

NEW OR LITTLE-KNOWN TIPULIDÆ FROM THE  
PHILIPPINES (DIPTERA), PART IV

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Separate from  
THE PHILIPPINE JOURNAL OF SCIENCE  
Published by the Bureau of Science of the Philippine Government  
Manila, P. I.  
VOLUME 33, No. 3, JULY, 1927

MANILA  
BUREAU OF PRINTING  
1927

NEW OR LITTLE-KNOWN TIPULIDÆ FROM THE  
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TWO PLATES

Through the great kindness of Mr. Richard C. McGregor and Dr. C. F. Baker, I have had for study a considerable amount of additional material in the Tipulidæ, some of which is discussed in the present report. Through the kindness of the collectors, I have been permitted to retain the types of the novelties discussed here. Our knowledge of the crane flies of the Philippines, although still very incomplete, has received its greatest impetus through the kind interest of Mr. McGregor and Professor Baker.

A recent, very important paper on the Tipulidæ collected by the late G. Boettcher has added greatly to our knowledge of the subject. F. W. Edwards<sup>2</sup> has listed all of the papers hitherto published that concern the Tipulidæ of the Islands and has listed the species of the family hitherto recorded from the Philippines (about 56), to which are added 17 species from the Boettcher material, making a total of about 73 species. The exact number is uncertain, because of a question of correct determination of some of the species recorded and the possibility of their being identical with earlier recorded forms. Edwards has accomplished a splendid piece of work in preparing this report and thus summarizing the earlier work. Doctor Baker has called my attention to the fact that several of the localities mentioned therein are misspelled and should be corrected; the mistakes presumably were caused by poorly written labels.

A list of these follows:

Nos. 5 and 17. Leite = Island of Leyte.

Kalambugan = Kolambugan, in northwestern Mindanao.

No. 7. Bagnio = Baguio, Benguet Subprovince, Luzon.

Nos. 19, 28, and 30. Port Bauge = Port Banga, southwestern Mindanao.

<sup>1</sup> Contribution from the Department of Entomology, Massachusetts Agricultural College.

<sup>2</sup> Philippine Nematoceros Diptera. I. Tipulidæ, Notulæ Entomologicae 6 (1926) 33-44.

No. 32. Heightpool (?) = Haight's Place, at 8,000 feet, in the mountains above Baguio, Benguet. This is the type locality for this species (*Pselliophora pumila* Alex.).

No. 33. Calopan = Calapan, Mindoro.

No. 38. Antimonan = Atimonan, on the east coast of Luzon.

Keys to the larger and more involved genera (*Eriocera* and *Pselliophora*) are given. Bezzi<sup>3</sup> had earlier supplied keys to *Libnotes*, *Eriocera*, and *Pselliophora*. In the present report, keys to the Philippine species of *Scamboneura* and *Trentepohlia* are supplied.

### TIPULINÆ

*TIPULA RIVERAI* sp. nov. Plate 1, figs. 1 and 2.

General coloration dark fulvous; tibial spurs lacking; wings subhyaline, the stigma dark brown; cell  $M_1$  sessile; cell 2d A very narrow.

*Male*.—Length about 13.5 millimeters; wing, 15; fore leg, femur, 9.5; tibia, 11.6; basitarsus, 16.8. Frontal prolongation of head relatively short and stout, brownish yellow; nasus stout, concolorous; frontal prolongation meeting remainder of frons at an acute angle (when viewed laterally); palpi pale. Antennæ with the scapal segments yellowish brown; flagellum dark brown; all flagellar segments cylindrical with stout black setæ distributed along the outer face only, remainder of each segment with microscopic setulæ; terminal segment abruptly smaller and only half the length of the penultimate. Head dark fulvous brown, without a vertical tubercle; vertex relatively broad.

Mesonotal præscutum dark fulvous with three, very ill-defined, slightly more olive green stripes that are very narrowly margined with a reddish brown line, the median stripe further split by a capillary vitta; remainder of mesonotum fulvous, scutellum slightly darker. Pleura dark fulvous brown, indistinctly variegated with darker. Halteres relatively long, the knobs darker brown. Legs with coxæ and trochanters reddish brown; femora yellowish brown, the tips faintly darkened; tibiæ brown, the tips very narrowly blackened; tibial spurs lacking; tarsi brown, passing into brownish black; legs long, especially the tarsi, as shown by the measurements given above. Wings (fig. 1) subhyaline, the stigma and cell Sc dark brown; wing base and cell C more yellowish; wing apex vaguely more darkened; prearcular veins brown, the remaining veins black. Venation: Rs of moderate length, arcuated;  $R_{2+3}$  in alignment with the

<sup>3</sup> Philip. Journ. Sci. § D 12 (1917) 108-117

longer  $R_3$ ; cell  $R_2$  relatively small; cell  $M_1$  broadly sessile; m-cu at or immediately beyond the fork of  $M_{3+4}$ ;  $Cu_2$  extending almost to wing margin; vein 2d A relatively short, cell 2d A being very narrow.

Abdominal tergites dark brown, sternites obscure yellow; fifth to eighth segments darkened to form a subterminal ring; hypopygium brown. Male hypopygium relatively small, the component sclerites of ninth segment fused into a continuous ring. Region of ninth tergite (fig. 2) terminating in two slender points that are directed caudad, separated from one another by a broad U-shaped notch which bears a small obtuse median lobule at its base; the lateral lobes are blackened and microscopically roughened on their distal half. Basistyle separated from ninth sternite only by a curved ventral suture. Ninth sternite extensive, membranous medially and here produced into a small, bilobed, fleshy structure.

LUZON, Tayabas Province, Lucban, March, 1926 (*Francisco Rivera*); a male. Named in honor of the collector, Mr. Francisco Rivera.

