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THE CRANE FLIES (TRICHO CERIDAE AND TIPULIDAE : DIPTERA)

By CHARLES P. ALEXANDER, Amherst (Massachusetts, U. S. A.)

With 2 plates

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I am indebted to Professor Doctor HEINZ JANETSCHKEK, of the Institut für Zoologie at the University of Innsbruck, Austria, for the privilege of studying the crane flies that he had collected while serving as leader of the second team of the Forschungsunternehmen Nepal Himalaya (Research Scheme Nepal Himalaya — R S N H) during May and June 1961. The number of specimens available in this particular group of the Diptera is slightly in excess of 100, the materials having been preserved dry in paper triangles and in alcohol, a small proportion of the latter having been pinned later for safer preservation. From these materials I have been able to identify 33 species together with a few further specimens that were determinable only to the genus. Because of the great difficulties in collecting and preservation many of the specimens were in very poor condition and several were mounted on microscope slides for study. Eight species are described as new, the types being returned to Professor JANETSCHKEK for preservation in the Institut collections, together with representatives of the previously described species.

Paratypes, and duplicates of the previously described species have been forwarded on by Prof. JANETSCHKEK to the Zoologische Staatssammlung München, for preservation in the Museum collections.

Duplicates and parts of specimens of certain of these species have been retained in my personal collection of these flies. I express my sincere thanks to Professor JANETSCHKEK for the opportunity of studying this unusually interesting series of Himalayan crane flies. A preliminary account of the itinerary and work of the expedition has been published (JANETSCHKEK, 1962; references at conclusion of this introductory statement) and the various reports that consider the scientific results presently are appearing in a series of papers in Khumbu Himal.

During the Nineteenth Century only a few species of *Tipulidae* had been described from Nepal, the earliest being *Hexatoma (Eriocera) nepalensis* (WESTWOOD, 1835), which was included in the present collection. Other early materials from Nepal included *Tipula (Formotipula) melano-mera* WALKER, 1848, *Tipula (Indotipula) fulvipennis* WALKER, 1848 (pre-occupied and re-named *T. (I.) walkeri* BRUNETTI, 1911), and *Tipula (Vestiplex) reposita* WALKER, 1848. At the beginning of the present century a few further species were described, including *Xipholimnobia nepalensis* (BRUNETTI, 1918, as *Lechria*), *Styringomyia obscura* BRUNETTI, 1911, and *S. nepalensis* EDWARDS, 1914. The first collections of importance from Nepal were made by Doctor EDWARD I. COHER and assistants in 1956 and 1957 while members of the World Health Organization, the majority of the specimens having been taken in the Mahabharat Range at and near Simbhanjang Pass, 8200 to 8800 feet. Descriptions of the numerous new species have been included in papers by the writer (ALEXANDER, 1956, 1957, 1958 and 1959, in list of references).

The highest altitude at which Professor JANETSCHKEK found these flies was at 5250 meters (17,060 feet) where a species of *Trichocera*, probably *versicolor* LOEW, was captured, as discussed later under that name. This altitude is slightly higher than the station in Sikkim where the type of *Tipula (Sinotipula) hypsistos* ALEXANDER was captured (at Gurudongmar Cho, 17,000 feet,

by FERNAND SCHMID) but lower than the type locality for *Limonia (Dicranomyia) perexcelsior* ALEXANDER in the Bolivian Andes (Illimani, 5600 meters — 18,200 feet, taken in May 1950 by WALTER FORSTER) which is the highest altitude at which these flies are known to occur (see ALEXANDER, 1962, Veröff. Zool. Staatssamml. München, 7: 100—102).

TRICHO CERIDAE

The small family *Trichoceridae*, commonly known as the winter crane flies, is well represented in the Himalayas at high altitudes, six species being represented in the present materials. Attention is called to a recent paper by Dr. CHRISTINE DAHL on the Swedish species of the family (1966: Opuscula Entomologica 31: 93—118, 72 figs.) DAHL has proposed a new generic group, *Metatrachocera*, to receive those species formerly placed in *Trachocera* MEIGEN that have complicated outgrowths on the outer portion of the dististyle of the male hypopygium. Since the two groups obviously are very closely related I would prefer to recognize the new name as representing a subgenus of the older group. Several species of *Metatrachocera* are found in the Himalayas but none was included in the present materials.

Paracladura kumaonensis ALEXANDER

Paracladura kumaonensis ALEXANDER, 1959. Bull. Brooklyn Ent. Soc. 54: 129—130.

The types were from various stations in Pauri Garhwal, Kumaon, in the western Himalayas, between 6400 and 10,000 feet. Known also from Sikkim, between 12,000 and 14,100 feet, taken by SCHMID.

NEPAL: Base camp, (Yaral) near Pangpoche, about 3900 meters, May 13, 1961; an alcoholic ♂; 61/55.

Trachocera reticulata ALEXANDER

Trachocera reticulata ALEXANDER, 1933: Philippine Jour. Sci. 50: 129—130, pl. 1, fig. 1 (venation).

Described from Mount Omei, Szechwan, China. In the Himalaya as far west as Sikkim and Nepal.

In the present materials, preserved in alcohol, the knobs of the halteres appear yellowed whereas those in the type are infuscated. Despite this difference I regard the identity as being correct.

NEPAL: Base camp, (Yaral) near Pangpoche, about 3900 meters, at light, May 29, 1961; alcoholic ♀♀; 61/72; same station at 4100 meters, in formalin trap in highest woods of *Rhododendron*, *Betula*, and conifers, in operation April-May 1961; alcoholic ♀♀; 61/262.

TRICHO CERA TRIANGULARIS nov. spec.

General coloration in alcohol brownish yellow to light brown; halteres pale; legs brownish yellow; wings whitish hyaline with a faint darkened cloud over the anterior cord and adjoining veins; r-m long, slightly oblique, inner end of cell 1st M₂ pointed; basal abdominal segments pale, seven and eight light brown; cerci pale, triangular in lateral aspect, shaped like an arrowhead, the dorsal and ventral margins straight.

Female. — Length about 8 mm; wing 9 mm; antenna about 4 mm.

Described from the alcoholic type specimen. Rostrum brown; palpi beyond the first segment whitened, especially the terminal one. Antennae with scape and pedicel light brown, flagellum pale. Head brown, summit of the tubercle darker.

Pronotum obscure yellow. General coloration of mesonotum and pleura brownish yellow, lateral and humeral areas of praescutum clearer yellow. Halteres elongate, pale, the knob not or scarcely darker. Legs with coxae and trochanters light brown, remainder of legs brownish yellow. Wings (Plate 1, fig. 1) broad, whitish hyaline, with a faint darkened cloud over anterior cord, fork of Rs and R_2+3+4 , best indicated by the darker brown veins; a barely evident very pale brown cloud in cell *R* beneath the origin of *Rs*; veins pale brown, except as indicated. Venation: R_1+2 longer than R_2+3 ; *r-m* long, slightly oblique; cell 1st M_2 large, widened outwardly, basal section of M_1+2 oblique, the cell pointed at base; cell 2nd *A* relatively narrow.

Abdomen with proximal six segments pale, the posterior borders of tergites very narrowly to barely darker, segments seven and eight light brown; cerci pale. Ovipositor with cerci (Plate 1, fig. 5) as viewed laterally triangular in outline, shaped like an arrowhead, both the dorsal and ventral margins straight, apex narrowly obtuse.

Holotype, alcoholic ♀, in poor condition, at Base Camp (Yaral) near Pangpoche, about 3900 meters, May 25, 1961 (JANETSCHKE); 61/206.

Trichocera triangularis is quite distinct from other members of the genus in the conformation of the ovipositor where the outline of the cercus is almost as in the genus *Paracladura* BRUNETTI. There is no question of the generic assignment. Two species of the genus described from Kashmir at high altitudes still are known only from the male sex but are distinct from the present fly in body coloration and venational details. The species in question are *Trichocera abieticola* ALEXANDER and *T. glacialis* ALEXANDER (1935: Philippine Jour. Sci. 58: 386—389).

Trichocera variata ALEXANDER

Trichocera variata ALEXANDER, 1961: Brooklyn Ent. Soc. 56: 125—126.

The types were from high altitudes in the western Himalayas, 7000—12,000 feet, in Kumaon, India, collected by FERNAND SCHMID.

