

## NEW OR LITTLE-KNOWN TIPULIDÆ FROM THE PHILIPPINES (DIPTERA), XIII <sup>1</sup>

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### THREE PLATES

The crane flies discussed at this time are all from Mount Apo, Mindanao, where they were collected by my former student, Mr. Charles F. Clagg. Keys are provided for the separation of the Philippine species of *Dolichopeza*, *Helius*, and *Pseudolimnophila*.

### TIPULINÆ

SCAMBONEURA CLAGGI sp. nov. Plate 1, fig. 1; Plate 2, fig. 19.

General coloration orange, the præscutal stripes scarcely evident; antennæ (male) short; wings with Rs in alignment with the remaining elements of the cord, opposite Sc<sub>2</sub>; male hypopygium with the outer dististyle a curved rod, the apex blackened and obliquely truncated; appendage of ninth sternite a depressed prow-shaped lobe, narrowed to the obtuse apex.

*Male*.—Length, about 12.5 to 13 millimeters; wing, 14.5 to 15.

*Female*.—Length, about 18 to 19 millimeters; wing, 15 to 16.

Frontal prolongation of head orange; palpi dark brown. Antennæ (male) relatively short, if bent backward not extending far beyond the root of the halteres; first scapal segment obscure yellow, the remainder of the organ black. Head orange, with a narrow capillary brown median line, together with less distinct brown spots on the orbits.

Mesonotal præscutum orange-yellow, with three more reddish-orange stripes that are little distinct against this background; remainder of mesonotum chiefly obscure orange or olivaceous orange, the scutal lobes a little darker than the median portion, scutellum with a more or less distinct brown median vitta. Pleura yellow. Halteres dark brown, the base of the stem very

<sup>1</sup> Contribution from the entomological laboratory, Massachusetts State College.

restrictedly pale. Legs with the coxæ and trochanters orange; remainder of legs black, the femoral bases restrictedly brightened. Wings (Plate 1, fig. 1) whitish hyaline, cell Sc and the stigma darker; veins black. Venation: Sc<sub>1</sub> present; Sc<sub>2</sub> ending opposite Rs, the latter in oblique alignment with the remaining elements of the cord; inner end of cell R<sub>5</sub> lying slightly proximad of that of cell R<sub>6</sub>.

Abdominal tergites obscure yellow, ringed at midlength with broad violaceous annuli, the pale basal ring wider than the concolorous apex of the segment; subterminal segments and hypopygium passing into black; sternites more uniformly yellow. In the female, the apical dark ring of the sternite is more broadly metallic blue, the pale apex being obliterated or nearly so. Male hypopygium (Plate 2, fig. 19) with the lateral lobes of the tergite, 9*t*, broadly obtuse, each at apex on lower face with a blackened spine, the remainder of lobe with smaller microscopic black spinules; no median projection. Outer dististyle, *od*, a conspicuous curved rod, somewhat as in *mindanaoensis*, the apex obliquely truncated and blackened. Inner dististyle, *id*, a broadly flattened blade, the terminal beak unusually small. Appendage of ninth sternite, 9*s*, relatively slender, prow-shaped, broadest just before midlength, gradually narrowed to the slender tip, the surface densely clothed with microscopic setulæ. Gonapophyses, *g*, appearing as yellow blades, bifid at tip, the lateral portions produced into a slender black spine; face of blade with a second, much smaller spine.

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, male, Seliban River, altitude 7,000 feet, September 3, 1930; allotype, female, Mainit River, altitude 6,500 feet, September 10, 1930; paratopotype, male, with holotype; paratypes, 2 males, 1 female, with allotype, altitude 6,000 feet, September 9, 1930; 1 male, Galog River trail, altitude 5,000 to 6,000 feet, September 12, 1930.

This very distinct *Scamboneura* is named in honor of the collector of this rich series of Tipulidæ from Mindanao, Mr. Charles F. Clagg. By my latest key to the Philippine species of *Scamboneura*<sup>2</sup> the present species runs to couplet 3 which includes *S. primæva* Alexander and *S. primogenia* Alexander, both of Luzon. The fly is more closely allied to the more recently defined *S. mindanaoensis* Alexander (Mindanao), differing conspicuously in the hypopygial structure. These two species are

<sup>2</sup> Philip. Journ. Sci. 45 (1931) 266.

very distinct from all other described species of the genus in the peculiar structure of the outer dististyle of the male hypopygium.

*SCAMBONEURA CITRIDORSUM* sp. nov. Plate 1, fig. 2; Plate 2, fig. 20.

General coloration orange, the præscutal stripes almost concolorous; antennæ (male) long, the flagellum black; vertex orange, with a narrow brown line; wings with the elements of the anterior cord in subtransverse alignment, the inner end of cell  $R_3$  lying slightly more distad than cell  $R_5$ ; male hypopygium with the appendage of the ninth sternite a depressed spatula, the apex not at all emarginate or bilobed.

*Male*.—Length, about 12.5 millimeters; wing, 13.5.

Frontal prolongation of head orange, the nasus darker, tufted with dark setæ; palpi obscure yellow, the outer segments darker. Antennæ (male) elongate, if bent backward extending about to midlength of the second abdominal segment; scapal segments brownish yellow, flagellum black; flagellar segments elongate-cylindrical, the basal enlargement small. Head orange, with a narrow brown line that extends cephalad almost to the summit of vertex.

Thoracic notum almost clear orange, the præscutal stripes ill-defined to nearly obsolete; scutellum more infuscated. Pleura yellowish orange, immaculate. Halteres light brown, the knobs dark brown. Legs with the coxæ and trochanters yellow; femora obscure yellow, passing into brownish black at tips; tibiæ and tarsi black. Wings (Plate 1, fig. 2) subhyaline, cell Sc and the stigma darker brown; a narrow to scarcely evident dusky marginal clouding from wing apex to opposite cell Cu; veins and macrotrichia black. Venation: Elements of anterior cord in subtransverse alignment, the inner end of cell  $R_3$  lying slightly more distad than cell  $R_5$ ; m-cu transverse to the wing, in alignment with the remaining elements of the cord.

Abdominal tergites orange, marked medially and less evidently on margins with brownish black, the amount of the former increasing conspicuously on the outer segments to form a complete but irregularly outlined median stripe; subterminal segments and hypopygium uniformly darkened. Male hypopygium (Plate 2, fig. 20) with the median tooth of the tergite,  $9t$ , small and inconspicuous. Inner dististyle,  $id$ , long and narrow, gradually narrowed into a long apical darkened point, the extreme tip obtusely rounded. Appendage of ninth sternite,  $9s$ , a depressed spatula, widened outwardly, the apex subtruncate, not

emarginate or bilobed; entire surface densely set with setæ and setulæ, the latter arranged in definite groups of three or four; marginal setæ longer, especially on the lateral and subapical portions.

MINDANAO, Davao district, Mount Apo, Seliban River, altitude 7,000 feet, September 3, 1930 (*C. F. Clagg*); holotype, male.

By my key to the Philippine species of *Scamboneura*<sup>3</sup> the present species runs to *S. subtransversa* Alexander, with which it agrees in the nature of the anterior cord of the wings, differing conspicuously therefrom in the coloration and in the structure of the male hypopygium.

SCAMBONEURA SUBDOTATA sp. nov. Plate 2, fig. 21.

General coloration yellow, the præscutum with three metallic green stripes that are narrowly bordered by black; antennæ (male) elongate, the basal flagellar segments bicolorous; head with a conspicuous occipital area and a median black line to summit of vertex; wings with anterior cord bowed; male hypopygium with the ninth tergite transverse, the lateral shoulders rounded; appendage of ninth sternite produced into conspicuous lateral horns.

*Male*.—Length, about 12 millimeters; wing, 11.5; antenna, about 6.

*Female*.—Length, about 18 millimeters; wing, 14.

Frontal prolongation of head yellow, nasus black; palpi yellow, the elongate terminal segment passing into brown. Antennæ (male) elongate, as shown by the measurements; scape yellow; flagellum black, the apex of each of the basal three segments yellow, most extensively so on the first segment, the amount decreasing outwardly. Head orange, the occipital area extensive, gray, margined with black, the latter coloration continued cephalad onto the summit of the vertical tubercle; posterior orbits narrowly grayish.

Pronotum brownish gray laterally, brownish medially in front, yellow medially behind. Mesonotal præscutum yellow, with three shiny dark green stripes that are narrowly bordered by black; a dusky lateral extension from the cephalic portion of the lateral stripes; humeral region and lateral margin of sclerite before the suture brownish gray; suture darkened medially; scutum obscure yellow, the lobes chiefly covered by two confluent dark green areas, the mesal edge of which is blackened; scutellum and postnotum brownish testaceous, vaguely darker medial-

<sup>3</sup> Loc. cit.

ly. Pleura obscure yellow, the dark pattern of *dotata* but little evident, appearing as very pale brown areas on the propleura, anepisternum, and ventral sternopleurite. Halteres black, the extreme base of stem brightened. Legs with the coxæ yellow, the fore coxæ darkened on cephalic face; trochanters yellow; femora obscure yellow, darkened beyond base; tibiæ and tarsi passing from brown to dark brown. Wings proportionately wider than in *dotata*; venation almost the same, with m-cu more erect and vein 2d A a little longer.

Abdominal tergites obscure yellow, each with a median black area on the posterior ring; hypopygium chiefly yellow and brownish yellow. Male hypopygium (Plate 2, fig. 21) with the ninth tergite, 9t, transverse, the lateral shoulders evenly rounded, the median region with blackened spicules, as shown. Dististyles about as illustrated, the inner, *id*, relatively narrow, blackened. Appendage of ninth sternite, 9s, produced laterad into conspicuous lobes that are tufted with setæ, the apex beyond these lobes obtusely rounded and margined with pale, toothlike setæ.

MINDANAO, Davao district, Mount Apo, Galog River, altitude 6,000 feet, September 16, 1930 (*C. F. Clagg*); holotype, male.

By my key to the Philippine species of *Scamboneura*<sup>4</sup> the present fly runs to *S. dotata* Osten Sacken, which appears to be its nearest ally. *Scamboneura subdotata* is told by the longer antennæ and the very different details of the male hypopygium, notably of the tergite and appendage of the ninth sternite.

**SCAMBONEURA OPACINOTUM** sp. nov. Plate 2, fig. 22.

General coloration yellowish and gray, the mesonotal præscutum with three brown stripes that are more or less confluent and covered by a gray pruinosity; basal flagellar segments black, with narrow yellow apices; pleura whitish yellow, unmarked; wings whitish subhyaline, the stigma darker; anterior cord strongly bowed; male hypopygium having the tergite with abundant microscopic blackened points; apical beak of inner dististyle stout; appendage of ninth sternite a depressed lobe that is folded into a half-cylinder by the upcurving of the margins.

*Male*.—Length, about 12 to 13 millimeters; wing, 11.5 to 12.

*Female*.—Length, 15 to 16 millimeters; wing, 12 to 12.5.

Frontal prolongation of head obscure yellow, the nasus darkened; palpi obscure yellow, the outer segments darkened. Antennæ (male) relatively elongate, if bent backward extending

<sup>4</sup>Loc. cit.

about opposite or slightly beyond midlength of the second abdominal segment; first scapal segment brown, the second clear light yellow; flagellar segments black, the apices of the basal two restrictedly pale yellow. Posterior portion of vertex and the occiput gray pruinose, the remainder of vertex and front yellow, the occipital portions with a light silvery pruinosity; central portion of vertex with a narrow velvety-black median vitta that almost attains the summit of the tubercle.