*Tipula riverai* is very distinct from any of the species of the genus known to me. The lack of tibial spurs, the peculiar arrangement of setæ on the antennæ, and the sessile cell  $M_1$  are characters that may be held as being sufficient to warrant a new generic group for this fly.

#### Genus SCAMBONEURA Osten Sacken

*Scamboneura* OSTEN SACKEN; Berlin. Entomol. Zeitschr., 26, Heft 1 (1882) 95.

The genus *Scamboneura* was proposed by Osten Sacken for the single species then known to him, *S. dotata* Osten Sacken, from the Philippines. Since that date additional species have been described in and referred to this genus until now five species are recognized, to which number two more are added in the present paper. The great majority of the known forms are from Luzon.

#### Key to the Philippine species of *Scamboneura* Osten Sacken.

1. Antennal flagellum bicolorous, the bases of the individual segments black, the apices yellow..... 2.
- Antennal flagellum uniformly dark brown or black..... 3.
2. Mesonotal præscutum with three brown stripes, the margins of these opaque, their centers shiny and with a slight metallic luster; legs pale tawny, the tips of the femora and tibiæ darkened.

**S. dotata Osten Sacken.**

Mesonotal præscutum and scutum uniformly dark gray, without stripes; legs obscure yellow, the tips of the femora and tibiæ not darkened.

**S. psarophanes sp. nov.**

3. General coloration of the head and thorax fulvous yellow to yellow, without stripes; pleura pale yellow..... **S. unicolor Bezzi.**

Thoracic dorsum either plumbeous, without markings, or else yellow with three black or dark brown stripes..... 4.

4. General coloration of the thoracic dorsum and pleura grayish plumbeous. **S. plumbea Alexander.**

General coloration of the thoracic dorsum yellow with three shiny black stripes, the pleura uniformly light yellow..... **S. faceta sp. nov.**

Besides the Philippine species, the only described species are *S. vittifrons* (Walker) of Amboina, and *S. quadrata* de Meijere of Java. *Scamboneura plumbea* Alexander was omitted from Edwards's tabulation of the Philippine species.

**SCAMBONEURA PSAROPHANES sp. nov.**

General coloration of head yellow, posterior portion gray with a median velvety black prolongation; præscutum and scutum dark gray, without stripes; postnotal mediotergite whitish yellow with a  $\perp$ -shaped darker marking; pleura whitish gray, variegated with darker; abdominal segments obscure yellow, the lateral margins of the tergites broadly blackened.

*Female*.—Length, 15.5 millimeters; wing, 11. Frontal prolongation of head light yellow, a trifle darker beneath; palpi with the basal segments yellow, the elongate terminal segment infuscated, except at base. Antennæ with the scapal segments yellow, the basal half of first segment blackened, the frons surrounding antennal fossa likewise blackened; flagellar segments elongate, bicolorous, the basal two-thirds or more black, the distal portion yellow, the latter decreasing in amount and intensity distally, the terminal four or five segments being uniformly darkened; flagellar segments with delicate, erect pubescence and short, basal verticils. Anterior vertex whitish yellow, the posterior orbits bright yellow; occipital region with a gray triangle, the anterior point extended cephalad into a linear, velvety black line.

Pronotum dark, obscure yellow medially. Dorsum of the mesonotal præscutum and scutum almost uniformly dark gray, with only the humeral triangles very slightly reddened and the anteromedian portion of scutum yellowish; scutellum grayish brown; postnotal mediotergite obscure whitish yellow with the posterior fourth dark gray, sending a median brown vitta cephalad to the cephalic margin of sclerite. Pleura whitish gray,

variegated with dark gray on anepisternum, sternopleurite, meron, and the postnotal pleuro-tergite; dorsopleural membrane light yellow. Halteres of moderate length only, pale brown, the knobs dark brown. Legs with the coxæ pale, the outer face of the fore coxa largely darkened, that of the posterior coxa a little darkened basally; trochanters, femora, and tibiæ obscure yellow, the tarsi passing into darker. Wings subhyaline, base and cell Sc brownish yellow; stigma small, darker brown; wing veins black except the basal and costal veins which are bright brown. Venation: Tips of veins  $R_1$  and  $R_2$  both atrophied;  $R_s$  preserved but pale; all forks of medial veins deep; m-cu on  $M_4$  at about one-third its length beyond fork of M.

Abdomen obscure yellow, the tergites broadly and conspicuously margined laterally with black. Ovipositor with the valves relatively short and straight, reddish horn colored, the tips of the tergal valves obtusely rounded.

LUZON, Laguna Province, Mount Maquiling (*Baker*); holotype, female; paratype, female.

SCAMBONEURA FACETA sp. nov.

General coloration of head obscure orange, the occipital triangle darker; antennal flagellum black throughout; mesonotal præscutum obscure yellow with three conspicuous black stripes; pleura light yellow; legs largely brownish black; abdominal tergites obscure yellow, trivittate with brownish black, the median stripe very broad, interrupted at the caudal margins of segments.

Male, length, about 12 millimeters; wing, 12. Female, length, about 15 millimeters; wing, 13. Frontal prolongation of head yellow, nasus black; palpi pale, the outer segment passing into dark brown. Antennæ of male elongate, if bent backward extending to about opposite base of second abdominal segment; scape obscure brownish fulvous; flagellar segments black. In the female, the antennæ are much shorter. Head obscure dark orange, with a darker occipital triangle.

Pronotum narrow, obscure yellow, in the female, light orange medially. Mesonotal præscutum obscure yellow with three conspicuous black stripes, the lateral stripes straight, the interspaces very narrow; scutum obscure yellow, the lobes very extensively blackened; scutellum shiny black, a little paler caudally; postnotal mediotergite shiny brownish black, a little paler on the lateral margins. Pleura light yellow, unmarked.