NEPAL: Base camp, (Yaral) near Pangpoche, about 3900 meters, May 13, 1961; alcoholic; 61/55.

Trichocera versicolor LOEW

Trichocera versicolor LOEW, 1871: Beschr. Europ. Dipt., 2: 17.

Trichocera punctipennis BRUNETTI, 1912. Fauna British India, Diptera Nematocera. p. 511, pl. 10, fig. 13 (wing).

Trichocera versicolor EDWARDS, 1928: Genera Insectorum (Wytsman). Diptera. Fam. Protorhyphidae, Anisopodidae, Pachyneuridae, Trichoceridae. Fasc. 190: 35.

LOEW's type of *versicolor* was from Central Europe. BRUNETTI's types of *punctipennis* were from Simla in the western Himalayas. The species is not uncommon in the western and central Himalayas.

NEPAL: Mingbo Valley, in dwarf heath of old moraine, 4530 meters, in formalin trap set during May and June; alcoholic ♀; 61/268. This is below the base camp of Sir E. HILLARY on the Makalu Expedition 1961.

Above base camp (Yaral) near Pangpoche, about 4100 meters, in woods comprised of low *Rhododendron*, *Betula* and conifers; in formalin trap set April 5th, removed May 30, 1961; alcoholic ♀♀; 61/262.

A badly damaged specimen probably of this species, taken on the highest grass heath of the Mingbo Valley, on the route to the Green Hut of the HILLARY Expedition, 5250 meters (17,060 feet), in formalin trap set during May and June 1961; 61/287. As was indicated in the introductory statement this was the highest altitude where crane flies were taken in Nepal.

Trichocera species

NEPAL: Base camp, (Yaral) near Pangpoche, about 3900 meters, at light May 12, 13 and 29, 1961; ♀♀ in poor condition, 61/54, 55, 72.

This species suggests *variata* but evidently is distinct. The extreme tips of the femora are pale and there is faint darkened cloud on wings over the r-m crossvein.

TIPULIDAE

This family is the largest in the order Diptera, with approximately 13,000 species described or in press at this time. It includes the subfamilies *Tipulinae*, *Cylindrotominae* and *Limoniinae*, all but the second being well represented in the collection. The *Limoniinae* includes five tribes, the *Limoniini*, *Lechriini*, *Pediciini*, *Hexatomini* and *Eriopterini*, all being in the present materials.

TIPULINAE

Ctenacroscelis cressida ALEXANDER

Tipula serricornis BRUNETTI, 1912: Fauna British India, Diptera Nematocera, pp. 309—310 (preoccupied by *Tipula serricornis* ZETTERSTEDT, 1838, and *Tipula serricornis* MACQUART, 1846).

Ctenacroscelis serricornis EDWARDS, 1932: Stylops, 1: 149.

Ctenacroscelis cressida ALEXANDER, 1952: Rec. Indian Mus., 50: 325 (new name for *Tipula serricornis* BRUNETTI).

The types of *serricornis* were from Naini Tal, in the western Himalayas. The species is widely distributed in the western and central Himalayas.

NEPAL: Return march near Bhandar (= Changma), before Chyangma Deorali, about 2200 meters, June 13, 1961; one badly damaged pinned specimen and one alcoholic female; 61/118.

The genus *Ctenacroscelis* ENDERLEIN (1912) includes the largest known *Tipulidae* and are among the largest of existing *Diptera*. Edwards (1932: Stylops, 1:145—150) from the Indian subregion recognized 17 species distributed in five species groups, the present fly belonging to the *serratus* group. At present about 35 species are known to me from this subregion with several others still undescribed in my personal collection.

NEPHROTOMA BREVISTERNATA nov. spec.

General coloration of thorax yellow, the praescutum with three dark brown stripes, the lateral pair straight, scutellum, postnotum and pleura pale yellow; legs yellowed, tips of femora blackened, most extensive on fore legs where the outer three-fifths is included, claws simple; wings subhyaline, stigma barely indicated; abdomen yellow, the eighth sternite and pleural membrane darker; male hypopygium with ninth sternite produced into a stout lobe; gonapophysis elongate, outer half scabrous, the two together appearing lyriform; posterior margin of eighth sternite with a small semicircular pale lobe with microscopic punctures.

Male. — Length about 9–10 mm; wing 9–11 mm; antenna about 3–3.2 mm.

Described from alcoholic specimens. Frontal prolongation of head yellow, nasus dark brown, tufted with long setae; palpi with proximal three segments light brown, the incisures paler, terminal segment elongate, pale, the extreme tip darkened. Antennae with scape and pedicel yellow, flagellum brownish black, the outer segments somewhat paler; flagellar segments with basal enlargements small, verticils unusually short. Head yellow with a small brown spot on orbits at narrowest part of vertex; occipital brand brownish black, triangular.

Pronotum pale yellow. Mesonotal praescutum yellow with three brown stripes, the broader median one divided by a capillary pale vitta, lateral stripes straight, not bent outward or with a pale brown cloud, lateral ends of suture faintly darkened; scutum yellow, each lobe with two dark brown spots, the anterior one larger, scutellum and postnotum pale yellow. Pleura yellow, unpatterned. Halteres yellow. Legs with coxae and trochanters yellow; base of fore femora yellow, outer three-fifths brownish black, middle femora with the brown tips including the outer two-fifths, posterior legs the outer seventh; tibiae yellowed basally, darker outwardly; tarsi dark brown; claws simple. Wings (Plate 1, fig. 2) subhyaline, stigma barely indicated; veins brown. Venation: Cell M_1 barely sessile to short-petiolate.

Abdomen yellow, the eighth sternite and pleural membrane darkened. Male hypopygium (Plate 1, fig. 6) with posterior border of tergite, t, U-shaped, with a microscopic V-shaped central notch; margins of lobes with the usual blackened spinoid setae that are arranged in three groups on either side, as shown, the smallest near the midline on outer border of a triangular point. Ninth sternite, 9 s, produced caudad into a stout lobe, as in *longisternata*, but shorter, with shorter setae. Outer dististyle, d, with setae unusually small; inner style with beak slightly decurved, tip obtuse, lower beak small; region of outer basal lobe bearing a blackened convoluted structure. Phallosome, p, including the narrow aedeagus and long conspicuous gonapophyses, the two latter taken together appearing lyriform, outer half of each with abundant microscopic points. Eighth sternite, 8 s, with posterior extension very small, its length less than the diameter across base, surface with about 15 microscopic pale punctures.

Holotype, alcoholic ♂, return trip, Jiri-Jarsa, about 2200 meters, June 17, 1961 (JANETSCHEK); 61/126. Paratopotypes, 2 broken ♂♂, with the type. Paratypes, 1 alcoholic ♂, Karikhola, April 26, 1961; 61/126a; 1 fragmentary pinned ♂ that apparently had been in alcohol and pinned later; camp near Tate on return march, about 2900 meters, June 8, 1961; 61/94.

The most nearly related regional species is *Nephrotoma longisternata* ALEXANDER, of Sikkim, which likewise has the lyriform gonapophyses of the male phallosome, differing in several important hypopygial characters, especially the tergite, the very long setae of the lobe of the ninth sternite, smooth gonapophyses and the elongate lobe of the eighth sternite provided with numerous long conspicuous setae. The species further differs in details of coloration and in the structure of the male claws.

Nephrotoma consimilis (BRUNETTI)

Pachyrhina consimilis BRUNETTI, 1911: Rec. Indian Mus., 6: 268.

Nephrotoma consimilis ALEXANDER, 1961: Rec. Indian Mus., 59: 21.

Common and widely distributed in the Himalayas, Kumaon to Sikkim.

NEPAL: Return march, Manga Deorali, near camp Pheda Khola, about 1500–2000 meters, June 19, 1961; alcoholic ♂; 61/136.

Tipula (Acutipula) linneana ALEXANDER

Tipula (Acutipula) linneana ALEXANDER, 1965: Philippine Jour. Sci. 94 (in press, due to appear in Asia series, Part 56; dated June 1965).

The type was from Zema, Sikkim, 8900 feet, collected May 24, 1959. Also known from Kameng, North East Frontier Agency, Assam, taken by SCHMID. The wing is shown (Plate 1, fig. 3); male hypopygium (Plate 1, fig. 7).