Mesonotal præscutum with the ground color obscure yellow, with three brown stripes that may become entirely confluent and so cover the disk; entire surface heavily pruinose; scutal lobes gray, the restricted median region obscure yellow; scutellum brownish yellow; postnotal mediotergite gray medially, obscure yellow laterally. Pleura obscure yellow, whitish pruinose, not or scarcely variegated with darker. Halteres obscure yellow, the stem more obscure, the knobs brownish black. Legs with the coxæ pale, whitish pruinose; trochanters yellow; femora obscure yellow, with dark setæ that somewhat obscure the ground color, especially distally; remainder of legs passing through yellowish brown to black. Wings whitish subhyaline, cell Sc more yellowish; stigma pale brown; veins black, with long conspicuous macrotrichia. Venation: Anterior cord very deeply bowed, as usual in the more-specialized species of the genus.

Abdominal segments yellow, the tergites trivittate with dark brown, the proximal segments narrowly ringed with yellow; hypopygium brownish black. Male hypopygium (Plate 2, fig. 22) with the tergite, 9*t*, provided with abundant blackened spinous points, the larger ones on the ventral face of the lobes; median tonguelike point small. Inner dististyle, *id*, with the apical point stouter than in *banahaoensis*. Appendage of the ninth sternite, 9*s*, of a form difficult of description and illustration, being a depressed structure having the margins upcurved to form a half-cylinder, the lateral ears projecting.

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, male; allotype, female, Mainit River, altitude 6,500 feet, September 14, 1930; paratopotypes, 5 males and females, September 10 to 14, 1930; paratypes, 3 males, Galog River, altitude 6,000 feet, September 7 and 8, 1930; 1 male, Seliban River, altitude 6,500 feet, September 11, 1930; Bakraeyon, altitude 8,000 feet, September 16, 1930.

By my key to the Philippine species of *Scamboneura*<sup>5</sup> the present species runs to *S. banahaoensis* Alexander (Luzon) which differs in the details of the hypopygium, especially the number and arrangement of the spinulæ on the tergite, the stouter beak of the inner dististyle, and the conformation of the appendage of the ninth sternite.

#### Genus DOLICHOPEZA Curtis

The genus *Dolichopeza* is very greatly developed in the Philippine fauna, the majority of the species falling within the limits of the subgenus *Nesopeza* Alexander, as restricted by the present writer. A single species of *Mitopeza* Edwards has been described from Luzon. The three species referred provisionally to *Dolichopeza*, s. s., deserve special comment. In several respects these species are closer to *Tipula* than to *Dolichopeza*, and almost certainly form a close connection between these two groups. The following attempt to key the Philippine species of the genus is based especially on the structure of the male hypopygium.

#### Key to the Philippine species of *Dolichopeza* Curtis.

1. Wings with cell 1st M<sub>2</sub> closed. (*Mitopeza* Edwards.) (Luzon.)  
*D. (M.) rizalensis* Alexander.
- Wings with cell 1st M<sub>2</sub> open by atrophy of the basal section of M<sub>3</sub>..... 2.
2. Rs short to transverse, not exceeding two-thirds the length of the long m-cu; tibiæ and tarsi entirely black. (*Dolichopeza* Curtis, s. s.; *malagasya* group.) ..... 3.
- Rs elongate, longitudinal in position, two or more times the length of m-cu; tarsi, and usually the tibiæ also, more or less whitened. (*Nesopeza* Alexander.) ..... 5.
3. General coloration of head and thorax orange, the thoracic pleura immaculate; wings conspicuously patterned with darker in the outer radial field, especially a cloud beyond the anterior cord that sends seams outward along the radial veins; antennal flagellum black. (Mindanao.) ..... *D. (D.) ata* sp. nov.
- General coloration of head and thorax more yellowish testaceous, the pleura with small black spots on the pteropleurite; wings only inconspicuously patterned; antennæ with the flagellum brown or weakly bicolorous ..... 4.
4. Antennæ (male) relatively elongate, if bent backward extending to beyond the base of abdomen; knobs of halteres blackened. (Luzon.)  
*D. (D.) isolata* Alexander.

<sup>5</sup> Loc. cit.

Antennæ (male) short, if bent backward extending to about mid-distance between the roots of the wings and the halteres; knobs of halteres with the outer half abruptly yellow. (Mindanao.)

*D. (D.) bilan* sp. nov.

5. Rs elongate, angulated and long-spurred at origin, exceeding vein  $R_{2+3}$  in length; wings with a heavy dark brown costal pattern or conspicuously spotted with dark ..... 6.
- Rs relatively short, not angulated or spurred at origin and not exceeding vein  $R_{2+3}$  in length; wings unmarked, except for the stigmal area ..... 13.
6. Forks of medial field of wing shallow; that is, cell  $M_1$  less than twice as long as its petiole. (*costalis* group.) ..... 7.
- Forks of medial field of wing deep; that is, cell  $M_1$  about three or more times as long as its petiole. (*gracilis* group.) ..... 8.
7. Wings with a dark costal pattern only. (Luzon.)

*D. (N.) oberon* Alexander.

Wings with the costa more or less darkened, the disk and posterior wing margin with conspicuous yellowish brown areas that are narrowly margined with darker. (Mindanao.)

*D. (N.) multiguttula* sp. nov.

8. Wings dusky, the costa dark brown, cell  $R_2$  not variegated by pale spots; legs with femora and tibiæ darkened, the latter with a narrow white ring before the black tips. (Mindanao.)

*D. (N.) nigrofemorata* sp. nov.

Wings with the dark costal border variegated by pale marginal spots in the outer ends of cells  $R_2$  and  $R_3$ ; legs with the femora and tibiæ pale, yellowish or yellowish white, the tips narrowly darkened..... 9.

9. Thoracic pleura entirely pale or with a restricted dark pattern; all coxæ pale ..... 10.

Thoracic pleura pale, heavily variegated by dark brown, this pattern including the fore coxæ ..... 11.

10. Thoracic pleura uniformly pale; male hypopygium with the region of the basistyle produced into a powerful fascicle of setæ and spines to resemble a single powerful spine. (Mindanao.)

*D. (N.) spinisternata* Alexander.

Thoracic pleura pale, with an interrupted dorsal brown stripe; male hypopygium with the armature of the basistyle and sternite consisting only of long scattered setæ. (Mindanao.)

*D. (N.) setisternata* sp. nov.

11. Male hypopygium with the region of the basistyle produced into a slender fingerlike lobe that is tipped with spinous setæ. (Mindanao.)

*D. (N.) productula* sp. nov.

Male hypopygium without such production of the region of the basistyle ..... 12.

12. Thoracic pleura continuously darkened; except for the pleurotergite and dorsal membrane; male hypopygium with the sternal region unarmed except for a crown of about six flattened spinous setæ on either side of a membranous median notch. (Mindanao.)

*D. (N.) parvella* sp. nov.



Thoracic pleura dark, interrupted by pale areas, especially on the dorsal sternopleurite; male hypopygium with conspicuous lateral and median spines on the sternal region. (Mindanao.)

*D. (N.) paucispinosa* Alexander.

13. Wings cuneiformly narrowed at base; cell 2d A of wings very long and narrow, reduced to a linear strip; tarsi white, on some of the legs with central portion of basitarsi extensively blackened. (*cuneata* group.) ..... 14.
- Wings not so cuneiformly narrowed, cell 2d A of wings of normal width; tarsi white, the central portion of basitarsi not blackened. (*tarsalis* group.) (Luzon.) ..... *D. (N.) haightensis* Alexander.
14. Male hypopygium with the ninth tergite very long and narrow, conspicuously arched dorsad. (*cinctitarsis* subgroup.) ..... 15.
- Male hypopygium with the ninth tergite small and not greatly arched dorsad. (*cuneata* subgroup.) ..... 17.
15. Male hypopygium with the ninth tergite having the lobes broad, each obliquely truncated to weakly notched at tips, the mesal edge of each beyond midlength with a slender appendage directed cephalad and ventrad. (Luzon.) ..... *D. (N.) cinctitarsis* Alexander.
- Male hypopygium with the lobes of the ninth tergite long and narrow ..... 16.
16. Male hypopygium with the apex of each lobe of the ninth tergite simple or nearly so. (Luzon.) ..... *D. (N.) annulitarsis* Alexander.
- Male hypopygium with the apex of each lobe of the ninth tergite profoundly split into two slender arms. (Mindanao.)  
*D. (N.) quadrifila* sp. nov.
17. Male hypopygium with the ninth sternite conspicuously blackened; lateral lobes of tergite broad, entire or nearly so. (Luzon.)  
*D. (N.) melanosterna* Alexander.
- Male hypopygium with the ninth sternite pale; lateral lobes of tergite divided into lateral and sublateral portions by a notch ..... 18.
18. Male hypopygium with the sublateral tooth of the tergite acute, separated from the extreme lateral lobe by a narrow V-shaped notch. (Luzon.) ..... *D. (N.) angustaxillaris* Alexander.
- Male hypopygium with the sublateral tooth of the tergite relatively small, separated from the extreme lateral lobe by a very broad and shallow notch. (Mindanao.) ..... *D. (N.) bagobo* sp. nov.

**DOLICHOPEZA (DOLICHOPEZA) ATÁ** sp. nov. Plate 1, fig. 3; Plate 2, fig. 23.

Belongs to the *malagasya* group; antennæ (male) relatively elongate, the flagellum black; general coloration of head and thoracic notum orange, the præscutum with the interspaces a little darkened; thoracic pleura yellow, immaculate; knobs of halteres blackened; wings cream-colored, conspicuously variegated with brown; male hypopygium with the tergite bearing a highly compressed spatulate blade that is densely clothed with long erect setæ; inner dististyle bearing a long, tail-like extension.

*Male*.—Length, about 10 to 11 millimeters; wing, 13 to 13.5.

Frontal prolongation of head fulvous; palpi black. Antennæ with the scapal segments yellow, the flagellum black; flagellar segments elongate-cylindrical, the basal enlargements only slightly developed, the verticils shorter than the segments. Head orange.

Mesonotal præscutum orange, the interspaces vaguely to insensibly more brownish orange; scutal lobes obscure yellow, variegated with large brown areas; scutellum brownish testaceous; postnotum yellow. Pleura yellow. Halteres with the stem brown, the knobs blackened. Legs with the coxæ and trochanters yellow; femora obscure yellow at base, passing through brown to black; tibiæ and tarsi black. Wings (Plate 1, fig. 3) cream-colored, conspicuously variegated by dark brown; stigma dark brown; cell Sc dark brown; cell C more or less infuscated, especially on distal half; extensive dusky clouds at anterior cord and as seams along the veins distad of the same; Cu and m-cu broadly and conspicuously seamed with brown; vein 2d A narrowly margined with dusky; veins brown, except in obliterative areas. Caudal half of stigma with several conspicuous macrotrichia. Venation: Forks of media very deep; base of  $R_2$  and  $R_1$  forming an acute angle at their point of union;  $R_{1+2}$  represented by a distinct spur that is more than one-half the length of  $R_2$  alone.

Abdominal tergites obscure yellow, margined basolaterally and caudally with black, on segments five to nine more extensively and uniformly blackened; sternites chiefly yellow, narrowly margined caudally with brownish black; eighth sternite uniformly blackened. Male hypopygium (Plate 2, fig. 23) with the median region of the tergite,  $9t$ , produced caudad into a very compressed spatulate blade, the two faces of which bear unusually long and abundant erect setæ. Outer dististyle a flattened to subcylindrical fleshy lobe. Inner dististyle, *id*, as illustrated, the posterior end prolonged into a long straight spine, the distal third blackened and glabrous.