Halteres brownish black, only the extreme base of stem a little paler. Legs with the coxæ and trochanters yellow; femora brown, narrowly paler at base, the outer half or more of the segments darker brown; tibiæ and tarsi brownish black. Wings subhyaline, stigma and subcostal cell brown; veins dark brown to black. Venation: Rs as in the genus, short and simulating a crossvein; distal sections of veins  $R_1$  and  $R_2$  atrophied; m-cu on  $M_1$  at about one-half its length beyond the fork of M.

Abdominal tergites obscure yellow, trivittate with brownish black, the caudal margins of segments 2 to 7 narrowly and indistinctly obscure yellow; median stripe very broad, the sub-lateral stripes much less distinct; lateral margins of segments pale; sternites light yellow, the outer segments darker; hypopygium small, dark brown. In the female the tergites are brownish black, margined caudally with fulvous or brownish orange, the lateral margins broadly of the same color; basal sternites yellow, the outer segments duller in color; ovipositor with the valves horn colored, the long tergal valves subacute at tips.

In the paratype female the thoracic stripes are dark reddish brown instead of black.

LUZON, Tayabas Province, Alabat Island, September 18 to 30, 1926 (*Francisco Rivera*); holotype, male; allotype, female; paratype, female.

*Scamboneura faceta* is most closely allied to the Javanese *S. quadrata* de Meijere, from which it differs especially in the details of coloration, notably of thorax, abdomen, and legs. The general appearance of the species is very much like certain species of *Nephrotoma*, and it is highly probable that the true affinities of the genus lie with the *Tipularia* rather than with the *Dolichopezaria*, despite the venation of the medial field of the wing.

**NESOPEZA CINCTITARSIS** sp. nov. Plate 1, figs. 3 and 4.

General coloration light cinnamon brown, antennal flagellum black; legs dark brown, the tibial bases narrowly whitened; tarsi white, the fore and middle basitarsi with the central half blackened or strongly infuscated; wings with a dusky tinge, the small stigma darker brown; cell 2d A narrow; male hypopygium large, ninth tergite conspicuously developed.

Male, length, about 11 millimeters; wing, 10 to 10.5. Female, length, about 11 millimeters; wing, 9. Frontal prolongation of head very short, light yellow; palpi yellow, passing into

brown. Antennæ of male of moderate length only, if bent backward scarcely attaining base of abdomen; first scapal segment pale brown; second segment yellow; flagellum black; antennæ of female shorter, not attaining the wing root. Head light cinnamon, frons passing into light yellow.

Mesonotal præscutum and scutum cinnamon brown with the interspaces a little darker; scutellum darker brown; postnotal mediotergite darker brown, paler laterally. Pleura obscure yellow to brownish yellow, anepisternum and ventral portions of sternopleurite and meron a little darker. Halteres elongate, brownish black, the extreme base of stem a little paler. Legs with coxæ and trochanters pale yellow; femora dark brown, paler basally; tibiæ dark brown, narrowly whitened basally; tarsi snowy white with about the central half of basitarsi infuscated; middle tarsi with the basal whitened portion more obscured; terminal tarsal segments passing into light yellow or whitish yellow. Wings (fig. 3) with a dusky tinge, the small stigma oval, dark brown; veins brownish black. Venation: Rs longer than the penultimate section of  $R_1$  but usually a little shorter than  $R_{2+3}$ , gently arcuated at origin; all medial cells deep; m-cu close to fork of M; cell 2d A narrow.

Abdominal tergites dark brown with a transverse obscure orange ring just beyond base of tergites 3 to 5; subterminal segments more uniformly blackened; male hypopygium conspicuously enlarged, basistyle brightened, tergite and dististyles dark brown. Male hypopygium (fig. 4) of very unusual form, the ninth tergite (*t*) greatly produced caudad and dorsad into an elevated flattened plate that is deeply divided medially by a narrow split; lateral lobes relatively narrow, each shallowly bifid on outer face near apex; ventral surface of the mesal margin of each of these lobes at near midlength bearing a slender chitinized rod that is directed cephalad and slightly laterad. Outer dististyle (*o*) an elongate, cylindrical lobe that is provided with long erect setæ. Inner dististyle (*i*) a small flattened blade, the apex suddenly narrowed into a slender point. Ovipositor with the valves chitinized, the tergal valves gently upcurved at tips.

LUZON, Tayabas Province, Lucban; at medium altitude on Mount Banahao, May, 1926; in dry forest, at base of tree, far from water (*McGregor*); holotype, male; allotype, female; paratypes, both sexes.

*Nesopeza cinctitarsis* is well distinguished by the remarkable male hypopygium. It is placed in the genus in the broad usage



of the name. The genus *Nesopeza* Alexander was proposed for a group of *Dolichopezaria* that includes *gracilis* de Meijere, *costalis* Brunetti, and *geniculata* Alexander, all species with the radial sector very long, rectangularly bent, and spurred near origin. To the genus a larger number of other species have been referred in which the sector is about as in the present species, such forms being retained in *Nesopeza* for convenience only.

### LIMONIINÆ

**GERANOMYIA FLAVICOSTA** Brunetti. Plate 1, fig. 5.

*Geranomyia flavicosta* BRUNETTI, Fauna Brit. India, Dipt. Nematocera (1912) 389-390, pl. 8, fig. 2 (wing); pl. 11, fig. 6 (mesonotum).

This interesting crane fly was described from a single imperfect female specimen taken from a light aboard a launch on the Ganges Delta, India, August, 1909.

The male has not been described and the present specimen is made the allotype.

*Male*.—Length (excluding rostrum), about 6.5 millimeters; wing, 6.7. Differs from the description of the female in the following: Rostrum about as long as the combined head and thorax; black subterminal ring very narrow. Mesonotum shiny ferruginous, without a dark pattern as described and figured for the female. The wing pattern is very gaudy, in its general pattern suggesting the pediciine genus *Nipponomyia* Alexander and the hexatomine genus *Skuseomyia* Alexander.