NEPAL: Tate, on return march, about 2900 meters, June 8, 1961; pinned ♂, 61/233. Camp on Dudh Kosi, in valley below Namche Bazar (= Nauche), June 7—8, 1961; 2 pinned ♂♂, 61/259.

Tipula (Acutipula) paria SPEISER

Tipula vicaria WALKER, 1856: Ins. Saunders. 1, Dipt.: 444.

Tipula paria SPEISER, 1909: Kilimandjaro, Meru Schwed. Zool. Exped., 1905—1906; 10 *Diptera*, 4 *Orthorapha*, *Orthorapha nematocera*, p. 57. (re-naming of *vicaria* WALKER, 1856, preoccupied by *Tipula vicaria* WALKER, 1848).

Tipula munda BRUNETTI, 1912: Fauna British India, *Diptera Nematocera*, pp. 336—337.

Tipula munda EDWARDS, 1924: Rec. Indian Mus. 26: 306.

The types of *munda* were from Mussoori and the Darjiling District, India. The species has a wide distribution in the Himalayas.

NEPAL: Camp at Chyangma Deorali, in deciduous woods, about 2500 meters, June 13, 1961; 1 broken pinned specimen, 61/119. Return march, Manga Deorali, near camp Pheda Khola, about 1500—2000 meters, June 19, 1961; 1 alcoholic ♀, 61—136. Tate, about 2900 meters, June 8, 1961; 1 pinned ♂, 61—233. Above Ringmo, about 3400 meters, June 10, 1961; 2 ♀♀ on a single pin, 61—256.

Tipula (Acutipula) subvernalis ALEXANDER

Tipula fasciculata BRUNETTI, 1918: Rec. Indian Mus. 15: 269 (preoccupied by *Tipula fasciculata* RIEDEL, 1913, Abhandl. Lehrerver. für Naturkunde, Crefeld: 103).

Tipula subvernalis ALEXANDER, 1927: Rec. Indian Mus., 29: 168 (re-naming of *fasciculata* BRUNETTI).

BRUNETTI'S types of *fasciculata* were from various stations in the Darjiling District, eastern Himalayas. I have materials from stations in Pauri Garhwal, Kumaon, at high altitudes. I express my indebtedness to Dr. PAUL FREEMAN, of the British Museum (Natural History) for two drawings showing hypopygial structures of this species based on BRUNETTI'S types. The characteristic hypopygium is shown (Plate 1, fig. 8). The choice of the specific name that I proposed in 1927 is unfortunate since the fly has no close relationship with *Tipula vernalis* MEIGEN, a member of the subgenus *Lunatipula* EDWARDS. In choosing this name I was influenced by a statement by EDWARDS (1924: Rec. Indian Mus. 26: 307) where he compares BRUNETTI'S species with *vernalis*. It would appear that his use of this name was a lapsus calami for *vittata* MEIGEN, which is allied and generally similar to the present fly.

NEPAL: Chyangma Deorali, in deciduous woods, about 2500 meters, at light, July 13, 1961; 2 broken specimens, 61/119. Tate, about 2900 meters, June 8, 1961; several of both sexes, 61/233. Above Ringmo, 3400 meters, June 10, 1961, 1 ♂, and between Ringmo and Junbesi, June 10, 1961, 2 ♀♀, 61/256.

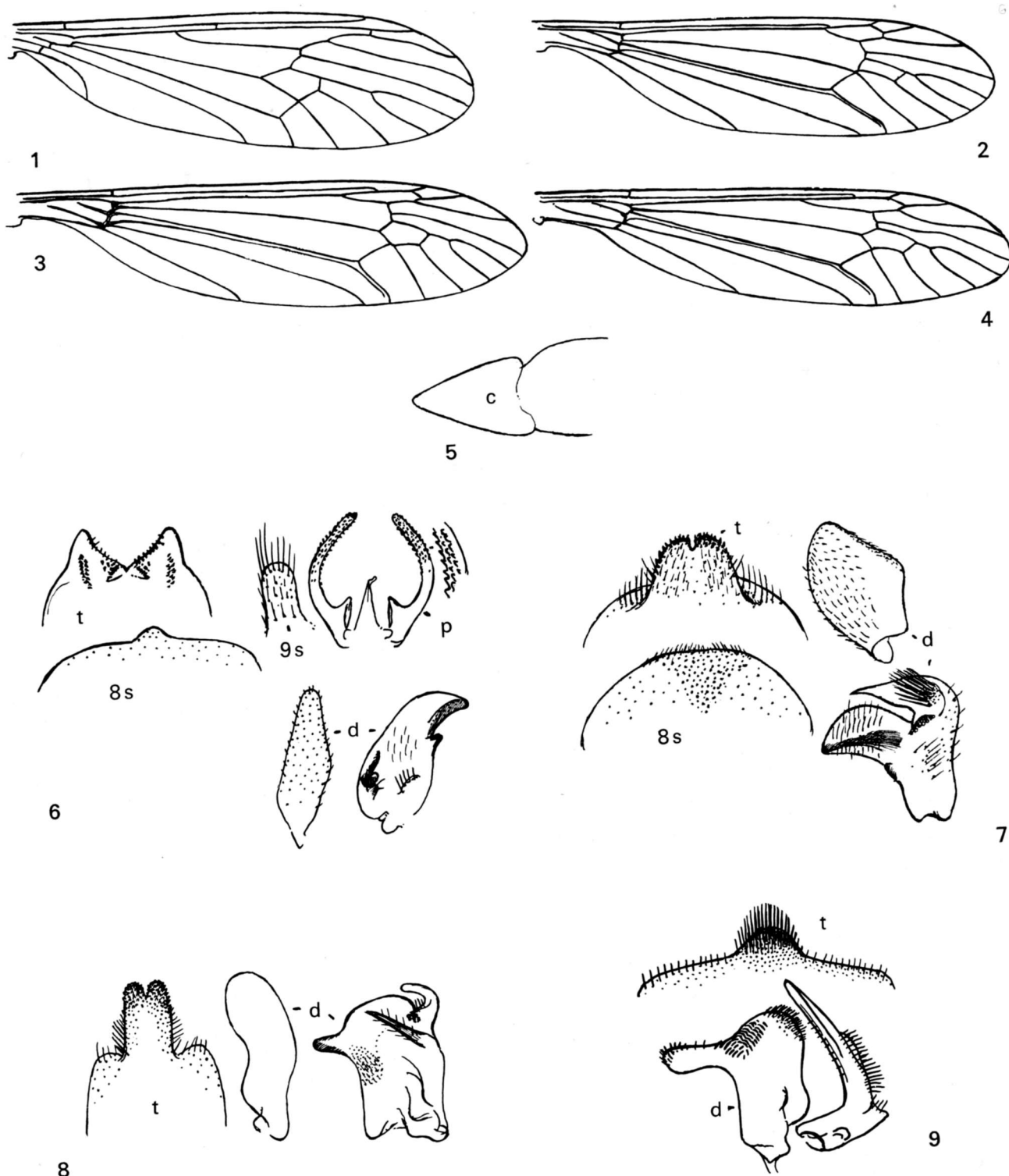


PLATE 1

(Symbols: c, cercus; d, dististyle; p, phallosome; s, sternite; t, tergite)

- Fig. 1. *Trichocera triangularis* nov. spec., venation.
- 2. *Nephrotoma brevisternata* nov. spec., venation.
- 3. *Tipula (Acutipula) linneana* ALEXANDER; venation.
- 4. *Tipula (Sinotipula) janetscheki* nov. spec., venation.
- 5. *Trichocera triangularis* nov. spec., ovipositor, lateral.
- 6. *Nephrotoma brevisternata* nov. spec., male hypopygium.
- 7. *Tipula (Acutipula) linneana* ALEXANDER, male hypopygium.
- 8. *Tipula (Acutipula) subvernalis* ALEXANDER, male hypopygium.
- 9. *Tipula (Sinotipula) janetscheki* nov. spec. male hypopygium.

Tipula (Formotipula) melanomera WALKER

Tipula melanomera WALKER, 1848: List Diptera British Mus. 1: 68.

Tipula (Formotipula) melanomera EDWARDS, 1932: Stylops 1: 238.