MINDANAO, Davao district, Mount Apo, Kidapawan trail from Lake Lino, altitude 7,000 to 8,000 feet, September 20, 1930 (*C. F. Clagg*); holotype, male; paratype, male.

The specific name is that of a native tribe of the vicinity of Mount Apo. As indicated before, the species of the *mala-gasya* group are referred to *Dolichopeza* with much hesitation. When their limits are better understood, it seems probable that

this particular group of flies will be transferred to *Tipula*, but there can be little question that flies of this type were very similar to the ancestors of *Dolichopeza*.

**DOLICHOPEZA (DOLICHOPEZA) BILAN sp. nov.**

Belongs to the *malagasya* group; general coloration obscure yellow; antennæ (male) relatively short, if bent backward extending about to mid-distance between the bases of the wings and halteres; mesonotal præscutum with three obscure yellow stripes; pleura with small black spots; halteres dark, the apices of the knobs conspicuously light yellow; wings without a clearly defined dark pattern, as is the case in *D. atá*.

*Male*.—Length, about 10 millimeters; wing, 11.5.

*Female*.—Length, about 11 millimeters; wing, 11.

Frontal prolongation of head light brown to brownish yellow; palpi black. Antennæ of male of moderate length only, if bent backward extending to about mid-distance between the wings and halteres; scapal segments obscure yellow; flagellum brownish black. Head with the anterior vertex obscure yellow, the posterior vertex more infuscated, paler medially.

Mesonotal præscutum with three obscure yellow stripes, the interspaces and humeral region dark brown; median stripe vaguely divided by a faint line; scutal lobes conspicuously patterned with dark brown; scutellum and postnotal mediotergite dark, the latter slightly pruinose. Pleura obscure yellow, with small black areas on the ventral dorsopleural membrane, and with two isolated areas on the cephalic margin of the pteropleurite. Halteres infuscated, the base of stem and apex of each knob light yellow. Legs with the coxæ and trochanters yellowish testaceous; femora passing through brown to black; tibiæ and tarsi black. Wings with a dusky tinge, variegated by restricted seams along certain of the veins; cream-colored oblitative areas before and beyond the stigma, and across the basal section of  $M_{1+2}$ ; veins dark, pale in the oblitative areas. A few macrotrichia in caudal half of the stigma. Venation: Forks of medial field deep.

Abdominal tergites bicolorous, the incisures broadly darkened, including the broad caudal margin and more narrow basal portion of the segment; sternites more uniformly pale, the darkened areas narrower and restricted to the caudal margins of the segments. Male hypopygium almost as in *D. atá*, differing chiefly in details of structure of the inner dististyle, there being a

conspicuous tubercle at base of the posterior spine, the latter stouter and destitute of setæ for a longer distance back from apex.

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, Mainit River, altitude 6,000 feet, September 4, 1930; allotype, female, Galog River, altitude 6,000 feet, September 11, 1930, at camp fire.

The specific name is that of a native aboriginal tribe.

*DOLICHOPEZA* (*NESOPEZA*) *MULTIGUTTULA* sp. nov. Plate 1, fig. 4.

Belongs to the *costalis* group; general coloration of thorax pale yellow, the præscutum with three pale brown stripes, the pleura variegated with brown; legs chiefly pale, the tips of the femora and tibiæ blackened; wings subhyaline, with a heavy yellowish brown pattern, the areas bordered by darker brown; caudal margin of wing with dark areas at ends of all the veins; forks of medial field shallow.

*Male*.—Length, about 8 millimeters; wing, 9.

*Female*.—Length, about 10 millimeters; wing, 10 to 10.5.

Frontal prolongation of head very short, dark brown; palpi brownish black. Antennæ (male) relatively long and slender; second scapal segment and basal half of first flagellar segment yellow, the basal segment of scape and remainder of flagellum brown; flagellar segments elongate-cylindrical, clothed with an abundant erect pubescence and with a single verticil before apex, together with a subbasal one on the more proximal segments. Head brownish gray; anterior vertex relatively narrow, less than twice the diameter of the first scapal segment.

Mesonotal præscutum pale yellow, with three poorly defined pale brown stripes, the median one further divided by a capillary shiny line; scutal lobes with two yellowish brown areas that almost cover the lobes; scutellum and central portion of the postnotal mediotergite dark brown, the lateral margins of the latter yellow. Pleura yellow, conspicuously variegated with brown, the latter including the anepisternum, ventral sternopleurite, and meron; the dorsocaudal portion of the pleurotergite is pale brown but still darker than the ground. Halteres pale yellow, the knobs infuscated. Legs with the fore coxæ infuscated, the remaining coxæ and all trochanters yellow; femora obscure yellow, the tips narrowly blackened; tibiæ white, clearest at extreme base and again on distal third, the tip very narrowly but conspicuously blackened; tarsi snowy white. Wings (Plate 1, fig. 4) subhyaline, with a heavy pale yellowish brown pattern that is

narrowly margined with paler; costal region pale or infuscated, in the latter case variegated by pale areas; the chief darkened areas are caudal extensions of the costal field, as in the *costalis* group, but in addition, there are conspicuous marginal areas at ends of all the veins, with a larger area in outer end of cell 1st A, remote from the veins; other dark areas occur at and beyond the arculus, at m-cu, and near outer ends of the radial cells; veins brown, the anal veins paler. Macrotrichia of veins relatively long and conspicuous. Venation: Rs angulated and conspicuously spurred at origin; free tip of Sc<sub>2</sub> pale but preserved; R<sub>1+2</sub> entirely atrophied, the juncture of R<sub>2</sub> with R<sub>1</sub> usually feebly angulated; R<sub>3</sub> long, upcurved at margin; forks of medial field short, cell M<sub>1</sub> subequal to its petiole; cell 2d A wide.

Abdominal tergites dark brown, margined laterally with yellow; in the female, the segments more variegated.

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, male, Mainit River, altitude 7,000 feet, September 15, 1930; allotype, female, Lino Lake to summit, 8,000 to 9,300 feet, September 18, 1930; paratype, female, Seliban River, 7,000 feet, September 3, 1930.

The wing pattern serves to separate this conspicuous fly from related regional forms.

DOLICHOPEZA (NESOPEZA) NIGROFEMORATA sp. nov. Plate 2, fig. 24.

Belongs to the *gracilis* group; general coloration obscure yellow, the mesonotal præscutum with three extensive brown stripes; femora and tibiæ dark, obscure brownish yellow to blackish, the tibiæ narrowly whitened before the extreme blackened tips; tarsi snowy white; wings dusky, with the usual dark costal pattern, cell R<sub>2</sub> not variegated by pale spots; male hypopygium with the region of the basistyle produced into broad shoulders that bear several powerful setæ which are directed mesad.

*Male*.—Length, about 10 millimeters; wing, 10 to 10.2.

Frontal prolongation of head brownish black; palpi black. Antennæ with the scape and first flagellar segment obscure yellow, the remainder of flagellum passing into black; flagellar segments cylindrical, the segments beyond the first with erect pubescence but without further differentiated verticils; terminal segment small, less than one-fifth the penultimate. Head brown, sparsely pruinose, more conspicuously so on the posterior orbits.

Mesonotal præscutum obscure yellow, with three extensive brown stripes, the median stripe expanded in front; in cases, the median stripe much paler, being best represented by a

capillary dark brown median vitta; scutal lobes obscure yellow, variegated on margins by brown; scutellum brown, the parascutella paler; postnotal mediotergite obscure testaceous yellow, darker medially. Pleura obscure brownish yellow, the pteropleurite, meron, and dorsopleural membrane clearer yellow. Halteres with the stem obscure yellow, the knobs infuscated. Legs with the coxæ and trochanters yellow; femora obscure brownish yellow to black, in the former case, the tips blackened; tibiæ dark testaceous brown, before the narrowly blackened tips brightening to white; tarsi snowy white.

Wings with a dusky suffusion, the costal border darker brown, as in the group; posterior extensions of this border across the postarcular cells, origin of  $R_s$  and along cord; cell  $R_2$  almost uniformly dusky, not variegated with pale spots, as is usual in the group; veins dark brown. Venation:  $R_3$  of moderate length only, about one-fifth longer than  $R_{2+3}$ ; forks of medial field deep, that of cell  $M_1$  exceeding three times the petiole.

Abdomen with the tergites black, the segments margined laterally at base and marked less distinctly medially with obscure yellow. Male hypopygium (Plate 2, fig. 24) with the median region of tergite,  $9t$ , slightly produced. Outer dististyle dusky, with long conspicuous setæ. Region of sternite,  $9s$ , and basistyle with the latter produced mesad and caudad into broad shoulders that bear from ten to twelve powerful setæ which are directed toward one another across the midline; sternal region with a shallow U-shaped notch, on either side of which is a low obtuse lobe set with spinous setæ, the more mesal ones smaller, the more lateral setæ long and conspicuous, very dense.

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, male, Lino Lake, altitude 8,000 feet, September 19, 1930; paratypes, 2 males, 1 teneral, Kidapawan trail from Lino Lake, 7,000 to 8,000 feet, September 20, 1930.

The diagnostic characters of the present species are well shown by the arrangement in the key.

**DOLICHOPEZA (NESOPEZA) PRODUCTULA** sp. nov. Plate 1, fig. 5; Plate 2, fig. 25.

Belongs to the *gracilis* group; general coloration buffy, the mesonotal præscutum with four brown stripes, the intermediate pair more or less confluent in front; pleura pale, variegated with dark brown, this color including the fore coxæ, ventral sternopleurite, and meron; legs pale, the tips of femora and tibiæ narrowly blackened; male hypopygium with the region of the

basistyle produced into cylindrical lobes that are tipped with spinous setæ.

*Male*.—Length, about 7 to 7.5 millimeters; wing, 7.5 to 8.5.

*Female*.—Length, about 8.5 to 9.5 millimeters; wing, 8.5 to 9.

Frontal prolongation of head short, dark brown; palpi black. Antennæ with the basal segment dusky, the second segment of scape and first segment of flagellum more yellowish; outer segments of flagellum passing into brown; flagellar segments elongate-cylindrical, provided with delicate erect setulæ and a single verticil on outer face near end of segment, this verticil not exceeding one-third the length of the segment. Head brown.

Mesonotal præscutum buffy, with four brown stripes, the intermediate pair confluent in front; scutal lobes marked on cephalic and mesal margins with a continuous brown line; scutellum brownish yellow; postnotal mediotergite a little darker. Pleura whitish, variegated with dark brown, including dorsal areas on the anepisternum and dorsal pleurotergite, and a ventral stripe including the fore coxæ, ventral sternopleurite, and meron. Halteres pale yellow, the knobs dark brown. Legs with the fore coxæ dark brown, the remaining coxæ and all trochanters yellow; femora obscure yellow, the tips brownish black; tibiæ white, the tips very narrowly darkened; tarsi white. Wings (Plate 1, fig. 5) with a pattern that is almost identical with that of *gracilis* and allies, including a dark costa that sends spurs caudad across the origin of  $R_s$  and along the anterior cord; pale areas in outer ends of cells  $R_2$  and  $R_3$ ; posterior cord and a marginal seam in the cubital and posterior medial fields restrictedly darkened; prearcular region dark. Venation: Forks of medial field deep, as in the *gracilis* group.

