  $9t$ , deeply and broadly notched. Ventral dististyle,  $vd$ , large, the rostral prolongation small, with two flattened bladeliike spines from a single tubercle or two closely approximated unequal tubercles.

Holotype, ♂, Nova Teutonia, Santa Catharina, October 25, 1938 (Plaumann).

*Limonia* (*Neolimnobia*) *archangelica* is most closely related to *L. (N.) diva* (Schiner), differing especially in the coloration of the

body and legs, and in the details of structure of the male hypopygium, as the longer, bladelike rostral spines of the ventral dististyle.

*Limonia (Rhipidia) neglecta subneglecta*, subsp. n.

Male. — Length, about 6.5 mm.; wing, 6.2 mm.; antenna, about 2.2 mm.

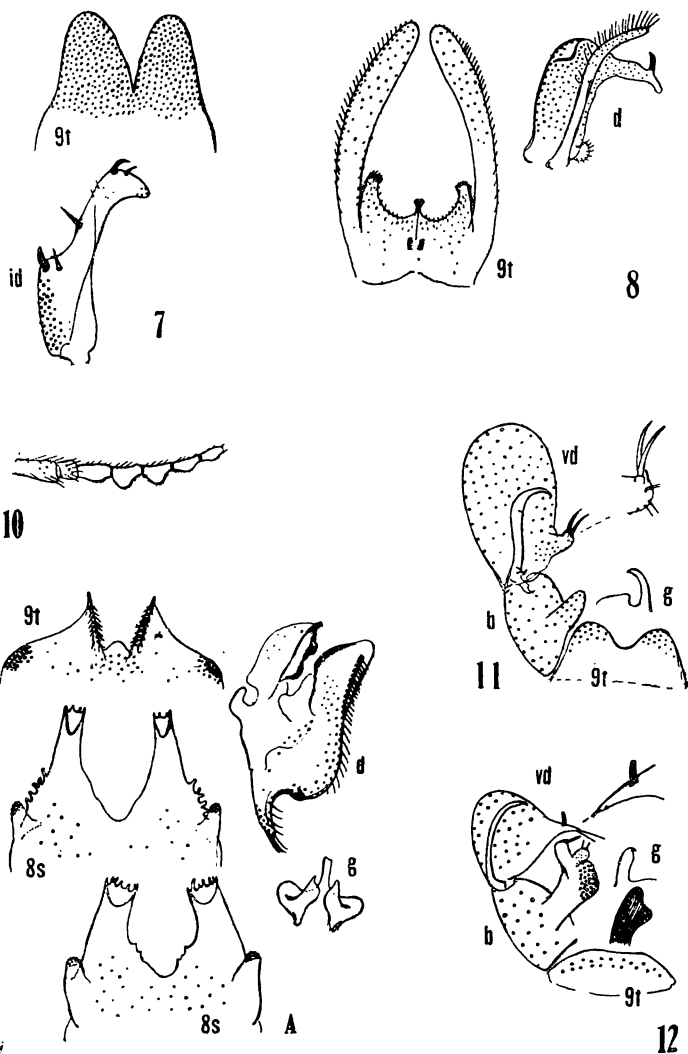


Fig. 7. *Tanypremna (Tanypremna) borgmeieri*, sp. n., male hypopygium. — Fig. 8. *Tipula lagotis*, sp. n. male hypopygium. — Fig. 9. *Tipula blaseri*, sp. n., male hypopygium — Fig. 9. A. *Tipula subarmata* Alexander, 8th sternite. — Fig. 10. *Tipula flavopolita*, sp. n., antenna of female. — Fig. 11. *Limonia (Neolimnobia) archangelica* sp. n., male hypopygium. — Fig. 12. *Limonia (Rhipidia) neglecta subneglecta*, sbsp. n.; male hypopygium. — Explanation of symbols: b, basistyle; d, dististyle; g, gonapophysis; id, inner dististyle s, sternite; t, tergite; vd, ventral dististyle).

