

NEW OR LITTLE-KNOWN TIPULIDÆ FROM EASTERN  
ASIA (DIPTERA), XLV

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## NEW OR LITTLE-KNOWN TIPULIDÆ FROM EASTERN ASIA (DIPTERA), XLV

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FOUR PLATES

The first part under this general title was published in 1926, the last (No. XLIV) in 1941.<sup>1</sup> This series of reports include descriptions of more than one thousand new species of crane-flies, virtually all with figures showing venation and the structure of the male genitalia. Part XLIV is almost unobtainable and is one of the scarcest of the more than 750 papers on the Tipulidæ that have been published by the writer. This rarity was occasioned by the invasion of the Philippines by the Japanese during the Second World War, with the resultant partial destruction of Manila, when copies of this particular issue of the Philippine Journal of Science, together with all reprints of the article, were destroyed.

I am now planning to revive this series of papers to include descriptions of crane-flies in the vastly rich fauna of the Oriental-Australasian regions. I expect to describe and figure not only the various novelties involved but also to characterize briefly and to figure essential structures of species that have been described elsewhere by the writer and by other authors but which have never been illustrated. This idea has been furthered by recent losses of important insect collections in various parts of the world, the most recent being the partial destruction in November 1956 of the collections of the Hungarian National Museum in Budapest. Reports indicate that while portions of this great collection were saved virtually all the Diptera were destroyed, these totalling about 250,000 specimens and including the types of approximately 1,000 species. It has become very necessary that new species of insects be adequately described and especially that figures of critical structures be provided, in order to validate a given species in the event of loss of the physical specimens.

<sup>1</sup> ALEXANDER, C. P. New or little-known Tipulidæ from Eastern Asia (Diptera), Part I. Philip. Jour. Sci. 31 (1926) 363-383, 2 pls; New or little-known Tipulidæ from Eastern Asia (Diptera), Part XLIV. Philip. Jour. Sci. 76 (1941) 27-66, 4 pls.

In the present report I am considering species derived from two sources, one being based on extensive collections made in Ceylon in 1954 by Dr. Fernand Schmid, of Lausanne, Switzerland, the second series from Nepal, having been taken by Dr. Edward I. Coher, now medical officer with the World Health Organization in that country. Both collections are exceedingly rich in species and both have added materially to our previous knowledge of the crane-flies of these two countries. I wish to express my gratitude to Doctors Coher and Schmid for these collections, the types of the novelties and other specimens being preserved in my extensive series of these flies.

Nepal, in particular, had remained inaccessible and virtually unknown until very recent years due to restrictions on travel by foreigners imposed by the then ruling house of Rana. It is certain that further surprising discoveries will be made in this rugged 500 mile long section of the Himalayas. As I have indicated in another paper, most of the species so far discovered in eastern Nepal, in the general vicinity of Katmandu (Kathmandu) have proved to be distinct from those taken at Darjeeling (Darjiling) in extreme northern Bengal, India, as described and discussed by the late Enrico Brunetti, chiefly between 1911 and 1918. The information at present available appears to indicate that there is an actual marked difference in composition of the two faunas, despite the fact that they are separated by a distance of less than 200 miles. However some of this distinctness may be apparent rather than real since the present materials from Nepal, upon which this opinion is based, were taken chiefly in October, representing the autumnal fauna, whereas the majority of the crane-flies known from the Darjeeling district are spring and early summer forms. Some readily available references to Nepal are cited.<sup>2</sup>

<sup>2</sup>BLACKER, L.V.S. The aërial conquest of Everest. *Nat. Geog. Mag.* 64 (1933) 127-162, ill.

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WHITE, JOHN CLAUDE. Nepal: a little-known kingdom. *Nat. Geog. Mag.* 38 (1920) 245-283, ill.

## TIPULINÆ

## LONGURIO (LONGURIO) ZEYLANICA sp. nov.

Size medium (wing of male 10.5 mm); mesonotum yellow, præscutum with three brown stripes on posterior half; knobs of halteres infuscated; legs light yellow, the tips of the femora and tibiae narrowly darkened; wings grayish, stigma slightly darker; Rs subequal to  $R_{2+3}$ ; cell  $M_1$  short-petiolate; m-cu short; cell 2nd narrow; abdomen yellow, posterior borders of segments dark brown.

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

Frontal prolongation of head above brownish yellow, yellow beneath; nasus represented by two separate small tubercles, as in errans. Antennae with scape pale and pruinose, above, darker beneath; pedicel obscure yellow; flagellum broken. Anterior vertex narrow, about twice the diameter of scape, light silvery; posterior vertex obscure yellow.

Pronotal scutellum light yellow. Mesonotal præscutum polished yellow, on posterior half with three brown stripes, the lateral pair darker, the pale central vitta ending before the suture; lateral præscutal borders pale yellow; scutal lobes extensively dark brown, the central region yellow; scutellum testaceous yellow; mediotergite yellow, vaguely more darkened laterally and behind. Pleura and pleurotergite, with the dorsopleural region pale yellow. Halteres with stem pale, knob infuscated. Legs with coxae and trochanters pale yellow; femora light yellow, the tips very narrowly and abruptly brownish black; tibiæ yellow, tips more narrowly infuscated; tarsi brownish yellow, the outer segments only a little darker. Wings grayish, prearcular region paler; stigma small, pale brown, ill-delimited; veins brown. Veins beyond cord virtually glabrous, with a few very scattered trichia on vein  $R_{4+5}$ . Venation:  $Sc_1$  weakly preserved; Rs subequal to  $R_{2+3}$ ; r-m long, at the fork of Rs,  $R_{4+5}$  in alignment with the latter; cell  $M_1$  deep, its petiole about one-half m; m-cu short, about one-half longer than m, shorter than the distal section of  $Cu_1$ ;  $M_{3+4}$  subequal to m-cu; cell 2nd A very narrow.

Abdominal tergites yellow, the posterior borders of the segments brown, sending a central spur cephalad, isolating the ground; sternites pale yellow, the extreme posterior borders of the segments darkened; subterminal segments more uniformly darkened, the hypopygium more strongly so. Male hypopygium with the tergite transverse, its posterior border shallowly

emarginate, the low broad lateral lobes with very numerous setæ. Basistyle small. Outer dististyle a small pale oval lobe; inner style small, with a cylindrical basal lobe that is tipped with several spinelike black setæ; beak moderately long, obtuse at tip; face of body of style with an elevated black flange that is extended into about five spines.

*Habitat*.—Ceylon.

Holotype, male Ambawela, altitude 6,000 feet, March 4, 1954 (*Schmid*).

Quite distinct from the only other described regional species, *Longurio* (*Longurio*) *errans* (Edwards), in the coloration of the thorax and legs and, especially, in the venation. Edwards compares his fly with the New Zealand *L. (L.) pallida* (Hutton), which is quite distinct from the present fly in all details of venation. The bifid nasus likewise occurs in *errans*. It should be noted that a somewhat comparable nasus is found in a Neotropical species of *Holorusia ocellata* (Enderlein).

**DOLICHOPEZA (NESOPEZA) GUTTULANALIS sp. nov.** Plate 1, fig. 2; Plate 3, fig. 33.

Belongs to the *gracilis* group; mesonotum brownish yellow, præscutum with indications of darker brown stripes; femora pale yellow, tips narrowly dark brown, tarsi white; wings whitened, with a heavy brown pattern, chiefly costal in distribution, including a series of marginal spots in the Anal cells; medial forks relatively deep; male hypopygium with the posterior border of tergite emarginate, blackened, with an acute median spine; outer dististyle narrow, inner style very broad and flattened.

*Male*.—Length, about 9 millimeters; wing, 8.2; antenna about 3.

*Female*.—Length, about 10 millimeters; wing, 8.8.

Frontal prolongation of head brownish yellow; palpi dark brown. Antennæ of male relatively short, obscure yellow; flagellar segments long-cylindrical, with a dense erect pubescence and single unilaterally arranged verticils. Head light brown; anterior vertex of male about twice the diameter of scape.

Pronotum brown. Mesonotum chiefly light brownish yellow, præscutum with indications of a slightly darker brown stripe. Pleura with the mesepisternum slightly darker brown than the more yellowed mesepimeron (pteropleurite). Halteres with stem dirty white, clearer at base, knob dark brown. Legs with

fore coxæ weakly darkened, remaining coxæ pale, the middle pair darkened on basal half; trochanters whitened; femora pale yellow, tips narrowly dark brown; tibiæ pale yellow, tips not or very narrowly darkened; tarsi white. Wings (Plate 1, fig. 2) with the ground whitened, with a heavy brown pattern as in the *gracilis* group, including virtually all of cells C and Sc, with posterior extensions over arculus, at one-third the length of cell R, origin of Rs and the anterior cord; major interconnecting areas in distal ends of outer radial cells; brown marginal spots present, very small on the medial veins, becoming larger on Cu; in Anal field with four large spots, at ends of each vein and one in each of the cells; veins brown. Venation: Rs long, square and spurred at origin; medial forks of moderate depth, cell  $M_1$  subequal to or about one-half longer than its petiole; m-cu about two-thirds its length before the fork of M; cell 2nd A narrow.

Abdomen bicolored, tergites chiefly dark brown, the bases of the segments pale, the second tergite chiefly darkened; outer segments, including the hypopygium, more obscured. Eighth sternite with central region very densely provided with short spinelike setæ. Male hypopygium (Plate 3, fig. 33) with the tergite small, its posterior border broadly emarginate, farther produced into an acute median point; lateral lobes heavily blackened, smooth. Basistyle, *b*, very short, extending to scarcely beyond the tergal margin. Outer dististyle, *d*, a long slender blade, broadest at near midlength, thence narrowed to the subobtuse tip, the length about five times the width; inner style large and flattened, the inner apical angle produced into a blackened beak, its tip truncate, surface unusually smooth.

*Habitat*.—Ceylon.

Holotype, male, Labugama, altitude 175 feet, January 7, 1954 (*Schmid*). Allotopotype, female, pinned with the type. Paratopotype, 1 female, January 8, 1954.

The most similar regional species in *Dolichopeza* (*Nesopeza*) *costalis* Brunetti, which is readily distinguished by the coloration and venation of the wings.

**DOLICHOPEZA (NESOPEZA) SINGHALICA** sp. nov.

Plate 1, fig. 3.

Belongs to the *gracilis* group; general coloration of præscutum light brown, with four more brownish yellow stripes, pleura testaceous yellow; legs brownish black, outer tarsal segments snowy white; wings weakly tinged with brown, with

a very reduced darker brown pattern, including seams over the anterior cord and origin of Rs; cell  $M_1$  moderately deep, from two to two and one-half times its petiole; abdominal tergites dark brown.

*Female*.—Length, about 10.5 to 11.5 millimeters; wing, 11.5 to 12; antenna, about 2.1 to 2.2.

Rostrum brownish yellow; palpi brown, passing into black. Antennæ short; scape obscure yellow, pedicel dark brown, flagellum black; flagellar segments cylindrical, subequal to the verticils, Head yellow, vaguely more darkened on orbits between the eyes.

Pronotum light brown. Mesonotal præscutum with the restricted ground very pale brown, the disk with four more brownish yellow stripes that are poorly differentiated; posterior sclerites of notum pale brown, the posterior border of the mediotergite with two circular yellowed spots; præscutal vestiture sparse, pale and weak. Pleura testaceous yellow, unpatterned. Halteres with stem yellow, knob brownish black. Legs with the coxæ and trochanters yellow; femora light brown, the tips passing into brownish black, bases more obscure yellow; tibiæ brownish black; basitarsus brownish black, the outer two-fifths and remainder of tarsi snowy white. Wings (Plate 1, fig. 3) weakly tinged with brown, with a restricted and inconspicuous darker brown pattern, including the stigma, a broad seam at origin of Rs and a narrower one over the anterior cord; prearcular field and costal border slightly larger than the ground; veins brown. Venation; Rs long, strongly angulated and conspicuously spurred at origin; anterior cord transverse; cell  $M_1$  moderately deep, from two to two and one-half times its petiole; m-cu less than one-half times its length before the fork of M; cell 2nd A moderately broad.

Abdominal tergites brown to dark brown, sternites more yellowed; genital shield of female darkened, cerci straight.

*Habitat*.—Ceylon.

Holotype, female, Nuwara Eliya, altitude 6,000 feet, February 26, 1954 (*Schmid*). Paratopotype, 1 female.

Quite distinct from all other regional members of the restricted *gracilis* group in the very reduced darkened pattern of the wings. Among the described forms it somewhat suggests *Dolichozeza* (*Nesozeza*) *infuscata* Brunetti but is entirely distinct.

**DOLICHOPEZA (NESOPEZA) PALIFERA** sp. nov. Plate 1, fig. 1; Plate 3, fig. 34.

Belongs to the *gracilis* group; size medium (wing of male 5.5 millimeters); general coloration of thorax light brown, præscutum with vague paler stripes, pleura light yellow; legs with outer ends of tibiæ dirty white, tarsi snowy white; wings weakly tinged with brown, vaguely patterned with darker; male hypopygium with the posterior border of tergite trilobed, the central lobe a spine; mesal lobe of basistyle large, bearing about ten strong spines; eighth sternite narrowed posteriorly into a blackened chisel-like point.

*Male*.—Length, about 8 millimeters; wing, 8.5 antenna, about 2.

Rostrum yellow, with black setæ, those at tip longer; palpi with basal segments brown, the outer ones darker. Antennæ with scape and pedicel yellowish brown to light brown, flagellum darker; flagellar segments long-cylindrical, with a dense white pubescence and scattered verticils that are much shorter than the segments. Head obscure yellow, the sides of the posterior vertex and genæ more brownish gray.

Pronotum yellowish brown. Mesonotal præscutum almost uniform light brown or brownish yellow, with vague indications of darker stripes, evidently with the three usual stripes being paler than the interspaces; posterior sclerites of notum almost uniform light brown. Pleura and pleurotergite light yellow. Halteres with stem light brown, knob dark brown. Legs with coxæ and trochanters light yellow; femora brownish yellow, the tips passing into dark brown; tibiæ weakly darkened basally, the outer ends dirty white; tarsi snowy white. Wings (Plate 1, fig. 1) weakly tinged with brown; stigma oval, brown; very restricted to scarcely evident smaller clouds at origin of Rs and over the anterior cord; wing tip in outer radial field extensively and similarly darkened; veins brown. Venation: Rs angulated and spurred at origin; medial cells relatively shallow, cell  $M_1$  a little longer than its petiole; m-cu a distance before fork of M about equal to one-third to one-half its own length; cell 2nd A narrow.

Abdominal segments bicolored, dark brown, just beyond the base ringed with paler; hypopygium chiefly yellowed, tergite and styli darkened. Male hypopygium (Plate 3, fig. 34) with the eighth sternite, 8 s, pale, narrowed posteriorly, terminating in a blackened truncated lobe that suggests a chisel in outline.



Ninth tergite, *9 t*, transverse, the posterior border conspicuously emarginate, with a small median spine; lateral lobes large, smooth heavily blackened. Basistyle, *b*, with mesal lobe very large, outer margin produced into smaller lobules that bear strong flattened spines, some ten or eleven in number. Outer dististyle, *d*, small, with relatively few setæ; inner style large, the base broad, the darkened apex more dilated, on a microscopic appearing subcapitate, surface densely covered with setulæ.

