

Undescribed Species of Crane Flies from the Himalaya Mountains (Diptera: Tipulidae), XIV¹

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Abstract: Six new species of Eriopterine crane flies are described, these being *Trentepohlia* (*Mongoma*) **amphinipha** n. sp., from Sikkim; *T. (M.) patens* n. sp., Assam; *T. (Trentepohlia) infernalis* n. sp., Sikkim; *Gymnastes* (*Gymnastes*) **anticaniger** n. sp., Sikkim; *G. (G.) cyaneus nilgiricus* n. subsp., South India; *G. (G.) latifuscus* n. sp., Assam; and *G. (G.) tridens* n. sp., Thailand.

Part XIII of this series of papers was published in the Journal of the New York Entomological Society, **74**: 180–184, 1966. The species treated herewith are from Assam and Sikkim where they were collected by Dr. Fernand Schmid and from Northern Thailand, taken by the late Dr. Deed C. Thurman. A subspecies from South India is included in order to complete the data, the materials having been captured by Mr. P. Susai Nathan and by the late Stanley W. Kemp. I express my sincere thanks and appreciation to all of the above for the privilege of retaining the types of the novelties in my personal collection of these flies.

Trentepohlia (*Mongoma*) **amphinipha** n. sp.

Allied to *tenera*; mesonotal praescutum and scutal lobes dark brown, paler laterally; femora brownish black, tips broadly snowy white, including about the outer tenth, tibial bases more narrowly whitened, tarsi and the broad tips of tibiae white; a series of small erect black setae at bases of all femora in both sexes; wings whitish subhyaline, without distinct pattern; squama with a powerful black bristle.

MALE: Length about 7.5–8 mm; wing 7–7.3 mm.

FEMALE: Length about 9 mm; wing 7 mm.

Rostrum and labial palpi yellow, maxillary palpi brownish black. Antennae black, relatively long; flagellar segments long-subcylindrical, exceeding their verticils. Head dark brown, paler behind.

Pronotum brownish yellow, with long erect setae. Mesonotal praescutum dark brown, humeri and lateral borders more yellowed; scutal lobes darkened, scutellum and mediotergite paler brown, yellowed laterally; mesonotal vestiture weak. Pleura brown, posterior sclerites more yellowed. Halteres dark brown. Legs with coxae and trochanters yellow; femora brownish black, bases narrowly yellowed, tips broadly snowy white, including about the outer tenth; tibiae brownish black, bases narrowly white, tips more broadly of this color, including the outer fourth; tarsi white, terminal segment slightly darker; all femora in both sexes with a few small erect blackened setae near base. Wings whitish subhyaline, without distinct pattern, stigma barely indicated; veins brown. Margin of wing at base with three or four long black setae, the squama with a single more powerful erect black bristle. Venation: R_s longer than basal section of R_5 ; R_2 exceeding R_{3+4} ; $m-cu$ at or before fork of M ; apical fusion of Cu_1 and 1st A nearly as long as $m-cu$.

Abdominal tergites dark brown, including the hypopygium; sternites obscure yellow.

HOLOTYPE: ♂, Lingtham, Sikkim, 4,600 feet, September 2, 1959 (Schmid). Allotopotype, ♀, with type. Paratopotypes, 7 ♂ ♀, on three pins.

¹ Contribution from the Entomological Laboratory, University of Massachusetts.

The only other regional member of the subgenus with unpatterned wings that has the genua of the legs snowy white is *Trentepohlia* (*Mongoma*) *subtenera* Alexander, of Assam, which differs especially in the coloration and trichiation of the legs. In this species the modified erect setae on the paler brown femora are restricted to the posterior legs and are more abundant, about ten in number.

Trentepohlia (*Mongoma*) **patens** n. sp.

General coloration of thorax yellow, the praescutum and scutal lobes patterned with light brown; antennae of male relatively long, exceeding one-half the wings; femora yellow, tips narrowly light brown; wings whitened, veins light brown; cell *Cu* open at wing margin, cell 2nd *A* broad.

MALE: Length about 6.5 mm; wing 5.2 mm; antenna about 3.1 mm.

Rostrum yellow; palpi pale brown. Antennae of male elongate, exceeding one-half the wings; scape and pedicel light yellow, flagellum brown; verticils and whitened vestiture of the flagellum short. Front and anterior vertex silvery white, posterior vertex light brown, the orbits narrowly light gray.