Male hypopygium (fig. 5) with the basistyle (*b*) relatively small, the ventromesal lobe large, with long, conspicuous setæ. Ventral dististyle (*v*) very large, fleshy, the rostral prolongation very short, sessile, provided with a single conspicuous spikelike spine that is acute at tip. Dorsal dististyle (*d*) relatively short, only slightly curved, the tip suddenly narrowed into a slender point. Gonapophyses (*g*) broadly flattened, apex slender, gently curved to the acute tip, separated from remainder of blade by an oval notch.

LUZON, Manila, March, 1925 (*McGregor*); allotype, male.

**DICRANOMYIA (THRYPTICOMYIA) APICALIS** (Wiedemann). Plate 1, fig. 6; Plate 2, fig. 9.

*Limnobia apicalis* WIEDEMANN, Aussereur. zweifl. Insekt. 1 (1828) 551.

The crane fly described by Wiedemann as *apicalis* has long remained in doubt. Through the kindness of Dr. Hans Zerny

I was enabled to examine Wiedemann's type and to settle finally the identity of the fly, long suspected but never actually proven. The fly belongs to the subgenus *Thrypticomylia* Skuse. There has been an unfortunate confusion regarding the correct application of the specific names *apicalis* Wiedemann, *saltens* Doleschall, and *cuneiformis* de Meijere. The species determined by Brunetti<sup>4</sup> as *saltens* is now referred to *apicalis* by Edwards.<sup>5</sup> Edwards believes that the name *saltens* Doleschall (*saltans* of authors) pertains to a species of the subgenus *Euglochina* Alexander rather than to *Thrypticomylia* Skuse, a fact that is borne out by Doleschall's figure, brief description, and measurements. De Meijere considered the name *saltens* to refer to the subgenus *Thrypticomylia*. If Edwards's contention is correct, it is very probable that the name *cuneiformis* de Meijere will fall in the synonymy of *saltens* (in the subgenus *Euglochina*). If de Meijere's original beliefs are well founded, *saltens* will pertain to *Thrypticomylia* and will very possibly be found to be a synonym of the present species. The chief fact in the question that would tend to uphold de Meijere's contention lies in the curious dancing habit that Doleschall discussed for his *saltens* and which has been noted several times by other collectors for different species of *Thrypticomylia*, but not, to my knowledge, for species of *Euglochina*. Until Doleschall's material (if extant) can be examined, the problem will still remain.

McGregor sent three genera of crane flies that he found about cacao trees across the street from his house in Lucban, Tayabas Province, Luzon, in May, 1926. His interesting notes on these flies are as follows:

The largest kind [*Conosia irrorata* Wiedemann] rests on leaves with a hind leg extended on each side—mid and fore legs together, extended in front—abdomen elevated—no motion. This fly simulates certain spiders and looks nothing like a fly.

The middle-sized kind [*Trentepohlia trentepohlii* Wiedemann] rests on leaves and dances rather slowly.

The smallest [*D. (T.) apicalis* Wiedemann and *D. (T.) arachnophila* sp. nov.] rests the ends of the fore tarsi on a spider-web line and dances, three or four flies sometimes resting close together on a line.

The last-mentioned habit has been discussed by earlier authors, as Osten Sacken, Jacobson (through de Meijere), Scott, Edwards, and others.

<sup>4</sup> Fauna Brit. Ind. Diptera, Nematocera 1 (1912) 373-374.

<sup>5</sup> Rec. Ind. Mus. 26 (1924) 295.

The holotype of Wiedemann's species was redescribed by me in 1921 as follows:

The type has lost the apical half of the abdomen. Wings hyaline, the cells beyond the level of the outer end of cell *1st M*<sub>2</sub> distinctly infuscated; stigma elongate-oval, dark brown, clearly delimited; veins dark brown, very distinct. Venation: *Sc*<sub>1</sub> ending immediately beyond the origin of *Rs*, *Sc*<sub>2</sub> some distance from its tip, *Sc*<sub>1</sub> alone being a little shorter than *m-cu*; distal section of *R*<sub>1</sub> preserved, *r* being a little longer than *m-cu*; distal section of *R*<sub>2</sub> atrophied beyond the distal margin of the stigma; inner ends of cells *R*<sub>3</sub> and *1st M*<sub>2</sub> about on a level, lying more basad than cell *R*<sub>5</sub>; *m-cu* at near three-fourths the length of cell *1st M*<sub>2</sub>; *M* in alignment with *M*<sub>3+4</sub>; distal section of *Cu*<sub>1</sub> only a little longer than *m-cu*. Hind legs with the proximal third of the basitarsi blackened; on middle legs the darkening a little less extensive; fore legs lacking.

From these notes it can be seen that the absolutely critical feature, the structure of the male hypopygium, cannot be described.

The Luzon material agrees very closely with the type, except that *Sc*<sub>1</sub> ends shortly before the origin of *Rs* and *m-cu* is shorter than *Sc*<sub>1</sub> alone.

Since there are rather numerous species of *Thrypticomyia* in the Oriental Region, it is deemed advisable to redescribe and figure this species.

General appearance as in the other members of the subgenus. Verticils of the male antennæ long and conspicuous. Mesonotal præscutum very dark brown, somewhat shiny, the lateral margins of præscutum somewhat paler. Pleura obscure testaceous yellow, the dorsopleural region darker. Legs black, tarsi snowy white, only the three terminal segments slightly more yellowish white; basitarsi with about the proximal two-fifths darkened. Wings subhyaline, stigma large, oval, dark brown. Wing tip strongly infumed, this including all of the cells from slightly beyond the cord outwardly. Venation as discussed above (fig. 9): *Cu*<sub>2</sub> entirely lacking, as in the subgenus but not in *Euglochina*. Male hypopygium (fig. 6) with the ventromesal lobe of basistyle (*b*) of moderate length and stoutness. Dorsal dististyle (*d*) strongly curved, the long tip acutely pointed. Rostrum of the ventral dististyle (*v*) very long and slender, the two spines widely separated from one another, the distance between them approximately or nearly as long as the length of a single spine; the more basal of these spines arises from a short, hemispherical, enlarged base; ros-

trum beyond the last spine from two to three times as long as the length of a single spine.