Rostrum and palpi black, the former nearly equal in length to remainder of head. Antennae black throughout; flagellar segments two to nine, inclusive, short-bipectinate, the branches of each segment unequal in length, one being evidently longer than the other, the longest about one-half greater than the length of the segment; first flagellar segment merely produced on lower face; tenth flagellar segment with a single branch that is subequal in length to the segment; eleventh segment with a short lobe only; terminal segment simple, the apical half long-attenuate. Head gray; anterior vertex reduced to a linear strip.

Pronotum dark brown. Mesonotal praescutum buffy yellow, with three dark brown stripes, the lateral pair shorter but more intensely colored, their anterior ends curved mesad to the central stripe, constricting the interspaces; scutal lobes dark brown, the central portion of each a little brightened, the median area and base of scutellum more testaceous; remainder of scutellum darkened; postnotum dark brown, somewhat paler behind. Pleura pale yellow, with a narrow but conspicuous blackened longitudinal stripe extending from the propleura across the dorsal pleurites to the abdomen, passing beneath the root of the the halteres. Halteres black, the base of stem narrowly yellow. Legs with the coxae and trochanters pale yellow; femora brownish black, the bases paler, more extensively so on posterior legs where only the outer ends are rather narrowly darkened; tibiae brown, the tips darker; all tarsi black; claws (male) with a major submedian spine and two smaller, more basal teeth. Wings with a strong blackish tinge, more intense along costal border, variegated by five narrow whitish interspaces, the last beyond the stigma; prearcular field similarly whitened; veins dark, pale in the costal interspaces; macrotrichia long and conspicuous. Venation: *Sc* long, *Sc*<sub>1</sub> ending about opposite five-sixths the length of *Rs*, *Sc*<sub>2</sub> at its tip; free tip of *Sc*<sub>2</sub> and *R*<sub>2</sub> in transverse alignment, *R*<sub>1-2</sub> jutting beyond as a short setiferous spur; *m-cu* just before fork of *M*; cell 1st *M*<sub>2</sub> shorter than vein *M*<sub>1</sub> beyond it.

Abdominal tergites brownish black; sternites more bicolor, brownish yellow with the posterior borders broadly darkened; hypopygium dark. Male hypopygium with the basistyle relatively small, its ventromesal lobe complex; spines of outer lobes strong and spike-like. Dorsal dististyle slender.

From beneath the tergite just caudad a pair of conspicuous black appendages, the tips shallowly and vaguely emarginate.

Holotype, ♂, Nova Teutonia, Santa Catharina, June 20, 1939 (Plumann).

Very close to the typical form, differing especially in the venation and pattern of the wings and in the details of structure of the male hypopygium.

*Helius (Helius) perpallidus*, sp. n.

General coloration pale yellow; rostrum moderately long, a little exceeding the remainder of head; antennae very small; tips of femora narrowly but abruptly blackened; wings unmarked; branches of *Rs* strongly divergent, cell  $R_2$  at margin less than one-sixth as extensive as is cell  $R_3$ ; cell 2<sup>st</sup>  $M_2$  large, its inner end pointed, the basal section of  $M_{1-2}$  longer than the second section; *m-cu* a short distance beyond the fork of *M*.

Male. — Length, about 5 mm.; wing, 5.5 mm.

Rostrum moderately long, slightly exceeding in length the remainder of head, pale yellow throughout; palpi with basal segments pale, the outer segments more darkened. Antennae very small; scape and pedicel pale yellow, flagellum pale brown; flagellar segments beyond the basal ones elongate, with verticils that exceed the segments in length. Head obscure yellow.