*Habitat*.—Ceylon.

Holotype, male, Dela, altitude 200 feet, February 18, 1954 (*Schmid*). Paratype, 1 male, Kitulgala, altitude 800 feet, March 3, 1954 (*Schmid*).

*Dolichopeza (Nesopeza) palifera* is quite distinct from all other described regional species. Among these it is closest to *D. (N.) singhalica* sp. nov., differing in the coloration of the body, legs and wings.

#### CYLINDROTOMINÆ

**CYLINDROTOMA NIGRITARSIS** Alexander.

Plate 1, fig. 4.

*Cylindrotoma nigratarsis* ALEXANDER, Journ. N. Y. Ent. Soc. (in press).

Type, Simbhanjang Pass, Nepal, altitude 8,190 feet, October 1, 1956 (*Coher*).

*Sex, probably female*.—Length, about 7.5 millimeters; wing, 8.

General coloration yellow, patterned with blackish gray, including a solid shield on the præscutum; antennæ black, scape and pedicel yellow; tibiæ and tarsi black; wings (Plate 1, fig. 4) with a brownish tinge, restrictedly patterned with darker brown at origin of Rs and along cord.

#### LIMONIINÆ

##### LECHRIINI

**LECHRIA ARGENTOSIGNA** sp. nov.

Plate 1, fig. 5.

General coloration black; eyes of female broadly holoptic; halteres with dark brown knobs; femora yellowish brown, tips blackened, tibiæ and tarsi black; wings weakly tinged with gray prearcular and costal fields more yellowed, veins brown m-cu about its own length beyond the fork of M; first abdominal tergite gray, succeeding segments brownish yellow, the pleural membrane of segments one to five, inclusive, each with

a large silvery area; cerci of ovipositor provided with strong erect setæ.

*Female*.—Length, about 5.5 to 5.7 millimeters; wing, 6.3 to 6.5.

Rostrum and palpi black. Antennæ short, black, scape paler; flagellar segments small, short-cylindrical, with short verticils; terminal segment about one-third longer than the penultimate. Head dull black; eyes very large, very broadly holoptic.

Prothorax dull black. Mesonotal præscutum and scutal lobes polished black, midregion of scutum narrowly pruinose; scutellum and postnotum black, opaque by a gray pruinosity. Pleura chiefly polished black, including the mesepisternum, the propleura pale, pruinose; mesepimeron darker, silvery pruinose. Halteres with stem obscure yellow, brighter basally, knob dark brown. Legs with all coxæ and trochanters obscure yellow; femora yellowish brown, tips blackened; tibiæ and tarsi black. Wings (Plate 1, fig. 5) weakly tinged with gray, prearcular and costal fields more yellowed; veins brown, more yellowed in the brightened fields. Venation: Sc relatively short, ending slightly beyond the fork of Rs; m-cu about its own length beyond the fork of M. the second section of  $M_{3+4}$  longer than  $M_4$ .

First abdominal tergite gray pruinose, succeeding segments brownish yellow, the subterminal segments a little darker; pleural membrane dark brown, with large silvery areas on segments one to five, inclusive; genital segment obscure yellow. Ovipositor with cerci relatively short, strongly upcurved, provided with strong erect setæ throughout their length.

*Habitat*.—Nepal.

Holotype, female, Amlekhgang, altitude 1,690 feet, August 20, 1956 (*Coher*). Paratopotype, 1 female, August 30, 1956.

*Lechria argentosigna* is allied to *L. argyrospila* Alexander, of South India, differing in slight details of coloration and venation, as the position of m-cu.

#### LIMONIINI

LIMONIA (LIMONIA) ILLUMINA sp. nov.

Plate 1, fig. 6; Plate 3, fig. 36.

Size medium (wing, 7 millimeters or more); general coloration dark brown to brownish black; wings strongly suffused with blackish, slightly patterned with darker;  $Sc_1$  ending opposite one-fifth to one-third the length of Rs; male hypopygium with two widely separated rostral spines; mesal lobe of gonapophysis very long and slender.

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

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

Rostrum and palpi brownish black. Antennæ black throughout; flagellar segments subcylindrical, subequal to the longest verticils. Head dark brown, surface opaque.

Pronotum dark brown. Mesonotum almost uniformly dark brown or brownish black, surface opaque, humeral region of præscutum vaguely paler. Pleura dark brown. Halteres of normal length, dark brown, base of stem restrictedly paler. Legs with coxæ testaceous, fore pair darker; trochanters obscure yellow; remainder of legs brownish black to black. Wings (Plate 1, fig. 6) strongly suffused with blackish, stigma oval, still darker; narrow and vague darkened seams at origin of Rs, cord and outer end of cell of 1st M<sub>2</sub>; veins brown. Venation: Sc variable in length, ending from about one-fifth to shortly beyond one-third the length of Rs. Sc<sub>2</sub> a short distance from tip of Sc<sub>1</sub>; cell 1st M<sub>2</sub> longer than vein M<sub>4</sub>; m-cu at or close to fork of M.

Abdomen, including hypopygium, brownish black. Male hypopygium (Plate 3, fig. 36) with the tergite, *t*, transverse, gently narrowed outwardly, the posterior lateral angles produced into relatively small stout darkened lobes; setæ virtually restricted to the lobes and lateral borders, with a single pair of bristles at the midline; proctiger conspicuous, appearing as membrane that is densely set with setulæ, forming a pattern of two subparallel darkened lines. Basistyle, *b*, with the ventromesal lobe large, simple, on lower face with some setæ of unusual length. Dorsal dististyle a relatively small curved sickle, the tip acute. Ventral dististyle, *d*, slightly exceeding the basistyle in area, fleshy, with an accessory fleshy lobe on face between the dorsal style and the rostrum; rostral prolongation stout, tip short, obtuse; two widely separated rostral spines, the outer one from a short basal tubercle, the inner spine more basal in position, lying in membrane, arising from a long slender basal tubercle. Gonapophysis, *g*, with mesal-apical lobe very long and slender.

*Habitat*.—Nepal.

Holotype, male, Simbhanjang Pass, altitude 8,190 feet, October 1, 1956 (*Coher*). Allotopotype, female, pinned with type. Paratopotype, 1 female; paratype, 1 male, Sleepy Hollow, altitude 7,900 feet, December, 1956 (*Coher*).

This fly is quite distinct from other black-winged regional members of the genus in its general coloration, venation, and structure of the male hypopygium. It somewhat suggests *Limonia* (*Limonia*) *thanatos* Alexander yet is quite distinct.

LIMONIA (DISCOBOLA) EUTHENIA sp. nov. Plate 1, fig. 7; Plate 3, fig. 35.

Size medium (wing of male about 10 millimeters); femora brown, ringed with yellow; wings yellow, the costal interspaces strongly saturated yellow; a heavy brown pattern, including larger areas in the costal field and numerous brown dots in various cells; male hypopygium with the tergal lobes conspicuous, separated by a broad notch; body of the gonapophysis narrower than the mesal-apical lobe.

*Male*.—Length, about 8 to 8.5 millimeters; wing, 10 to 10.5.

Rostrum and palpi black. Antennæ brownish black, scape slightly more pruinose; flagellar segments well-separated by short glabrous apical pedicels, a little longer than their verticils. Head brownish black behind, the front and anterior vertex silvery, the latter relatively narrow, elevated.

Pronotum obscure yellow above, darkened on the sides. Mesonotal præscutum with the disk almost covered by three brown stripes that are opaque by a gray pruinosity, the humeral and anterior parts yellowed; lateral præscutal border before the suture smooth and darkened; posterior sclerites of notum dark brown, the restricted midregion of scutum, scutellum and central part of mediotergite gray pruinose; pleurotergite and sides of mediotergite dark brown. Pleura with dorsal half dark brown, the ventral part, including the sternopleurite, meron and metapleura obscure yellow. Halteres brownish black, the extreme base of stem yellow. Legs with coxæ brownish yellow, the fore pair darker, trochanters obscure yellow; femora chiefly brown to dark brown, the bases restrictedly brownish yellow, the narrow tip and a slightly broader subterminal ring yellow; tibiæ and tarsi brown, outer trasal segments darker. Wings (Plate 1, fig. 7) with the ground yellow, the costal interspaces more saturated yellow; a heavy dark pattern, including larger areas in costal field, placed at the base, postarcular region, origin of Rs, fork of Sc and stigma, in cases the areas solid, in others with small yellow centers comparable but solid areas at end of vein R<sub>3</sub> and along posterior margin in cells M, Cu and the Anals; other more ocelliform areas at fork of Rs, cord and outer end of cell 1st M<sub>2</sub>; cells of central half of wing,

especially before cord and in cell  $R_5$ , with smaller brown dots; veins yellow, brown to brownish black in the patterned parts. Venation:  $R_{1+2}$  elongate; cell 1st  $M_2$  long, exceeding in length any of the veins beyond it.

Abdomen with the basal segments extensively obscure yellow, restrictedly patterned with brown, especially on sides and the narrow posterior borders of the sternites; outer segments, including the hypopygium, chiefly dark brown. Male hypopygium (Plate 3, fig. 35) with the tergite, *t*, transverse, lobes conspicuous, narrower than the median notch, with abundant strong setæ. Basistyle, *b*, with its ventromesal lobe stout, the setæ restricted to apex and lower face. Dorsal dististyle a very gently curved black rod that narrows gradually into a long spine. Ventral dististyle, *d*, long and narrow, nearly as long as the basistyle but more slender; rostral prolongation slender, spines two, placed on basal half of outer face. Gonapophysis, *g*, with the mesal-apical lobe slender, gently curved, the body of the apophysis even narrower.

*Habitat.*—Nepal.

Holotype, male, Simbhanjang Pass, altitude 8,190 feet, October 1, 1956 (*Coher*). Paratopotype, 1 male.

The most similar regional species is *Limonia (Discobola) armorica* Alexander, described from northeastern Burma and based on a manuscript name earlier suggested by Edwards. The description given by the writer [Rec. Indian Mus. 44 (1942) 54] is sufficient. This fly is larger than the present species, with the wing pattern quite distinct. The male hypopygia of the two flies are of the same general structure yet differ in the details.

**LIMONIA (DISCOBOLA) ANNULATA (Linnæus).**

*Tipula annulata* LINNÆUS, Syst. Nat., Ed. 10 (1758) 586.

*Limnobia argus* SAY, Long's Exped. to St. Peter's R., 2, Appendix (1824) 358.

*Limonia (Discobola) annulata* ALEXANDER, Dipt. Conn. 1 (1942) 309-310.

Nepal: Sleepy Hollow, altitude 7,900 feet, October 1, 1956 (*Coher*.)

The present fly is one of the most widely distributed Tipulidæ in the world, occurring throughout the Holarctic region,

and extending far to the south in the Oriental and Australasian regions. I had earlier reported the species with some question from the Khasi Hills, Assam [Rec. Indian Mus. 44 (1942) 53-54] and this determination is now confirmed.

LIMONIA (DICRANOMYIA) LAKSHMI sp. nov. Plate 1, fig. 8; Plate 3, fig. 37.

Belongs to the *morio* group; size large (wing millimeters or more); general coloration of præscutum black, the lateral margins broadly fulvous; anterior vertex silvery; wings narrow, light brown, stigma darker; male hypopygium with the tergal lobes stout; ninth sternite with setæ lateral in position; ventral dististyle with a single rostral spine.

*Male*.—Length, about 7.5 to 8 millimeters; wing, 8.5 to 10.

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

Rostrum yellow; palpi black. Antennæ black; flagellar segments oval, with short abrupt apical necks; verticils longer than the segments. Anterior vertex broad, bright silvery; posterior part of head blackened.

Pronotum light brown, pruinose. Mesonotal præscutum with the disk covered by three confluent black stripes, surface subopaque, humeral and lateral borders broadly fulvous; scutal lobes similarly blackened, median region brown; scutellum pale, heavily pruinose; postnotum reddish brown to black, pruinose. Pleura chiefly reddish brown, darker dorsally, forming a more or less distinct stripe; dorsopleural membrane chiefly pale. Halteres very long and slender, stem brown, knob darker. Legs with coxæ and trochanters yellow, fore coxæ slightly darker; femora brown, brighter basally, passing into black at tips; tibiæ brown; tarsi passing into brownish black. Wings (Plate 1, fig. 8) narrow, with a long basal petiole, strongly tinged with light brown, stigma darker brown; veins brown. Venation:  $Sc_1$  ending approximately opposite to just beyond the origin of  $Rs$ ,  $Sc_2$  apparently lacking or else very far retracted; free tip of  $Sc_2$  and  $R_2$  in transverse alignment; cell 1st  $M_2$  rectangular, about as long as the distal section of  $M_{1+2}$ ;  $m-cu$  shortly before the fork of  $M$ .

Abdomen black, basal sternites and parts of the hypopygium paler. Male hypopygium (Plate 3, fig. 37) with the tergite transverse, narrowed outwardly, the posterior border produced into two lobes that are separated by a broad shallow notch; setæ long and conspicuous, virtually confined to the lobes. Ninth sternite,  $9s$ , large, with six very large and powerful setæ

on each lateral margin, tip truncated. Basistyle with ventromesal lobe stout, very obtuse at tip. Dorsal dististyle a nearly straight pale rod, gently curved and blackened on outer third, tip acute. Ventral dististyle, *d*, small, pale, its area less than that of the basistyle; rostral prolongation slender; a single stout pale rostral spine, placed at base of prolongation. Gonapophysis with mesal-apical lobe straight, narrowed to the subacute tip. *Æ*deagus broad, tip large, simple; sides at base with abundant short setulæ.

*Habitat*.—Nepal.

Holotype, male, Simbhanjang Pass, altitude 8,190 feet, November 2, 1956 (*Coher*). Allotopotype, female, with the type. Paratopotypes, 12 males and females, all in poor condition.

The other species of the *morio* group that do not have the mesonotum polished black include *Limonia* (*Dicranomyia*) *kongosana* Alexander, of the eastern Palaearctic, and *L. (D.) spinifera* (Alexander), of the eastern Nearctic region. These are readily told from the present fly by the details of coloration and the structure of the male hypopygium. In both of the species named, the elongate setæ of the ninth sternite are arranged in a close central group instead of being lateral in position, as in the present fly.

**LIMONIA (PSEUDOGLOCHINA) PERISCCELIS sp. nov.**

Plate 1, fig. 9.

Mesonotum brown, darker behind, with a narrow silvery central vitta extending from the suture to the abdomen, prothorax, pleura and adjoining part of pleurotergite abruptly light yellow; tibia white, with a single narrow black ring at and just beyond midlength; wings weakly tinged with darker, stigma oval, darker brown; cell 2nd  $M_2$  moderately deep, a little over twice its petiole.

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

Rostrum reduced, darkened; palpi brownish black. Antennæ brownish black throughout; flagellar segments oval, narrowed and glabrous at both ends, the enlarged central part with verticils, the longest subequal to or slightly exceeding the segment; terminal segment larger and about one-third longer than the penultimate. Front orange-yellow, posterior part of head light brown.