WALKER'S type was from Nepal (Nepaul; HARDWICKE bequest).

NEPAL: Return march, near Namdu, June 18, 1961, associated with *Hexatoma (Eriocera) gravellyi* (BRUNETTI); alcoholic ♂ ♀, 61/130. Return march, Manga Deorali, near camp Pheda Khola, about 1500—2000 meters, June 19, 1961; 2 alcoholic ♂♂, 61/136.

Tipula (sinotipula) griseipennis BRUNETTI

Tipula griseipennis BRUNETTI, 1912: Fauna British India, *Diptera Nematocera*, 321—322, pl. 5, fig. 15 (wing).

Tipula griseipennis EDWARDS, 1924: Rec. Indian Mus. 26: 305 (note on Type).

Tipula griseipennis EDWARDS, 1928: Ann. Mag. Nat. Hist. (10) 1: 687 (notes on type).

Tipula (Sinotipula) griseipennis ALEXANDER, 1935: Philippine Jour. Sci., 57: 95.

The type, a ♂, was from Badrinath, Garhwal, Kumaon, 10,200 feet, collected May 27, 1910, by A. D. IMMS.

NEPAL: Base camp (Yaral) near Pangpoche, about 3900 meters, at light, May 29, 1961; 1 pinned ♂ with hypopygium broken, 61/72. Along bank of Imja Khola, near Pangpoche (Yaral), about 3850 meters, May 31, 1961; 2 badly broken ♂♂, 61/78.

TIPULA (SINOTIPULA) JANETSCHEKI nov. spec.

Size medium (wing of male 17 mm); general coloration of thorax gray, praescutum with darker stripes, pleura patterned with darker brown and reddish brown; wings pale brown, marbled with darker brown and yellow, the latter chiefly before the cord; proximal six abdominal segments orange yellow, seven and eight brown, hypopygium paler; male hypopygium with posterior border of tergite produced into a semicircular lobe that is provided with strong black setae; outer dististyle boomerang-shaped, inner style a broad flattened plate, its inner apical angle farther produced into a lobe.

Male. — Length about 18 mm; wing 17 mm; antenna about 4.4 mm.

Frontal prolongation of head relatively long, subequal to the remainder, yellowed above, including the short nasus, lower half pale; palpi with proximal three segments light brown, terminal segment dark brown. Antennae with the long scape and pedicel light yellow, flagellar segments vaguely bicolored, bases blackened, the remainder pale brown; segments with small basal enlargements, subequal in length to their verticils. Head above light brown, orbits gray.

Pronotal scutum brown medially, paler on sides, scutellum yellow. Mesonotal praescutum gray, with four darker stripes, the intermediate pair pale brown, their lateral and internal borders brownish black, lateral stripes more uniformly brownish black, humeral and lateral borders pale brown; scutum gray, each lobe with two dark areas, the mesal margin more narrowly darkened; scutellum brownish gray with a vague central brown line, parascutella light brown; mediotergite light brown with a central dark brown vitta, pleurotergite brown above, the more protuberant katapleurotergite brownish yellow; notal vestiture short, longer on scutellum, very long on mediotergite. Pleura brownish gray, with a short dark brown stripe extending from propleura over the extreme dorsal anepisternum and pteropleurite; a vague paler brown across dorsal sternopleurite,

more expanded behind over the ventral pteropleurite, meron and metapleura. Halteres with stem yellowed, knob weakly infuscated. Legs with coxae light brownish yellow, trochanters paler yellow; femora light brown, tips conspicuously blackened, preceded by a vague more yellowed band; tibiae and tarsi brown; claws of male with a relatively small subbasal spine. Wings (Plate 1, fig. 4) with the ground pale brown, conspicuously marbled with light yellow and more restrictedly with darker brown, prearcular and costal fields uniformly brownish yellow; the darker brown areas include an arcular mark, spot at origin of Rs, and seams over cord and outer end of cell 1st M₂, the latter extended outwardly over the fork of M₁+₂; darkened spots at ends of longitudinal veins from M₁ through 2nd A, these alternating with yellow marginal areas; the yellow pattern lies chiefly before the cord, larger and more conspicuous in cells R and M, especially beyond base and before outer end, in the Anal cells the pattern conspicuously zigzag; veins yellowed. Veins of outer half of wing with macrotrichia. Venation: Cell R₃ constricted at midlength; petiole of cell M₁ about one-half to three-fifths m; m-cu close to fork of M₃+₄.

Abdomen elongate; proximal six segments orange yellow, seven and eight brown, hypopygium paler brown; proximal tergites with the extreme lateral borders gray, margined internally by a light brown line which is less evident on the outer segments. Male hypopygium (Plate 1, fig. 9) with the tergite, t, transverse, posterior border very gently convex, the median region farther produced into a semicircular lobe that is provided with strong black setae, the outer group of about 25 stouter, slightly shorter than the length of the lobe, the numerous more basal setae nearly as long but more slender. Outer dististyle, d, boomerang-shaped, the basal third stouter, the long outer part nearly straight, tapering very gradually to the subacute tip, the outer margin near base of the blade with a low elongate lobe that bears several setae, with others on body of style; inner style a broad flattened subrectangular plate, its inner apical angle farther produced into a lobe, outer part of style with groups of setae, those of the major group stouter and more blackened.

Holotype, pinned ♂, along the Dudh Kosi near camp Karikhola, about 2000 meters, April 26, 1961 (JANETSCHEK); 61/260.

I take pleasure in dedicating this attractive fly to Professor HEINZ JANETSCHEK who collected this interesting series of *Tipulidae*. There are several other regional members of the subgenus that have marbled wings and with the male hypopygium of this general structure, the tergite being produced into a central lobe bearing strong setae but without further ventral armature. Other such species include *Tipula (Sinotipula) callicoma* ALEXANDER, *T. (S.) griseipennis* BRUNETTI, *T. (S.) hypsistos* ALEXANDER, *T. (S.) lithostota* ALEXANDER, *T. (S.) tesselatipennis* BRUNETZI and a few others, all distinguished among themselves especially in the details of hypopygial structure.

Tipula (sinotipula) wardi EDWARDS

Tipula wardi EDWARDS, 1928: Ann. Mag. Nat. Hist. (10) 1: 686—687.

Tipula (Sinotipula) wardi ALEXANDER, 1935: Philippine Jour. Sci., 57: 95.

The type of this large and attractive species was from the Tsangpo Valley, Doshong La, in southeastern Tibet, collected by the distinguished plant hunter and botanist, F. KINGDON WARD. It has a wide distribution in the Himalayas from Kumaon eastward into northeastern Burma, in cases at high altitudes (as in Sikkim at 15,750 feet, collected by FERNAND SCHMID).

NEPAL: Base camp near Pangpoche, about 3900 meters, at light May 13 — June 5, 1961; 5 pinned ♀♀; 61/72, 204, 254.

Tipula (Schummelia) species

A single broken ♀ taken at the camp near Kirantitschap, 1360 meters, May 16, 1961; one fragmentary alcoholic specimen, 1961.

The subgenus is one of the larger groups of *Tipula* in the Himalayas with more than a score of regional species. The male sex is necessary for identification.

Tipula (Vestiplex) distifurca ALEXANDER

Tipula (Vestiplex) distifurca ALEXANDER, 1942: Rec. Indian Mus., 44: 44—46, fig. 7 (venation, ♂ hypopygium).

The type was from Dalhousie in the Indian Punjab, taken at about 7000 feet in May-June 1927 by SUNDER LAL HORA. The species is widely distributed from Kumaon into southeastern Tibet.

NEPAL: Return trip along Dudh Kosi at camp Karikhola, about 2000 meters, April 26, 1961; 2 ♂♂, pinned, 61/260.

Tipula (Vestiplex) nigroapicalis BRUNETTI

Tipula nigroapicalis BRUNETTI, 1911: Rec. Indian Mus., 6: 257.

Tipula nigroapicalis BRUNETTI, 1912: Fauna British India, Diptera Nematocera, p. 328.

Tipula nigroapicalis EDWARDS, 1928: Ann. Mag. Nat. Hist. (10) 1: 692—693.

Tipula (Vestiplex) lepcha ALEXANDER, 1957: Jour. N. Y. Ent. Soc., 65: 151—152.

