

[3.0018]

## NEW EXOTIC CRANE-FLIES (TIPULIDAE: DIPTERA)

Part XIX <sup>1</sup>Charles P. Alexander <sup>2</sup>

The preceding part under this general title was published in *Entomological News*, vol. 80 (10): 259-264. In the present paper I am continuing the studies on the Hexatomine crane-flies of India collected by Dr. Fernand Schmid and have included one further species from Thailand. Types of the species are preserved in the Alexander Collection.

**Taiwanomyia inobsepta, NEW SPECIES**

Size small (length of female about 4 mm); mesonotum brownish yellow, pleura ventrally light yellow, above with a conspicuous dark brown longitudinal stripe; legs obscure yellow; wings weakly infuscated, costal region more yellowed, veins  $R_{2+3+4}$ ,  $R_{2+3}$  and  $R_{1+2}$  subequal, elongate, cell  $M_1$  lacking,  $M_2$  open by atrophy of  $m$ ; abdominal tergites dark brown, sternites yellowed; valves of ovipositor very long.

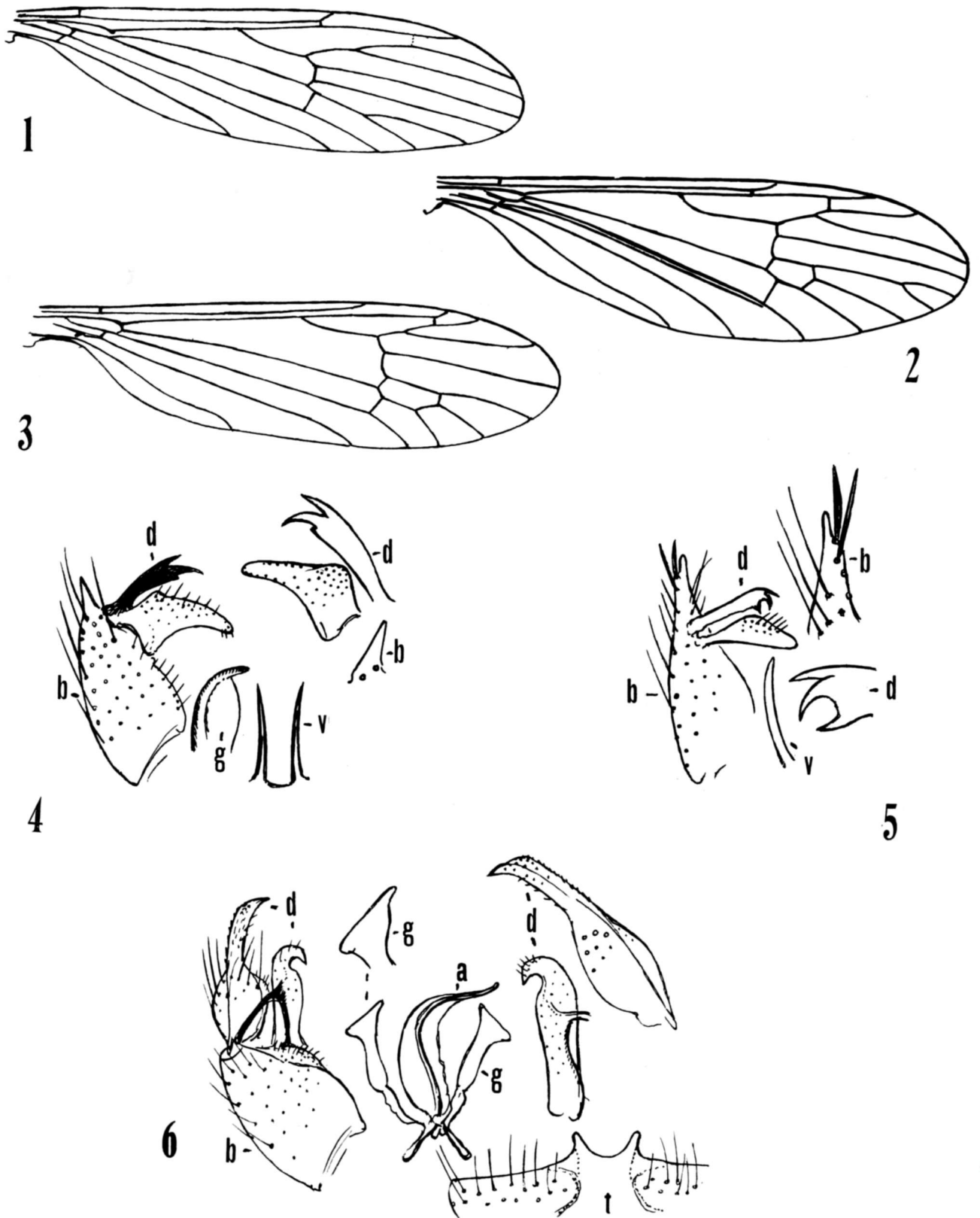
*Female*.— Length about 4 mm; wing 4.2 mm; antenna about 1.4 mm.