Prothorax and virtually all of mesopleura light yellow, with a sparse whitish bloom. Mesonotal præscutum brown, the sides slightly darker; posterior sclerites of notum darker fluid.

brown, with a narrow pale silvery stripe extending from the suture virtually to the abdomen; dorsal third of pleurotergite darkened, the ventral part yellow, like the pleura; ventral sternopleurite narrowly dark brown. Halteres with stem obscure, knob dark brown. Legs with coxæ pale; trochanters yellowish brown; femora pale yellow, the extreme base and broad tip blackened, the latter including about the outer sixth of the segment; tibia snowy white with a narrow black ring at and just beyond midlength; tarsi white. Wings (Plate 1, fig. 9) weakly tinged with darker; stigma oval, dark brown; veins brown. Venation:  $Sc_1$  ending just beyond origin of Rs,  $Sc_2$  shortly before this origin; cell 2nd  $M_2$  moderately deep, a little over twice its petiole; m-cu just before the fork of M; cell 2nd A narrow, the proximal third lying close to the margin.

Abdominal tergites brown, sternites paler; subterminal segments and basistyles of hypopygium yellow, dististyles darkened.

*Habitat*.—Nepal.

Holotype, male, Amlekhgang, altitude 1,690 feet, September 19, 1956 (*Coher*).

Both of the other regional species, *Limonia* (*Pseudoglochina*) *bicinctipes* (Brunetti) and *L. (P.) pictipes* (Brunetti) are readily told from the present fly by having two darkened rings on the tibiæ.

**LIMONIA (THRYPTICOMYIA) UNISSETOSA NIGRIBASIS** subsp. nov.

Characters as in the typical form, differing chiefly in the marked increase in black color on proximal ends of the basitarsi, including approximately one-third to one-fourth the segment.

*Habitat*.—Nepal.

Holotype, male, Amlekhgang, altitude 1,690 feet, December 5, 1956 (*Coher & Joshi*). Allotopotype, female. Paratopotype, broken, sex unknown. "Hanging on spiders web."

The typical subspecies is known from Japan and Formosa. The habit of resting on spider webs and threads is probably universal in the subgenus since it has been recorded for several species ranging from Africa to Australia.

**ANTOCHA (ORIMARGULA) SALIKENSIS** sp. nov.

Plate 1, fig. 10.

Size small (wing 4 millimeters or less); general coloration of thorax dark brown and obscure yellow; antennæ of male



very long, exceeding the body or wing; flagellar segments slightly constricted before midlength, provided with very long outspreading pale setæ.

*Male*.—Length, about 3 millimeters; wing, 3.4 to 3.7; antenna, about 3.8 to 4.

*Female*.—Length, about 3.2 to 3.3 millimeters; wing, 3.8 to 4.

Rostrum brownish yellow; palpi dark brown. Antennæ of male very long, exceeding the wing; scape and pedicel yellow, flagellum dark brown; flagellar segments very long-subcylindrical, each segment slightly constricted at near one-third its length or just beyond the base, the expanded parts with very long outspreading pale setæ that are approximately as long as or longer than the segments; other vestiture of segments consists of abundant microscopic setulæ. Antennæ of female shorter but still longer than usual. Head brownish gray; eyes large.

Pronotum hidden between the head and mesothorax. Mesonotal præscutum with the disk chiefly covered by three confluent brown stripes, the humeral and lateral parts yellowed; scutal lobes dark brown; central area of scutum, scutellum and anterior two-thirds of mediotergite obscure yellow or brownish yellow, the posterior part of last darkened. Pleura chiefly dark brown, pleurotergite yellowed. Halteres infuscated. Legs with coxæ and trochanters testaceous yellow; remainder of legs light brown to darker brown, tarsi paler; claws small, simple. Wings (Plate 1, fig. 10) whitish subhyaline; veins light brown. Macrotrichia of veins long and conspicuous, relatively abundant on veins beyond cord, including the outer half of  $R_3$  and all but the base of outer section of  $R_{4+5}$ . Venation:  $R_s$  gently convex, a little shorter than the concave basal section of  $R_{4+5}$ ;  $R_{2+3}$  subequal to  $R_2$ ;  $m-cu$  more than its length before the fork of  $M$ , in cases to about one and one-half or one and three-quarters its own length.

Abdomen of male brown to dark brown, in cases more yellowed, especially in the female; hypopygium obscure yellow. Male hypopygium with two dististyles, one slightly longer than the other.

*Habitat*.—Ceylon.

Holotype, male, Beliu Oya, altitude 2,000 feet, February 20, 1954 (*Schmid*). Allotopotype, female, pinned with type. Paratopotypes, 8 males and females; paratypes, 1 male, 1

female, Kandy, altitude 2,000 feet, January 14, 1954; 2 males, Carney, altitude 900 feet, February 2, 1954; 8 females, Kitulgala, altitude 800 feet, January 28, 1954; 7 males and females, Niriella, altitude 700 feet, February 3 and March 11, 1954 (*Schmid*).

The specific name is from *Salika*, the designation for Ceylon as used by Ptolemy and others. This fly, together with *Antocha* (*Orimargula*) *gracilicornis* (Edwards), of Sumatra, represents the extreme in antennal development so far recorded in the genus. Various other species of *Orimargula* have the antennæ of the male elongate, in cases being equal to the body, such flies including *A. (O.) brevivena* (Edwards), *A. (O.) gracilipes* (Alexander), *A. (O.) intermedia* (Edwards), and others. The present fly differs from *gracilicornis* in the coloration of the head and thorax, and in other regards. Edwards describes the male hypopygium of *gracilicornis* as having a single short sickle-shaped dististyle, subterminal in position.

PEDICIINI

**NIPPONOMYIA JOSHII** Alexander.

Plate 1, fig. 11.

*Nipponomyia joshii* ALEXANDER, Journ. N. Y. Ent. Soc. (in press).

Type, female, Simbhanjang Pass, Nepal, altitude 8,190 feet, October 1, 1956 (*Coher & Joshi*).

*Female*.—Length, about 15 millimeters; wing, 13.

Size relatively large (wing of female 13 millimeters); mesonotal præscutum with the dark pattern reduced to four very small spots; legs yellow, outer tarsal segments darkened; wings (Plate 1, fig. 11) tinged with yellow, with the characteristic *Nipponomyia* pattern; cell C with subtransverse darkened lines; crossvein m oblique in position.

The species was dedicated to Mr. Gobinda P. Joshi, colleague of Dr. Coher in the World Health Organization program for Nepal.

**DICRANOTA (EUDICRANOTA) DIONE** Alexander.

Plate 1, fig. 12.

*Dicranota (Eudicranota) dione* ALEXANDER, Journ. N. Y. Ent. Soc. (in press).

Type, female, Simbhanjang Range, Nepal, altitude 8,190 feet, October 1, 1956 (*Coher*).

*Female*.—Length, about 9 millimeters; wing, 9.

General coloration of notum brownish gray, præscutum with three pale brown stripes, postnotal mediotergite darkened, pleura and pleurotergite abruptly white; halteres and legs

white; wings (Plate 1, fig. 12) whitish subhyaline, with a conspicuous dark brown chiefly costal pattern; a supernumerary crossvein in cell  $R_1$  but none in other cells of wing.

**ULA (ULA) SUBBIDENS** sp. nov.

Plate 1, fig. 13.

Close to *bidens*; general coloration of thoracic dorsum dark brown, the præscutum darker anteriorly; posterior sclerites of pleura yellowed; wings strongly tinged with brown, the stigma and a cloud over the anterior cord darker; vein  $R_2$  only about one-half as long as  $R_{1+2}$ .

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

Head dark brown. Antennæ broken.

Thoracic dorsum almost uniformly dark brown, the surface subnitidous, the præscutum still darker medially in front; posterior sclerites of notum paler. Pleura dark brown dorsally and anteriorly, the ventral sternopleurite and posterior pleurites more yellowed. Halteres broken beyond the pale base. Legs with the coxæ and trochanters yellow; remainder of legs broken. Wings (Plate 1, fig. 13) strongly tinged with brown, darker than in *bidens*, the stigma and a cloud over the anterior cord darker brown; veins and macrotrichia darker. All cells of wing with the exception of  $Cu_1$  and bases of R, M, Cu and the Anals, with abundant strong macrotrichia (position shown in figure by stippling). Venation:  $R_2$  only one-half as long as  $R_1$ ; in *bidens*,  $R_{1+2}$  shorter than  $R_2$ .

Abdomen dark brown. Ovipositor with the cerci dark horn-color, gently upcurved to the tips.

*Habitat*.—Nepal.

Holotype, female, Simbhanjang Pass, altitude 8,190 feet, October 27, 1956 (*Coher*).

The only close regional ally is *Ula (Ula) bidens* Alexander, of northeastern Burma, in the female sex best distinguished from the present fly by the coloration of the wings and the details of venation.

#### HEXATOMINI

**PARADELPHOMYIA (OXYRHIZA) INDULCATA** sp. nov.

Mesonotal præscutum with the anterior half yellow, the posterior part with three confluent brownish black stripes; antennæ apparently 16-segmented; dorsal thoracic pleurites black, ventral portions abruptly light yellow; legs yellow, tips of femora and tibiæ narrowly black; wings broad, very pale

yellow, restrictedly patterned with brown; relatively numerous macrotrichia in cells of outer sixth of wing.

*Male*.—Length, about 6 millimeters; wing, 5.2.

Rostrum and palpi brown. Antennæ broken shortly beyond the base but evidently 16-segmented, there being no fusion-segment; brown; basal flagellar segments subglobular to short-oval. Head brown.

Pronotum brownish yellow, more blackened in front. Mesonotal præscutum with approximately the anterior half and the sublateral portions yellow, the posterior part with three confluent brownish black stripes; lateral borders broadly dark brown; posterior sclerites of notum black, the central region of scutum behind the suture vaguely paler. Dorsal pleurites black, dorsopleural membrane brown; ventral pleurites and sternum, including the meron, metapleura and most of the sternopleurite, abruptly light yellow. Halteres with stem pale yellow, knob brownish black. Legs with fore coxæ dark brown, remaining coxæ and all trochanters light yellow; femora yellow tips narrowly and abruptly black; tibiæ yellow, tips very narrowly black; tarsi yellow, the terminal segments passing into brown. Wings broad, widest opposite termination of vein 2nd A; ground color very pale yellow, cell M a trifle darker; a restricted dark brown pattern, as follows: Arculus, origin of Rs, Sc<sub>2</sub>, stigma, cord, outer end of cell 1st M<sub>2</sub> and fork of M<sub>1+2</sub>; veins pale, darker in the patterned areas. Macrotrichia in outer sixth of wing, only the bases of the cells beyond the cord without macrotrichia. Venation: Rs angulated and short-spurred at origin; R<sub>2</sub> transverse but faint, a little longer than R<sub>3+4</sub>; veins R<sub>3</sub> and R<sub>4</sub> only moderately divergent, no upcurved; cell M<sub>1</sub> subequal to its petiole; m-cu beyond midlength of cell 1st M<sub>2</sub>; vein 2nd A not incurved to margin.

Abdomen with tergites brownish black, the bases pale yellow; seventh and eighth segments uniformly blackened; basal sternites pale; ninth segment yellowish brown, remainder brownish black. Male hypopygium as in the genus; inner point of outer dististyle a broad-based spine; inner style dark-colored, narrowed outwardly, its apex pale, obtuse.

*Habitat*.—Ceylon.

Holotype, male, Ambawela, altitude 6,000 feet, March 5, 1954 (*Schmid*).

The most similar species is *Paradelphomyia (Oxyrhiza) prayooni* Alexander, of Thailand, which has the coloration of the legs and wings much the same. The details of the male hypopygium and distribution of the macrotrichia of the wing cells indicate two closely related species.

**PARADELPHOMYIA (OXYRHIZA) SUBTERMINALES** sp. nov.

Plate 1, fig. 14.

General coloration of præscutum dark brown, with four gray or yellowed stripes; antennæ 13-segmented, fusion-segment large, light yellow; femora obscure yellow, tips brownish black, tibiæ brown, extreme bases whitened; wings whitish, the cubital and anal fields darkened, prearcular field yellow; a conspicuous darker brown pattern over most of the veins; macrotrichia in cells of outer fifth of wing; vein  $R_2$  strongly oblique, directed basad; veins  $R_3$  and  $R_4$  strongly upcurved at tips; cell  $M_1$  present; abdomen black, segments five to seven, inclusive, orange-yellow.

*Male*.—Length, about 4.2 to 4.5 millimeters; wing, 4.7 to 5.2.

*Female*.—Length, about 5 millimeters; wing, 5.2.

Rostrum and palpi black. Antennæ 13-segmented; scape testaceous, pedicel orange, fusion-segment and succeeding segment of flagellum pale yellow, remaining segments black; flagellar segments elongate, shorter than the verticils. Head brownish gray; anterior vertex broad.

Pronotum brownish yellow above, dark brown on sides. Mesonotal præscutum with the restricted ground dark brown, appearing as three incomplete narrow interspaces on posterior half of sclerite, incompletely separating four discal stripes, the intermediate pair more grayish, lateral pair more yellowed; scutal lobes and scutellum brownish gray, the posterior lateral parts of scutal lobes paler; postnotum brownish black, the ventral pleurotergite pale. Pleura chiefly dark brown to brownish black, more or less lined ventrally with paler, more pruinose behind. Halteres with stem whitened, knob dark brown. Legs with coxæ yellow, the outer ends more infuscated; trochanters yellow, posterior pair darkened; femora obscure yellow, the tips conspicuously brownish black; tibiæ brown, the extreme bases white, tips narrowly darkened; tarsi light brown, passing into black; tibial spurs present. Wings (Plate 1, fig. 14) with the ground whitish, the cubital and anal fields more darkened; prearcular field yellowed; a conspicuous dark brown pattern, as follows; At h, above arculus, origin of  $R_s$ ,

and at stigma, the last extensive, sending a posterior extension caudad across the radial field; cord and outer end of cell 1st  $M_2$ ; other marks at tip of  $Sc_1$ ,  $Sc_2$  and fork of  $M_{1+2}$ , together with a marginal series at ends of veins, largest over vein  $R_4$ ; darkened areas at ends of anal veins narrow, bordered by whitish; veins light brown, somewhat darker in the patterned areas. Cells of outer fifth of wing with conspicuous macrotrichia. Venation:  $Sc_1$  ending before fork of  $R_s$ ; vein  $R_2$  oblique, directed strongly basad, subequal to or shorter than vein  $R_{3+4}$ ; veins  $R_3$  and  $R_4$  strongly upcurved at tips; cell  $M_1$  present, subequal to its petiole; m-cu oblique, about its own length beyond the fork of  $M$ ; anal veins, especially 2nd A, bent strongly into the margin.

Abdominal tergites black, sternites somewhat paler; segments five to seven, inclusive, orange-yellow, forming a broad and conspicuous subterminal ring in both sexes. Male hypopygium generally as in other species of the genus, the outer apical angle of the outer dististyle with two strong spines, the inner one longer; an isolated erect spine on inner margin of style before apex.