The species is most closely allied to *D. (T.) fumidapicalis* Alexander, described from North Queensland, and the two may be merely geographical races. In the latter species the distal spur of  $R_2$  is short, usually less than half the length of the vertical basal section; m-cu is usually far out toward the distal end of cell 1st  $M_2$ , though sometimes at about two-thirds the length of the cell. The macrotrichiaë of the veins do not appear so long or conspicuous as in *apicalis*. The male hypopygium (Plate 1, fig. 8) has the rostral spines closer together, the more basal arising from an elongate subconical base that is about two-thirds as long as the spine itself; the spines are much less than their own length apart; apical beak of rostrum just beyond spines relatively broad, thence narrowed strongly to tip.

**DICRANOMYIA (THRYPTICOMYIA) ARACHNOPHILA** sp. nov. Plate 1, fig. 7; Plate 2, fig. 10.

*Male*.—Length, about 5 millimeters; wing, 5 to 5.5.

Generally similar to *D. (T.) apicalis* (Wiedemann), differing in the following:

Thoracic pleura a little more variegated with brown, especially on the sternopleurite. Legs with the white more extensive, only the basal third or less of basitarsi being blackened. Wings (fig. 10) with tips slightly infumed, darkened back to the level of the outer end of cell 1st  $M_2$ . Venation:  $Sc_1$  ending shortly before origin of  $Rs$ ,  $Sc_2$  some distance from its tip;  $Rs$  angulated and sometimes short-spurred at origin; relatively short, about as long as or a little longer than the distal spur of  $R_2$  and in alignment with it; distal section of  $R_2$  equal to or a little longer than the basal section, provided with from six to seven macrotrichiaë; m-cu at or before midlength of cell 1st  $M_2$  and fully twice its own length from tip of  $Cu_1$ .

Male hypopygium of the general type of *apicalis*. Basistyle with the ventromesal lobe short and stout. Dorsal dististyle sickle-shaped with the apical spine relatively short. Ventral dististyle with the rostrum shorter and stouter (fig. 7) with the spines relatively short, placed close together, the more basal one from an enlarged tubercle that is more than half the length of the spine, the more distal spine gently recurved.

LUZON, Tayabas Province, Lucban, on spider webs, May, 1926 (*McGregor*); holotype, male; paratype, male.

The habits of this fly have been discussed under the account of the preceding species.

### Genus TRENTEPOHLIA Bigot

The species of the genus in the Philippines may be separated by the following key:

#### Key to Philippine species of *Trentepohlia* Bigot.

1. Cell 1st  $M_2$  closed, with three branches of media reaching margin (fig. 9). (Subgenus *Mongoma* Westwood.) ..... 2.
- Cell 1st  $M_2$  open by the atrophy of m and the two distal sections of  $M_3$ ; only two branches of media reaching margin (figs. 12 to 15). (Subgenus *Trentepohlia* Bigot.) ..... 4.
2. Tips of femora abruptly and conspicuously whitened; tibiae white.
 

T. (M.) *tenera* Osten Sacken.

 Femora brown, tips not whitened; tibiae more or less infuscated... 3.
3. Femora uniformly infuscated, tips of all tibiae white; (tips of midtibiae slightly expanded and conspicuously fringed with long white setae).
 

T. (M.) *pennipes* Osten Sacken.

 Femoral tips rather indistinctly darkened; tips of fore tibiae broadly darkened; (condition of midtibiae not known).
 

T. (M.) *luzonensis* Edwards.
4. Femora brown, tips abruptly whitened..... T. (T.) *bakeri* sp. nov.
- Tips of femora concolorous with remainder of segment or else darkened 5.
5. Wings unmarked except for a narrow brown seam on  $R_2$ ; tips of femora and tibiae conspicuously blackened.. T. (T.) *mcgregori* sp. nov.
- Wings with a conspicuous brown pattern; femora not blackened apically ..... 6.
6. Abdomen reddish, apex black; wings yellowish subhyaline, apex dark brown; cord narrowly seamed with brown but not suffusing cell 1st  $R_1$ ..... T. (T.) *trentepohlii* (Wiedemann).
- Abdomen entirely black; a dark brown costal area at sector and in cell 1st  $R_1$ , in addition to the darkened apex.. T. (T.) *pictipennis* Bezzi.

TRENTEPOHLIA (MONGOMA) TENERA Osten Sacken. Plate 2, fig. 11.

*Mongoma tenera* OSTEN SACKEN; Berlin. Entom. Zeitschr. 26, Heft 1 (1882) 89.

LUZON, Tayabas Province, Lucban, May, 1926; in small holes in the shady bank of a creek; at base of large forest trees, far from water (*McGregor*).

This common and widely distributed species is more variable than are most species of the genus. Osten Sacken's type (from the Philippines, collected by Semper) has the inner ends of cells 2d  $M_2$  and  $M_3$  about on a line, but in the present series, as well as in the material studied by Brunetti,<sup>6</sup> the inner end

<sup>6</sup> Fauna Brit. Ind. Diptera, Nematocera (1912) 480-481.

of cell  $M_3$  lies far proximad of that of cell 2d  $M_2$  (fig. 11), the basal section of vein  $M_3$  being elongated and arcuated, much longer than  $m$ . Brunetti places his *pallidiventris* in the synonymy of *tenera* but, unless his original description is very erroneous, the identity of the two must be held in question.

**TRENTEPOHLIA (MONGOMA) PENNIPES** Osten Sacken.

*Mongoma pennipes* OSTEN SACKEN; Berlin. Entom. Zeitschr. 31 (1887) 204.