Abdominal tergites brownish black, variegated laterally and medially just before caudal margins of segments two to four with pale areas; subterminal segments more extensively darkened, the pale areas correspondingly restricted; sternites more extensively bicolorous, the posterior rings chiefly yellow, the incisures and basal rings infuscated. Male hypopygium (Plate 2, fig. 25) with the lateral arms of the tergite, 9*t*, conspicuously produced, directed caudad and slightly mesad, the tips very obtuse, the arms with from 15 to 20 punctures; median area of tergite raised into a low lobe. Outer dististyle a short, flattened to cylindrical lobe, provided with many setæ. Inner dististyle, *id*, about as illustrated. Basistyle produced caudad into cylindrical arms

that bear several powerful spinous setæ at and near their tips; median region of sternite, 9s, with a group of about three similar setæ on either side, as illustrated.

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, male; allotype, female, Mainit River, altitude 6,500 feet, September 10, 1930; paratypes, 1 male, type locality, altitude 6,000 feet, September 16 to 24, 1930; 1 male, 1 female, Tio Ridge, altitude 6,500 feet, September 15, 1930; 2 males, 2 females, Seliban River, altitude 6,500 feet, September 11, 1930; 1 male, 1 female, Bakraeyon, altitude 8,000 feet, September 16, 1930.

DOLICHOPEZA (NESOPEZA) PARVELLA *sp. nov.* Plate 2, fig. 26.

Belongs to the *gracilis* group; size small (wing, male, less than 7.5 millimeters); thoracic pleura chiefly dark brown, variegated with pale on the dorsal membrane and on pteropleurite, the anepisternum and sternopleurite continuously darkened; wings with a dark costal pattern only; male hypopygium with the sternal region produced into a low tubercle on either side of the membranous median area, these lobes crowned with about six flattened spinous setæ.

*Male*.—Length, about 7 millimeters; wing, 7.2.

Frontal prolongation of head brownish black; palpi dark brown. Antennæ (male) elongate, if bent backward extending to the second abdominal segment; basal segment dark brown, the remainder pale brownish testaceous; flagellar segments elongate-cylindrical, the verticils inconspicuous. Head brownish black; anterior vertex narrow; eyes large.

Mesonotal præscutum with the ground color brownish black, with three ill-defined reddish brown stripes, the median one becoming narrowed and subobsolete behind; scutal lobes dark brown, paler laterally; scutellum and postnotum dark brown. Pleura chiefly dark brown, variegated by pale yellowish white, the latter including only the dorsopleural region and the pteropleurite. Halteres pale, the knobs infuscated. Legs with the fore coxæ dark brown, the remaining coxæ and all trochanters obscure yellow; remainder of legs broken. Wings subhyaline, with a heavy brown costal pattern, arranged as in the group, leaving pale areas in the outer ends of cells  $R_2$  and  $R_3$ ; veins pale brown, darker in the infuscated costal region. Venation:  $R_s$  with a conspicuous loop at origin, the spur relatively short; forks of medial field deep.



Abdominal segments obscure yellow, their caudal margins narrowly infuscated, the hypopygium chiefly pale. Male hypopygium (Plate 2, fig. 26) with the median region of the tergite, 9*t*, produced into a low triangular lobe, the lateral portions blackened but smooth. Dististyles, *id*, and phallosome, *p*, shaped as illustrated. Region of basistyle not at all produced, the sternal region, 9*s*, with a low tubercle on either side, these set with a brush or crown of about six flattened spinous setæ.

MINDANAO, Davao district, Mount Apo, Seliban River, altitude 6,500 feet, September 11, 1930 (*C. F. Clagg*); holotype, male.

The small size and structure of the male hypopygium readily serve to separate the present fly from allied forms.

DOLICHOPEZA (NESOPEZA) SETISTERNATA sp. nov. Plate 1, fig. 6; Plate 2, fig. 27.

Belongs to the *gracilis* group; general coloration pale yellow; mesonotal præscutum with three reddish brown stripes; pleura yellow, with a broken dorsal longitudinal stripe; legs pale, the tips of femora and tibiæ narrowly darkened; male hypopygium with the region of the basistyle not produced, the armature of the basistyle-sternite consisting of numerous elongate setæ.

*Male*.—Length, about 8 to 8.5 millimeters; wing, 8 to 9.

*Female*.—Length, about 9 to 10 millimeters; wing, 9 to 9.3.

Frontal prolongation of head short, brownish black; palpi paler brown. Antennæ with the scapal segments pale brown; basal flagellar segments pale brown, the outer segments darker; flagellar segments elongate-cylindrical, the subterminal verticil unusually small, not or but slightly exceeding the pubescence. Head brownish gray, more yellowish in front.

Mesonotal præscutum obscure yellowish white, with three reddish brown stripes, the median one divided by a darker median vitta; scutal lobes pale brown, the cephalic-lateral portion marked with darker; posterior sclerites of mesonotum more testaceous brown. Pleura yellow, with an interrupted dorsomedian brown stripe, extending from the cervical sclerites across the anepisternum and dorsal pleurotergite, interrupted on the pteropleurite. Halteres obscure yellow, the knobs infuscated. Legs with the coxæ and trochanters pale yellow; femora yellow, the tips narrowly and weakly infuscated; tibiæ whitish, the tips very narrowly and indistinctly dark; tarsi snowy white, the outer segments more infumed. Wings (Plate 1, fig. 6) subhyaline, with the usual dark pattern of the group, this somewhat paler brown than in some allied species; no dark cloudings beyond

caudal level of vein M except across the postarcular region; veins pale yellow, darker in the clouded areas. Venation: Medial forks deep.

Abdomen dark brown, the tergites variegated with obscure yellow before their caudal margins; basal sternites more extensively yellow; subterminal segments more uniformly darkened; hypopygium pale yellowish brown. Females with the tergites more uniformly darkened, the sternites yellow, with narrow transverse darkenings. Male hypopygium (Plate 2, fig. 27) with the lateral lobes of the tergite, 9t, low, on their ventral face with a comb of blackened points. Region of sternite, 9s, and basistyle provided with long coarse setæ only. Inner dististyle, *id*, large, suboval in outline, the margin with delicate setæ which pass into a group of four or five short spines near apex of style.

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, male, Seliban River, altitude 7,000 feet, September 3, 1930; allotype, female, Sibulan River, 7,000 to 8,000 feet, September 21, 1930; paratypes, 1 male, 2 females, Seliban River, 6,500 feet, September 11, 1930; 1 male, 1 female, with the allotype; 1 male, 2 females, Mainit River, 7,000 feet, September 15, 1930; 1 male, 2 females, Bakraeyon, 8,000 feet, September 16, 1930.

DOLICHOPEZA (NESOPEZA) QUADRIFILA sp. nov. Plate 1, fig. 7; Plate 3, fig. 28.

Belongs to the *cuneata* group, *cinctitarsis* subgroup; male hypopygium with the tergite long and narrow, the apex with a deep U-shaped median notch, each lateral lobe at apex split into two slender branches.

*Male*.—Length, about 10 millimeters; wing, 11.5.

*Female*.—Length, about 10 millimeters; wing, 12.

Frontal prolongation of head yellowish brown; palpi darker. Antennæ dark brown, the scapal segments yellow; flagellar segments elongate-cylindrical. Head dark brown; anterior vertex wide.

Mesonotum pale brown, the præscutum with three scarcely evident more yellowish stripes; scutal lobes and posterior sclerites of mesonotum darker brown. Pleura testaceous brown above, paling almost to whitish on the ventral pleurites. Halteres elongate, black. Legs with the coxæ and trochanters pale, the fore coxæ slightly more infuscated; femora brownish black; tibiæ black, the genua restrictedly whitened; tarsi snowy white, the basitarsi extensively darkened medially, as in the *cuneata* group. Wings (Plate 1, fig. 7) with a dusky tinge, the oval stigma dark brown; somewhat brighter areas before and beyond the stigma; veins dark brown. Venation: Cell M<sub>1</sub> narrower at

base than at outer end, as in the group; cell 2d A very narrow, with a distinct vestige of a fold or third anal vein behind it.

Abdomen dark brown, ringed with obscure yellow on basal third; outer segments more uniformly darkened; hypopygium chiefly obscure yellow, especially the conspicuous tergites. Male hypopygium (Plate 3, fig. 28) with the tergite, 9t, very long and narrow, as in the subgroup, the apex with a deep U-shaped median notch; each lateral lobe split at tip into a shorter outer and a somewhat longer inner and more ventral branch, all branches slightly expanded and more or less truncated at their tips.

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, male, allotype, female, Bakraeyon trail, altitude 8,000 feet, September 16, 1930; paratype, male, Galog River, altitude 6,000 feet, September 8, 1930.

DOLICHOPEZA (NESOPEZA) BAGOBO sp. nov. Plate 3, fig. 29.

Belongs to the *cuneata* group and subgroup; antennæ (male) relatively short, if bent backward not or scarcely exceeding the wing root; male hypopygium with the tergite small, the lateral and sublateral teeth obtuse and separated by a shallow notch; sternite pale, the apex obtuse but entire.

*Male*.—Length, about 8.5 to 9 millimeters; wing, 10 to 11.

*Female*.—Length, 10.5 to 11 millimeters; wing, 11.

Frontal prolongation of head yellowish testaceous; palpi light brown, darkened outwardly. Antennæ with the first scapal segment obscure yellow, the remainder brown, passing into dark brown or black; antennæ of moderate length, if bent backward scarcely exceeding the wing root. Head brown, the front brightening to obscure fulvous; a paler occipital spot.

Mesonotal præscutum brown, with three brighter, more reddish brown, stripes; scutum dark brown, the median area paler, the lobes variegated with reddish brown areas; scutellum and postnotum brown. Pleura obscure yellow. Halteres elongate, black. Legs with the coxæ and trochanters testaceous yellow, the latter with a black spot on ventral face; femora and tibiæ brownish black, the genua very restrictedly whitened; tarsi white, the central portion of the basitarsus blackened. Wings with a faint brownish tinge, the small oval stigma dark brown; narrow dark seams along the cord; veins brownish black. Venation: Forks of medial field deep.

Abdominal tergites bicolorous, black, the central portions of the individual segments obscure yellow; subterminal segments

more uniformly darkened; hypopygium obscure yellow; sternites more uniformly yellow. Male hypopygium (Plate 3, fig. 29) with the tergite, 9*t*, relatively small, the margin toothed about as illustrated. Styli, *d*, as shown. Ninth sternite pale, appearing as a concave sheath, the apex obtuse, entire, and provided with abundant short setæ.

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, male, Mainit River, altitude 6,500 feet, September 10, 1930; allotype, female, in copula with type; paratypes, 1 male, 1 female, Galog River, 6,000 feet, September 1, 1930; 1 female, Tio Ridge, 6,500 feet, September 5, 1930.

*Dolichopeza* (*Nesopeza*) *bagobo* is named from one of the native tribes living near Mount Apo. The species is most nearly allied to *D. (N.) cuneata* Edwards (Borneo) and *D. (N.) angustaxillaris* Alexander (Luzon), the three species being most readily separated by the structure and toothing of the ninth tergite of the male hypopygium.

#### CYLINDROTOMINÆ

STIBADOCERA OPALIZANS sp. nov. Plate 1, fig. 8.

Size large (wing, male, 9 millimeters; antenna, 12); head blue-black, punctate behind; antennal flagellum entirely dark; mesonotum pale reddish brown, the præscutum with three impunctate reddish stripes, the whole surface with light blue to opalescent reflexions; coxæ and femoral bases yellow, remainder of legs black; wings with a strong blackish tinge; abdomen with the basal segment light yellow, the remaining tergites black.