*Habitat*.—Ceylon.

Holotype, male Ambawela, altitude 6,000 feet, March 4, 1954 (*Schmid*). Allotopotype, female, March 5, 1954. Paratopotype, 1 male, March 6, 1954; paratype, 1 male, Nuwara Eliya, altitude 6,000 feet, April 4, 1954 (*Schmid*).

Generally similar to species such as *Paradelphomyia* (*Oxyrhiza*) *krishna* Alexander, differing very evidently in the coloration of the abdomen and wings, and in all details of venation, as the oblique  $R_2$  and the strongly upcurved veins  $R_3$  and  $R_4$ .

**PARADELPHOMYIA (OXYRHIZA) MANOPI** Alexander.

*Paradelphomyia* (*Oxyrhiza*) *manopi* ALEXANDER, Ann. Mag. Nat. Hist. (12) 9 (1956) 43-45.

Described from Chiangmai Province, Thailand.

Nepal: Nayagaon, altitude 1,690 feet, August 31, 1956 (*Pra-tap Singh*).

**POLYMERA (POLYMERA) ZEYLANICA** sp. nov.

Plate 1, fig. 15.

Size medium (wing of male about 5 millimeters); mesonotum dark brown, dorsal pleurites blackened; antennæ of male elongate, about two-thirds the wing; knobs of halteres yellowed; legs brownish yellow to light brown; wings strongly suffused with brown; stigma not or scarcely differentiated; cell

M<sub>2</sub> open, M<sub>1</sub> small but present; abdomen dark brown, including the hypopygium and all but the tips of the valves of the ovipositor.

*Male*.—Length, about 5 millimeters; wing, 5; antenna, about 3.8.

*Female*.—Length, about 6 millimeters; wing, 6.3; antenna, about 2.

Rostrum black, pruinose; palpi black. Antennæ of male elongate, as shown by the measurements; flagellar segments bicolored, dark brown, the narrowed glabrous apical necks yellow; enlarged bases with conspicuous erect setæ, the longest nearly twice the segment; in the female, antenna relatively long for this sex; scape black, pedicel light yellow, flagellum black; flagellar segments elongate but shorter than the verticils. Head gray surrounding the antennal fossæ, more brownish gray behind; anterior vertex at narrowest point with a pair of nearly contiguous velvety black spots.

Pronotal scutum brownish black, sparsely pruinose, scutellum more testaceous. Mesonotum almost uniformly dark brown, sparsely pollinose, not or scarcely patterned; pseudosutural foveæ linear, black; in the male, the lateral præscutal borders broadly paler, with a sublateral darker spot. Dorsal pleurites and pleurotergite blackened, sternopleurite paler, more yellowish brown. Halteres with stem light brown, knob paling to obscure yellow. Legs with fore coxæ infuscated, remaining coxæ and all trochanters yellow; remainder of legs brownish yellow to light brown, outer tarsal segments darker; tibial spurs conspicuous. Wings (Plate 1, fig. 15) strongly suffused with brown, the prearcular and costal fields a little more yellowed; stigma not or scarcely differentiated; a linear white line in cell R, crossing the cord into cell M<sub>2</sub>, with a second similar line immediately behind vein 1st A; veins brown, slightly more brownish yellow in the costal region. Macrotrichia of veins numerous, of moderate length only. Venation: Sc<sub>1</sub> ending shortly beyond fork of Rs, Sc<sub>2</sub> a short distance from its tip; R<sub>2+3+4</sub> less than twice the basal section of R<sub>5</sub>; cell M<sub>1</sub> present, small; m-cu shortly beyond the fork of M.

Abdomen dark brown, including hypopygium and all but the tips of the valves of the ovipositor.

*Habitat*.—Ceylon.

Holotype, female, Ambawela, altitude 6,000 feet, March 4, 1954 (*Schmid*). Allotopotype, male. Paratypes, 1 male, 1

female, Kandy, altitude 2,000 feet, January 16, 1954 (*Schmid*).

The present fly is a typical member of the subgenus, much more so than the only other regional described species, *Polymera (Polymera) furiosa* Alexander, of South India. The two flies are most obviously distinguished from one another by the presence of cell  $M_1$  in the present fly, lacking in *furiosa*. The type female is darker than the other specimens in the type series, especially in the extensively blackened pleura, but I believe that a single species is involved.

**PSEUDOLIMNOPHILA (PSEUDOLIMNOPHILA) ZELANICA sp. nov. Plate 1, fig. 16.**

General coloration of mesonotum chestnut brown, præscutum with a median capillary darker line; antennæ dark brown, verticils long; tibial spurs distinct; legs with long slender scales, additional to normal setæ; wings weakly tinged with brown; vein  $R_{2+3+4}$  very long, in cases nearly equal to  $R_s$ ; cell  $M_1$  deep.

*Female*.—Length, about 6.5 to 9 millimeters; wing, 6.8 to 10.

Rostrum small, testaceous yellow; palpi dark brown. Antennæ dark brown; flagellar segments elongate, the outer ones becoming very long and slender, with very long verticils, additional to shorter but still long setæ. Head brownish gray to light gray; anterior vertex narrow, about three-fourths the diameter of scape.

Pronotum brown, scutellum more brownish yellow. Mesonotal præscutum and scutum chestnut brown, the former with a more or less evident capillary darker central line, more evident in the type; scutellum brown, parascutella paler; mediotergite dark brown, slightly pruinose, the sides, with the pleurotergite, more yellowed. Pleura uniformly pale yellow; dorso-pleural region a trifle darker. Halteres weakly infuscated, knob darker. Legs with coxæ, and trochanters brownish yellow; remainder of legs pale brown the color appearing darker because of abundant scales and setæ; outer tarsal segments somewhat darker; tibial spurs long and conspicuous; segments with long narrow scales, additional to the normal setæ. Wings (Plate 1, fig. 16) weakly tinged with brown; stigma long and narrow, darker brown; veins, brown, except near wing base with conspicuous trichia. Venation:  $Sc$  long,  $Sc_1$  ending about opposite midlength of  $R_{2+3+4}$ ,  $Sc_2$  near its tip;  $R_{2+3+4}$  of unusual length, variable, in some cases exceeding one-half  $R_s$ , in other specimens nearly as long as this vein; vein



$R_4$  decurved almost to wing tip; basal section of  $R_5$  long, in longitudinal alignment with  $R_s$ , subequal to r-m; cell  $M_1$  very deep, about three to four times its petiole; m-cu before mid-length of  $M_{3+4}$ ; anterior arculus preserved, thickened.

Abdominal tergites dark brown, sternites pale yellow. Ovipositor with valves long and slender, dark brown.

*Habitat*.—Ceylon.

Holotype, female, Kandy, altitude 2,000 feet, January 16, 1954 (*Schmid*). Paratypes, 2 females, Nuwara Eliya, altitude 6,000 feet, February 26, 1954 (*Schmid*).

I am referring this fly to the genus *Pseudolimmnophila* Alexander rather than to *Austrolimmnophila* Alexander because of the strongly preserved anterior arculus but it should be emphasized that the presence of linear scales on the legs is more as in the latter genus. The discovery of the male sex should throw more light on the strict systematic position of the fly. The paratypes are much larger than the type yet unquestionably seem to be conspecific. The single most noteworthy feature of the species is the unusual length of vein  $R_{2+3+4}$  of the wings.

**EUPILARIA SINGHALICA** sp. nov.

Size small (wing 6 millimeters or less); mesonotum reddish brown, pleura and sternum blackened; all coxæ and trochanters light yellow; femora and tibiæ yellow, tips narrowly darkened; wings light yellow, patterned with pale brown clouds and washes, the long-oval stigma darker, preceded and followed by yellow spots; abdomen brownish black; male hypopygium with the outer dististyle slender.

*Male*.—Length, about 6 millimeters; wing, 5.8 to 6.

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

Rostrum very small, reddish brown; palpi black. Antennæ short; basal segments yellowish brown to light brown, outer segments dark brown; flagellar segments beyond the fusion elongate, with very long verticils. Head brownish black, sparsely dusted with yellow pollen; anterior vertex very broad.

Cervical region blackened beneath, brown above. Pronotum brown. Mesonotal præscutum brown, reddish brown pollinose, without clearly defined stripes; pseudosutural foveæ blackened; posterior sclerites of notum brown, the sides of the scutal lobes and the scutellum more blackened, pleurotergite light brown. Pleura and sternum black; dorsopleural membrane buffy. Halteres with stem yellow, knob infuscated. Legs with

all coxæ and trochanters light yellow, contrasting with the black pleura; femora yellow, tips narrowly dark brown; tibiæ obscure yellow, tips more narrowly dark brown; tarsi light brown, passing into darker brown; tibial spurs distinct. Wings light brownish yellow, patterned with pale brown clouds and washes, the former at origin of  $R_s$ , cord, outer end of cell 1st  $M_2$ , and as marginal spots at ends of the more posterior veins from  $M$  to 2nd  $A$  and including the axilla; less evident dusky clouds in outer radial field; stigma long-oval, dark brown, preceded and followed by light yellow areas; veins obscure yellow, darker in the patterned areas. Venation: Vein  $R_3$  entire; cell 1st  $M_2$  closed; m-cu shortly beyond the fork of  $M$ .

Abdomen brownish black, the more proximal segments slightly yellowed posteriorly; hypopygium brownish black. Male hypopygium with the outer dististyle slender, narrowed outwardly, terminating in a strongly curved hook; inner style stout, blackened. Gonapophysis appearing as a slender rod, near tip suddenly narrowed into a slender spine.

*Habitat*.—Ceylon.

Holotype, male, Labugama, altitude 175 feet, January 7, 1954 (*Schmid*). Allotype, female, Lindula, altitude 4,100 feet, March 3, 1954. Paratopotype, broken, sex uncertain, January 8, 1954.

Most similar to *Eupilaria guttulifera* Alexander, of South India, which differs especially in the larger size and in all details of coloration of the body and legs.

**EUPILARIA SINGHALICA** sp. nov.

*taprobane*

Size large (wing of male 7 millimeters or more); general coloration of mesonotum gray, patterned with light brown; pleura with a broad blackened dorsal stripe; legs brownish black, femoral bases paler; wings with a strong brown tinge, stigma small, slightly darker; tip of vein  $R_3$  atrophied, cell  $M_2$  open by the atrophy of m; male hypopygium with both the ædeagus and gonapophyses long and slender.

*Male*.—Length, about 6.5 to 7 millimeters; wing, 7 to 8.

*Female*.—Length, about 7 millimeters; wing, 6.2.

Rostrum short, brownish gray; palpi black. Antennæ with scape black, pruinose, pedicel more reddish brown, flagellum black; outer segments more elongate, with long verticils. Head light gray, the center of the vertex with a large brown area; anterior vertex broad.

Pronotum light gray, restrictedly infuscated above. Mesonotal præscutum light brownish gray, with four pale brown stripes; pseudosutural foveæ black, conspicuous; posterior sclerites of notum light gray; centers of scutal lobes and posterior third of mediotergite infuscated. Pleura darker gray ventrally, with a central light gray longitudinal stripe; dorsal pleurites black, forming a broad longitudinal stripe. Halteres with stem yellow, knob moderately infuscated. Legs with all coxæ and trochanters obscure yellow; remainder of legs brownish black, femoral bases paler; no evident tibial spurs. Wings with a strong brownish tinge, the prearcular and costal regions inconspicuously more yellowed; stigma small, slightly darker brown, preceded and followed by small more yellowed areas; pale longitudinal streaks in cells R and M, continued across the cord into the outer cells; veins brown. Costal fringe relatively long, posterior fringe long. Venation: Outer end of vein  $R_3$  atrophied; cell  $M_2$  open by atrophy of  $m$ ;  $m-cu$  at or very close to fork of M.

Abdominal tergites dark brown, the posterior and lateral borders of the individual segments paler; sternites paler brown, extensively more yellowed at the incisures; hypopygium dark brown, styli paler. Male hypopygium with the outer dististyle very slender on outer half, the tip slightly curved; inner dististyle only moderately darkened, elongate, tip obtuse. Phallosome with both the ædeagus and gonapophyses long and slender.

*Habitat*.—Ceylon.

Holotype, male, Ambawela, altitude 6,000 feet, March 4, 1954 (*Schmid*). Allotype, female, Lauderdale, altitude 3,500 feet, February 5, 1954. Paratopotypes, males, March 4 and 5, 1954; paratype, male, Horton Plains, altitude 6,800 feet, March 7, 1954.

The specific name, *taprobane*, is the ancient Greek designation for Ceylon. The fly is readily told from all other known species, with the exception of *Eupilaria thysanotos* sp. nov., described herewith, by the venation, including the atrophied tip of vein  $R_3$  and the open cell  $M_2$ .

**EUPILARIA THYSANOTOS** sp. nov.

Plate 2, fig. 17.

Allied to *taprobatica*; general coloration of thorax yellowish gray, the præscutum with three brown stripes; wings strongly tinged with brown, stigma dark brown, conspicuous, preceded

and followed by major yellowish white areas; costal fringe of male long; tip of vein  $R_3$  atrophied; cell  $M_2$  open by atrophy of m.

*Male*.—Length, about 5.5 to 5.6 millimeters; wing, 6 to 6.2.

Rostrum black, pruinose; palpi black, terminal two segments subequal. Antennæ black, scape sparsely pruinose; base of fusion-segment obscure yellow; basal two flagellar segments united, the third less evidently so, to form a fusion-segment; succeeding segments short, about the sixth and remaining flagellar segments elongate, with very long verticils. Head light gray, the center of the vertex extensively light brown.

Pronotum brownish gray, darker brown laterally. Mesonotum with the ground yellowish gray, the disk with three conspicuous brown stripes, humeral region clearer gray; pseudosutural foveæ black, conspicuous; scutal lobes brown, the margins weakly pruinose; posterior sclerites brown, heavily light gray pruinose. Pleura gray, the dorsopleural region infuscated. Halteres with stem obscure yellow, clearer basally, knob dark brown. Legs with coxæ brown, pruinose; trochanters brownish yellow; remainder of legs dark brown; as in *taprobanica*, tibial spurs not evident. Wings (Plate 2, fig. 17) strongly tinged with brown, the outer radial field near margin slightly more darkened; prearcular and costal fields more yellowed; stigma large, dark brown, preceded and followed by large yellowish white areas; veins brown. Costal fringe of male long and conspicuous. Venation: Outer end of vein  $R_3$  atrophied, the long basal spur with conspicuous trichia; cell  $M_2$  open by atrophy of m.

Abdomen with segments weakly bicolored, chiefly dark brown, the bases somewhat paler, brownish yellow; sternites with the pale bases more extensive; hypopygium brownish yellow.

*Habitat*.—Ceylon.

Holotype, male, Kandy, altitude 2,000 feet, January, 1954 (*Schmid*). Paratopotype, male pinned with type.

The present fly obviously is related to *Eupilaria taprobanica* sp. nov., in the venation, as the atrophied tip of vein  $R_3$  and open cell  $M_2$ , and in the lack of tibial spurs. It differs in the coloration of the body and pattern of the wings.

HEXATOMA (ERIOCERA) COHERI Alexander.