The type of *nigroapicalis* was from Darjiling in the Eastern Himalayas, taken in October 1905 by BRUNETTI. EDWARDS later (1928) recorded it from Tibet after comparison with BRUNETTI's type. The type materials of *lepcha* were from Nepal, taken at Simbhanjang Pass in October 1956 by COHER. The nearest relative is *Tipula (Vestiplex) alyxis* ALEXANDER of southeastern Tibet.

NEPAL: Camp on Dudh Kosi, down the valley from Nameche (= Nauche), June 7, 1861; 1♂, 1♀, pinned, 61/89. Tate, about 2900 meters, June 8, 1961; 3 ♂♂ pinned, 61/233.

The female above mentioned is smaller than the male, has the wings slightly degenerate (wing 10×3 mm) and may not pertain to this species.

LIMONIIDAE

LIMONIINI

Limonia (Dicranomyia) vamana ALEXANDER

Limonia (Dicranomyia) vamana ALEXANDER, 1951: Ann. Mag. Nat. Hist. (12) 4: 1108—1109.

Limonia (Dicranomyia) vamana ALEXANDER, 1952: Rec. Indian Mus., 50: 352—353, fig. 13 d (♂ hypopygium).

The type was from Ootacamund, Nilgiri Hills, South India, 7500 feet, taken by P. SUSAI NATHAN.

NEPAL: Jiri, at light, April 20, 1961; alcoholic ♂, 61/27.

LIMONIA (LIMONIA) ACUTISSIMA nov. spec.

Size large (wing 12 mm or more); head dark brown, thorax yellowed; femora brownish yellow, extreme tips vaguely paler; wings light yellow, unpatterned; male hypopygium with the dististyle narrowed outwardly, the outer fourth a slender rod; gonapophysis small, mesal-apical lobe short and inconspicuous.

Male. — Length about 10–11 mm; wing 12.5–13 mm; antenna about 3 mm.

Female. — Length about 11–12 mm; wing 12–13 mm.

Described from alcoholic specimens. Rostrum brownish yellow; palpi light brown. Antennae relatively long, as shown by the measurements; scape and pedicel brownish yellow, flagellum clearer yellow; flagellar segments elongate, narrowed at either end. Head dark brown.

Prothorax yellowed. Mesonotum almost uniformly dark yellow, the praescutum with lighter yellow stripes; pleura yellow. Halteres long, stem brown, knob paler. Legs with coxae and trochanters yellow; femora brownish yellow, the extreme tips vaguely paler; tibiae yellowed, tarsi passing into brown. Wings (Plate 2, fig. 10) large, almost uniformly light yellow, stigma lacking; veins light brown. Venation: Sc_2 ending about apposite two-thirds to three-fourths R_s , much longer than the transverse Sc_1 ; R_1+2 longer than R_2+3 ; cell 1st M_2 subequal in length to vein M_1+2 beyond it; m-cu close to fork of M.

Abdomen elongate in both sexes, obscure yellow, extreme outer margins of posterior segments narrowly darkened; hypopygium small, obscure yellow. Ovipositor with cerci long and slender, nearly straight. Male hypopygium (Plate 2, fig. 15) with the tergite, t, large, posterior border convex, the apex near the midarea farther produced into two glabrous obtuse plates that are separated by a narrow U-shaped emargination. Basistyle, b, about four times as extensive as the dististyle, the usual ventromesal lobe occupying the whole face of the style. Dististyle, d, broadest at base, gradually narrowed outwardly, the distal fourth a very slender rod. Gonapophysis, g, small, the mesal-apical lobe short and inconspicuous. Aedeagus, a, broadest on proximal third, at apex divided into two divergent lobes.

Holotype, alcoholic ♂, base camp (Yaral) near Pangpoche, about 3900 meters, May 13, 1961 (JANETSCHKE); 61/55. Allotopotype, alcoholic ♀, with type. Paratopotypes, 6 ♂ ♀, with the types. Soil probes with vegetation cover below Taboche Yak summer pasture, South slope 4500 meters, May 13, 1961, 1 specimen; 61–284.

Limonia (Limonia) acutissima is quite distinct from other generally similar species in the hypopygial characters, especially the slender apex of the dististyle and the small inconspicuous gonapophyses. The wings suggest *L. (L.) albifrons* (MEIGEN) while the dististyle somewhat resembles that of the otherwise very different *L. (L.) sylvicola* (SCHUMMEL). The venation is

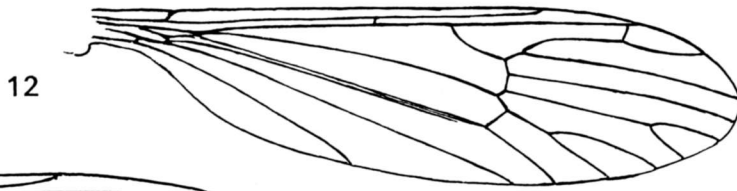
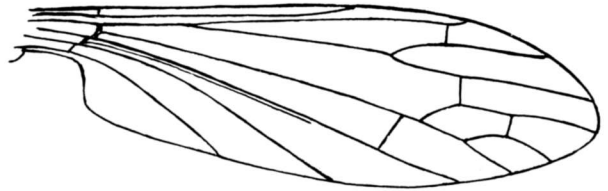
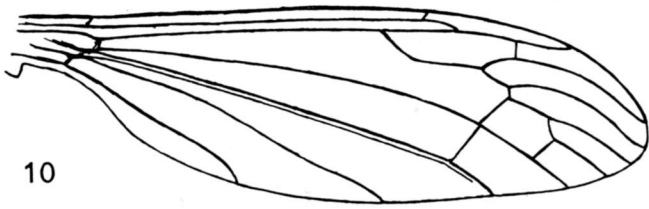
PLATE 2

→

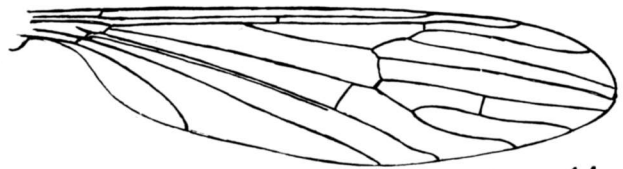
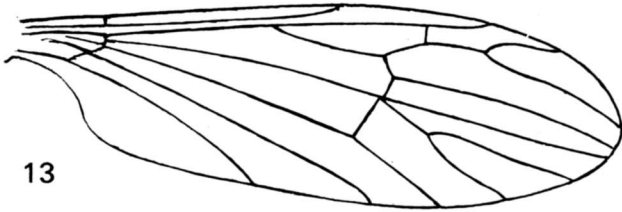
(Symbols: a, aedeagus; b, basistyle; d, dististyle; g, gonapophysis; p, phallosome; t, tergite)

Fig. 10. *Limonia (Limonia) acutissima* nov. spec., venation.

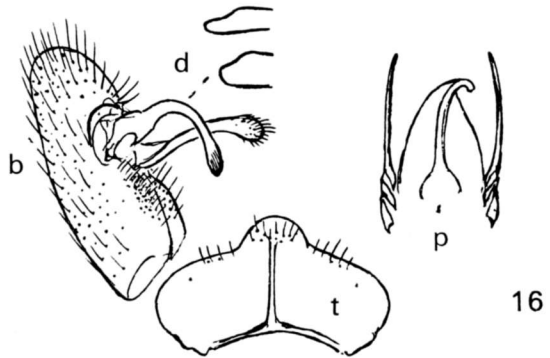
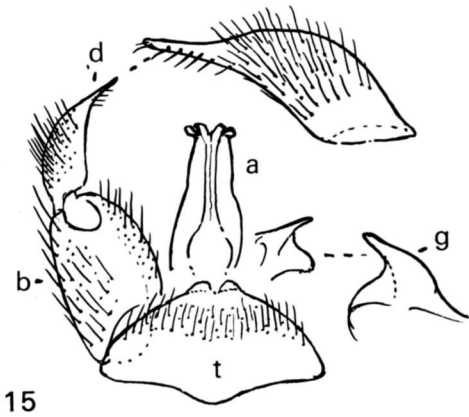
11. *Antocha (Antocha) unicollis* nov. spec., venation.
12. *Dicranota (Rhaphidolabis) laticollis* nov. spec., venation.
13. *Cheilotrichia (Empeda) platymeson* nov. spec., venation.
14. *Erioptera (Ilisia) janetscheki* nov. spec., venation.
15. *Limonia (Limonia) acutissima* nov. spec., male hypopygium.
16. *Antocha (Antocha) unicollis* nov. spec., male hypopygium.
17. *Dicranota (Rhaphidolabis) laticollis* nov. spec., male hypopygium.
18. *Cheilotrichia (Empeda) platymeson* nov. spec., male hypopygium.
19. *Erioptera (Ilisia) janetscheki* nov. spec., male hypopygium.