Thorax uniformly pale yellow. Halteres pale yellow throughout. Legs yellow, the tips of the femora very narrowly but abruptly blackened; tibiae and tarsi pale yellow. Wings uniformly pale yellow, unmarked; veins a little darker than the ground. Venation:  $Sc_1$  ending about opposite three-fourths the length of *Rs*, the latter nearly straight; branches of *Rs* strongly divergent, cell  $R_2$  at margin less than one-sixth as extensive as is cell  $R_3$ ; basal section of  $R_{4-5}$  short; cell 1<sup>st</sup>  $M_2$  large, its inner end pointed, the basal section of  $M_{1-2}$  longer than the second section; *m-cu* only a short distance beyond the fork of *M*; cell 2<sup>nd</sup> *A* relatively narrow.

Abdomen, including hypopygium, yellow.

Holotype, ♂, Serra do Itatiaya, «Südabhang», altitude 2,000-2,700 metres, October 22, 1927 (Zerny); Vienna Museum.

Readily told from all other Neotropical species by the uniformly pale yellow coloration. It apparently belongs to the *mirabilis* group, all other species of which have patterned wings.

*Hexatoma (Eriocera) flammeipennis*, sp. n.

General coloration black; head fiery orange; mesonotal praescutum and scutum abruptly orange, heavily golden pollinose; basal flagellar segments obscure yellow; legs black; wings uniformly orange yellow, only the extreme base blackened; macrotrichia lacking on veins beyond cord;  $R_{2-3-4}$  and  $R_3$  subequal; abdomen brownish black, subnitidous.

Female. — Length, about 22 mm.; wing, 14.5 mm.

Rostrum and palpi black. Antennae 10-segmented; scape and pedicel dark brown; basal flagellar segments obscure yellow, the outer segments more brownish yellow. Head uniformly fiery orange; vertical tubercle high, conspicuously notched.

Pronotum black. Mesonotal praescutum and scutum uniformly orange, heavily golden pollinose, without stripes; scutellum and postnotum black. Pleura uniformly black. Halteres with stem brownish yellow, knob black. Legs black, the femoral bases very vaguely paler. Wings (Fig. 5) uniform orange yellow, only the extreme base blackened; veins deeper yellow. Macrotrichia lacking on veins beyond cord and caudad of vein  $R_1$ . Venation:  $R_3$  subequal to  $R_{2-3-4}$ , both exceeding one-half the length of  $R_s$ ;  $R_s$  a little longer than  $R$  alone;  $R_{2-3}$  shorter than  $R_2$ ; cell 1st  $M_2$  subequal in length to vein  $M_1$  beyond it; *m-cu* some distance beyond fork of  $M$ ; cell 1st  $A$  conspicuously widened at near midlength.

Abdomen brownish black, subnitidous; basal shield of ovipositor with obscure orange areas; valves of ovipositor elongate, black.

Holotype, ♀, Petropolis, Rio de Janeiro, altitude 850 metres, March 1939 (Plumann).

The most similar described species is *Hexatoma (Eriocera) flammeinota* (Alexander), which has the body-coloration somewhat similar. The present fly is readily told by the orange head, and the uniformly orange yellow wings, with the venational details distinct.

*Hexatoma (Eriocera) lopesi*, sp. n.

Allied to *amazonicola*; mesonotal praescutum obscure yellow, with four more brownish stripes that are more distinct behind and laterally; antennae chiefly yellow; head and pro-

notum orange; pleura black, restrictedly variegated with paler brown; halteres black; legs yellow, the tips of the femora, tibiae and two basal segments of tarsi narrowly blackened; wings light yellow, heavily patterned with brown, leaving the chief ground areas before and beyond the stigma in the radial field;  $R_2$  before fork of  $R_{3-4}$ ;  $m-cu$  and distal section of  $Cu_1$  forming an almost straight line; abdominal tergites two and three light yellow, one, five and six darkened; sternites and outer tergites orange.

Female. — Length, about 14.5 mm.; wing, 11 mm.

Rostrum brownish yellow; palpi dark brown. Antennae 8-segmented; yellow, only the two outer segments a little darkened; flagellar segments cylindrical; basal segments gradually decreasing in length, the third to fifth subequal, the last segment a little shorter. Head orange; vertical tubercle weakly bifid.