*Male*.—Length, about 8 millimeters; wing, 9; antenna, about 12.

*Female*.—Length, about 6 millimeters; wing, 6.5; antenna, about 1.6.

Antennæ with the entire flagellum dark brown. Head deep metallic blue, with coarse punctures on the posterior vertex and occiput.

Mesonotal præscutum with the interspaces light brown, coarsely punctured, the usual three stripes reddish, smooth, the entire surface with opalescent to blue reflections; posterior sclerites of mesonotum reddish, with similar opalescent reflections. Pleura chestnut-red, with coarse punctures, the ventral sternopleurite and meron glabrous, the surface of the pleura with opalescent reflections; dorsopleural region light yellow. Halteres dark brown, the extreme base of stem light yellow. Legs with the coxæ and trochanters yellow; femora dark brown, the base more

yellow; remainder of legs black. Wings (Plate 1, fig. 8) with a strong blackish tinge, the costal margin darker; veins brownish black. Venation: Outer section of Rs subequal to or slightly shorter than r-m; free tip of Sc<sub>2</sub> variable in position, in cases almost as far distad as the fork of R<sub>2+3</sub>.

Abdomen with the basal segment light yellow; remainder of abdomen dark brown or black, including the hypopygium, the basal sternites light yellow.

The female that I am referring here has the thorax much darker, blackish, with blue-black reflections, the posterior third of the præscutum more reddish.

MINDANAO, Davao district, Mount Apo, Lino Lake and Kidapawan trail from the lake, altitude 7,000 to 8,000 feet, September 19 to 21, 1930 (*C. F. Clagg*); holotype, male; allotype, female; paratypes, 4 males.

*Stibadocera opalizans* is generally similar to *S. metallica* Alexander (Java) and *S. fasciata* Edwards (Borneo), differing chiefly in details of coloration. I am considering all three as representing closely allied vicarious species rather than as being subspecies, as was done by Edwards. The three form a group of closely allied forms that are very different from the only other known Philippine species of the genus, *S. pumila* Alexander (Luzon).

#### LIMONIINÆ

##### LIMONIINI

HELIUS (EURHAMPHIDIA) ATÁ sp. nov. Plate 1, fig. 9

Mesonotal præscutum ocherous, narrowly darkened medially; femora light brown, the tips paling to dirty white; tibial bases not brightened, the tips broadly snowy white.

*Female*.—Length, about 5.5 millimeters; wing, 5.3.

Rostrum a little longer than the head, brown, the palpi dark brown. Antennæ with the scapal segments black, the basal two or three flagellar segments obscure yellow, the remaining segments black. Head light gray.

Pronotum buffy brown, darker medially. Mesonotal præscutum ocherous, with a narrow dark brown median stripe, the scutal lobes similarly darkened. Pleura ocherous yellow. Halteres pale, the knobs weakly infuscated. Legs with the coxæ and trochanters yellow; femora light brown, the tips paling very gradually and insensibly to dirty white; tibiæ brown, the bases not or scarcely brightened, the tips broadly snowy white, the amount greater on the fore tibiæ where about one-third

is included, narrowest on the posterior tibiae where nearly one-fourth is brightened; tarsi snowy white, the terminal segments dark brown. Wings (Plate 1, fig. 9) with a whitish tinge, the stigma and apex a little darker; veins pale brown. Venation:  $Sc_2$  ending a short distance beyond r-m; cell 1st  $M_2$  subrectangular, with m-cu at or beyond midlength.

Abdomen dark brown, the sternites more yellowish.

MINDANAO, Davao district, Mount Apo, Mainit River, altitude 7,000 to 8,000 feet, September 15 to 21, 1930 (C. F. Clagg); holotype, female; paratype, female.

The specific name, *atá*, is that of a local tribe. The Philippine species of the genus *Helius* may be separated by means of the following key:

*Key to the Philippine species of Helius St. Fargeau.*

1. Wings with the r-m crossvein connecting with Rs before the fork..... 2.  
Wings with the r-m crossvein connecting with  $R_{4+5}$ , beyond the fork of Rs. (*Helius* St. Fargeau, s. s.)..... 8.
2. Rostrum elongate, about equal in length to the thorax; wings with a reticulate brown pattern. (*Rhampholimnobia* Alexander.) (Luzon; Mindanao; Borneo; Java.)..... *H. (R.) reticulatus* Alexander.  
Rostrum short, a little longer than the head; wings unmarked, except for the stigmal area, when this is present. (*Eurhamphidia* Alexander.) ..... 3.
3. Femoral tips dirty white to abruptly snowy white..... 4.  
Femoral tips not at all brightened..... 7.
4. Tips of femora dirty white, not abruptly brighter than the remainder; bases of tibiae not conspicuously brightened. (Mindanao.)  
*H. (E.) atá* sp. nov.  
Tips of femora abruptly snowy white; bases of tibiae similarly brightened ..... 5.
5. Male hypopygium with the lateral arms of the tergite bearing a conspicuous slender lateral branch near base. (Luzon.)  
*H. (E.) diacanthus* Alexander.  
Male hypopygium with the lateral arms of the tergite simple, without branches ..... 6.
6. Male hypopygium with the outer dististyle provided with abundant delicate setulae. (Mindanao.)..... *H. (E.) indivisus* Alexander.  
Male hypopygium with the outer dististyle entirely glabrous. (Mindanao.) ..... *H. (E.) glabristylatus* sp. nov.
7. Size large (wing, female, over 6 millimeters); rostrum relatively elongate, about one-half longer than the remainder of head; tips of tibiae narrowly white, including less than the outer fourth of the mid-tibiae. (Luzon.) ..... *H. (E.) fuscofemoratus* Alexander.  
Size smaller (wing, female, under 5 millimeters); rostrum short, only a little longer than remainder of head; tips of tibiae broadly white, including more than the outer third of mid-tibiae. (Luzon; Mindanao.) ..... *H. (E.) nigrofemoratus* Alexander.

8. Anterior branch of Rs fused apically with  $R_{1+2}$ , closing cell  $R_1$ ..... 9.  
 Anterior branch of Rs reaching the wing margin as a distinct unit.... 10.
9. General coloration dark brown. (Luzon; Mindanao.)  
*H. (H.) trianguliferus* Alexander.  
 General coloration pale ochreous. (Mindanao.)  
*H. (H.) apoensis* sp. nov.
10. Anterior branch of Rs very strongly arcuated at origin, beyond base running generally parallel and close to  $R_{1+2}$ ; m-cu slightly beyond the fork of M; cell 1st  $M_2$  long-rectangular..... 11.  
 Anterior branch of Rs gently arcuated at origin, diverging gradually from the posterior branch; m-cu at fork of M; cell 1st  $M_2$  nearly square to subpentagonal. (Luzon.)  
*H. (H.) argyrosterna* Alexander.
11. Antennæ (male) elongate, if bent backward extending to beyond the root of the halteres. (Mindanao.)..... *H. (H.) procerus* Alexander.  
 Antennæ (male) short, if bent backward not reaching the wing base. (Luzon.) ..... *H. (H.) arcuarius* Alexander.

**HELIUS (EURHAMPHIDIA) GLABRISTYLATUS** sp. nov. Plate 1, fig. 10.

Closely related to *H. (E.) indivisus* Alexander, differing especially in the details of coloration and in the glabrous outer dististyle of the male hypopygium.

*Male*.—Length, about 3.7 millimeters; wing, 4.5.

*Female*.—Length, about 4.5 millimeters; wing, 4.5.

Head dark gray. Mesonotal præscutum chiefly dark brown, the lateral margins and humeral region extensively obscure yellow; scutal lobes brownish black; scutellum testaceous. Legs dark brown, the femoral tips broadly and abruptly, the tibial bases narrowly snowy white; tips of all tibiæ relatively narrowly snowy white, the amount subequal on all legs and only about one-half as wide as in *H. indivisus*. Venation as shown (Plate 1, fig. 10). Male hypopygium with the lateral arms of the tergite simple, as in *indivisus*. Outer dististyle entirely glabrous, without the thick covering of setulæ of *indivisus*.

MINDANAO, Davao district, Mount Apo, Kidapawan trail from Lake Lino, altitude 7,000 to 8,000 feet (*C. F. Clagg*); holotype, male; allotype, female; paratypes, 2 males, September 20, 1930; paratypes, 3 females, September 21 to 30, 1930.

HEXATOMINI

**ULA MINDANICA** sp. nov. Plate 1, fig. 11; Plate 3, fig. 30.

General coloration black, more or less pruinose; antennæ relatively short; halteres and legs chiefly blackened; wings with a strong dusky tinge, the costal border more blackish; cell 1st  $M_2$  of wings very small.

*Male*.—Length, about 6 to 7 millimeters; wing, 8 to 8.5.

*Female*.—Length, about 6.5 to 7.5 millimeters; wing, 8 to 9.

Rostrum brownish gray; palpi black. Antennæ black throughout; in male, of moderate length only, if bent backward extending to shortly beyond the wing root; flagellar segments long-oval, with unilaterally arranged verticils that are about as long as the segments. Head dark brown, pruinose.

Mesonotum black, sparsely pruinose; median region of scutum and the scutellum more pollinose with yellow. Pleura black, pruinose with gray, especially on the ventral pleurites. Halteres black, the base of stem restrictedly yellow. Legs with the coxæ obscure yellow, the bases weakly pruinose; trochanters brownish yellow; femora black, the bases yellow; remainder of legs black. Wings (Plate 1, fig. 11) with a strong dusky tinge, the costal region and stigma even more blackish; veins and macrotrichia black. Macrotrichiæ of cells relatively abundant beyond the cord, in the more basal cells restricted to the centers of the cells, their distribution about as illustrated; macrotrichia of veins unusually long and slender. Venation: Cell 1st  $M_2$  very small, vein  $M_{1+}$  beyond it usually more than four times the length of the cell.

Abdomen black, sparsely pruinose, the basal segments a little paler; hypopygium chiefly darkened. Male hypopygium (Plate 3, fig. 30) with the dististyle, *d*, single, bearing about a dozen black spines. Interbasal process, *i*, a slender rod, slightly expanded at outer end. Gonapophyses, *g*, nearly as long as the interbases but more slender, acute at tips. Ædeagus, *a*, large, compressed on basal and central portions.

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, male; allotype, female; Sibulan River, altitude 7,000 to 8,000 feet, September 21, 1930; paratypes, 1 male, Mainit River, 6,000 feet, September 24, 1930, 1 female, 7,000 feet, September 15, 1930; 3 males, 1 female, Kidapawan trail from Lake Lino, 7,000 to 8,000 feet, September 20, 1930; 1 male, Seliban River, 7,000 feet, September 11, 1930.

*Ula mindanica* is most closely allied to *U. javanica* Alexander (Java), differing in the details of coloration of the body, halteres, and legs, together with slight details of venation and trichiation, especially the long macrotrichia of the wing veins.

PSEUDOLIMNOPHILA LEGITIMA sp. nov. Plate 1, fig. 12; Plate 3, fig. 31.

General coloration yellow, the mesonotum dark brown; antennæ short in both sexes; legs chiefly brownish black, the tarsi in



cases a trifle paler; wings with the costal fringe short; cell  $M_1$  present.

*Male*.—Length, about 5.5 to 6.5 millimeters; wing, 7 to 7.5.