LUZON, Tayabas Province, Lucban, May, 1926 (*McGregor*); Alabat Island, October 8, 1926 (*Francisco Rivera*).

**TRENTEPOHLIA (TRENTEPOHLIA) TRENTEPOHLII** (Wiedemann).

*Limnobia trentepohlîi* WIEDEMANN, Aussereur. zweifl. Insekt. 1 (1828) 551, pl. 6 b, fig. 12.

LUZON, Tayabas Province, Lucban, in May, 1926 (*McGregor*); numerous specimens, as discussed under the account of *Dicranomyia (Thrypticomys) apicalis* (Wiedemann).

There has been considerable confusion concerning the identity of *trentepohlîi*, but I have little doubt that the present material is correctly determined. The species has a wide range throughout the Orient, extending eastward to northern Queensland, where it was described as *T. (T.) media* Alexander, which name must be placed in the synonymy.

The species considered as being *trentepohlîi* by Brunetti<sup>7</sup> is generally similar, but has the wing pattern much paler and the venation slightly different. I have material that was sent to me by Brunetti. This species I had earlier described as *T. (T.) doddi*, from Melville Island, North Australia. Both of these closely allied species appear to have a very extensive distribution in the Austro-Malayan Region.

**TRENTEPOHLIA (TRENTEPOHLIA) MCGREGORI** sp. nov. Plate 2, fig. 12.

General coloration light orange yellow; head dark colored, pruinose; legs yellow, tips of femora, bases and tips of tibiæ, and the terminal tarsal segments blackened; wings light yellow; vein  $R_2$  narrowly seamed with brown; vein  $R_2$  nearly transverse.

*Female*.—Length, 5.5 millimeters; wing, 5.

Rostrum yellow; palpi pale at base, darker outwardly. Antennæ with the scapal segments obscure yellow; flagellum broken. Head dark colored, heavily light gray pruinose.

<sup>7</sup> Fauna Brit. Ind. Diptera, Nematocera (1912) 482, pl. 9, fig. 13, as *Mongomioides*.

General coloration of prothorax and mesothorax bright orange yellow, unmarked. Halteres relatively short, yellow, the knobs orange. Legs with the coxæ and trochanters yellow; femora yellow, tips broadly and abruptly blackened; tibiæ yellow, bases and apices conspicuously blackened, subequal in amount, this about half as extensive as the femoral tips; basitarsi yellow, tips and remainder of tarsi dark brown. Wings (fig. 12) with a light yellow suffusion, the costal region more saturated; a narrow brown seam along vein  $R_2$ ; membrane highly iridescent; veins yellow. Venation  $Sc_1$  rather remote from tip of  $R_1$ , the distance on costa about equal to  $R_s$ ;  $R_s$  shorter than the basal section of  $R_{4+5}$ ;  $r$  on  $R_{2+3}$  just beyond midlength;  $R_2$  nearly transverse, straight, relatively short.

Abdomen yellow. Ovipositor with the tergal valves horn colored, strongly upcurved.

LUZON, Tayabas Province, Lucban, May, 1926 (McGregor); holotype, female.

This interesting crane fly is named in honor of Mr. Richard C. McGregor, to whom I am vastly indebted for many rare Tipulidæ from the Philippines. The species resembles *T. (T.) nigroapicalis* Brunetti (India) and *T. (T.) septentrionis* Alexander (Japan) in the coloration of the legs. In all other regards the present species is very distinct. *Trentepohlia nigroapicalis* (fig. 13) has the wings unusually long and narrow, the cells of the radial field being correspondingly modified. *Trentepohlia septentrionis* (fig. 14) has the wing broader, almost as in the present species, but with vein  $R_2$  long and oblique in position. *Trentepohlia mcgregori* (fig. 12) has vein  $R_2$  nearly perpendicular and cell  $R_2$  relatively small.

**TRENTEPOHLIA (TRENTEPOHLIA) BAKERI** sp. nov. Plate 2, fig. 15.

General coloration reddish brown, mesonotum darker brown medially; antennæ black throughout; femora brown, tips narrowly but abruptly whitened; fore tibiæ white; wings subhyaline, the oval stigma slightly darker; abdomen dark brown.

*Female*.—Length, about 7 millimeters; wing, 5.

Rostrum brown, palpi concolorous. Antennæ black throughout, the flagellar segments elongate-oval. Head dark brown.

Pronotum dark brown, paler laterally. Mesonotal præscutum reddish brown, dark brown medially; remainder of mesonotum dark brown, especially scutellum and postnotal mediotergite. Pleura testaceous brown. Halteres relatively short, obscure yellow, the knobs a little darker. Legs with the coxæ and

trochanters yellowish testaceous; femora brown, bases paler, tips narrowly but conspicuously whitened (about 0.5 millimeter); the only leg that is still attached is a fore leg; two others are detached but mounted with the type; fore tibiæ white, those of the other legs very slightly more darkened; tarsi white, darkened outwardly. Wings (fig. 15) subhyaline, the oval stigma slightly darker, poorly delimited; Cu and the posterior cord vaguely suffused with dusky; veins pale brown, the costal region above stigma a little more yellowish. Venation:  $Sc_1$  remote from  $R_1$  at margin,  $Sc_2$  not far from tip of  $Sc_1$ ;  $R_s$  relatively short, nearly straight; distal ends of  $R_1$  and  $r$  relatively faint;  $R_2$  a trifle longer than the second section of  $R_{2+3}$ , oblique; basal section of  $R_{4+5}$  about equal to or a little shorter than the fused  $R_{4+5}$  and  $M_{1+2}$ .

Abdomen dark brown, the genital segment a little paler. Ovipositor with the tergal valves very small, acutely pointed, the sternal valves large.

LUZON, Laguna Province, Mount Maquiling (*Baker*); holotype, female.