Plate 2, fig. 18.

*Hexatoma (Eriocera) coheri* ALEXANDER, Journ. N.Y. Ent. Soc. (in press).

Type, male, Nagagaon, Nepal, altitude 1,690 feet, September 8, 1956 (Cohér & Joshi).

*Male*.—Length, about 8 millimeters; wing, 10; antenna, about 27.

Belongs to the *lunata* group; general coloration dark; antennæ of male greatly elongated, basal segments yellow, outer flagellar segments darkened; fore and middle legs chiefly yellow, posterior tibiæ conspicuously modified, lengthened and enlarged, provided with abundant dark setæ; wings (Plate 2, fig. 18) whitish hyaline, strikingly patterned with brown, including a series of transverse lines in cell C; only two branches of M reach the wing margin.

This conspicuous and unusually distinct fly is named in honor of Dr. Edward I. Cohér.

HEXATOMA (ERIOCERA) SERENDIB sp. nov.

Plate 2, fig. 19.

General coloration of head and thorax brownish black, gray pruinose, præscutum without pattern; legs light brown; wings with a brownish tinge, costal border a little darker; abdomen brown, the outer segments, including the hypopygium, passing into black.

*Male*.—Length, about 8 millimeters; wing, 9; antenna, about 1.6.

Rostrum very short, brown; palpi brownish black. Antennæ of male apparently 7-segmented, short, as shown by the measurements, dark brown; flagellar segments progressively shorter, two and three subequal, terminal segment small. Head dark gray, with a conspicuous more blackened vertical tubercle.

Pronotum brownish gray. Mesonotum chiefly brownish black, gray pruinose; præscutum without pattern; mesonotal vestiture very short and sparse. Pleura dark brownish gray. Halteres dark brown. Legs with all coxæ dark brown, more or less pruinose; trochanters light brown; remainder of legs light brown, the outer tarsal segments somewhat darker. Wings (Plate 2, fig. 19) with a brownish tinge, the costal border a little darker; stigma not or scarcely indicated; veins pale brown. Veins beyond cord glabrous; both sections of  $R_5$  with a continuous series of macrotrichia. Venation:  $Sc_1$  ending about opposite r-m,  $Sc_1$  alone shorter than  $R_2$ , the latter subequal to  $R_{1+2}$  and much longer than R;  $R_{2+3+4}$  subequal to  $R_4$ ; cell 1st  $M_2$  rectangular, m shorter than basal section of  $M_3$ ; m-cu beyond the fork of M, longer than the distal section of  $Cu_1$ .

Abdomen brown, the outer segments, including the hypopygium, brownish black to black; basal rings of segments not differentiated.

*Habitat*.—Ceylon.

Holotype, male, Kitulgala, altitude 800 feet, March 2, 1954 (*Schmid*).

The specific name, *serendib*, is the Arabian name for Ceylon. The species is very closely related to *Hexatoma (Eriocera) fusca* (Edwards), likewise from Ceylon, differing in the coloration of the body and legs. I have a paratype in my collection, received by exchange from Edwards.

#### ERIOPTERINI

GONOMYIA (ELLIPTEROIDES) THIASODES Alexander. Plate 2, fig. 20.

*Gonomyia (Ellipteroides) thiasodes* ALEXANDER, Ann. Mag. Nat. Hist. (Part 105, in press).

Type, female, Kandy, Ceylon, altitude 2,000 feet, January 10, 1954 (*Schmid*).

*Female*.—Length, about 5.2 millimeters; wing, 5.

General coloration polished fulvous, the vertex, anterior præscutum and anepisternum conspicuously patterned with black; halteres brown; legs obscure yellow, outer tarsal segments infuscated; wings (Plate 2, fig. 20) brownish yellow, unpatterned; cell  $R_3$  large, veins  $R_3$  and  $R_4$  strongly divergent; m-cu before fork of M; cerci blackened and pointed at tips, with scattered erect setæ.

GONOMYIA (ELLIPTEROIDES) PICTILIS Alexander. Plate 2, fig. 21; Plate 3, fig. 38.

*Gonomyia (Ellipteroides) pictilis* ALEXANDER, Ann. Mag. Nat. Hist. (Part 105, in press).

Types, males and females, Nuwara Eliya, Ceylon, altitude 6,000 feet, February 26, 1954 (*Schmid*).

*Male*.—Length, about 6.5 millimeters; wing, 7.3.

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

Size large (wing over 7 millimeters); general coloration of mesonotal præscutum light brown, darker behind; pleura variegated dark brown and yellow; wings (Plate 2, fig. 21) dirty white, conspicuously patterned with brown; veins  $R_3$  and  $R_4$  very long, cell  $R_2$  at margin slightly more extensive than cell  $R_3$ ; cell 2nd  $M_2$  very deep; male hypopygium (Plate 3, fig. 38) with four dististyles, two glabrous, two with strong setæ.

GONOMYIA (ELLIPTEROIDES) ROHUNA Alexander. Plate 2, fig. 22.

*Gonomyia (Ellipteroides) rohuna* ALEXANDER, Ann. Mag. Nat. Hist. (Part 105, in press).

Types, females, Nuwara Eliya, Ceylon, altitude 6,000 feet, February and April, 1954 (*Schmid*).

*Female*.—Length, about 6 millimeters; wing, 6.

Size medium (wing of female 6 millimeters); general coloration brownish gray, disk of præscutum darker; antennæ black throughout; knob of halteres clear yellow; femora brown, tips blackened, tibiæ and tarsi black; wings (Plate 2, fig. 22) with the restricted ground obscure whitish, conspicuously patterned with brown; Sc long, veins  $R_3$  and  $R_4$  strongly divergent, cell  $R_2$  at margin only one-third to one-fourth as extensive as cell  $R_3$ ; vein  $R_3$  shorter than  $R_s$ ; abdomen black, pleural region with gray areas; ovipositor elongate, the tips of the cerci produced into narrow points.

GONOMYIA (IDIOCERA) PERSIMILIS Alexander.

Plate 2, fig. 23.

*Gonomyia (Idiocera) persimilis* Alexander, Ann. Mag. Nat. Hist. (Part 105, in press).

Type, female, Beliul Oya, Ceylon, altitude 2,000 feet, February 20, 1954 (*Schmid*).

*Female*.—Length, about 6 millimeters; wing, 5.3.

Size small (wing of female 5.3 millimeters); mesonotal præscutum and scutum brownish gray, without clearly defined pattern, ventral pleurites light yellow; antennal flagellum black; halteres with stem infuscated, knob more strongly darkened; legs yellow, tips of tibiæ and outer tarsal segments darker; wings (Plate 2, fig. 23) weakly tinged with brown, restrictedly patterned with darker;  $Sc_1$  ending just beyond origin of  $R_s$ ; abdominal tergites dark brown.

GONOMYIA (IDIOCERA) PETILIS sp. nov.

Plate 2, fig. 24; Plate 3, fig. 40.

General coloration of mesonotum brown, præscutum with three brownish gray to gray stripes; basal segments of antennæ obscure yellow; legs obscure yellow, tips of tibiæ narrowly blackened; wings grayish yellow, prearcular and costal fields clearer yellow, stigma scarcely apparent; veins  $R_{1+2}$  and  $R_3$  only narrowly separated at margin; male hypopygium with the outer lobe of basistyle terminating in a small point; three dististyles, two being long simple rods, the third widened outwardly, shallowly and unequally bifid near tip; phallosome unusually broad.

*Male*.—Length, about 4 to 4.2 millimeters; wing, 4.6 to 5.

Rostrum dark brown, more pruinose at tip. Antennæ with basal segments obscure yellow, outer segments darker; flagellar

segments oval, slightly longer than the verticils. Head light gray; setæ long, pale, chiefly proclinate.

Pronotum brownish gray, paler laterally. Mesonotal præscutum with three nearly confluent brownish gray to gray stripes, the humeral and lateral regions yellow; pseudosutural foveæ light brown; posterior sclerites of notum dark brown, parascutella yellowed. Pleura and pleurotergite reddish yellow, without clearly defined pattern. Halteres with stem yellow, knob weakly darkened, brownish yellow. Legs with coxæ and trochanters reddish brown; remainder of legs obscure yellow, tips of tibiæ narrowly but conspicuously blackened; outer tarsal segments black. Wings (Plate 2, fig. 24) grayish yellow, prearcular and costal fields clearer yellow; stigma scarcely apparent; veins very light brown, more yellowed in the brightened portions. Venation:  $Sc_1$  ending just beyond origin of  $R_s$ ,  $Sc_2$  some distance from its tip,  $Sc_1$  long, from two-thirds to three-fourths  $R_s$ ; vein  $R_3$  suberect, only narrowly separated from  $R_{1+2}$  at margin; vein  $R_4$  long, arcuated, nearly twice  $R_{2+3+4}$ ; cell 2nd  $M_2$  about one-third to one-fourth longer than its petiole.

Abdominal tergites light brown, sternites more yellowed. Male hypopygium (Plate 3, fig. 40) with the outer apical lobe of the basistyle, *b*, elongate, narrowed into a small apical point or blade; inner apical lobe small but conspicuous. Three dististyles, *d*; two long and slender, simple, both terminating in acute black spines, the outer one glabrous, the innermost style with about eight strong erect setæ scattered along the stem; largest style dilated outwardly, at apex divided into two very short branches, the shorter black, the longer arm expanded, with its outer angle farther produced into a slender spine. Phallosome, *p*, unusually broad, the central part at apex, presumably representing the ædeagus, produced into a short point.

*Habitat*.—Nepal.

Holotype, male, Amlekhgang, altitude 1,690 feet, May 29, 1956 (*Coher*). Paratopotype, male, June 9, 1956 (*Coher*).

Readily told from all other described regional members of the subgenus by the structure of the male hypopygium, especially the dististyles and ædeagus. In its venation, it is more like species such as *Gonomyia (Idiocera) recens* (Alexander).

**GONOMYIA (GONOMYIA) SERINDIBENSIS** Alexander. Plate 2, fig. 25; Plate 3, fig. 39.

*Gonomyia (Gonomyia) serindibensis* ALEXANDER, Ann. Mag. Nat. Hist. (Part 105, in press).



Type, male, Ambawela, Ceylon, altitude 6,000 feet, March 6, 1954 (*Schmid*).

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

Mesonotum brown, posterior border of scutellum broadly obscure yellow; pleura gray, conspicuously variegated with yellow; legs brownish black; wings (Plate 2, fig. 25) weakly tinged with brown, Sc short; male hypopygium (Plate 3, fig. 39) with the outer dististyle, *d*, terminating in a small acute point, inner style darkened, its outer margin bearing two powerful black spines; phallosome, *p*, with apex of ædeagus emarginate; a single blackened gonapophysis.

GONOMYIA (LIPOPHLEPS) HEDYS Alexander.

Plate 3, fig. 42.

*Gonomyia (Lipophleps) hedys* ALEXANDER; Ann. Mag. Nat. Hist. (Part 105, in press).

Type, male, Deniyaya, Ceylon, altitude 1,700 feet, February 5, 1954 (*Schmid*).

*Male*.—Length, about 3 millimeters; wing, 3.

Allied to *flavomarginata*; mesonotum dark brown, mediotergite clearer yellow; pleura chiefly dark brown, with a broad pale yellow longitudinal stripe extending from and including the fore coxæ, attaining the base of the abdomen; wings strongly tinged with brown, variegated with paler areas before cord and elsewhere on outer half; Sc short; abdominal tergites yellow, each with a brown semicircular discal area, the outer posterior angles yellowed; male hypopygium (Plate 3, fig. 42) with the dististyles, *d*, terminal, outer style a black scabrous rod that bears a long slender spine on mesal face at base; inner style likewise produced into a long spine; phallosome, *p*, complex, including two pairs of spines.

GONOMYIA (LIPOPHLEPS) LANKA Alexander. Plate 2, fig. 26; Plate 3, fig. 41.

*Gonomyia (Lipophleps) lanka* ALEXANDER, Ann. Mag. Nat. Hist. (Part 105, in press).

Types, male and female, Tissewewa, Ceylon, altitude 30 feet, February 8, 1954 (*Schmid*).

*Male*.—Length, about 4 millimeters; wing, 4.

*Female*.—Length, about 4.5 millimeters; wing, 4.

General coloration of thorax dark brown; posterior border of scutellum and suture of the postnotum yellowed; pleura with a conspicuous whitened longitudinal stripe; femora brownish yellow, with a broad black subterminal ring, preceded and followed by white; posterior femur of male with a single

row of about 40 long curved erect setæ extending virtually over the entire length; wings (Plate 2, fig. 26) pale brown, variegated with whitened areas; Sc short, branches of Rs strongly divergent; abdominal tergites dark brown, the posterior borders conspicuously ringed with obscure whitish; male hypopygium (Plate 3, fig. 41) with two terminal dististyles, *d*, the outer very large, profoundly bifid; phallosome, *p*, with the elongate gonapophyses decussate at the midline.

GONOMYIA (LIOPHLEPS) NEXOSA sp. nov.

Plate 3, fig. 43.

Size small (wing of male 3 millimeters); mesonotal præscutum and scutum brown, posterior sclerites patterned with yellow; thoracic pleura light brown, with a yellowish white longitudinal stripe; legs light brown, femora slightly darker just before tips; wings tinged with brown, stigma slightly darkened; male hypopygium with the outer dististyle profoundly bifid into two slender arms; phallosome distinctive, with two pairs of appendages, including a slender crooklike spine and a long pale lobe that bears a dense brush of setæ at tip.

*Male*.—Length, about 3 millimeters; wing, 3.

Rostrum and palpi dark brown. Antennæ with scape and pedicel dark brown, more brightened above; flagellum brownish black, segments with very long verticils. Head light yellow; center of anterior vertex with a brown spot.

Prothorax and pretergites light yellow. Mesonotal præscutum and scutum almost uniformly brown, the former somewhat darker medially in front; pseudosutural foveæ brown; scutellum and posterior angles of scutal lobes yellowed; postnotum more reddened, yellow anteriorly, darker on posterior margin of mediotergite. Pleura chiefly light brown, with a conspicuous yellowish white longitudinal stripe from and including the fore coxæ, extending to base of abdomen; dorsopleural membrane light yellow. Halteres yellow, including a line on the otherwise darkened knob. Legs with the coxæ and trochanters yellow; remainder of legs light brown, femora slightly darker just before tips; posterior femora with erect setæ on posterior half, not arranged in a definite row as in *lanka* and some other species. Wings tinged with brown, prearcular and costal fields more yellowed; stigma and a cloud over cord very slightly darker than the ground; veins brownish yellow to light brown. Venation: Sc short, Sc<sub>1</sub> ending some distance before origin of Rs, Sc<sub>2</sub> near its tip; branches of Rs divergent, cell R<sub>3</sub> at margin

very extensive; cell 1st  $M_2$  about as long as the distal section of vein  $M_3$ ; m-cu at fork of  $M$ .