Cervical region and pronotum light yellow. Mesonotal praescutum yellow on sides, central region of disk light brown, becoming obsolete before the suture; posterior sclerites of notum yellow, scutal lobes light brown, base of scutellum less evidently of this color. Pleura clear light yellow. Halteres pale brown, base of stem narrowly light yellow. Legs with coxae and trochanters light yellow; femora yellow, clearer basally, tip narrowly light brown; tibiae and tarsi pale brown. Wings whitened, base and costal field more yellowed, stigmal darkening very small to scarcely indicated; veins light brown, more yellowed in the brightened fields. Venation: R_2 just before fork of R_{2+3+4} ; *m-cu* at fork of *M*; cell *Cu* open at wing margin; cell 2nd *A* broad.

Abdominal tergites brown, sternites more yellowed, outer segments brown, including the hypopygium.

HOLOTYPE: ♂, Pynter, United Khasi and Jaintia Hills, Assam, 1,700 feet, January 20, 1960 (Schmid).

The most similar species are *Trentepohlia* (*Mongoma*) *flava* (Brunetti) and *T. (M.) horiana* Alexander, which similarly have cell *Cu* of the wings open at margin, differing in the coloration of the body and wings, including the darkened veins. Attention is called to the elongate antennae and the unusually broad cell 2nd *A* of the present fly.

Trentepohlia (*Trentepohlia*) **infernalis** n. sp.

Allied to *ornatipennis*; mesonotal praescutum and scutal lobes almost uniformly light yellow, scutellum, postnotum and pleura dark brown; halteres blackened; legs yellow; wings relatively short and broad, anterior half and cells beyond cord chiefly brown, interrupted by three small yellow areas along border from stigma to cell R_1 , posterior wing cells more grayish with whitened markings.

MALE: Length about 5 mm; wing 4.8 mm.

FEMALE: Length about 5.2 mm; wing 5 mm.

Rostrum and labial palpi brownish yellow, maxillary palpi brown. Antennae brownish yellow. Anterior vertex gray, posterior vertex and genae obscure yellow, occiput darkened.

Cervical region and pronotum brown. Mesonotal praescutum and scutal lobes almost uniformly light yellow, scutellum and postnotum dark brown. Pleura dark brown. Halteres blackened, base of stem narrowly yellow. Legs with coxae and trochanters yellow; remain-

der of legs light yellow, terminal tarsal segment slightly infuscated. Wings relatively short and broad, as compared with related species; anterior half and the cells beyond cord chiefly brown, posterior cells grayish; a very restricted pale pattern that includes three small yellow spots along border, one at end of Sc_1 , the second in cell R_3 , third at wing tip, chiefly in cell R_4 ; more whitened marks in outer end of cell R and bases of R_5 and M_2 ; cells M , Cu and Anals pale with brown washes in outer ends; veins brown, yellowed in the costal ground areas. Venation: R_s a little longer than R_{2+3+4} , R_{3+4} shorter; petiole of cell R_5 subequal to or shorter than basal section of M_{1+2} ; apical fusion of veins Cu_1 and 1st A short; vein 2nd A highly arched before midlength.

Abdominal tergites dark brown, sternites brownish yellow, outer segments, especially the genitalia, black.

HOLOTYPE: ♂, Lingtham, Sikkim, 6,500 feet, August 10, 1959 (Schmid). Allotype, ♀, Nanga, Sikkim, 5,000 feet, August 4, 1959 (Schmid).

Other related Indian species include *Trentepohlia* (*Trentepohlia*) *bellipennis* Alexander, *T. (T.) camillerii* Alexander, and *T. (T.) ornatipennis* Brunetti, all readily told by the wing pattern, distinguished from the present fly by having more pale color in the cells of the anterior half of the wing.

Gymnastes (*Gymnastes*) **anticaniger** n. sp.

General coloration polished black, the thoracic pleura with yellow areas on dorsopleural and metapleural regions; anterior and middle femora uniformly black; wings whitened, base more yellowed, disk with three unusually pale brown bands, the basal area broadly involving cells M , Cu and 1st A ; vein R_3 simple, slightly oblique; abdomen black, the extreme posterior borders of sternites light yellow.

MALE: Length about 4 mm; wing 4 mm.

FEMALE: Length about 5.5–6 mm; wing 4.5–5.5 mm.

Rostrum, palpi and antennae black; flagellar segments oval, the outer ones shorter, terminal segment long. Head polished black.