This species is named in honor of the collector, Dr. C. F. Baker, who has added very materially to our knowledge of the fauna and the flora of the Philippines. The fly is related to *T. albogeniculata* Brunetti (India), from which it is distinguished by the diagnostic features listed above.

CONOSIA IRRORATA (Wiedemann). Plate 2, fig. 16.

*Limnobia irrorata* WIEDEMANN, Aussereur. zweifl. Insekt. 1 (1828) 574.

LUZON, Tayabas Province, Lucban, May, 1926 (*McGregor*).

The occurrence of this species has been discussed under the account of *Dicranomyia (Thrypticomyia) apicalis* (Wiedemann).

The males of *irrorata* have the wings very greatly dilated, as in the genus *Clydonodozus* Enderlein, the wing being widest opposite the second anal vein (fig. 16). In the female, the wings are narrower and normal in appearance.

The commonest representative of *Conosia* throughout South Africa is a small form, with the wings narrow in both sexes. I had until now considered this as being *irrorata*, but the receipt of abundant material from several stations in the Orient makes it clear that two distinct species have been confused under this name.

The South African species is described at this time.



CONOSIA ANGUSTISSIMA sp. nov. Plate 2, fig. 17.

The wing is narrow in both sexes and of approximately equal width for the entire central half of the length. The irrorate pattern is about the same in all three species of the genus, consisting of about four or five large costal blotches and abundant small irrorations at intervals along all the veins. The male hypopygium has the outer dististyle flattened, subcultriform, broadest shortly before the tip, thence suddenly narrowed into an acute apical point, the outer margin of the style with numerous subappressed spines. The gonapophyses are extremely long and slender.

Holotype, male, Pretoria, Transvaal, January 26, 1919 (*H. K. Munro*). Numerous other specimens from many parts of Natal, Transvaal, and in Damaraland. M'fongosi, Zululand, March, 1916 (*W. E. Jones*). Pietermaritzburg, Natal, January 5, 1911 (*C. Fuller*). Waterberg, Damaraland, Southwest Cape Colony, February, 1920 (*R. W. Tucker*).

## ILLUSTRATIONS

[Legend: *b*, basistyle; *d*, dorsal dististyle; *g*, gonapophysis; *i*, inner dististyle; *o*, outer dististyle; *R*, radius; *r*, radial crossvein; *Sc*, subcosta; *t*, ninth tergite; *v*, ventral dististyle. Venational terminology used, Comstock-Needham-Tillyard. Hypopygial terminology used, Crampton.]

### PLATE 1

- FIG. 1. *Tipula riverai* sp. nov., wing.  
2. *Tipula riverai* sp. nov., ninth tergite, male hypopygium.  
3. *Nesopeza cinctitarsis* sp. nov., wing.  
4. *Nesopeza cinctitarsis* sp. nov., male hypopygium.  
5. *Geranomyia flavicosta* Brunetti; male hypopygium.  
6. *Dicranomyia (Thrypticomysia) apicalis* (Wiedemann); male hypopygium.  
7. *Dicranomyia (Thrypticomysia) arachnophila* sp. nov.; rostral prolongation of ventral dististyle of male hypopygium.  
8. *Dicranomyia (Thrypticomysia) fumidapicalis* Alexander; rostral prolongation of ventral dististyle of male hypopygium.

### PLATE 2

- FIG. 9. *Dicranomyia (Thrypticomysia) apicalis* (Wiedemann); wing.  
10. *Dicranomyia (Thrypticomysia) arachnophila* sp. nov., wing.  
11. *Trentepohlia (Mongoma) tenera* Osten Sacken, wing.  
12. *Trentepohlia (Trentepohlia) mcgregori* sp. nov., wing.  
13. *Trentepohlia (Trentepohlia) nigroapicalis* Brunetti, wing.  
14. *Trentepohlia (Trentepohlia) septentrionis* Alexander, wing.  
15. *Trentepohlia (Trentepohlia) bakeri* sp. nov., wing.  
16. *Conosia irrorata* (Wiedemann), wing, male.  
17. *Conosia angustissima* sp. nov., wing, male.