Rostrum obscure yellow, palpi yellowish brown, relatively long. Antennae with scape brownish black, pedicel obscure yellow, flagellum medium brown; flagellar segments cylindrical, longer than their verticils on proximal segments, shorter outwardly. Head medium brown.

Pronotum obscure yellow. Mesonotum almost uniformly brownish yellow, without distinct pattern. Pleura ventrally light yellow, above with a conspicuous dark brown longitudinal stripe extending from cervical region to base of abdomen, dorsopleural region obscure yellow. Halteres with stem yellowed, knob infuscated, darker at apex. Legs with all coxae and trochanters clear light yellow; remainder of legs obscure yellow. Wings (Fig. 1) weakly infuscated, prearcular and costal regions more yellowed; veins light brown, slightly paler in costal field. Venation:  $Sc$  long,  $Sc_1$  ending about opposite midlength of

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Figures 1-6.— Fig. 1. *Taiwanomyia inobsepta*, new species; venation. Fig. 2. *Paradelphomyia (Oxyrhiza) angustistyla*, new species; venation. Fig. 3. *Limnophila (Prionolabis) habrosyne* new species; venation. Fig. 4. *Paradelphomyia (Oxyrhiza) angustistyla*, new species; male hypopygium. Fig. 5. *Paradelphomyia (Oxyrhiza) bigladi*, new species; male hypopygium. Fig. 6. *Limnophila (Prionolabis) habrosyne*, new species; male hypopygium.

(Symbols: *a*, aedeagus; *b*, basistyle; *d*, dististyle; *g*, gonopophysis; *t*, 9th tergite; *v*, ventral fork.)

$R_{2+3+4}$ ,  $Sc_2$  slightly removed;  $R_{2+3+4}$ ,  $R_{2+3}$  and  $R_{1+2}$  long, subequal or the last a little shorter, vein  $R_2$  virtually atrophied, apparently far distad (its position indicated by stippling;  $Rs$  greatly arcuated, about one-fourth longer than the nearly straight  $R_{2+3+4}$ ; cell  $M_1$  lacking; cell  $M_2$  open by atrophy of  $m$ ;  $m-cu$  about one-half its length beyond the fork of  $M$ ; cell  $2nd A$  moderately broad.

Abdominal tergites dark brown, sternites yellowed. Ovipositor with valves very long, the cerci unusually slender.

*Habitat.*— Thailand. Holotype: ♀, Chiangmai, at Dr. Buker's cabin, February 4, 1953 (Manop).

The regional *Taiwanomyia perpendicularis* Alexander and *T. perretracta* Alexander differ from the present fly in venation and in coloration details.

### Paradelphomyia (Oxyrhiza) angustistyla, NEW SPECIES

Allied to *newar*; general coloration of mesonotum obscure yellow, praescutum with a broad brown median stripe; antennae 16-segmented, dark brown; legs yellow; wings weakly tinted with pale brown, outer cells with abundant macrotrichia; abdominal tergites dark brown, sternites and hypopygium yellow; male hypopygium with dististyles subterminal, outer style with two major outer spines and a further macroscopic denticle, inner style strongly narrowed outwardly.

*Male.*— Length about 5.5 mm; wing 6 mm; antenna about 1.2 mm.

Rostrum light brown; palpi black. Antennae with scape light brown, remainder dark brown; 16 segmented, proximal four or five flagellar segments short and stout, outer ones elongate, shorter than their verticils. Head light gray; anterior vertex broad.

Pronotum dark brown, sides yellowed. Mesonotum obscure yellow, praescutum with a brown median stripe, centers of scutal lobes less evidently darkened. Pleura yellow. Halteres with stem yellow, knob infuscated. Legs with coxae and trochanters yellow, remainder of legs yellow, outer tarsal segments slightly more darkened. Wings (Fig. 2) weakly tinted with pale brown, prearcular and costal fields more yellowed, stigma only slightly darker; veins light brown. Outer wing cells from  $R_2$  to  $1st A$  with abundant macrotrichia. Venation:  $R_{2+3}$  and  $R_2$  subequal; cell  $M_1$  nearly one-half its petiole;  $m-cu$  before midlength of  $M_{3+4}$ .