Pronotum orange. Mesonotal praescutum with the ground obscure yellow, with four more brownish stripes that are poorly delimited, the lateral borders of the outer stripes more evident; humeral region clearer yellow, the lateral margin behind the humeri and opposite the lateral stripes more darkened; praescutum with small, inconspicuous setae; scutal lobes variegated with brown, the median area yellow; scutellum obscure yellow, parascutella dark; mediotergite chiefly dark brown or brownish black, especially on sides, the median portion a little paler; pleurotergite black. Pleura black, variegated with paler brown, especially on dorsal sternopleurite and adjoining cephalic portion of pteropleurite. Halteres black, the base of stem restrictedly brightened. Legs with coxae black; trochanters obscure yellow; femora light yellow, the tips narrowly but abruptly dark brown, subequal in extent on all legs; tibiae yellow, the tips still more narrowly blackened; basal two tarsal segments obscure yellow, the tips narrowly black; outer tarsal segments uniformly black. Wings (Fig. 6) with the ground color light yellow, heavily and handsomely patterned with dark brown, the latter distributed as follows: Cells  $C$  and  $Sc$ , with bases of cells  $R$  and  $M$ , and extreme cephalic border of cell  $R_1$ , the color continued distad as seams along veins  $M$  and  $Cu$ ; a conspicuous outer area including the stigma, a broad seam along cord and all of cell  $R_5$  to wing-apex; other veins of medial field, as well as the apical margin, more narrowly seamed with brown; cubital and anal

cells paler brown, the basal half of *1st A* extensively brightened; wing-base narrowly deeper yellow; the chief ground areas lie before and beyond the stigma in the radial field; veins brown, yellow in the ground areas. Veins glabrous, beyond the cord with a sparse series on distal section of  $R_5$ . Venation:  $Sc_1$  ending about opposite fork of  $R_s$ ,  $Sc_2$  near its tip,  $R_2$  before fork of  $R_{3-4}$ , the latter about two-thirds as long as  $R_2$  alone; tips of veins  $R_3$  and  $R_4$  strongly upturned; cell *1st M*<sub>2</sub> subequal in length to vein  $M_3$  beyond it; *m-cu* just beyond one-fourth the length of cell *1st M*<sub>2</sub>, almost in direct alignment with the distal section of vein  $Cu_1$ .

Abdomen with first segment brown, segments two and three abruptly light yellow; tergite four chestnut brown; tergites five and six intense black; sternites and outer tergites, including the genital shield, orange. Ovipositor with cerci blackened at bases, the tips paling to horn yellow.

Holotype, ♀, Campinas, Goyaz, January 1, 1936 (Lopes); in author's collection, received from Borgmeier.

I am very pleased to dedicate this interesting species to the collector, Mr. H. de Souza Lopes. The nearest described ally seems to be the Amazonian *Hexatoma (Eriocera) amazonicola* (Alexander), which differs conspicuously in the coloration of the body, wings and legs.

*Trentepohlia (Neomongoma) zernyi*, sp. n.

General coloration fulvous yellow; knobs of halteres weakly infumated; legs brown, the femoral tips darker; wings with the ground color yellow, the costal border more saturated yellow; a restricted brown pattern, including seams at origin of  $R_s$ , along cord, outer branches of  $R_s$ , and as a seam along vein  $Cu$ ; wing-tip in cell  $R_3$  broadly darkened; stigma short-oval, darker brown;  $R_3$  suberect; cell  $R_5$  petiolate.

Female. — Length, about 8-9 mm.; wing, 6.8-8 mm.

Rostrum obscure yellow; palpi passing into black. Antennae with scape and pedicel brownish yellow, flagellum brown; flagellar segments oval. Front and orbits testaceous yellow, the posterior vertex slightly darker, the occiput paling to fulvous yellow; anterior vertex narrow.