Abdominal tergites dark brown, the posterior borders of the segments narrowly paler; sternites pale; hypopygium brownish yellow. Male hypopygium (Plate 3, fig. 43) with the basistyle relatively small and compact, the mesal face with numerous long strong setæ, some setæ of outer apical part of the style even longer. Two dististyles, *d*, both terminal; outer style profoundly divided into two slender arms, both much longer than the basistyle, outer arm weakly expanded at tip, inner arm dilated just before midlength and here with a small darkened point, beyond which the arm narrows into an acute black spine; inner style elongate, with strong bristles, including a fasciculate pair at apex. Phallosome, *p*, very complicated, including an unpaired recurved spine and an outer pale membrane, as well as two pairs of gonapophyses (only those of one side shown in figure); one a very slender recurved crooklike spine, the second a long pale lobe that bears a dense brush of setæ at apex.

*Habitat*.—Nepal.

Holotype, male, Amlekhgang, altitude 1,690 feet, August 26, 1956 (Coker & Joshi). Paratopotype, sex?

This fly is very distinct in the structure of the male hypopygium, which has the outer dististyle profoundly bifid, somewhat as in the otherwise very different *Gonomyia* (*Lipophleps*) *lanka* Alexander, of Ceylon.

**GONOMYIA (LIPOPHLEPS) PRATAPI** sp. nov.

Plate 3, fig. 44.

Size small (wing of male 3 millimeters); mesonotal præscutum and scutum brownish gray, pleura with a conspicuous whitened longitudinal stripe; legs light brown; wings weakly tinged with brown, without pattern; Sc short, branches of Rs strongly divergent; male hypopygium with two dististyles, the outer a simple rod, inner style bispinous; phallosome with the gonapophyses scabrous before the blackened spinelike tips.

*Male*.—Length, about 2.8 millimeters; wing, 3.

Rostrum brownish black; palpi black. Antennæ with the scape and pedicel black, restrictedly patterned with obscure yellow, flagellum black; flagellar segments elongate-cylindrical, with very long verticils. Head yellow, the center of the vertex dark brown.

Pronotum and pretergites whitened. Mesonotal præscutum and scutal lobes brownish gray, without pattern, pseudosutural

foveæ transverse, dark reddish brown; posterior ends of scutal lobes and border of scutellum yellow; postnotal mediotergite yellow anteriorly, more reddened behind. Pleura and pleurotergite chiefly reddish brown, the former with a conspicuous whitened longitudinal stripe extending from behind the fore coxæ to the base of abdomen, narrowly bordered both above and beneath by darker. Halteres with stem and apex of knob yellowed, the base of latter weakly darkened. Legs with coxæ and trochanters pale; femora light brown or yellowish brown, unpatterned; outer segments broken. Wings weakly tinged with brown, without pattern; costal and prearcular regions more yellowed; veins pale brown, somewhat lighter in the brightened fields. Venation: Sc short, Sc<sub>1</sub> ending a distance before origin of Rs about equal to two-thirds the latter; branches of Rs strongly divergent, cell R<sub>3</sub> at margin more than three times cell R<sub>2</sub>; cell R<sub>5</sub> narrowed at margin; 1st M<sub>2</sub> strongly narrowed at base; m-cu at fork of M.

Abdomen reddish brown, without distinct pattern; hypopygium more yellowed. Male hypopygium (Plate 3, fig. 44) with the dististyles, *d*, two, terminal; outer style a simple gently curved darkened rod, the tip obtuse, surface glabrous, base pale, dilated; inner style distinctive, bispinous, the spines short, black, long-conical, subequal in size, the outer at tip of a long curved arm that bears several strong setæ, with more delicate setulæ before the spine; second spine near base of outer margin, on a short basal tubercle that bears small setulæ. Phallosome, *p*, with the paired gonapophyses elongate, each terminating in a long black spine, the surface back from tip with appressed scabrous points; an unpaired central organ includes the ædeagus, the tip microscopically scabrous or spiculose, with a lateral blackened point.

*Habitat*.—Nepal.

Holotype, male, Nayagaon, August 3, 1956 (*Pratap Singh*).

The species is named for the collector, Mr. Pratap Singh, who was associated with Dr. Coher in the work of the World Health Organization. The fly is quite distinct from other regional members of the subgenus, including *Gonomyia (Lipophleps) flavomarginata* Brunetti, in the structure of the male hypopygium, especially the inner dististyle and phallosome.

**GYMNASTES (PARAGYMNASTES) SIMHALÆ** Alexander. Plate 2, fig. 27; Plate 3, fig. 46.

*Gymnastes (Paragymnastes) simhalæ* ALEXANDER, Ann. Mag. Nat. Hist. (Part 105, in press).

Types from various stations in Ceylon, altitude 2,000 to 2,700 feet, January, 1954 (*Schmid*).

*Male*.—Length, about 5.8 to 6 millimeters; wing, 5.8 to 6.

General coloration polished obscure yellow and black; head polished yellow, the center of the posterior vertex with a major brown area; apex of knob of halteres yellow; legs black, femoral bases and a subterminal ring yellow; wings (Plate 2, fig. 27) dark brown, the base and two narrower outer crossbands whitened; cell  $M_2$  open by atrophy of basal section of  $M_3$ ; male hypopygium (Plate 3, fig. 46) with the outer dististyle, *d*, slender, obtuse at tip, on outer margin with two unusually long yellow setæ; inner style a very massive blackened subglobular structure, on outer margin with a single short seta.

GYMNASTES (PARAGYMNASTES) KANDYANA Alexander. Plate 2, fig. 23.

*Gymnastes (Paragymnastes) kandyana* ALEXANDER, Ann. Mag. Nat. Hist. (Part 105, in press).

Type, male, Kandy, Ceylon, altitude 2,000 feet, January 14, 1954 (*Schmid*).

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

Size relatively small (wing of male 4.5 millimeters); antennæ with pedicel and flagellum black; mesonotal præscutum with the stripes completely fused to form a discal shield, scutellum obscure yellow, pleura chiefly blackened; femora yellow basally, the tips broadly blackened, with a more diffuse darkened ring at near midlength; wings (Plate 2, fig. 28) with the ground whitened, patterned with relatively narrow darkened bands; veins  $R_3$  and  $R_4$  divergent, cells  $R_2$  and  $R_3$  at margin subequal; abdomen uniformly dark brown, hypopygium yellowed; male hypopygium with the outer dististyle small, very slightly dilated on outer half; ædeagus relatively short, terminating in a blackened point.

GYMNASTES (PARAGYMNASTES) MAYA Alexander. Plate 3, fig. 45.

*Gynastes (Paragynastes) maya* ALEXANDER, Am. Mag. Nat. Hist. (Part 105, in press).

Types, males, Kandy, Ceylon, altitude 2,000 feet, January 14, 1954 (*Schmid*).

*Male*.—Length, about 6.5 to 7 millimeters; wing, 6 to 6.5.

Size large (wing of male 6 millimeters or more); præscutum with three fulvous stripes, the central one divided by a capillary black line; pleura polished yellow, variegated with brown; femora yellow, with two darker rings; wings yellow, with a

conspicuous brown pattern, cell  $M_2$  open; abdominal tergites bicolored, dark brown, ringed posteriorly with yellow; male hypopygium (Plate 3, fig. 45) with the inner margin of the basistyle, *b*, extensively blackened and corrugated; outer dististyle, *d*, greatly expanded outwardly.

**RHABDOMASTIX (RHABDOMASTIX) SCHMIDIANA** Alexander. Plate 2, fig. 29.

*Rhabdomastix (Rhabdomastix) schmidiana* ALEXANDER, Ann. Mag. Nat. Hist. (Part 105, in press).

Types from numerous stations in Ceylon.

*Male*.—Length, about 6 millimeters; wing, 7; antenna, about 26 to 27.

*Female*.—Length, about 6 millimeters; wing, 6.5; antenna, about 1.5.

General coloration of mesonotum light brown, darker medially and on sides; antennæ of male very long, exceeding three times the wing, yellow; wings (Plate 2, fig. 29) subhyaline, distinctly patterned with brown spots in the radial field; vein  $R_2$  strongly preserved; abdominal segments conspicuously bicolored, yellow, the posterior borders more narrowly dark brown; male hypopygium with the outer blade of gonapophysis very narrow.

This distinct fly was named in honor of Dr. Fernand Schmid, of Lausanne, Switzerland, to whom I am indebted for numerous crane-flies from West Africa, Iran, Pakistan, Kashmir, and Ceylon.

**CRYPTOLABIS (BÆOURA) TRIQUETRA** Alexander. Plate 2, fig. 30; Plate 4, fig. 48.

*Cryptolabis (Bæoura) triquetra* ALEXANDER, Ann. Mag. Nat. Hist. (Part 105, in press).

Type, male, Kitulgala, Ceylon, altitude 800 feet, March 2, 1954 (*Schmid*).

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

*Female*.—Length, about 3.5 millimeters; wing, 4.

Size small (wing, 4 millimeters); general coloration gray, the præscutum with three more plumbeous gray stripes and a major black area on either side; legs black, vestiture short; wings (Plate 2, fig. 30) weakly tinged with gray, veins dark brown;  $R_{2+3}$  suberect to oblique, cell  $R_3$  relatively broad; male hypopygium (Plate 4, fig. 48) with the posterior border of the large glabrous tergite, *t*, truncate, each outer lateral angle produced into a slender lobe; dististyle, *d*, appearing as a glabrous triangular blade, widened outwardly.

**CHEILOTRICHIA (EMPEDA) PARATYTTOS** Alexander.

Plate 4, fig. 47

*Cheilotrichia (Empeda) paratyttos* ALEXANDER, Journ. N.Y. Ent. Soc. (in press).

Types, Amlekhgang, Nepal, altitude 1,690 feet, July 30 to August 26, 1956 (Cohér).

*Male*.—Length, about 1.6 to 1.8 millimeters; wing, 2.1 to 2.2.

*Female*.—Length, about 2.5 millimeters; wing, 2.5 to 2.6.

Size very small (wing of male about 2.2 millimeters); general coloration dark brownish gray or plumbeous; halteres with knobs obscure yellow; legs brown; wings tinged with gray, without pattern; wing veins unusually glabrous; vein  $R_3$  almost erect, cell  $M_2$  open by atrophy of  $m$ ,  $m-cu$  at or close to fork of  $M$ ; male hypopygium (Plate 4, fig. 47) with the dististyles long and slender.

**ERIOPTERA (ILISIA) GRUMULA** Alexander.

Plate 2, fig. 31; Plate 4, fig. 49.

*Erioptera (Ilisia) grumula* ALEXANDER, Journ. N. Y. Ent. Soc. (in press).

Types from Sleepy Hollow, altitude 7,900 feet, and Simbhanjang Pass, Nepal, altitude 8,190 feet, October 1, 1956 (Cohér & Joshi).

*Male*.—Length, about 4.8 to 5 millimeters; wing, 5.5 to 5.8.

*Female*.—Length, about 5.5 millimeters; wing, 5.3 to 6.2.

General coloration buffy brown to gray, mesonotal præscutum with three darker brownish gray stripes; antennæ black, first flagellar segment yellowed; halteres pale yellow; legs brownish yellow, tarsi darker; wings (Plate 2, fig. 31) almost uniformly light yellow, stigma slightly darker; cell 1st  $M_2$  small, veins  $M_3$  and  $M_4$  turned strongly upward at outer ends; male hypopygium (Plate 4, fig. 49) with the outer dististyle,  $d$ , blackened, compact, with a spiculate outer arm and an inner acute projection; inner style pale, bent strongly at near mid-length; phallosome,  $p$ , with two pairs of slender simple rods, one conspicuously hairy, the other glabrous.

**ERIOPTERA (ERIOPTERA) IMPENSA** Alexander.

Plate 4, fig. 50.

*Erioptera (Erioptera) impensa* ALEXANDER, Journ. N. Y. Ent. Soc. (in press).

Types from Sleepy Hollow, altitude 7,900 feet, and Simbhanjang Pass, Nepal, altitude 8,190 feet, October 1, 1956 (Cohér).

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

*Female*.—Length, about 7 to 7.5 millimeters; wing, 8 to 9.

Size very large (wing of male 7 millimeters, of female 8

or more); general coloration of thorax light gray and brown; basal segments of antennæ reddish yellow, remainder of flagellum black; knobs of halteres brownish black; femora yellow, passing into brown; wings strongly yellowed, with a conspicuous brown seam over the cord; male hypopygium (Plate 4, fig. 50) with the posterior border of tergite, *t*, unequally trilobed, the margins scabrous; inner dististyle, *d*, a narrow glabrous blade, inner style recurved at tip.

**MOLOPHILUS (TASIOCERELLUS) KANDYENSIS** Alexander.

Plate 4, fig. 51.

*Molophilus (Tasiocerellus) kandyensis* ALEXANDER, Ann. Mag. Nat. Hist. (Part 105, in press).

Types, males, from Kandy, Ceylon, altitude 2,000 feet, January 14, 1954 (*Schmid*).

*Male*.—Length, about 3 millimeters; wing, 3.5; antenna, about 0.4.

Size very small (wing of male 3.5 millimeters); antennal verticils very long; wings with  $Sc_1$  relatively short;  $R_{2+3+4}$  preserved but very short,  $R_2$  and  $R_{2+3}$  in approximate transverse alignment; cell  $M_2$  open, cell  $M_3$  short; all cells of wing with abundant long trichia; male hypopygium (Plate 4, fig. 51) interpreted as having two dististyles, *d*, the outer very large and stout, exceeding the area of the basistyle; inner style elongate, directed caudad, interconnected across the genital chamber by a narrow semilunar blackened bridge, more outwardly with pale membrane that is densely beset with small separated groups of setulæ; phallosomic plate, *p*, long and narrow, microscopically setulose except at apex.

**MOLOPHILUS (MOLOPHILUS) RACHIUS** Alexander.

Plate 4, fig. 52.

*Molophilus (Molophilus) rachus* ALEXANDER, Ann. Mag. Nat. Hist. (Part 105, in press).

Types, males and females, Ambawela, Ceylon, altitude 6,000 feet, March 4, 1954 (*Schmid*).

*Male*.—Length, about 3.5 millimeters; wing, 4.2; antenna, about 4.

*Female*.—Length, about 4 millimeters; wing, 5.

Belongs to the *gracilis* group, *procericornis* subgroup; general coloration very pale yellowish brown; antennæ of male very long, nodulose, nearly equal in length to the wing; flagellar segments swollen basally and here provided with long erect setæ; male hypopygium (Plate 4, fig. 52) with the basistyle, *b*, at apex produced caudad into a long slender lobe that narrows into a long acute spine, inner apical lobe small; two very un-



equal dististyles, *d*, one long and slender, virtually glabrous, the other very small, abruptly narrowed at apex into a slender lobe.

**MOLOPHILUS (MOLOPHILUS) VEDDAH** sp. nov.

Plate 4, fig. 53.

Belongs to the *gracilis* group, *procericornis* subgroup; general coloration of mesonotum light fulvous; antennæ of male relatively long, about two-thirds the wing, flagellar segments with relatively short apical necks, the dilated bodies of the segments with long outspreading setæ; male hypopygium with the outer apical lobe of basistyle a slender sinuous rod that narrows into an acute spine; basal lobe flattened, its margin weakly bilobed, provided with strong setiferous tubercles.