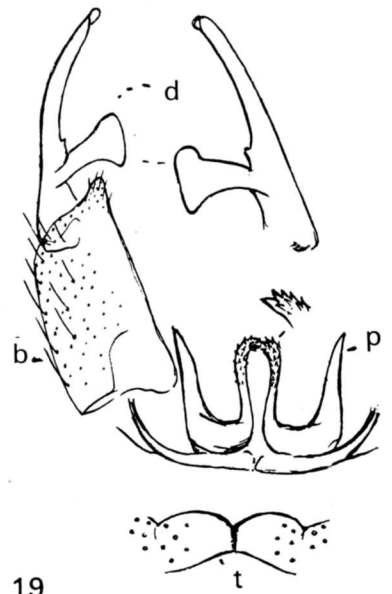
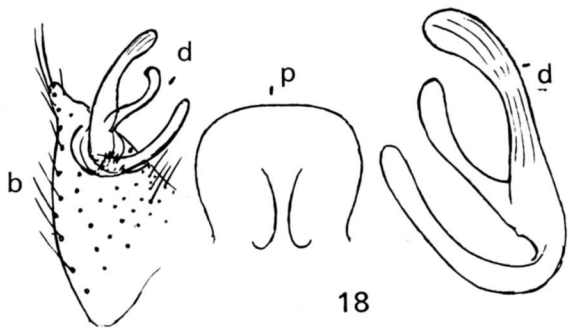
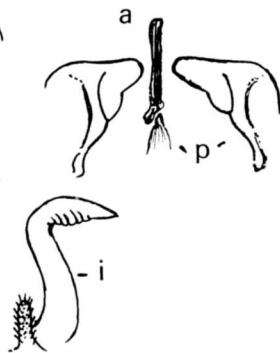
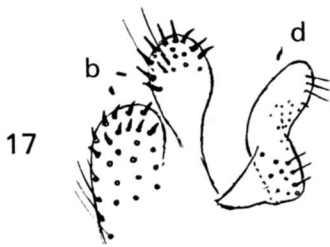
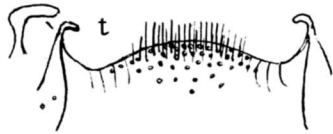
11



14



16



19

much as in various species that are allied to *L. (L.) hostilis* ALEXANDER, all of these being darker species with variously modified mouthparts and quite distinct hypopygia.

Antocha (Antocha) nebulipennis ALEXANDER, variety

Antocha (Antocha) nebulipennis ALEXANDER, 1931: Philippine Jour. Sci. 44: 352—353, pl. 1, fig. 9 (venation), pl. 2, fig. 41 (♂ hypopygium).

Antocha (Antocha) nebulipennis immaculata ALEXANDER, 1938: Philippine Jour. Sci., 66: 319, pl. 2, fig. 29 (♂ hypopygium).

The type of *nebulipennis* was from Mupin, western Szechwan, China, 3500 feet, collected by D. C. GRAHAM; of *nebulipennis immaculata* from the White Cloud Temple, Mount Omei, Szechwan, China, 9000 feet, taken June 12, 1937 by TSEN, a collector for the late G. M. FRANCK. The species has a wide distribution from Nepal eastward into western China.

I consider *immaculata* to represent a valid race of the species. The strict identity of the present materials remains in question because of insufficient materials. The species is told most readily from *Antocha (Antocha) unicollis* nov. spec. by the conformation of the ninth tergite of the male hypopygium, there being two distinct marginal lobes or elevations in the present fly.

NEPAL: Base camp (Yaral) near Pangpoche, about 3900 meters, at light, May 13, 1961; 2 broken alcoholic ♂♂, 61/55.

ANTOCHA (ANTOCHA) UNICOLLIS nov. spec.

Generally similar to *nebulipennis* in the patterned wings and in the subterminal dististyles of the hypopygium, differing in other hypopygial structures, including the single lobe on posterior border of the tergite and the obtuse apex of the outer dististyle; size large (wing 8 mm or more).

Male. — Length about 8 mm; wing 8—10.5 mm.

Female. — Length about 7—8.5 mm; wing 9—11 mm.

Rostrum brownish gray; palpi brown. Antennae brown; flagellar segments long-oval. Head grey, center of vertex more infuscated.

Pronotal scutum brownish gray, scutellum dull orange. Mesonotal praescutum with disk virtually covered by three nearly confluent dark brown stripes that virtually eliminate the interspaces, humeral and lateral borders light gray; remainder of mesonotum dark brownish gray to appear plumbeous. Pleura brown, gray pruinose. Halteres with stem yellow, base of knob weakly darkened, apex clear yellow. Legs with coxae brownish gray; trochanters obscure yellow; remainder of legs brown; claws (male) long and nearly straight, near base with a single long spine. Wings (Plate 2, fig. 11) pale yellow, conspicuously patterned with brown, in some specimens much darker than in others; darkened clouds at cord and outer end of cell 1st M₂ and with two areas in cell R, one at origin of Rs, the second larger at near midlength of cell; paler brown seams over ends of outer radial veins and extensively in cells Cu and the Anals, including a seam on outer half of vein 1st A, together with broad marginal washes that include base of cell 1st A and much of 2nd A; stigmal darkening small, concolorous with the area at cord; veins light brown, scarcely darker in the patterned areas, vein Sc paler. Veins unusually glabrous, only C, R and R₁ with trichia. Venation: Sc long, Sc₁ ending about opposite five-sixths Rs, the latter unusually long and straight, nearly three times vein R; m-cu before the fork of M, the distance approximately three-fourths to four-fifths its length.

Abdomen dark brown. Male hypopygium (Plate 2, fig. 16) generally as in *nebulipennis* differing especially in the tergite and dististyles. Ninth tergite, t, transverse, posterior border gently convex,

the median region farther produced into a conspicuous lobe that is entire or with the margin insensibly indented. Dististyles subterminal, the outer style, d, with apex obtuse.

Holotype, alcoholic ♂, base camp (Yaral) near Pangpoche, about 3900 meters, at light, May 13, 1961 (JANETSCHKE); 61/55. Allotopotype, alcoholic ♀, in same vial with type. Paratopotypes, alcoholic ♂ ♀, Nos. 61/54, 55, 72, 78, 79, 225, taken from May 9—31, 1961. Paratypes, 2 pinned ♀♀, along banks of Imja Khola, near Pangpoche, about 3850 meters, May 31, 1961, 61/78; 1 pinned ♀, on return march over Kariolung Rasta, at camp near Thanke (= Tarnga), 3800 meters, in evening June 9, 1961, dry specimen, 61/98.

The nearest ally is *Antocha (Antocha) nebulipennis* ALEXANDER, which was discussed earlier in this report. The specific name is in allusion to the rounded hill-like lobe of the ninth tergite of the hypopygium.

HELIUS (HELIUS) species

A single badly broken ♀, taken on the return trip at Jiri, June 15—16, 1961, 61/122.

LECHRIINI

Xipholimnobia nepalensis (BRUNETTI)

Lechria nepalensis BRUNETTI, 1918: Rec. Indian Mus., 15: 317—318.

Trichoneura nepalensis EDWARDS, 1924: Rec. Indian Mus., 26: 301.

Trichoneura (Xipholimnobia) nepalensis ALEXANDER, 1961: Rec. Indian Mus., 59: 24.

The unique type, a ♀, was from Katmandu, Nepal, in the Indian Museum. The specimen was re-examined by EDWARDS and further notes provided (reference above cited). There can be no question of the distinctness of the genus *Xipholimnobia* ALEXANDER from the Baltic Amber group *Trichoneura* LOEW (see ALEXANDER, C. P., Crane-flies of the Baltic Amber (Diptera), in Bernstein-Forschungen, 2: 54—57, figs. 62—67; 1931).