*Female*.—Length, about 7 to 7.5 millimeters; wing, 7 to 8.

Rostrum obscure yellow to brown; palpi black. Antennæ relatively short in both sexes, black throughout; flagellar segments cylindrical, with very long, conspicuous verticils on the outer flagellar segments. Head dark gray; anterior vertex nearly twice as wide as the diameter of the scape.

Pronotum and mesonotum dark brown, the humeral and lateral regions of the præscutum yellow; median area of scutum and base of scutellum obscure yellow; central portion of mediotergite blackened, the lateral areas and the pleurotergite yellow. Pleura yellow, the dorsopleural region and areas surrounding the wing root usually dark brown; dorsal sternopleurite and anepisternum, in cases weakly suffused with brown. Halteres brown, the stem brighter. Legs with the coxæ and trochanters yellow; femora brownish black, the bases obscure yellow; tibiæ brownish black; tarsi brown to brownish black. Wings (Plate 1, fig. 12) with a brownish tinge, iridescent; stigma and a marginal seam in the radial field to vein  $R_4$  dark brown; veins brownish black. Costal fringe relatively short. Venation:  $Sc_1$  ending just beyond r-m,  $Sc_2$  nearly opposite the fork of  $Rs$ ;  $R_2$  a little shorter than  $R_{2+3}$ ;  $R_3$  relatively short, sinuous, diverging from vein  $R_4$ , cell  $R_3$  at margin subequal to cell  $R_2$ ; cell  $M_1$  present, shorter than its petiole; m-cu at or close to fork of  $M$ .

Abdominal tergites dark brown, brightened laterally; sternites paler, obscure yellow; a narrow dark brown subterminal ring; hypopygium with the basistyli obscure yellow. Male hypopygium (Plate 3, fig. 31) with the dististyles long and slender, the outer, *od*, nearly straight, the slender tip curved to an acute point.

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, male; allotype, female, Mainit River, altitude 6,500 feet, September 14, 1930; paratopotypes, 44 males and females, 6,000 to 6,500 feet, September 9 to 23, 1930; paratypes, 1 male, Seli-ban River, 7,000 feet, September 11, 1930; 1 female, Poraka River, 6,500 feet, September 8, 1930; 1 female, Sibulan River, 6,000 feet, August 31, 1930; 7 males and females, Galog River, 6,000 feet, September 3 to 8, 1930; 1 female, Galog River trail, 5,000 to 6,000 feet, September 12, 1930.

The present species is readily told by the diagnostic characters listed. The known Philippine species of *Pseudolimnophila* may be separated by the following key:

*Key to the Philippine species of Pseudolimnophila.*

1. Cell  $M_1$  of wings present..... 2.  
     Cell  $M_1$  of wings lacking ..... 3.
2. Legs black, the tarsi abruptly light yellow; wings narrow, the margins of outer radial cells not suddenly darkened. (Luzon.)  
     *P. luteitarsis* Alexander.  
     Legs black, the tarsi only slightly if at all paler than the tibiae; wings broad, the outer margins of cells  $R_2$  and  $R_3$  suddenly darkened. (Mindanao.) ..... *P. legitima* sp. nov.
3. Wings broad, the outer radial cells narrowly dark brown; tarsi black. (Mindanao.) ..... *P. illegitima* sp. nov.  
     Wings narrow, the outer radial cells not darkened; tarsi paling to golden yellow. (Mindanao.)..... *P. auripes* sp. nov.

**PSEUDOLIMNOPHILA ILLEGITIMA** sp. nov. Plate 1, fig. 13.

*Male*.—Length, about 6.5 to 7 millimeters; wing, 7 to 7.2.

*Female*.—Length, about 8 millimeters; wing, 7.5.

Very similar in all respects to *P. legitima* sp. nov., differing only in the total loss of cell  $M_1$  of the wings. Legs black, the tarsi scarcely if any brightened. Wings (Plate 1, fig. 13) with a strong brownish yellow tinge, cells C and Sc clearer yellow; stigma and a conspicuous marginal seam in cells  $R_2$  and  $R_3$  dark brown; veins brownish black. Venation: Anterior branch of  $R_s$  extending generally parallel to  $R_4$ , cell  $R_3$  at margin much narrower than cell  $R_2$ ; cell  $M_1$  lacking; m-cu close to inner end of cell 1st  $M_2$ .

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, male, Mainit River, altitude 6,000 feet, September 9, 1930; allotype, female, Galog River, 6,000 feet, September 7, 1930; paratopotypes, 2 males, 6,000 to 6,500 feet, September 14 to 24, 1930; paratype, 1 male, with the allotype, September 8, 1930.

**PSEUDOLIMNOPHILA AURIPES** sp. nov. Plate 1, fig. 14.

*Male*.—Length, about 6 to 7.5 millimeters; wing, 7 to 8.3.

*Female*.—Length, about 8.5 to 9 millimeters; wing, 8 to 9.

Generally similar to *P. illegitima* sp. nov., in the loss of cell  $M_1$ , differing most conspicuously in the yellow tarsi and the much narrower wings. Antennæ short in both sexes, black throughout, with long conspicuous verticils. Head black, with a sparse pruinosity.

Mesonotum chiefly dark brown, the humeral and lateral portions of the præscutum more yellowish; in cases, the entire

præscutum more uniformly reddish yellow. Pleura obscure yellow, the dorsopleural region more infuscated. Halteres brown. Legs with the coxæ and trochanters obscure yellow, the fore coxæ more infuscated; femora brownish black; tibiæ brown to pale brown; tarsi more golden yellow. Wings (Plate 1, fig. 14) long and narrow, tinged with brown, cells C and Sc a little darker; stigma pale brown; veins dark brown; no darkening in outer ends of cells  $R_2$  and  $R_3$ . Venation:  $R_{2+3+4}$  long and strongly arcuated; anterior branch of Rs running nearly parallel to vein  $R_3$ ; cell  $M_1$  lacking; m-cu near inner end of cell 1st  $M_2$ ; cell 2d A narrow. Abdominal tergites brownish black, the sternites obscure yellow.

MINDANAO, Davao district, Mount Apo (C. F. Clagg); holotype, male, Galog River, altitude 6,000 feet, September 8, 1930; allotopotype, female; paratopotypes, several of both sexes, September 7 to 26, 1930; paratypes, several of both sexes, Mainit River, 6,000 to 6,500 feet, September 9 to 24, 1930. One specimen is labelled as having been taken on grass at hot springs.

**LIMNOPHILA (LIMNOPHILA) BITUMINOSA** sp. nov. Plate 1, fig. 15; Plate 3, fig. 32.

General coloration coal-black, with a very sparse reddish brown pollen, the black coloration including the entire thoracic pleura and abdomen; legs chiefly dark brown, the tips blackened; wings cream-colored, with a very heavy fasciate dark brown pattern.

*Male*.—Length, about 6.5 to 7 millimeters; wing, 6.8 to 7.5.

*Female*.—Length, about 7.5 millimeters; wing, 7.8.

Rostrum and palpi black. Antennal scape black, the flagellar segments more brownish black; antennæ short in both sexes; basal flagellar segments short-oval, becoming more elongate outwardly and here provided with long conspicuous verticils. Head black, with a reddish brown pollen.

Thorax chiefly black, with a sparse reddish brown pollen. Halteres pale yellow. Legs with the coxæ brownish black, the fore coxæ paler apically; trochanters obscure yellow; remainder of legs chiefly brownish black, the femoral bases obscure yellow; in cases the femora are dark brown, with the tips blackened, and with a more or less distinct paler subterminal ring; legs with conspicuous suberect setæ. Wings (Plate 1, fig. 15) cream-colored, with a very heavy dark brown crossbanded pattern, the broadest fasciæ at level of origin of Rs and along the cord; other areas include the wing tip, across the middle of the outer radial field and as a postarcular darkening; individual clouds in basal half of cell 2d A and as a confluent series of clouds in cell M;

veins pale yellow, darker in the clouded areas. The degree of the dark pattern varies in different individuals, in some being lighter, with the dark seam at outer end of cell 1st  $M_2$  widely separated from the band at the cord; in the other extreme of specimens, the dark areas are so extensive as virtually to cover the entire ring. Costal fringe long and conspicuous. Venation: Sc relatively short,  $Sc_1$  ending about opposite the fork of Rs,  $Sc_2$  close to its tip;  $R_2$  faint, considerably shorter than  $R_{1+2}$  cell  $M_1$  present; m-cu at or beyond midlength of cell 1st  $M_2$ ; anterior arcus preserved.

Abdomen, including the hypopygium, black. Male hypopygium (Plate 3, fig. 32) with the outer dististyle, *od*, a simple curved rod, narrowed to an acute point, the outer surface with abundant erect setæ. Gonapophyses, *g*, appearing as flattened blades. Interbasal processes, *i*, blackened, capitate.

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, male, Kidapawan trail from Lake Lino, altitude 7,000 to 8,000 feet, September 20, 1930; allotype, female, Lino Lake, 8,000 feet, September 19, 1930; paratopotypes, 25 of both sexes; paratypes, 10 males, with the allotype.

*Limnophila bituminosa* is most closely allied to *L. (L.) benquetana* Alexander (Luzon), *L. (L.) guttularis* Edwards (Borneo) and *L. (L.) murudensis* Edwards (Borneo), differing from all in the uniformly blackened body and unusually heavy wing pattern. It is evident that females are very rare in this particular group of the subgenus, the present large series including only two of this sex.

PILARIA LEUCOPODA sp. nov. Plate 1, fig. 16; Plate 3, fig. 33.

General coloration of mesonotum brown, the præscutum more obscure reddish; pleura ochereous gray, striped longitudinally with black; tarsi chiefly white; wings with a strong dusky tinge; anterior branch of Rs short, cell  $R_3$  at margin correspondingly widened; cell  $M_1$  lacking; male hypopygium with the lobes of the tergite setiferous; longest gonapophysis toothed along margin.

*Male*.—Length, about 6 to 7 millimeters; wing, 8 to 8.5.

Rostrum and palpi black. Antennæ short; scapal segments black; basal segments of flagellum obscure yellow, the outer segments passing into dark brown; basal segments of flagellum short and crowded, with short verticils; outer segments more elongated, with long conspicuous verticils. Head dark brownish gray, the orbits narrowly light gray; anterior vertex broad.

Pronotum large, dark in color, with a grayish white pruinosity. Mesonotal præscutum obscure reddish, with vague indica-

tions of four darker stripes on posterior half, the intermediate pair of these stripes continued as a central darkening more or less to the cephalic margin of the sclerite; pseudosutural foveæ large; posterior sclerites of mesonotum dark brown. Pleura light ochereous gray, conspicuously variegated with velvety black, this color appearing chiefly as two interrupted longitudinal stripes, the more dorsal including the propleura and ventral anepisternum, the ventral stripe including the ventral sternopleurite and the hypopleural and meral regions. Halteres pale, the knobs weakly darkened. Legs with the coxæ obscure yellow, the fore coxæ more darkened; trochanters obscure yellow; femora obscure yellow basally, passing into brown; tibiæ brown; tarsi chiefly white, most extensive on the posterior tarsi, where all the basitarsus is included, least extensive on the fore tarsi where the outer fifth or sixth of the basitarsus is brightened. Wings (Plate 1, fig. 16) with a strong dusky tinge, the oval stigma darker brown; longitudinal subhyaline streaks in the basal radial, medial, cubital, and anal cells; veins dark brown. Venation:  $Sc_1$  ending opposite or just beyond the fork of  $R_s$ ,  $Sc_2$  some distance from its tip;  $R_2$  close to fork of  $R_{3+4}$ , sometimes before this fork, in other cases with  $R_2$  subequal to  $R_{2+3}$ ; anterior branch of  $R_s$  unusually short, as in *phænosoma*, the cell at margin very wide; cell  $M_1$  lacking; m-cu at near one-third the length of cell 1st  $M_2$ .