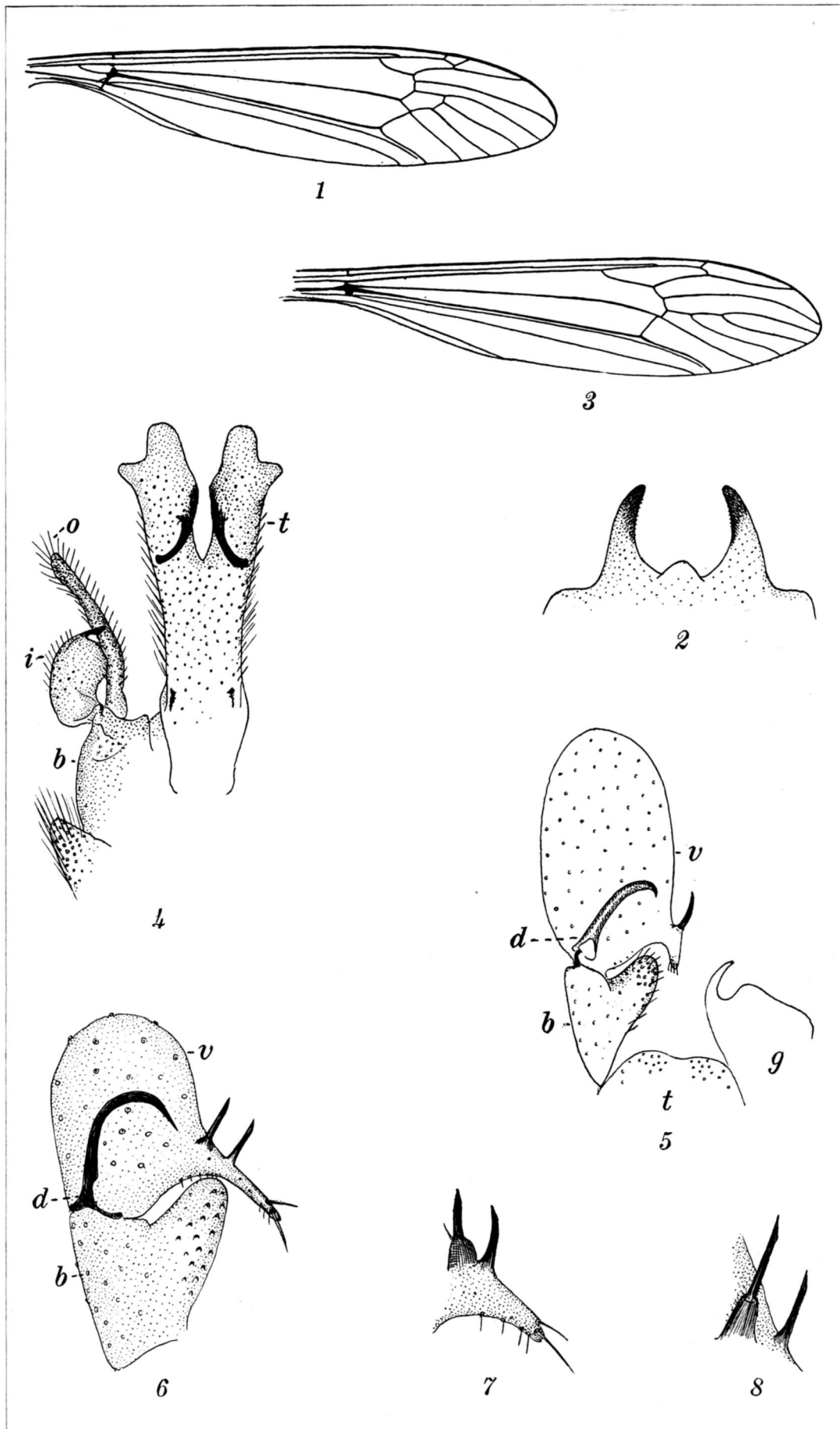


PLATE 1.

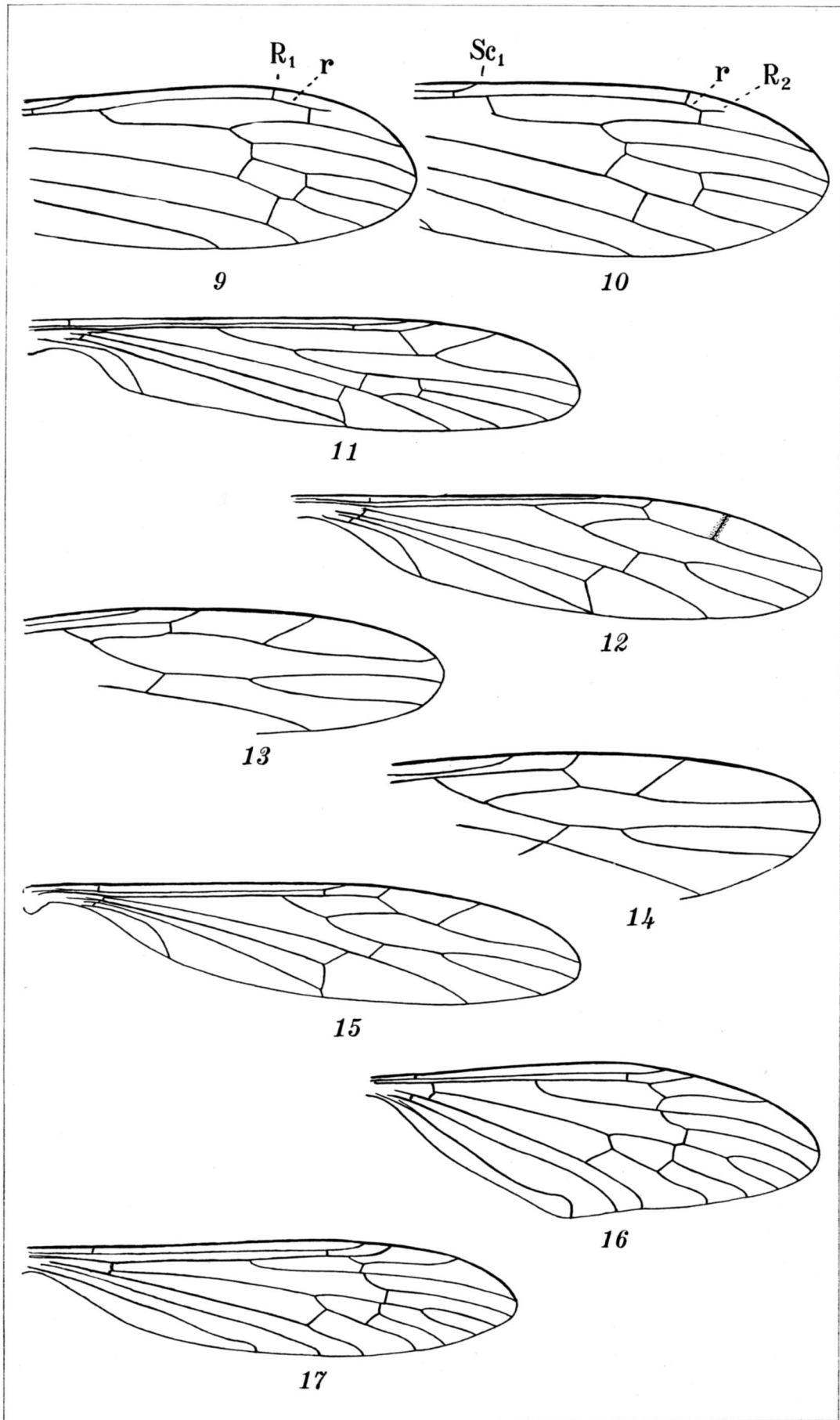


PLATE 2.

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