Thorax polished black, with scarcely indicated more bluish tints on the praescutum; dorso-pleural and metapleural membranes yellowed. Halteres black, knob vaguely tinted with yellow. Legs with coxae and trochanters black; fore femora uniformly black, tibiae brown, tips passing into black, tarsi black; middle femora black, bases vaguely paler, tibiae brown, tips and the tarsi black; posterior femora brownish yellow, the enlarged tips brownish black, tibiae yellow, outer fourth black, tarsi black, the proximal third to half of basitarsi yellow; legs with abundant dark flattened scales, setae inconspicuous on femora, more evident on posterior tibiae and tarsi. Wings whitened, base more yellowed; disk with three unusually pale brown bands, including the apex and a broad area at cord that are almost contiguous in the medial field; third darkened area includes about the basal halves of cells M , Cu and 1st A , with an incursion into cell R ; stigmal area indicated, partly obliterated by the anterior half of vein R_3 ; veins brown, yellow in the prearcular field. Venation: Vein R_3 simple, slightly oblique, without a spur of R_2 ; $m-cu$ shortly beyond fork of M .

Abdomen black, extreme posterior borders of the sternites light yellow. Male hypopygium having the apical margin of basistyle with a blackened flange. Inner dististyle massive, unequally bidentate, the inner point longer.

HOLOTYPE: ♂, Zomphuk, Sikkim, 6,500–8,000 feet, April 11, 1959 (Schmid). Allotopotype, ♀. Paratopotypes, 2 ♀, with the type.

Gymnastes (*Gymnastes*) **anticaniger** is related to species such as *G. (G.)*

cyaneus (Edwards) and a few others, differing evidently in the blackened fore and middle femora and the unusually pale wing pattern.

Gymnastes (*Gymnastes*) *cyaneus* **nilgiricus** n. subsp.

Very close and generally similar to typical *cyaneus* (Edwards) (*violaceus* Brunetti), differing in slight details of hypopygial structure. Male hypopygium with the arm of the inner dististyle a dark flattened blade that is produced into a powerful spine. In *cyaneus* this arm is slender, narrowed outwardly, near apex with a small conical tooth. Posterior border of the sternite produced into a small cylindrical point. Typical *cyaneus* still is known to me only from various stations in Ceylon. The degree of difference between the two is such that they probably will be considered as representing distinct species.

HOLOTYPE: ♂, mounted on slide, Cherangode, Nilgiri Hills, South India, 3,500 feet, October, 1950 (P. Susai Nathan). Paratopotypes, 2 ♂♂, 1 ♀, May 24, 1950 (Susai Nathan). Paratypes, ♂, on slide, Cinchona, Anamalai Hills, 3,500 feet, May, 1959; 2 ♂♂, 1 ♀, pinned, May 24, 1950 (Susai Nathan); 1 ♂, on slide, Kukkali, Palni Hills, about 6,500 feet, August 29–30, 1922 (S. W. Kemp); identified by Edwards as being *cyaneus*, received from him by exchange.

Gymnastes (*Gymnastes*) **latifuscus** n. sp.

Allied to *cyaneus*; general coloration polished black; wings whitened, with three broad dark brown bands, including the apex and an area at cord, third marking a broad V-shaped darkening in basal cells, the outer part crossing cells *R* and *M* to the origin of *Rs*; male hypopygium with outer arm of inner dististyle bidentate.

MALE: Length about 4 mm; wing 3.7 mm.

FEMALE: Length about 4.3–4.5 mm; wing 4.3–4.7 mm.

Rostrum and palpi black. Antennae with scape brown, pedicel brownish yellow, flagellum black; flagellar segments long-oval, exceeding the verticils, with a further short dense white pubescence. Head behind polished black, the broad anterior vertex vaguely gray.

Thorax polished black, dorsopleural region pale yellow. Halteres black, apex of knob pale yellow. Legs with coxae black; trochanters obscure yellow; femora yellow basally, the color obscured by darkened scales, with a broad black subterminal ring that is preceded by a narrow clear yellow annulus, the extreme tip again yellow; fore and middle tibiae and tarsi almost uniformly brownish black, posterior tibiae obscure yellow, tip broadly black, preceded by a somewhat clearer yellow ring; tarsi black, the proximal two-thirds of basitarsi pale yellow. All femora in male dilated at apex, the posterior pair more strongly so, tibiae with outer fourth slightly enlarged. Wings with the restricted ground white, disk with three broad dark brown bands, including the apex, a broader band at cord and a conspicuous V-shaped area basad of cord sending a broad arm across cells *R* and *M* to the origin of *Rs*; ground areas narrow, particularly the one beyond the cord which is paralleled and only about one-third as wide as the dark band at cord; prearcular field and cell 2nd *A* except the extreme tip whitened; veins brown. Venation: *R*₃ simple, longer than *R*₂₊₃₊₄, subequal to *R*₁₊₂; *m-cu* about its own length beyond the fork of *M*.