Abdominal tergites black, variegated with obscure orange-yellow on the posterior portions of the segments; outer segments more uniformly blackened; sternites obscure yellow, the bases of the individual segments narrowly darkened. Male hypopygium (Plate 3, fig. 33) with the caudal margin of the tergite, 9t, produced into two conspicuous submedian setiferous lobes that are separated by a narrow U-shaped notch. Outer dististyle, *od*, slender, glabrous, terminating in a small oval recurved flap or operculum. Inner dististyle a broad mitten-shaped lobe, narrower than in *phænosoma*. Longest gonapophysis, *g*, terminating in an acute point, the margin with a few conspicuous denticles.

MINDANAO, Davao district, Mount Apo (*C. F. Clagg*); holotype, male, Mainit River, altitude 6,000 feet, September 4, 1930; paratopotypes, 3 males, 6,000 to 6,500 feet, September 14 to 22, 1930.

*Pilaria leucopoda* is readily told from *P. phænosoma* Alexander (Luzon), its closest ally, by the white tarsi, as well as the very different structure of the male hypopygium.

ERIOCERA NIGRONOTATA sp. nov. Plate 1, fig. 17.

Belongs to the *pyrrhochroma* group; general coloration obscure fulvous; sides of mesonotum and the pleura with small velvety-black spots; wings with a yellowish brown tinge; cell  $M_1$  present.

*Male*.—Length, about 9 to 11 millimeters; wing, 10.5 to 13.

Rostrum and palpi black. Antennæ short; scapal segments obscure yellow; flagellum black. Head dark gray, the center of the vertex darkened.

Mesonotal præscutum obscure fulvous, with two velvety-black lateral spots, one behind the pseudosutural foveæ, the other at the suture; posterior sclerites of mesonotum brown, slightly plumbeous. Pleura yellow, with a velvety-black spot between the anepisternum and sternopleurite, with a smaller spot below and in front of the wing root. Halteres infuscated, the base of the stem narrowly brightened. Legs with the coxæ and trochanters yellow; femora dark brown, the bases obscure yellow; tibiæ and tarsi dark brown. Wings (Plate 1, fig. 17) with a yellowish brown tinge, the costal region and wing tip slightly more darkened; the actual stigma dark brown but very small, appearing as a seam at outer end of vein  $R_1$ ; veins brown, paler in the basal and subcostal regions, blacker beyond the cord. Venation:  $R_s$  long, in alignment with  $R_5$ , the basal section of the latter being obliterated; r-m at fork of  $R_s$ ; cell  $R_3$  angulated at base;  $R_2$  longer than the upturned  $R_{1+2}$ ; cell  $M_1$  present, about equal to its petiole; m-cu about its own length beyond the fork of  $M$ ; distal section of  $Cu_1$  a little longer than m-cu, nearly in alignment with the basal section.

Basal abdominal segments obscure yellow medially, darkened laterally, the outer segments more uniformly velvety black; hypopygium chiefly blackened.

MINDANAO, Davao district, Mount Apo, altitude 6,000 feet, September 4 to 26, 1930 (*C. F. Clagg*); holotype, male; paratype, male.

By Edwards's key to the Old World species of *Eriocera*,<sup>6</sup> the present fly runs to couplet 29, disagreeing in the combination of having cell  $M_1$  present and with black spots on sides of mesonotum; running farther on the basis of presence of cell  $M_1$ , the fly runs to couplet 33, disagreeing with both included species. By Edwards's key to the Philippine species of *Eriocera*,<sup>7</sup> the

<sup>6</sup> Ann. & Mag. Nat. Hist. IX 8 (1921) 70-78.

<sup>7</sup> Notulæ Entomologicae 6 (1926) 38-39.

present fly runs to couplet 12, disagreeing in the venation, which is that of *pyrrhochroma* and allied species in the Oriental fauna. Such species have the basal section of  $R_5$  obliterated or nearly so and with r-m at or close to the fork of Rs.

## ERIOPTERINI

**GNOPHOMYIA OBESULA** sp. nov. Plate 1, fig. 18; Plate 3, fig. 34.

General coloration black; antennæ (male) elongate, exceeding one-half the length of the body; halteres and legs black; wings with a strong blackish tinge; male hypopygium with the outer dististyle simple, unusually stout; inner dististyle a small simple black spine; ædeagus short.

*Male*.—Length, about 3.5 millimeters; wing, 4; antenna, about 2.

Rostrum and palpi black. Antennæ black throughout, elongate in male; flagellar segments long-cylindrical, the longest verticils subequal to the segments, the remainder of organ with numerous long, coarse, scattered setæ. Head black.

Thorax black, very sparsely pruinose. Halteres black, the extreme base of stem pale. Legs with the coxæ and trochanters black; remainder of legs brownish black. Wings (Plate 1, fig. 18) with a strong blackish tinge, the stigma scarcely indicated; certain of the veins, especially Cu and the end of Rs, more clouded with brown; veins black. Venation:  $Sc_1$  ending shortly before the level of  $R_2$ ; Rs in alignment with  $R_5$ ; r-m at or shortly before the fork of Rs; m-cu at near one-third the length of cell 1st  $M_2$ .

Abdomen, including hypopygium, black. Male hypopygium (Plate 3, fig. 34) with the outer dististyle, *od*, unusually stout and tumid, gradually narrowed to a subacute tip, with a few scattered setigerous punctures. Inner style a small acute spine. Ædeagus relatively short.

MINDANAO, Davao district, Mount Apo, Galog River, altitude 6,000 feet, August 31, 1930 (*C. F. Clagg*); holotype, male.

*Gnophomyia obesula* is most closely allied to *G. macrocera* Alexander (Luzon), differing in the shorter antennæ and, especially, the very different structure of the male hypopygium.

**TOXORHINA (TOXORHINA) TUBERCULATA** sp. nov. Plate 3, fig. 35.

General coloration of notum gray; rostrum elongate; thoracic pleura dark brown above, paler below; wings with a faint brownish tinge; male hypopygium with the setæ of the mesal face of the basistyle simple; outer dististyle a simple elongate

spine; inner dististyle a flattened blade that bears a small erect tubercle on outer margin of basal half.

*Male*.—Length, excluding rostrum, about 5 millimeters; wing, 4.6; rostrum, about 4.5.

Rostrum elongate, only a little shorter than the body, black. Antennæ black, the basal segments pruinose. Head light gray.

Pronotum brownish black. Mesonotal præscutum brownish gray medially, the humeral region vaguely brightened; posterior sclerites of mesonotum clearer gray. Pleura with the dorsopleural membrane and dorsal pleurites, including the roots of the wings and halteres, brownish black; ventral pleurites obscure yellow, the ventral sternopleurite again darkened. Halteres brownish black, the extreme base of stem obscure yellow. Legs with the coxæ and trochanters light yellow; femora brown, the bases paler; remainder of legs brownish black. Wings with a faint brownish tinge; veins black. Venation: Cell  $M_2$  open by the atrophy of  $m$ .

Abdominal tergites brownish black, the sternites paler. Male hypopygium (Plate 3, fig. 35) with the setæ of the mesal face of the basistyle,  $b$ , simple. Outer dististyle,  $od$ , a simple elongate spine from a dilated base. Inner dististyle,  $id$ , a flattened blade, on basal half of outer margin with a small erect tubercle. Arms of ædeagus,  $a$ , relatively short.

MINDANAO, Davao district, Mount Apo, Mainit River, altitude 6,500 feet, September 14, 1930 (*C. F. Clagg*); holotype, male.

*Toxorhina* (*Toxorhina*) *tuberculata* is most readily told from its closest allies, *T. (T.) duyagi* Alexander (Luzon) and *T. (T.) montina* Alexander (Luzon), by the structure of the dististyles of the male hypopygium.



# ILLUSTRATIONS

[Legend: *a*, aedeagus; *b*, basistyle; *d*, dististyles; *g*, gonapophysis; *i*, interbasal process; *id*, inner dististyle; *od*, outer dististyle; *p*, phallosome; *s*, sternite; *t*, tergite.]

## PLATE 1

- FIG. 1. *Scamboneura claggi* sp. nov., wing.  
 2. *Scamboneura citridorsum* sp. nov., wing.  
 3. *Dolichopeza* (*Dolichopeza*) *ata* sp. nov., wing.  
 4. *Dolichopeza* (*Nesopeza*) *multiguttula* sp. nov., wing.  
 5. *Dolichopeza* (*Nesopeza*) *productula* sp. nov., wing.  
 6. *Dolichopeza* (*Nesopeza*) *setisternata* sp. nov., wing.  
 7. *Dolichopeza* (*Nesopeza*) *quadrifila* sp. nov., wing.  
 8. *Stibadocera opalizans* sp. nov., wing.  
 9. *Helius* (*Eurhamphidia*) *ata* sp. nov., wing.  
 10. *Helius* (*Eurhamphidia*) *glabristylatus* sp. nov., wing.  
 11. *Ula mindanica* sp. nov., wing.  
 12. *Pseudolimnophila legitima* sp. nov., wing.  
 13. *Pseudolimnophila illegitima* sp. nov., wing.  
 14. *Pseudolimnophila auripes* sp. nov., wing.  
 15. *Limnophila* (*Limnophila*) *bituminosa* sp. nov., wing.  
 16. *Pilaria leucopoda* sp. nov., wing.  
 17. *Eriocera nigronotata* sp. nov., wing.  
 18. *Gnophomyia obesula* sp. nov., wing.

## PLATE 2

- FIG. 19. *Scamboneura claggi* sp. nov., male hypopygium, details.  
 20. *Scamboneura citridorsum* sp. nov., male hypopygium, details.  
 21. *Scamboneura subdotata* sp. nov., male hypopygium, details.  
 22. *Scamboneura opaciotum* sp. nov., male hypopygium, details.  
 23. *Dolichopeza* (*Dolichopeza*) *ata* sp. nov., male hypopygium, details.  
 24. *Dolichopeza* (*Nesopeza*) *nigrofemorata* sp. nov., male hypopygium, details.  
 25. *Dolichopeza* (*Nesopeza*) *productula* sp. nov., male hypopygium, details.  
 26. *Dolichopeza* (*Nesopeza*) *parvella* sp. nov., male hypopygium, details.  
 27. *Dolichopeza* (*Nesopeza*) *setisternata* sp. nov., male hypopygium, details.

## PLATE 3

- FIG. 28. *Dolichopeza* (*Nesopeza*) *quadrifila* sp. nov., male hypopygium, details.  
 29. *Dolichopeza* (*Nesopeza*) *bagobo* sp. nov., male hypopygium, details.  
 30. *Ula mindanica* sp. nov., male hypopygium.  
 31. *Pseudolimnophila legitima* sp. nov., male hypopygium.  
 32. *Limnophila* (*Limnophila*) *bituminosa* sp. nov., male hypopygium.  
 33. *Pilaria leucopoda* sp. nov., male hypopygium.  
 34. *Gnophomyia obesula* sp. nov., male hypopygium.  
 35. *Toxorhina* (*Toxorhina*) *tuberculata* sp. nov., male hypopygium.