*Male*.—Length, about 3.3 millimeters; wing, 4; antenna, about 2.7.

Rostrum and palpi black. Antennæ dark brown, the apical pedicels of the more proximal flagellar segments a trifle paler; flagellar segments fusiform, with glabrous apical necks that are shorter than in *wejaya*; dilated bases with conspicuous whorls of erect setæ, as in many species of the subgenus and subgroup. Head brownish gray.

Pronotum weakly darkened. Mesonotum almost uniformly light fulvous. Pleura fulvous yellow, a trifle darkened dorsally. Halteres darkened, base of stem yellow. Legs with coxæ and trochanters pale yellow; remainder of legs more obscure yellow, outer tarsal segments brownish black. Wings tinged with grayish yellow, the base clearer yellow; veins light brown, macrotrichia darker. Venation:  $R_2$  in transverse alignment with r-m; petiole of cell  $M_3$  nearly four times m-cu; vein 2nd A short and virtually straight, ending a short distance before level of m-cu.

Abdomen dark brown, hypopygium large, brownish yellow, the styli brownish black. Male hypopygium (Plate 4, fig. 53) generally as in *wejaya* but differing in all details. Outer apical lobe of basistyle, *b*, a slender sinuous rod that narrows into an acute spine; inner apical lobe a triangular blade with a slender stem, the outer margin with string setæ; basal lobe more flattened than in *wejaya*, the margin vaguely bilobed, each lobe with strong setiferous tubercles. Dististyles, *d*, terminal, the slightly longer inner style terminating in a stout spine, the outer style with the base dilated, tip subobtuse. *Ædeagus* moderately long, base not conspicuously expanded.

*Habitat*.—Ceylon.

Holotype, male, Nuwara Eliya, altitude 6,000 feet, March 1, 1954 (*Schmid*).

The specific name, *Veddah*, is that of a native tribe of Ceylon, evidently derived from the aboriginal Yakkho. The nearest regional ally is the species next described as *Molophilus* (*Molophilus*) *wejaya*, which differs especially in the structure of the male hypopygium, particularly the lobes of the basistyle.

**MOLOPHILUS (MOLOPHILUS) WEJAYA sp. nov.**

Plate 4, fig. 54.

Belongs to the *gracilis* group, *procericornis* subgroup; general coloration of thoracic notum reddish yellow, dorsal pleurites darkened; antennæ of male elongate, about three-fourths the wing, flagellum nodulose, the segments with long outspreading setæ; male hypopygium with the outer apical lobe of basistyle truncate at tip, inner apical lobe a short-stemmed blade, basal lobe oval; dististyles two, terminal in position, one produced into a long black spine.

*Male*.—Length, about 3.5 millimeters; wing, 4; antenna, about 3.

*Female*.—Length, about 4 millimeters; wing, 4.5.

Rostrum and palpi brownish black. Antennæ of male elongate, as shown by the measurements, brownish black, the apices of the segments paler; bases of segments fusiform, outer ends produced into glabrous necks, the dilated part with whorls of very long outspreading setæ that exceed the segments. Head brown.

Pronotum dark brown. Mesonotum reddish yellow, without pattern, in the female the pleura concolorous, in the holotype male the dorsal pleurites and membrane darker brown to form a stripe. Halteres weakly darkened. Legs yellow, the tips of the femora and tibiæ narrowly and vaguely darkened, the outer tarsal segments darker. Wings grayish yellow, prearcular and costal fields clearer yellow; veins brownish yellow, trichia brown. Venation:  $R_2$  about in transverse alignment with r-m; petiole of cell  $M_3$  long, in the male about five times the short m-cu, in the female only about three times as long; vein 2nd A ending shortly before level of m-cu.

Abdomen dark brown, hypopygium large, slightly more yellowish brown. Male hypopygium (Plate 4, fig. 54) with the outer apical lobe of basistyle, *b*, subequal in length to the dististyles and stouter, the tip obliquely truncated; inner apical lobe a short-stemmed triangularly dilated blade, its apex oblique, with numerous setæ; basal lobe small, oval, compact, with strong

setæ. Dististyles, *d*, terminal, one shorter, narrowed into a long black spine, the other style uniformly pale, almost straight, the tip subacute or narrowly obtuse. Ædeagus moderately long, expanded at base, the acute tip very slender. '

*Habitat*.—Ceylon.

Holotype, male, Ambawela, altitude 6,000 feet, March 4, 1954 (*Schmid*).

The specific name, *Wejaya*, is that of the first sovereign of Ceylon, 543 B.C. The female may prove to be of a different species from the type since it differs somewhat in venation and in body coloration. It may possibly prove to be the female of *Molophilus* (*Molophilus*) *veddah* sp. nov. The various Ceylonese species of the *procericornis* subgroup herein described are most readily separated among themselves by the structure of the male antennæ and hypopygium, in the latter particularly the dististyles and lobes of the basistyle.

**MOLOPHILUS (MOLOPHILUS) YAKKHO** sp. nov.

Plate 4, fig. 55.

Belongs to the *gracilis* group, *procericornis* subgroup; general coloration dark brown; antennæ moderately long, the flagellar segments of the male elongate but not produced into glabrous apical necks, the bases with long outspreading setæ and verticils; male hypopygium with the outer apical lobe of basistyle terminating in a short acute spine, inner apical lobe slender, basal lobe narrowed outwardly; both dististyles terminating in spines, the outer style more scabrous.

*Male*.—Length, about 3.3 to 3.5 millimeters; wing, 3.8 to 4.2; antenna, about 2 to 2.1.

*Female*.—Length, about 4 to 4.8 millimeters; wing, 4.5 to 5.

Rostrum and palpi dark brown. Antennæ of male brownish black throughout, relatively short for a member of this subgroup; flagellar segments elongate-fusiform, the ends truncated, the outer end not produced into a neck, the entire surface setiferous, with long outspreading setæ and verticils that are more restricted to the dilated central part; in female, antennæ shorter but still relatively elongate. Head dark brown.

Prothorax and mesothorax almost uniformly dark brown, the præscutum with a central darker vitta; humeral region of præscutum and the anterior pretergites obscure yellow. Halteres infuscated, base of stem narrowly yellow. Legs with the coxæ infuscated, trochanters a trifle paler; remainder of legs brown, appearing darker by reason of the dense vestiture, femoral bases restrictedly more brightened. Wings with a

weak dusky tinge, veins and trichia darker. Venation:  $R_2$  shortly before level of r-m; petiole of cell  $M_3$  more than four times m-cu; vein 2nd A long and gently sinuous, ending some distance beyond the level of m-cu.

Abdomen, including hypopygium, dark brown. Male hypopygium (Plate 4, fig. 55) with the outer apical lobe of basistyle, *b*, stout, narrowed at tip into a short acute spine, setiferous virtually to the tip; inner apical lobe slender, only slightly larger at outer end and here with seven or eight setæ; basal lobe narrowed outwardly, tip obtuse, the lower margin of outer half with long slightly recurved spinelike setæ. Dististyles, *d*, terminal, the outer a slender spine, narrowed very gradually into a long spine, surface of outer two-thirds with abundant scabrous points, those of the lower or inner face larger; inner style shorter but stouter, sinuous, narrowed to an acute point, the outer fourth before the spine with relatively few microscopic spicules.  $\text{\AA}$ edeagus of moderate length. Phallosomic plate obtuse at tip, with microscopic setulæ.

*Habitat.*—Ceylon.

Holotype, male, Horton Plains, altitude 6,800 feet, March 7, 1954 (*Schmid*). Allotopotype, female, pinned with the type. Paratypes, 1 male, 1 female, Nuwara Eliya, altitude 6,000 feet, February 26, 1954 (*Schmid*).

The specific name, *Yakkho*, is that of the aborigines of Ceylon, presumed to be ancestral to the modern Veddahs. *Molophilus* (*Molophilus*) *yakkho* is undoubtedly a member of the *procericornis* subgroup but has the antennæ unusually short and the flagellar segments but slightly modified. It is readily told from the other regional species described herewith by the nature of the antennæ and the structure of the male hypopygium.

STYRINGOMYIA OBSCURA Brunetti.

Plate 2, fig. 32; Plate 4, fig. 56.

*Styringomyia obscura* BRUNETTI, Rec. Ind. Mus. 6 (1911) 300.

*Styringomyia obscura* BRUNETTI, Fauna Brit. India, Dipt. Nematocera (1912) 463-464.

*Styringomyia obscura* EDWARDS, Trans. Ent. Soc. London 1914 (1914) 213, figs. 46, 47 (ovipositor).

The type, a female (considered by Brunetti as being a male), from Thamaspur, Nepal.

Nepal: Amlekhgang, altitude 1,690 feet, June 9, 1956 (*Coher*); Bhimpedi, altitude 3,500 feet, February 27, 1956 (*Coher* & *Joshî*).

The present material agrees well with the description of the type except that the black color of the legs is more extensive, the femora being chiefly black, with the bases and a narrow subterminal ring yellow. The fact that the wing (Plate 2, fig. 32) was slightly patterned was discussed by Edwards. The nearest ally is *Styrgomyia schmidiana* Alexander, of Kashmir, which has the structure of the male hypopygium quite distinct. I am making one of the specimens now available an allotype of the species.

Male hypopygium (Plate 4, fig. 56) with the tergite, *t*, terminating in a triangular cushion, densely covered with yellow setæ, terminating in a slender point. Sternite, *s*, extended into a slender outer part, bearing two apical bristles, the distal end with microscopic erect setulæ. Basistyle, *b*, with a single modified seta, from a long basal tubercle. Dististyle, *d*, with the outer arm unusually slender, with about four small setæ on central part; intermediate arm a flattened blade, the disk and margins with blackened pegs, arranged approximately as in figure; inner arm a slender sinuous blade, with two separate groups of pegs, both on basal half of arm, the more proximal group on the disk, including about six longer pegs, the second group on outer margin, including a linear series; innermost arm of style long and slender, provided with very long black setæ. Phallosome, *p*, including a strong blackened central ædeagus, with a pair of microscopic black points lying more basally.

Allotype, male, Amlekhgang, Nepal, altitude 1,690 feet, June 9, 1956 (*Coher*).

**STYRINGOMYIA NEPALENSIS** Edwards.

Plate 4, fig. 57.

*Styrgomyia nepalensis* EDWARDS, Trans. Ent. Soc. London 1914 (1914) 222, figs. 42, 43 (♂ hypopygium), 78, 79 (ovipositor).

The types were from Sukhwani, Nepal.

Nepal: Amlekhgang, Nepal, altitude 1,690 feet, June 9, 1956 (*Coher*).

The male hypopygium was not described by Edwards and the figures in his paper by Hentschel, while sufficiently accurate in their general features, do not show sufficiently the details of the dististyle.

Male hypopygium (Plate 4, fig. 57) with the tergite, *t*, terminating in a triangular cushion. Sternite, *s*, long and slender, pale, terminating in two strong setæ. Basistyle, *b*, with a single modified seta, arising from a slightly shorter pale basal

tubercle. Dististyle, *d*, having the outer arm with two small setæ on inner margin beyond midlength; intermediate arm low, expanded outwardly, the margin concave, provided with numerous black pegs or short spines; lower arm a curved rod that is narrowed outwardly, with about seven or eight blackened pegs, the three outermost longer, at base of rod with four or five long setæ; inner lobe a circular darkened blade. Phallosome, *p*, with a strong central blackened blade, bent at a right angle into a spine, more basad with two appressed small spines.

## ILLUSTRATIONS

[Legend: a, aedeagus; b, basistyle; d, dististyle; g, gonapophysis, s, sternites, t, tergites.]

### PLATE 1

- FIG. 1. *Dolichopeza* (*Nesopeza*) *palifera* sp. nov.; venation.  
2. *Dolichopeza* (*Nesopeza*) *guttulanalalis* sp. nov.; venation.  
3. *Dolichopeza* (*Nesopeza*) *singhalica* sp. nov.; venation.  
4. *Cylindrotoma nigritarsis* Alexander; venation.  
5. *Lechria argentosigna* sp. nov.; venation.  
6. *Limonia* (*Limonia*) *illumina* sp. nov.; venation.  
7. *Limonia* (*Discobola*) *euthenia* sp. nov.; venation.  
8. *Limonia* (*Dicranomyia*) *lakshmi* sp. nov.; venation.  
9. *Limonia* (*Pseudoglochina*) *periscelis* sp. nov.; venation.  
10. *Antocha* (*Orimargula*) *salikensis* sp. nov.; venation.  
11. *Nipponomyia joshii* Alexander; venation.  
12. *Dicranota* (*Eudicranota*) *dione* Alexander; venation.  
13. *Ula* (*Ula*) *subbidens* sp. nov.; venation.  
14. *Paradelphomyia* (*Oxyhiza*) *subterminalis* sp. nov.; venation.  
15. *Polymera* (*Polymera*) *zeylanica* sp. nov.; venation.  
16. *Pseudolimnophila* (*Pseudolimnophila*) *zelania* sp. nov.; venation.

### PLATE 2

- FIG. 17. *Eupilaria thysanotos* sp. nov.; venation.  
18. *Hexatoma* (*Eriocera*) *coheri* Alexander; venation.  
19. *Hexatoma* (*Eriocera*) *serendib* sp. nov.; venation.  
20. *Gonomyia* (*Ellipteroides*) *thiasodes* Alexander; venation.  
21. *Gonomyia* (*Ellipteroides*) *pictilis* Alexander; venation.  
22. *Gonomyia* (*Ellipteroides*) *rohuna* Alexander; venation.  
23. *Gonomyia* (*Idiocera*) *persimilis* Alexander; venation.  
24. *Gonomyia* (*Idiocera*) *petilis* sp. nov.; venation.  
25. *Gonomyia* (*Gonomyia*) *serindibensis* Alexander; venation.  
26. *Gonomyia* (*Lipophleps*) *lanka* Alexander; venation.  
27. *Gymnastes* (*Paragymnastes*) *simhalæ* Alexander; venation.  
28. *Gymnastes* (*Paragymnastes*) *schmidiana* Alexander; venation.  
29. *Rhabdomastix* (*Rhabdomastix*) *schmidiana* Alexander; venation.  
30. *Cryptolabis* (*Bæoura*) *triquetra* Alexander; venation.  
31. *Erioptera* (*Ilisia*) *grumula* Alexander; venation.  
32. *Styringomyia obscura* Brunetti; venation.

### PLATE 3

- FIG. 33. *Dolichopeza* (*Nesopeza*) *guttulanalalis* sp. nov.; male hypopygium.  
34. *Dolichopeza* (*Nesopeza*) *palifera* sp. nov.; male hypopygium.  
35. *Limonia* (*Discobola*) *euthenia* sp. nov.; male hypopygium.  
36. *Limonia* (*Limonia*) *illumina* sp. nov.; male hypopygium.  
37. *Limonia* (*Dicranomyia*) *lakshmi* sp. nov.; male hypopygium.  
38. *Gonomyia* (*Ellipteroides*) *pictilis* Alexander; male hypopygium.  
39. *Gonomyia* (*Gonomyia*) *serindibensis* Alexander; male hypopygium.