NEPAL: First camp, near Banepa, at light, April 11, 1961; a badly broken alcoholic ♀, 61/2.

PEDICIINI

DICRANOTA (RHAPHIDOLABIS) LATICOLLIS nov. spec.

General coloration of body (in alcohol) brown, thorax paler, abdominal sternites yellowed; halteres pale; legs pale brownish yellow; wings subhyaline, unpatterned, vein Sc long, Sc₁ ending some distance beyond fork of R₂₊₃₊₄; male hypopygium with central part of posterior border of tergite very low and convex, with numerous setae, the lateral tergal arms weak and pale, bent into a long outer lobe; interbase a slender pale lobe, the outer third bent at a right angle, the lower margin corrugated; basistyle with two apical lobes, each provided with spinoid setae; dististyle a simple flattened blade.

Male. — Length about 5.5 mm; wing 6.8 mm; antenna about 0.8 mm.

Described from an alcoholic specimen. Rostrum short, brownish gray; palpi brown. Antennae of male short, 12-segmented; flagellar segments beyond the basal ones oval, progressively shorter outwardly. Head dark brown.

Thorax (in alcohol) uniformly light brown. Halteres pale. Legs with coxae light brown, trochanters obscure yellow; remainder of legs pale brownish yellow. Wings (Plate 2, fig. 12) subhyaline, unpatterned; veins pale yellow. Venation: Sc long, Sc₁ ending some distance beyond fork of

R_2+3+4 , the latter subequal to basal section of R_5 ; R_2 longer than R_1+2 ; m-cu about three-fifths its length beyond fork of M.

Abdomen with proximal tergites light brown, sternites yellowed, outer segments darker. Male hypopygium (Plate 2, fig. 17) with central part of posterior border of tergite, t, very low and convex, provided with numerous setae, especially near the margin; lateral tergal arms weak and pale, at apex bent into a long lobe. Basistyle, b, with two apical lobes, the short stouter one with spinoid setae that are smaller than those of the longer clavate lobe; interbase, i, a slender pale lobe, at near two-thirds the length bent at a right angle, apex subacute, lower margin of outer part with parallel corrugations. Dististyle, d, a simple flattened blade, the base twisted, tip obtuse.

Holotype, a badly broken alcoholic ♂, base camp (Yaral) near Pangpoche, about 3900 meters, at light, May 13, 1961 (JANETSCHKE); 61/55.

The very low convex outer margin of the ninth tergite of the hypopygium is somewhat as in the larger *Dicranota (Rhapidolabis) uninebulosa* ALEXANDER, of Kashmir, which has the wings distinctly patterned and with the other hypopygial details distinct. As in the case of the species last described the specific name *collis* is derived from the latin word meaning a hill and refers to the unusually low and broad tergal lobe of the hypopygium.

ERIOPTERINI

HEXATOMINI

Pseudolimnophila (Pseudolimnophila) fusca (BRUNETTI)

Limnophila fusca BRUNETTI, 1918: Rec. Indian Mus., 15: 326.

Pseudolimnophila fusca EDWARDS, 1924: Rec. Indian Mus., 26: 303.

The type was from Darjiling in the eastern Himalayas.

NEPAL: Return march between Khumjung, Namche Bazar (= Nauche) — and Dudh Kosi, June 7, 1961; a broken pinned ♀, 61/88.

Hexatoma (Eriocera) gravelyi (BRUNETTI)

Eriocera gravelyi BRUNETTI, 1918: Rec. Indian Mus., 15: 337, pl. 7, fig. 9 (wing).

Eriocera gravelyi EDWARDS, 1921: Ann. Mag. Nat. Hist. (9) 8: 77.

Hexatoma (Eriocera) gravelyi ALEXANDER, 1961: Rec. Indian Mus., 59: 29.

The types were from the Darjiling district in the eastern Himalayas.

NEPAL: Return march, near Namdu, June 18, 1961; in alcohol, 61/130.

Hexatoma (Eriocera) nepalensis (WESTWOOD)

Caloptera nepalensis WESTWOOD, 1835: Annal. Soc. Entomol. France, 4: 681.

Eriocera nepalensis EDWARDS, 1921: Ann. Mag. Nat. Hist. (9) 8: 76.

Pterocosmus velutina WALKER, 1848: List Dipt. British Mus., 1: 79.

Both WESTWOODS type of *nepalensis* and WALKERS type of *velutina* were from Nepal (Nepaul). This unusually attractive fly is widely distributed in southern Asia.

NEPAL: Jiri, May or June 1961; pinned ♀, broken, 61/232. Return march, near Dading (region of Resangu), 1500 meters, June 20, 1961; pinned broken ♀, 61/292. A colored picture of this had been taken by Professor JANETSCHKE.

As indicated, both specimens available were females which sex has the abdomen much shorter than in the male although with the conspicuous silvery bands on the segments as in that sex.

Hexatoma (Eriocera) species

Three badly damaged specimens of a species belonging to the *longicornis* group, the condition too poor for specific identification.

NEPAL: Return march, Camp Liku Kholā, near Kenza, 1700 m, at light, June 12, 1961; 3 broken ♂♂, 61/109.

Conosia irrorata (WIEDEMANN)

Limnobia irrorata WIEDEMANN, 1828: Außereur. zweifl. Ins., 1: 574.

Conosia irrorata ALEXANDER, 1956: Ruwenzori Exped., 1934/35, 1, no. 7: 309 (British Museum Natural History).

The species has a vast range throughout Africa, Asia and into eastern Australia.

NEPAL: First camp, near Banepa, at light, April 11, 1961; one alcoholic ♀, 61/2.

Crypteria (Crypteria) haploa ALEXANDER

Crypteria haploa ALEXANDER, 1960: Jour. N. Y. Ent. Soc., 68: 137—138.

Crypteria (Crypteria) haploa ALEXANDER, 1961: Philippine Jour. Sci., 90: 190, pl. 1, fig. 17 (venation), pl. 4, fig. 54 (♂ hypopygium).

The species was described from various Himalayan stations in Kumaon and Sikkim, taken at altitudes between 7300 and 12,800 feet, by FERNAND SCHMID.

NEPAL: Base camp (Yaral) near Pangpoche, about 3900 meters, at light, May 13, 1961, 61/55: one alcoholic ♂, the hypopygium on slide.

Neolimnophila daedalea ALEXANDER

Neolimnophila daedalea ALEXANDER, 1967: Jour. N. Y. Ent. Soc., 74 (in press).

The types were from various stations in Sikkim, between 11,500 and 12,100 feet, taken in June 1959 by FERNAND SCHMID.

The single specimen presently available is in poor condition but appears certainly to belong to this species despite certain differences in wing pattern and venation. Compared with the types the ground color of the wings is more whitened while the darkened streak in outer end of cell R beneath Rs is obsolete. Venation: r-m connecting with Rs before the fork, cell R₃ smaller than in any of the specimens from Sikkim, vein R₃ being less than one-half R₄. It is possible that further specimens might show the present species to be distinct.

NEPAL: Thanke (= Tarnga, on the Kariolung Rasta), 3800 meters, June 9, 1961; a broken ♂, 61/98.

CHEILOTRICHIA (EMPEDA) PLATYMESON nov. spec.

Size small (wing of male 3.2 mm); general coloration in alcohol dark brown, dorsopleural region of thorax yellowed; halteres whitened; wings very slightly infuscated, veins comprising the cord slightly darker, Sc long, Sc₁ ending about opposite midlength of Rs; male hypopygium with both

branches of outer dististyle and the inner style with apices obtuse and simple; phallosome unusually large and broad, slightly wider than long, posterior border nearly truncate.

Male. — Length about 3 mm; wing about 3.2 mm.

Described from an alcoholic specimen. Rostrum and palpi brown. Antennae brown, the pedicel very large, about twice the scape; proximal flagellar segments short-oval, becoming more elongate outwardly (distal segments broken). Head dark brown, apparently pruinose in fresh specimens.