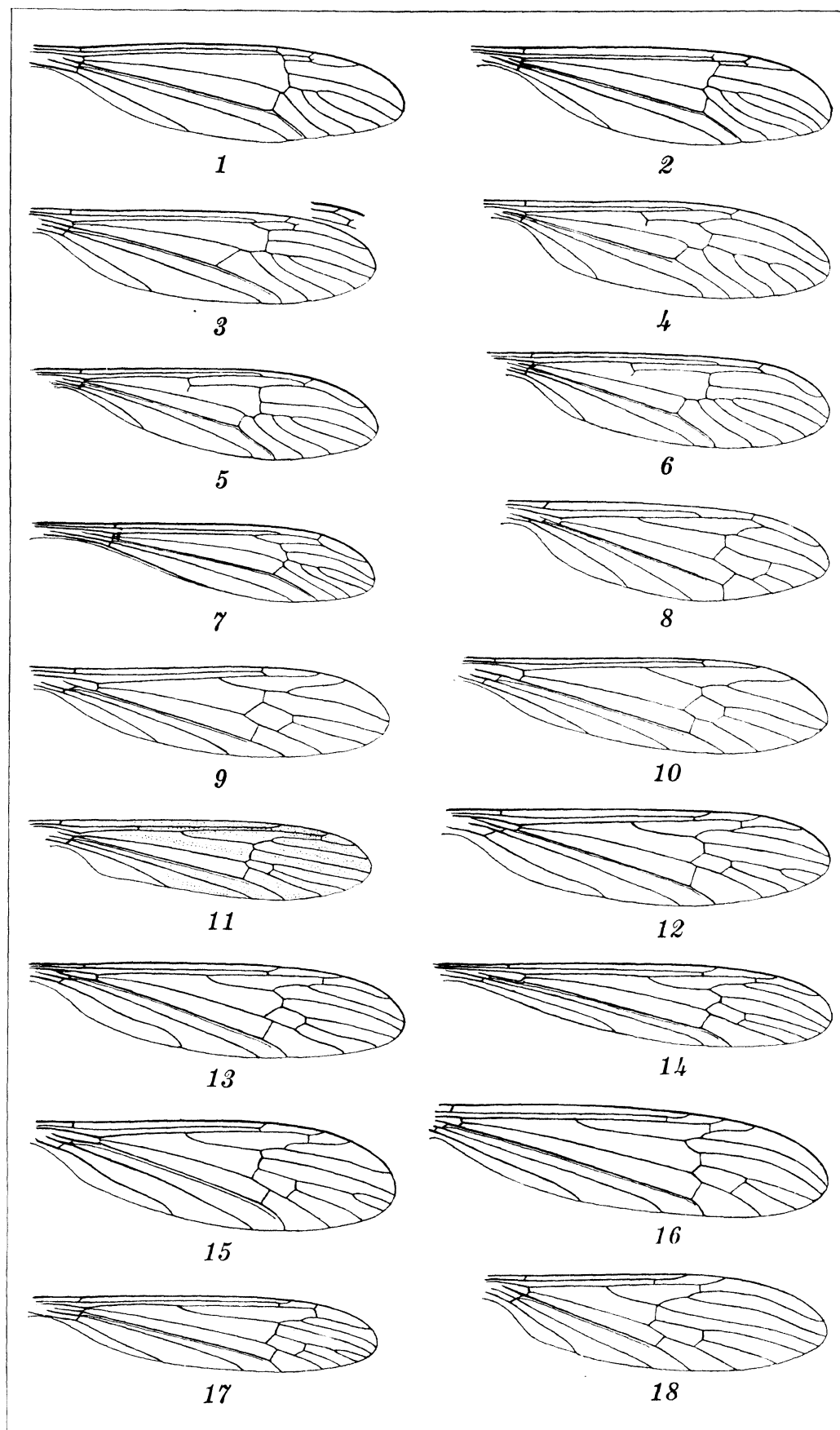


PLATE 1.

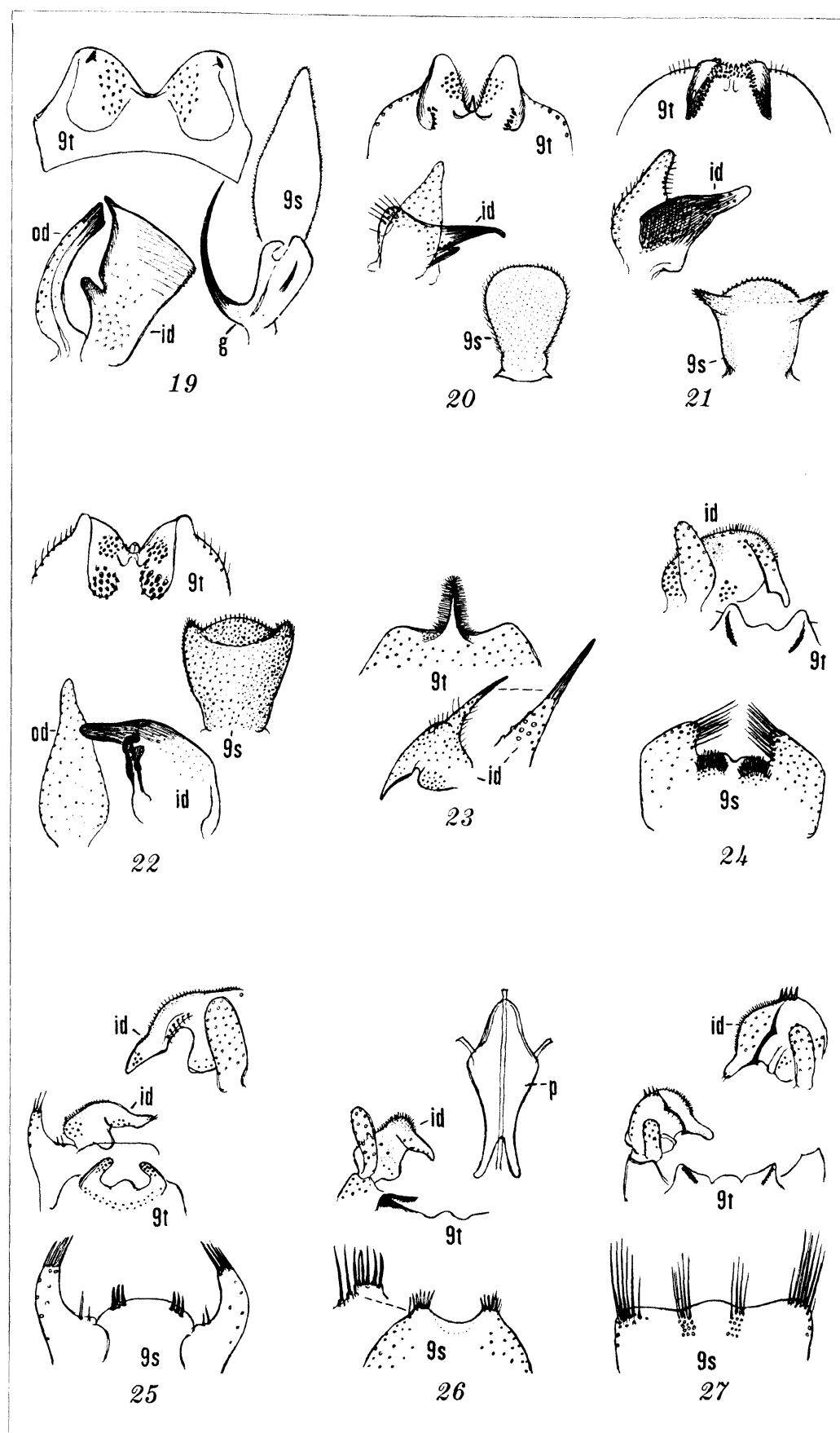


PLATE 2.

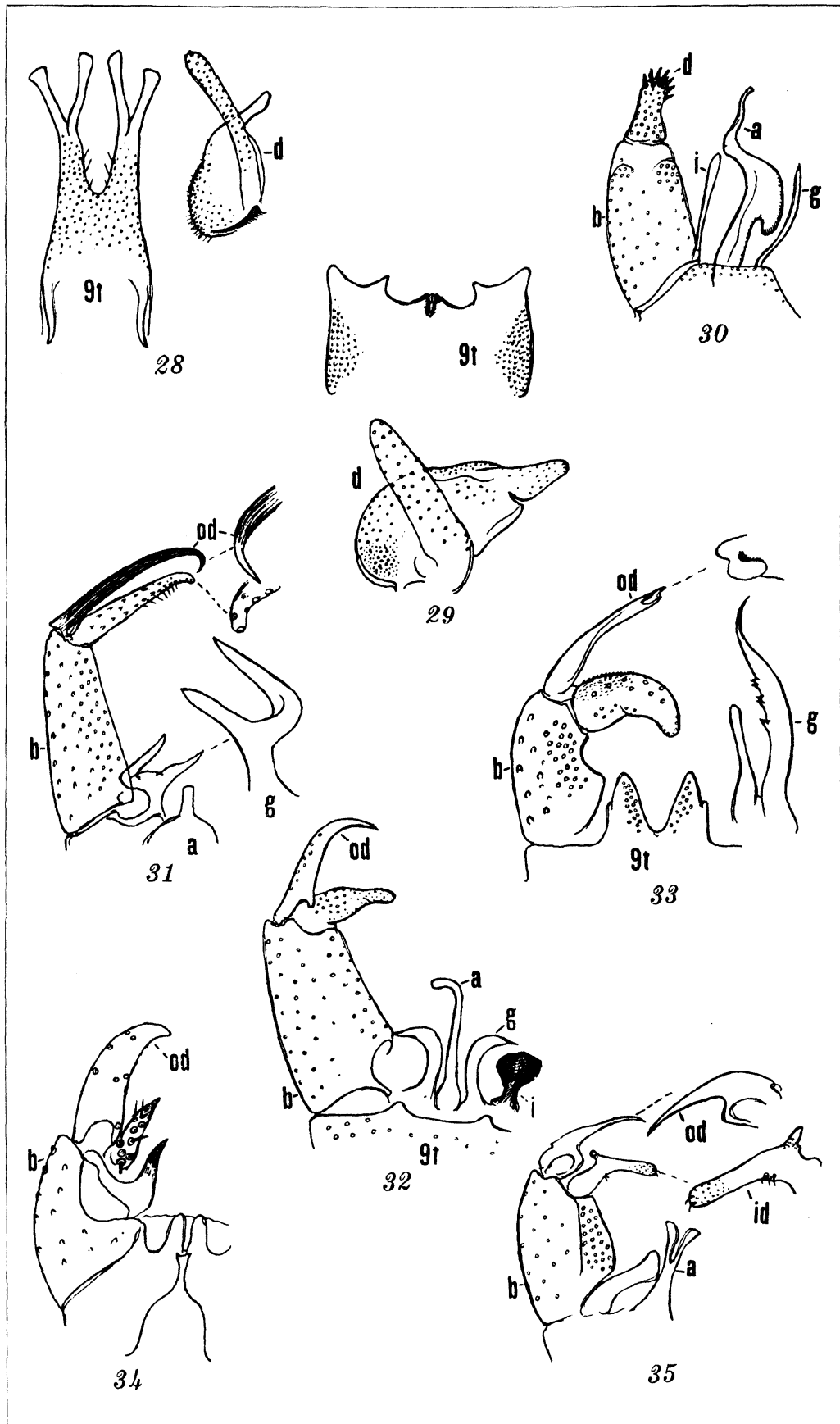


PLATE 3.