Abdomen black, in female, the cerci orange. Male hypopygium with outer arm of inner dististyle conspicuously bidentate.

HOLOTYPE: ♂, Langkhe, Manipur, Assam, 5,000 feet, July 20, 1960 (Schmid). Allotype, ♀, Chattrik, Manipur, 1,500 feet, July 21, 1960 (Schmid). Paratopotypes, 2 ♀♀, pinned with type.

The most similar species is *Gymnastes* (*Gymnastes*) *cyaneus* (Edwards)

which has the darkened wing pattern more restricted, the coloration of the legs slightly different, and the dististyle of the male hypopygium simply bilobed, the outer arm not bidentate as in the present fly.

Gymnastes (*Gymnastes*) **tridens** n. sp.

Allied to *ornatipennis* and *cyaneus*; general coloration of head polished dark blue, mesonotum more greenish black; pleura polished black, variegated by yellow; wings whitened, with three major dark brown areas, including the broad apex and a more extensive band at cord; third darkened area V-shaped, subbasal in position, chiefly in cells *Cu* and *1st A*, sending a spur across centers of cells *R* and *M* to base of *Rs*; vein *R*₃ oblique, as in *ornatipennis*; male hypopygium with inner branch of inner dististyle conspicuously tridentate.

MALE: Length about 5–5.3 mm; wing 4.2–4.6 mm; antenna about 1.4–1.5 mm.

Rostrum and palpi black. Antennae with scape and pedicel brown, flagellum brownish black; flagellar segments decreasing in size outwardly, verticils very small. Head large, above polished dark blue.

Pronotum brownish black, lateral angles of scutellum and adjoining pretergites dull yellow. Mesonotal praescutum and scutum polished greenish black, posterior sclerites more blackened; a yellowed area on posterior dorsal part of pleurotergite. Pleura polished black, with a yellowed area on posterior sternopleurite above the meron; dorsopleural region and membrane above the coxae clear light yellow. Halteres brownish black, knob chiefly light yellow to whitish yellow. Legs with coxae black; trochanters yellowed; femora dilated on outer third, more accentuated on posterior pair, obscure yellow, the enlarged part brownish black, on posterior legs the tip narrowly yellowed and with more darkened rings at and before midlength, these produced by darkened scales; tibiae brownish yellow, tips darkened, on posterior legs more yellowed, the slightly dilated outer fourth black; tarsi brownish black, with almost the proximal half of the posterior pair clear yellow; legs with abundant flattened scales and blackened setae, the latter longer and more numerous near ends of segments. Wings whitened, conspicuously patterned with dark brown, including the broad tip and a complete band at cord; a proximal area near bases of cells *Cu* and *1st A* sends a spur cephalad across the central parts of cells *R* and *M* to the origin of *Rs*; veins obscure yellow, darker in the patterned areas. Venation: *Sc*₁ ending opposite origin of *Rs*; *R*₃ present, oblique, approaching to almost confluent with *R*₁₊₂ at tip; *R*₂ faintly preserved in some specimens, atrophied in others, including the holotype, on posterior portion fused with base of *R*₃; cell *1st M*₂ long and narrow, exceeding *M*₄; *m-cu* more than its own length beyond the fork of *M*.

Abdomen, including hypopygium, dull brownish black. Male hypopygium with the dististyle complex, especially the inner branch which is heavily blackened, conspicuously tridentate, including a strong gently curved axial spine, a more basal slightly smaller recurved spine, and a still smaller marginal point between the two.

HOLOTYPE: ♂, Doi Sutep, Thailand, February 7, 1953 (Deed C. Thurman). Paratopotypes, 2 ♂♂, pinned with type.

Gymnastes (*Gymnastes*) **tridens** is quite distinct from the two most nearly related species, *G. (G.) cyaneus* (Edwards) and *G. (G.) ornatipennis* (de Meijere), having the venation more as in latter species but the wing pattern generally as in *cyaneus*, with the darkened V-shaped basal area as described. The conformation of the inner dististyle of the hypopygium distinguishes it from all other species.

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