Pronotum obscure yellow. Mesonotal praescutum and scutum almost uniformly brown, scutellum and postnotum lighter brown. Pleura brown, dorsopleural region extensively yellowed. Halteres whitened. Legs with fore coxae brown, remaining coxae and the trochanters yellow; remainder of legs light brown, outer tarsal segments darkened. Wings (Plate 2, fig. 13) relatively short and broad, very slightly infuscated, prearcular and costal fields more yellowed, stigma barely indicated; veins pale brown, cord slightly darker. Venation: Sc long, Sc₁ ending about opposite midlength of Rs; R₂+₃+₄ nearly twice as long as R₂.

Abdomen brown, hypopygium a little more yellowed. Male hypopygium (Plate 2, fig. 18) with apical lobe of basistyle unusually slender, setae long, especially the terminal ones. Dististyles, d, pale throughout, outer style unequally branched, the slightly larger outer blade with longitudinal striae; inner style long and narrow; both styles and branches simple and obtuse at tips. Phallosome, p, unusually large and broad, slightly wider than long, posterior border nearly truncate.

Holotype, alcoholic ♂, Jiri, at light, April 20, 1961 (JANETSCHKEK); 61/27.

Ceilotrichia (Empeda) platymeson differs from other region members of the subgenus with vein Sc long chiefly in hypopygial characters, including the slender terminal lobe of the basistyle, unmodified inner branch of the outer dististyle, and the broad phallosomic plate. The most similar such species are *C. (E.) apemon* ALEXANDER, likewise from Nepal (Simbhanjang Pass, 8200 feet, June 24, 1957, E. I. COHER) and *C. (E.) microdonta* ALEXANDER of Kashmir (Mathan-tir Gah, 11,000 feet, August 7, 1954, FERNAND SCHMID).

Cheilotrichia (Empeda) vasanta ALEXANDER

Cheilotrichia (Empeda) vasanta ALEXANDER, 1964: Trans. Amer. Ent. Soc., 90: 230—232, fig. 28 (venation), fig. 32 (♂ hypopygium).

The type male was from Rapham, Sikkim, 5250 feet, April 2, 1959, taken by FERNAND SCHMID.

NEPAL: Jiri, at light, April 20, 1961; alcoholic ♂, 61/27.

Erioptera (Symplecta) hybrida (MEIGEN)

Limonia hybrida MEIGEN, 1804: Klass. und Besch. Eur. zweifl. Ins., 1, part 2: 57.

Erioptera (Symplecta) hybrida EDWARDS, 1938: Trans. Soc. Brit. Ent., 5, part 1: 126.

One of the most widely distributed crane flies, occurring almost throughout the Palaearctic region. In Arctic North America it occurs from Alaska east to Ellesmereland. Elsewhere in North America it is replaced by a close relative, *Erioptera (Symplecta) cana* (WALKER).

NEPAL: First camp, near Banepa, April 11, 1961; alcoholic ♂ ♀, 61/2. Return march, Jiri, June 15—16, 1961; alcoholic ♂ ♀, 61/122.

ERIOPTERA (ILISIA) JANETSCHEKI nov. spec.

General coloration brown; antennal flagellum yellow; halteres whitened; legs yellow, tips of femora and tibiae dark brown; wings yellowed, conspicuously patterned with brown, including five larger costal areas, with additional smaller spots along the veins, especially beyond cord; cell 1st M₂ long, basal section of M₃ nearly three times the transverse m, vein 2nd A short, curved into the margin; male hypopygium with a single unequally bilobed dististyle.

Male. — Length about 6—7.5 mm; wing 8—8.5 mm.

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

Described from alcoholic specimens. Rostrum and palpi brown. Antennae with scape brown, the remaining segments brownish yellow. Head dark brown.

Pronotum brownish yellow. Mesonotum chiefly yellowish brown, lateral praescutal borders and anterolateral parts of scutal lobes more yellowed. Pleura brownish yellow, dorsopleural membrane clearer yellow. Halteres whitened. Legs with coxae brownish yellow; trochanters yellow; femora and tibiae yellow, tips dark brown; tarsi brownish yellow to brown. Wings (Plate 2, fig. 14) yellowed, with a conspicuous brown pattern that includes five larger costal areas and abundant spots and darkened seams elsewhere; darkened costal areas at arculus, Sc₂, tip of Sc₁, R₁+₂ and R₃; continuous narrow seams along cord and over m; a series of about three areas along Cu; veins beyond cord with pale brown spots, the marginal ones at ends of veins larger; veins yellow in the ground, darker in the patterned areas. Venation: Sc₁ ending just beyond R₂, Sc₂ about opposite one-fourth Rs; cell 1st M₂ long, m transverse, basal section of M₃ elongate, from about two and one-half to nearly three times m; vein 2nd A short, curved into the margin.

Abdomen brown. Male hypopygium (Plate 2, fig. 19) with the tergite, t, very small, the posterior border shallowly emarginate. Basistyle, b, terminating in a slender lobe. Dististyle, d, single, unequally bilobed, the outer arm long and narrow, at apex twisted into a small oval lobe or blade, on mesal face at base with a blackened hatchet-shaped blade. Phallosome, p, including two slender arms on either side, both directed caudad, the inner or mesal arm roughened with numerous microscopic appressed teeth, outer arm longer, more nearly smooth.

Holotype, alcoholic ♂, Base camp (Yaral) near Pangpoche, about 3900 meters, at light, May 12, 1961 (JANETSCHEK); 61/54. Allotopotype, alcoholic ♀, with the type. Paratopotypes, alcoholic ♂ ♀, May 13, 1961, 61/55; May 29, 1961; 61/72.

The species is named in honor of Professor HEINZ JANETSCHEK in appreciation of his efforts to make known the Nepalese *Tipulidae*. In its general appearance, including especially the wing pattern, the most similar species include *Erioptera (Ilisia) badakhensis* ALEXANDER, of Afghanistan, and *E. (I.) serenicola* ALEXANDER, of North Korea, both with the hypopygial structure quite different from that of the present fly. The regional *E. (I.) asymmetrica* ALEXANDER (*indica* SENIOR-WHITE) is less similar.

SUMMARY

From the present material of more than a hundred specimens of the families *Trichoceratidae* and *Tipulidae* which has been collected by PROF. DR. H. JANETSCHEK within the framework of the Research Scheme Nepal Himalaya, 33 species could be identified; of some more specimens only the genus could be recognised. 8 species could be newly described:

Trichocera triangularis, *Nephrotoma brevisternata*, *Tipula (Sinotipula) janetscheki*, *Limonia (Limonia) acutissima*, *Antocha (Antocha) unicollis*, *Dicranota (Rhaphidolabis) laticollis*, *Cheilotrichia (Empeda) platymeson*, *Erioptera (Ilisia) janetscheki*. The highest locality in which

PROF. JANETSCHKEK collected these flies was 5250 m, where a species of *Trichocera*, probably *versicolor* LOEW, was caught. This locality is situated a little higher than the Terra typica of *Limonia (Dicranomyia) perexcelsior* ALEXANDER in the Bolivian Andes (Illimani, 5600 m).

ZUSAMMENFASSUNG

Aus dem vorliegenden Material von reichlich 100 Exemplaren aus den Familien *Trichoceridae* und der *Tipulidae*, die von PROF. DR. JANETSCHKEK im Rahmen des Forschungsunternehmens Nepal Himalaya gesammelt wurden, konnten 33 Arten identifiziert werden, von einigen weiteren Exemplaren konnte nur die Gattung bestimmt werden. 8 Arten konnten als neu beschrieben werden:

Trichocera triangularis, *Nephrotoma brevisternata*, *Tipula (Sinotipula) janetscheki*, *Limonia (Limonia) acutissima*, *Antocha (Antocha) unicolis*, *Dicranota (Raphiodolabis) laticollis*, *Cheilotrichia (Empeda) platymeson*, *Erioptera (Ilisia) janetscheki*. Die größte Höhe, in der PROF. JANETSCHKEK diese Fliegen erbeutete, betrug 5250 m, wo eine Art von *Trichocera*, wahrscheinlich *versicolor* LOEW, gefangen wurde. Dieser Fundort liegt ein wenig höher als die Terra typica von *Tipula (Sinotipula) hypsistos* ALEXANDER, jedoch etwas niedriger als die Terra typica von *Limonia (Dicranomyia) perexcelsior* ALEXANDER in den bolivianischen Anden (Illimani, 5600 m).

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