40. *Gonomyia* (*Idiocera*) *petilis* sp. nov.; male hypopygium.
41. *Gonomyia* (*Lipophleps*) *lanka* Alexander; male hypopygium.
42. *Gonomyia* (*Lipophleps*) *hedys* Alexander; male hypopygium.
43. *Gonomyia* (*Lipophleps*) *nexosa* sp. no.; male hypopygium.
44. *Gonomyia* (*Lipophleps*) *pratapi* sp. nov.; male hypopygium.
45. *Gymnastes* (*Paragymnastes*) *maya* Alexander; male hypopygium.
46. *Gymnastes* (*Paragymnastes*) *simhalæ* Alexander; male hypopygium.

## PLATE 4

- FIG. 47. *Cheilotrichia* (*Empeda*) *paratythos* Alexander; male hypopygium.
48. *Cryptolabis* (*Bæoura*) *triquetra* Alexander; male hypopygium.
  49. *Erioptera* (*Ilisia*) *grumula* Alexander; male hypopygium.
  50. *Erioptera* (*Erioptera*) *impensa* Alexander; male hypopygium.
  51. *Molophilus* (*Tasiocerellus*) *kandyensis* Alexander; male hypopygium.
  52. *Molophilus* (*Molophilus*) *rachius* Alexander; male hypopygium.
  53. *Molophilus* (*Molophilus*) *veddah* sp. nov.; male hypopygium.
  54. *Molophilus* (*Molophilus*) *wejaya* sp. nov.; male hypopygium.
  55. *Molophilus* (*Molophilus*) *yakkho* sp. nov.; male hypopygium.
  56. *Styringomyia* *obscura* *Bruneti*; male hypopygium.
  57. *Styringomyia* *nepalensis* Edwards; male hypopygium.



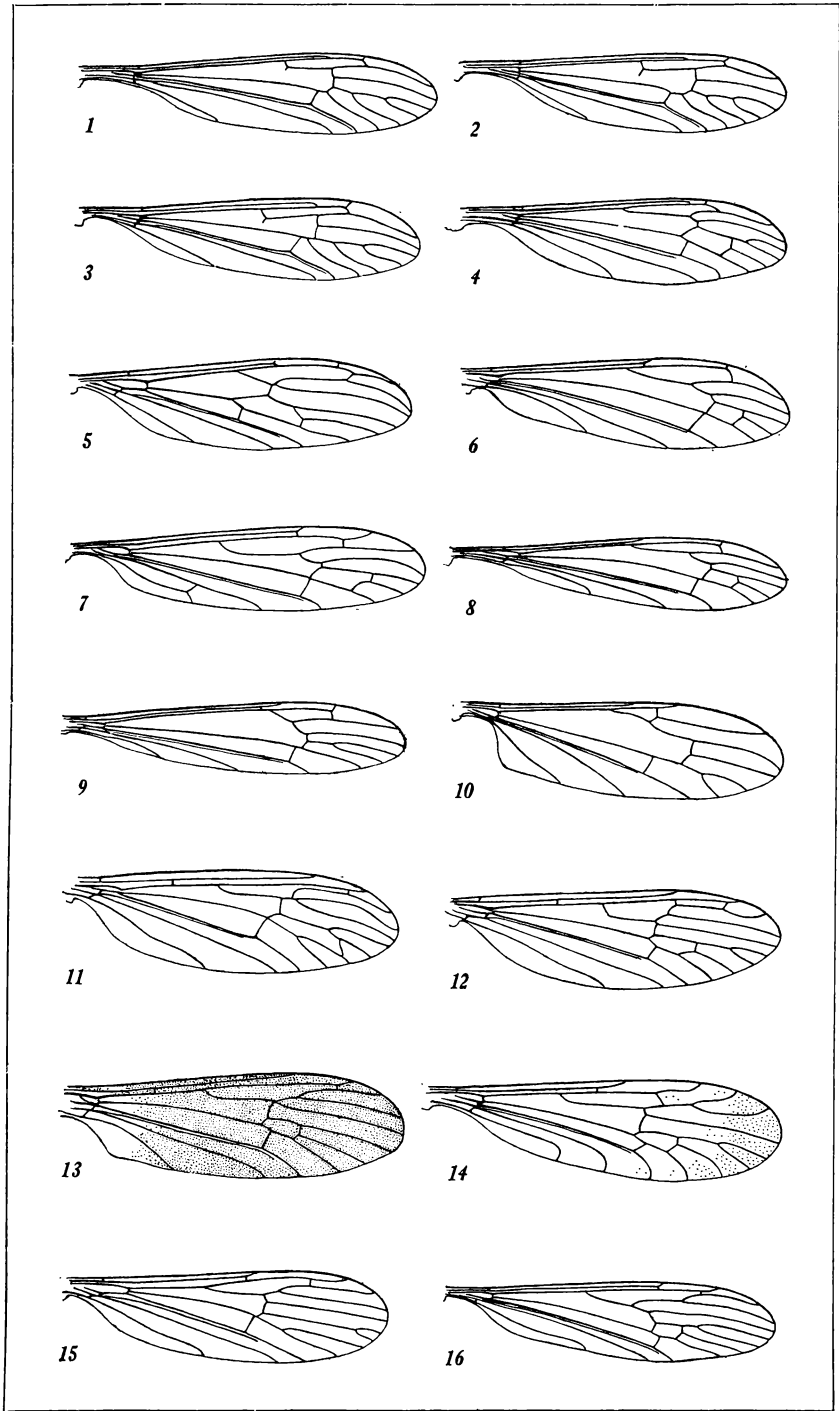
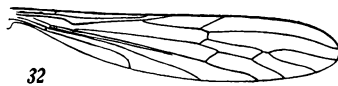
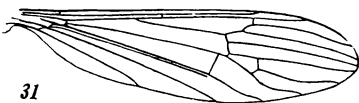
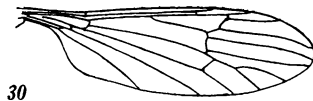
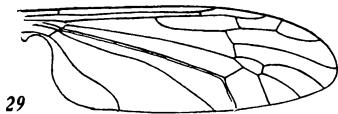
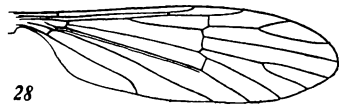
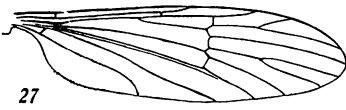
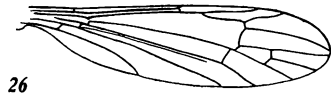
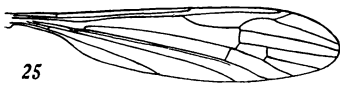
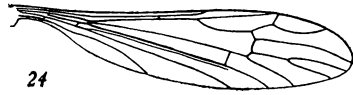
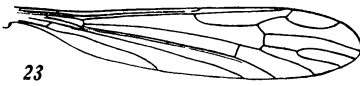
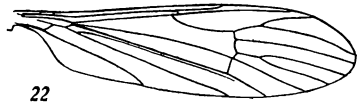
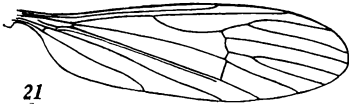
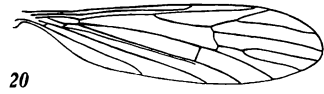
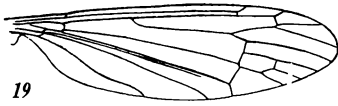
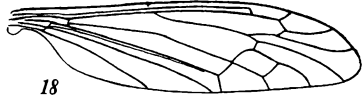
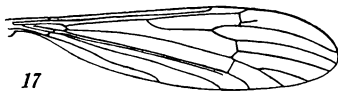


PLATE 1.



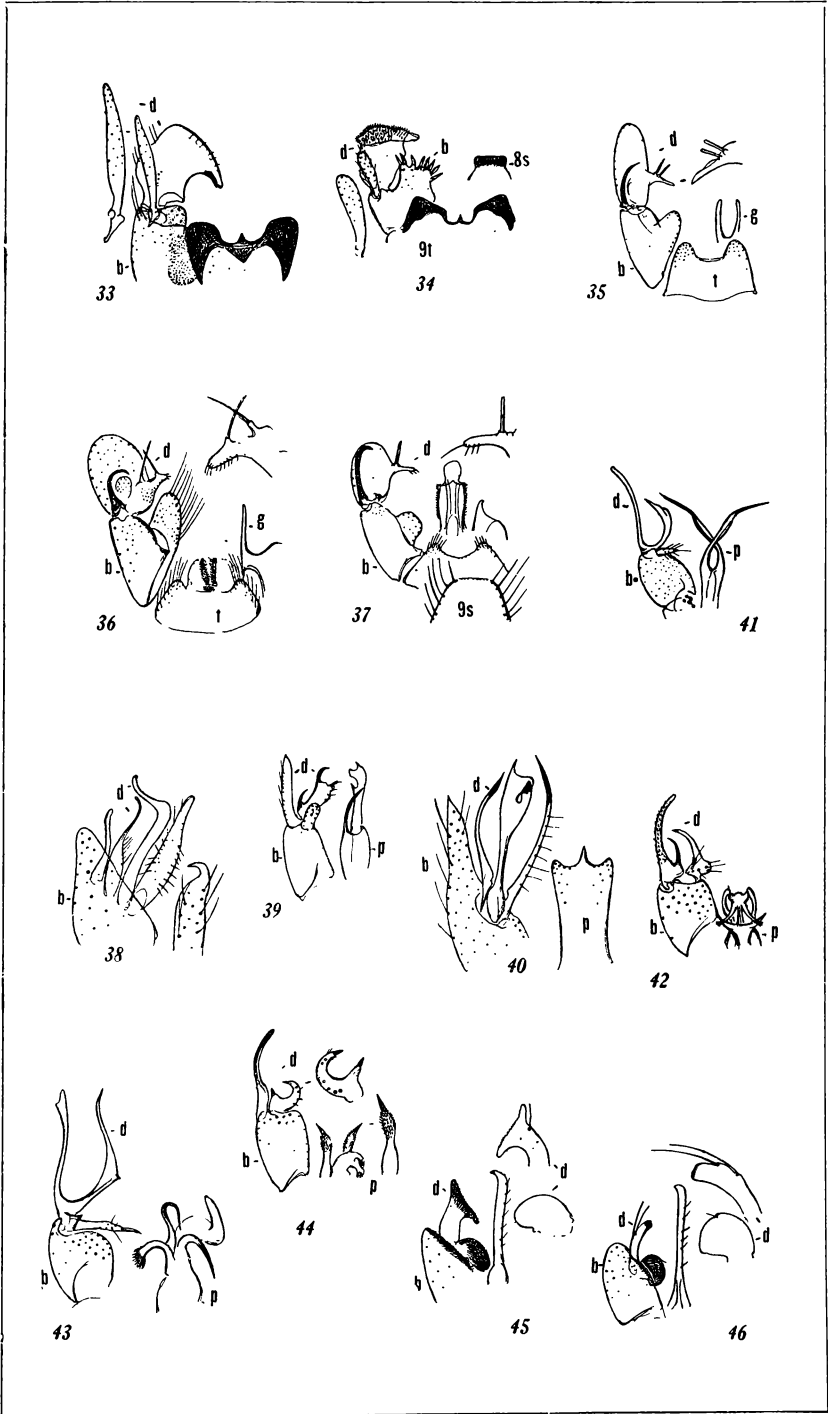


PLATE 3.

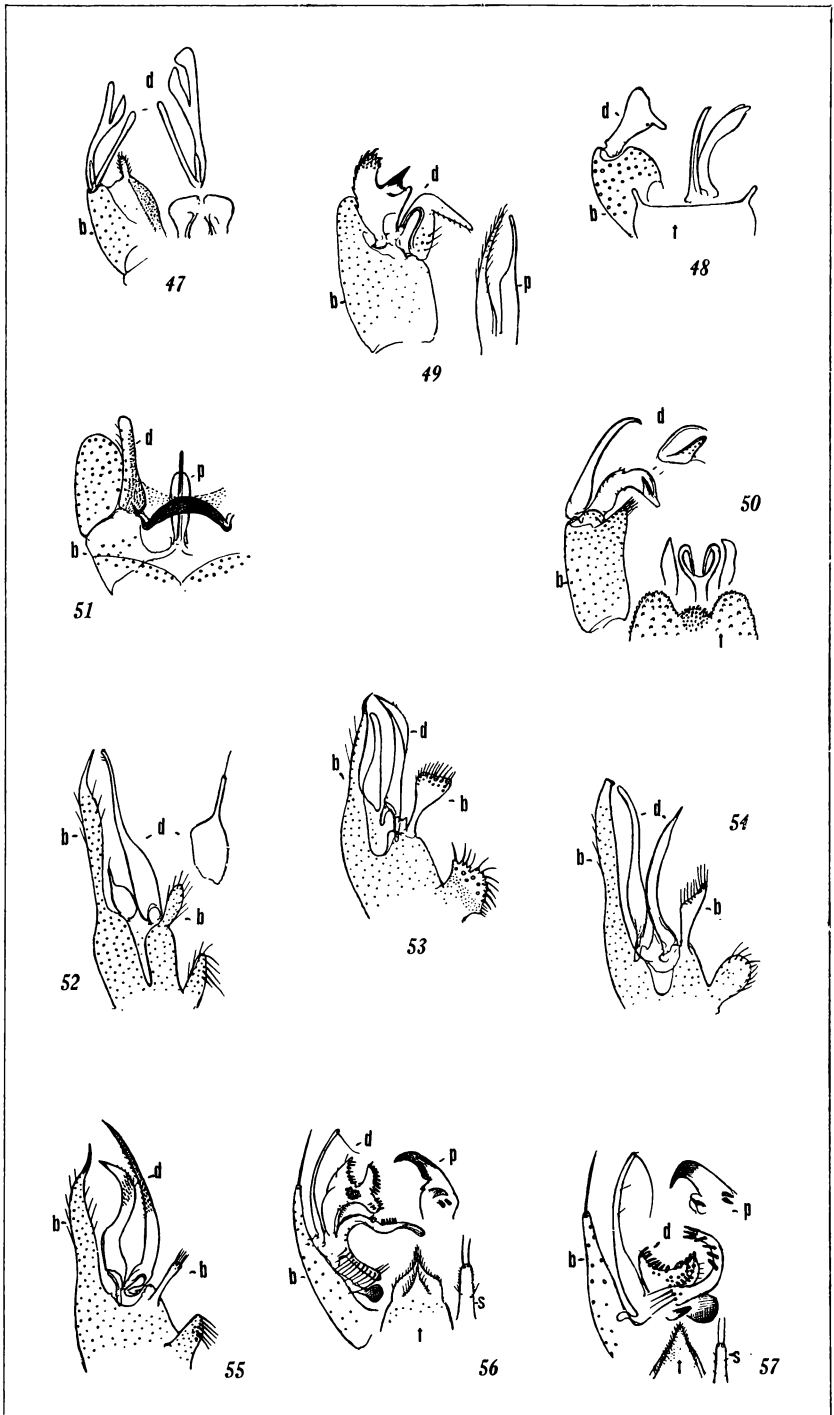


PLATE 4.