Thorax almost uniformly fulvous yellow, without markings, the surface subnitidous. Halteres with stem yellow, knob weakly darkened. Legs with coxae fulvous yellow; trochanters obscure yellow; femora pale brown, the tips darker, the bases more yellow; tibiae and tarsi medium brown. Wings with the ground



color yellow, the costal border much deeper yellow; a restricted brown pattern, including the prearcular field and seams at origin of  $R_s$ , along cord, on all branches of  $R_s$  and as a broader seam along vein  $Cu$ ; wing-tip in cell  $R_3$  broadly darkened; stigma short-oval, darker brown; veins yellow, darker in the clouded areas. Venation:  $R_3$  subequal to  $R_{3-4}$ , suberect; basal section of  $R_5$  short to very reduced; cell  $R_5$  petiolate, the stem subequal to or longer than  $m$ ;  $m-cu$  shortly beyond fork of  $M$ .

Abdomen fulvous yellow, unmarked; cerci elongate, strongly upcurved.

Holotype, ♀, Lower Amazons, Taperinha, bei Santarem, July 11-20, 1927 (Zerny); Vienna Museum. Paratopotype, 1 ♀.

*Trentepohlia (Neomongoma) zernyi* is named in honor of the distinguished collector, to whom I am greatly indebted for many kindly favors in the past. In its conspicuously patterned wings, the fly is quite distinct from the two other species of the subgenus hitherto described, *T. (N.) disjuncta* (Alexander), of southeastern Brazil, and *T. (N.) suberecta* Alexander, of Ecuador. The latter is somewhat more closely distinct from the two other species of the subgenus hitherto described, related to the present fly, being further distinguished by the blackened mesonotum.

*Trentepohlia (Paramongomu) amatrix*, sp. n.

General coloration yellow, including the palpi, antennae and halteres; femora yellow, with a brownish black subterminal ring, the tips white; tips of tibiae dark brown; wings pale yellow, with a pale brown wash extending the entire length of wing over the central cells;  $R_2$  close to fork of  $R_{3-4}$ ; veins  $Cu_1$  and 1st  $A$  only narrowly separated at wing margin; abdominal tergites brownish yellow, with a conspicuous, entire, dark brown, median stripe.

Female. — Length, about 9 mm.; wing, 9.5 mm.

Rostrum yellow; palpi pale yellow. Antennae pale yellow throughout; flagellar segments elongate oval, the ends truncate. Head pale brown, the anterior vertex and narrow orbits light gray; anterior vertex reduced to a linear strip.

Mesonotum brownish yellow to testaceous yellow, without distinct markings; setae of praescutal interspaces small and sparse. Pleura testaceous yellow. Halteres pale yellow. Legs with the coxae and trochanters yellow; femora yellow, before the tips with a brownish black ring of moderate width (about

1.3 mm.), the actual tips narrowly more whitened; tibiae pale yellow, the tips (about 1 mm.) dark brown; tarsi yellow, the outer segments passing into brown. Wings long and narrow, pale yellow, with a pale brown wash over the central cells, including the base of *Cu*, most of *M*, outer end of *R*, *R*<sub>5</sub>, *1st M*<sub>2</sub>, and the posterior border of *R*<sub>4</sub>; veins yellow, scarcely darker in the clouded area. Venation: *R*<sub>2</sub> close to fork of *R*<sub>3-4</sub>; basal section of *R*<sub>5</sub> shorter than the first section of *M*<sub>1-2</sub>; *m-cu* before fork of *M*; veins *Cu*<sub>1</sub> and *1st A* only moderately separated at margin, the distance about one-third *m-cu*.

Abdominal tergites brownish yellow with a conspicuous, entire, dark brown, median stripe; sternites and genital segment yellow. Ovipositor with cerci long and slender, upcurved.

Holotype, ♀, Serra do Itatiaya, «Südabhang, Waldreg.», October 16-26, 1927 (Zerny); Vienna Museum.

In the peculiar pattern of the wings, *Trentepohlia* (*Paramongoma*) *amatrix* is very different from all other known species of the subgenus.

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