Abdominal tergites dark brown, sternites and hypopygium yellow. Male hypopygium (Fig. 4) with basistyle,  $b$ , produced apically into a small acute pale point. Dististyles,  $d$ , subterminal, outer style blackened, with two major apical spines, the lower one longer, with a barely indicated microscopic denticle on lower margin at its base; inner style conspicuously narrowed outwardly, apex slender, outer margin beyond base produced into a low lobe. Gonapophysis,  $g$ , with lateral margins narrowly sclerotized, darker in color than remainder of blade. Spines of ventral fork,  $v$ , of moderate length, slender.

*Habitat.*— India. Holotype: ♂, Kulara, Pauri Garhwal, Kumaon, 12,000 feet, August 3, 1958 (Schmid).

The most similar species is *Paradelphomyia (Oxyrhiza) newar* Alexander,

of Nepal and Sikkim, which differs evidently in the structure of the hypopygium, including the broad-based apical spine of the basistyle and in both dististyles, the outer style being simply bispinous, the inner one with apex broadly obtuse, its outer margin glabrous, with a low flange.

### **Paradelphomyia (Oxyrhiza) bigladia, NEW SPECIES**

Allied to *discalis*; general coloration uniformly pale yellow; wings subhyaline, with a barely evident darkening over the anterior cord, macrotrichia of wing cells virtually lacking; male hypopygium with basistyle produced beyond bases of dististyles as a narrow hyaline point, outer dististyle narrow, pale, with only the three apical points darkened.

*Male.*— Length about 5-5.2 mm; wing 5.8-6 mm.

Rostrum light yellow, palpi pale brown. Antennae brownish yellow, flagellar verticils long and conspicuous. Head brownish yellow.

Thorax uniformly pale yellow. Halteres and legs yellow, the terminal tarsal segment darkened. Wings subhyaline, veins pale yellow; a barely indicated darkening over anterior cord including *r-m* and basal section of  $R_5$ . Macrotrichia of wing cells virtually lacking, in cases with very few scattered trichia in outer ends of cells  $R_4$  and  $R_5$ . Venation: Cell  $R_3$  deep, branches only slightly divergent; cell  $M_1$  present, small; *m-cu* at near mid-length of  $M_{3+4}$ .

Abdomen, including hypopygium, yellow. Male hypopygium (Fig. 5) much as in *discalis*, differing in details. Basistyle, *b*, produced beyond bases of dististyles as a narrow hyaline point with several long setae, the two outermost shorter, dilated into narrow blades, the outer one at base of a final slight extension of the style. Outer dististyle, *d*, narrow, pale, the three apical spines darker; inner style and ventral fork about as in *discalis*.

*Habitat.*— Sikkim. Holotype: ♂, Lathong, 6,560 feet, July 26, 1959 (Schmid). Paratopotypes, 2 broken specimens, with type; paratypes, 2 ♂♂, Chateng, 8,000 feet, July 28, 1959 (Schmid).

Most nearly related to *Paradelphomyia (Oxyrhiza) discalis* Alexander, differing in the details of hypopygial structure.

### **Paradelphomyia (Oxyrhiza) dolonigra, NEW SPECIES**

Allied to *dissita*; size large (wing of male 7.5 mm); entire body very dark brown; antennae relatively long, outer flagellar segments elongate with very long verticils; wings weakly tinged with brown, costal border more yellowed, outer wing cells with abundant trichia; male hypopygium with outer dististyle relatively stout beyond base, with two strong terminal spines; points of ventral fork long and straight.

*Male.*— Length about 6.5 mm; wing 7.5 mm; antennae about 1.5 mm.

Rostrum and palpi brown. Antennae relatively long, brown, flagellum slightly paler; proximal three flagellar segments enlarged, progressively smaller outwardly, succeeding segments elongate with very long verticils, the extreme being about one-half longer than the segment. Head dark brown.

Thorax almost uniformly very dark brown, praescutum, scutal lobes and pleura brownish black. Halteres with stem yellowed, apex of knob weakly darkened. Legs with fore coxae blackened, remaining coxae and all trochanters light yellow, the latter with a blackened mark on posterior face; remainder of legs brownish yellow, outer tarsal segments brownish black. Wings weakly tinged with brown, prearcular and costal fields more yellowed, stigma pale brown; veins brown. Macrotrichia of wing cells unusually abundant, extending from above the stigma in cell *C* into cell *M*<sub>4</sub>. Venation: *Sc*<sub>1</sub> ending opposite fork of *Rs*, *Sc*<sub>1</sub> long, subequal to *R*<sub>2+3+4</sub>, *R*<sub>2</sub> not apparent; cell *M*<sub>1</sub> about one-half its petiole; *m-cu* immediately before midlength of *M*<sub>3+4</sub>.

Abdomen dark brown, hypopygium very slightly paler brown. Male hypopygium with outer dististyle relatively stout beyond base, with two strong terminal spines and an isolated erect point on inner margin at near two-thirds the length. Gonapophyses very broad, inner margin membranous. Points of ventral fork long and straight.

*Habitat.*— India. Holotype: ♂, Shergaon, Kameng, North East Frontier Agency, Assam, 6,400 feet, May 8, 1961 (Schmid).

The most similar species is *Paradelphomyia (Oxyrhiza) dissita* Alexander, of Pakistan, which is distinguished by the small size, general coloration, and in the details of the male hypopygium.

### ***Limnophila (Prionolabis) habrosyne*, NEW SPECIES**

Size medium (wing of male about 6 mm); general coloration of body polished black; antennae short, only slightly longer than the head; legs with femoral bases yellow, tips broadly black; wings before cord light yellow, outer fifth weakly darkened, stigma and a seam over cord still darker, cell *M*<sub>1</sub> lacking; male hypopygium with posterior border of tergite produced into two slender lobes; outer fourth of inner dististyle curved to form a crook-shaped structure.

*Male.*— Length about 4.2-4.5 mm; wing 5.8-6 mm; antenna about 1.2-1.3 mm.

*Female.*— Length about 6 mm; wing 7 mm.

Rostrum and palpi black. Antennae 15 segmented, black, short, only slightly longer than the head; flagellar segments short-oval, crowded, the more proximal ones about as long as broad, the outer segments smaller and very slightly longer, terminal segment more elongate. Head polished black.

Thorax polished black, very restrictedly gray pruinose on posterior praescutal interspaces and less evidently elsewhere. Halteres pale yellow. Legs with coxae black, trochanters brownish yellow; femora yellow, tips broadly black, on fore and middle pairs including about the outer two-thirds, on posterior legs about the outer third; tibiae obscure yellow, tips narrowly brownish black; tarsi pale brown, outer segments darker. Wings (Fig. 3) with cells before cord light yellow, outer fifth weakly more darkened; stigma and



seams over cord and outer end of cell *1st M*<sub>2</sub> slightly darker brown; veins clear light yellow in the ground, yellowish brown in the patterned areas. Venation: *Rs* from three to four times *R*<sub>2+3+4</sub>; cell *M*<sub>1</sub> lacking; *m-cu* at near one-third *M*<sub>3+4</sub>.

Abdomen uniformly polished black. Male hypopygium (Fig. 6) with central region of posterior border of tergite, *t*, produced into two slender lobes that are separated by a U-shaped emargination. Outer dististyle, *d*, with base enlarged, suboval, outer half a straight black rod, its tip suddenly narrowed into an acute point, outer surface with setae and microscopic roughened points; inner style about two-thirds as long, straight, outer fourth more narrowed and arcuated, crook-shaped. Gonapophysis, *g*, expanded at apex into an irregularly triangular blade. Aedeagus, *a*, narrow, apical third narrowed.

*Habitat.*— India. Holotype: ♂, Nyukmadong, Kameng, North East Frontier Agency, Assam, 6,800 feet, April 19, 1961 (Schmid). Allotype: ♀, Rahung, Kameng, 7,000 feet, April 25, 1961. Paratopotypes, 3 ♂♂, 6,600-8,000 feet, April 18-20, 1961. Paratypes, 1 ♂, 1 ♀, Jhum La, Kameng, 7,800 feet, May 13, 1961 (Schmid).

*Limnophila (Prionolabis) habrosyne* is quite distinct from other regional members of the subgenus having cell *M*<sub>1</sub> of the wings lacking, including *L. (P.) coracina* Alexander, *L. (P.) fletcheri* Senior-White, and *L. (P.) mecocera* Alexander. It differs most evidently in the short antennae, wing pattern and in the details of the hypopygium, particularly the tergite and inner dististyle.

2.0018 New exotic crane-flies (Tipulidae: Diptera), part XIX. Abstract.— Continued studies on the Hexatomine crane-flies of India and one species from Thailand; five new species are described.— C. P. Alexander, *Entomological Laboratory, University of Massachusetts, Amherst, Mass. 01002.*

*Descriptors:* Diptera; Tipulidae; Hexatominae; *Taiwanomyia inobsepta*; *Paradelphomyia (Oxyrhiza) angustistyla*; *Paradelphomyia (Oxyrhiza) bigladi*; *Paradelphomyia (Oxyrhiza) dolonigra*; *Limnophila (Prionolabis) habrosyne*; India; Thailand; Sikkim.