

Undescribed Species of Crane Flies from the Himalaya Mountains (Diptera: Tipulidae), XIX¹

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Abstract: Five new species of eriopterine crane flies from Uttar Pradesh, Sikkim, and Assam in India and from Thailand are described, these being *Lipsothrix orthotenes*, *Styringomyia apiculata*, *S. melanaspis*, *S. nigrobarbata*, and *S. tenuispina*.

Part XVIII of this series of papers was published in the Journal of the New York Entomological Society, **77**: 199–203, 1969. At this time I am describing five further new species belonging to the genera *Lipsothrix* Loew and *Styringomyia* Loew, all from India (Uttar Pradesh, Sikkim, Assam) and Thailand where they were collected by Dr. Fernand Schmid and the late Deed C. Thurman. I express my sincere thanks to the collectors for their interest in these flies.

Lipsothrix orthotenes, n.sp.

General coloration of thorax yellow, praescutum light fulvous, posterior sclerites of notum extensively pale brown; legs yellow, femoral tips very narrowly pale brown; wings very pale brown, stigma lacking, male hypopygium with arms of aedeagus very long and slender, nearly straight, virtually as long as the basistyle, bases not expanded.

MALE: Length about 7.5 mm; wing 7.5 mm; antenna about 3 mm.

Rostrum yellow, palpi black. Antennae relatively long, as shown by the measurements; scape yellow, remainder dark brown; flagellar segments elongate, with dense white setulae. Front light yellow, remainder of head slightly darker yellow.

Pronotal scutum light brown, scutellum and pretergites light yellow. Mesonotal praescutum light fulvous, sides and the humeral region yellow; remainder of notum pale brown, central region of scutum, posterior border of scutellum, and the parascutella light yellow. Pleura and pleurotergite clear light yellow. Halteres with stem pale, knob light brown. Legs with all coxae and trochanters clear light yellow, remainder of legs more obscure yellow, tips of femora narrowly pale brown, of tibiae still more narrow. Wings very pale brown, costal border very slightly darker, stigma not evident; veins pale brown. Longitudinal veins beyond level of midlength of R_s with macrotrichia, including also one or two on each Anal vein. Venation: R_{1+2} and R_{2+3} subequal, R_2 less than one-half as long; vein R_4 weakly decurved, terminating before wing tip.

Abdominal tergites light brown, sternites yellow, subterminal segments darker brown to form a weak ring, hypopygium brownish yellow. Male hypopygium generally as in *decurvata* and *malla*, differing evidently in the long slender arms of the aedeagus that are virtually straight throughout, not strongly curved or with expanded bases; arms virtually as long as the basistyle and longer than their basal enlargement.

¹ Contribution from the Entomological Laboratory, University of Massachusetts.

HOLOTYPE: ♂, Hkayam Boum, Manipur, Assam, 8,500 feet, June 23, 1960 (Schmid).

The most similar species are *Lipsothrix decurvata* Alexander and *L. malla* Alexander, which differ in details of venation, coloration of the body and legs, and especially in hypopygial structure, including the shorter curved arms of the aedeagus.

Styrgomyia apiculata, n.sp.

General coloration of thorax yellow, the dorsum patterned with brown; legs yellow, darkened femoral rings faintly indicated; wings yellow, patterned with brown, including a conspicuous wash in basal half of cell *M*, vein *2nd A* with apex slightly recurved; abdominal tergites light brown, sternites and hypopygium more yellowed; male hypopygium with lobe of basistyle bearing a single seta; dististyle with outer arm long and slender, unarmed, intermediate blade with combs of blackened pegs, inner arm at base with a small acute point.

MALE: Length about 8–8.5 mm; wing 5.3–5.6 mm.

FEMALE: Length about 6.5 mm; wing 6 mm.

Rostrum dark brown, palpi black, bases of outer segments slightly paler. Antennae with scape and pedicel brown, flagellar segments more yellowed, particularly the incisures. Head brownish yellow.

Pronotum obscure yellow, sides dark brown. Mesonotal praescutum obscure yellow, sparsely pruinose, patterned with brown, sublateral stripes broader, intermediate pair narrower, their anterior ends convergent; scutal lobes yellow, brownish black posteriorly and on sides, median area obscure yellow, the color continued posteriorly onto the scutellum, remainder of latter dark brown, postnotum paler brown. Pleura yellow, clearer ventrally. Halteres with stem yellow, knob light brown. Legs with coxae and trochanters yellow; remainder yellow, femora with two vague brown rings, the more basal one broader, mid-femur with a concentration of black setae at outer end beneath; tibia with two narrow brown rings, including the apex, tarsi yellow, terminal segment brownish black. Wings yellow, prearcular and costal fields clearer; brown spots at *r-m*, *m-cu* and outer medial fork, veins *R*₃ and outer half of *2nd A* darkened; a conspicuous paler brown wash in basal half of cell *M*; remaining veins yellow, those beyond cord slightly darker, especially at outer ends. Venation: *R*₃ suberect, cell *2nd M*₂ narrowly sessile; vein *2nd A* with outer end erect to slightly recurved.

Abdominal tergites light brown, sternites more yellowed, hypopygium brownish yellow. Male hypopygium with outer lobe of basistyle with a single subequal stout seta. Dististyle with outer arm long and slender, outer third slightly more thickened, unarmed, bearing the usual single long terminal seta; intermediate blades each with combs of blackened pegs; inner arm slender, at base farther produced into a rounded plate and a small acutely pointed beak, basal setae unusually few but long. Phallosome including two sets of blackened lobules, none pointed. Ninth tergite semioval, with an apical oval lobule provided with abundant short yellow setae. Ninth sternite narrow, with two nearly contiguous apical setae.

HOLOTYPE: ♂, Bhairabkunda, Northeast Frontier Agency, Kameng, Assam, 700 feet, March 7, 1961 (Schmid). Allotopotype, ♀, March 6–8, 1961. Paratopotype, ♂, 700–1,000 feet, March 8, 1961.

The closest allies of the present fly are *Styringomyia himalayana* Edwards, *S. mitra* Alexander, and some others, all differing chiefly in coloration of the legs and wings and in hypopygial structure. The small acute point or beak of the dististyle of this species is distinctive and has suggested the specific name.

Styringomyia melanaspis, n.sp.

Thorax brownish yellow, restrictedly patterned with darker brown; femora yellow, with two narrow brown rings; wings brownish yellow, prearcular and costal fields clearer yellow, no darkenings excepting a small cloud over *r-m*; abdominal tergites uniformly medium brown, sternites yellowed; male hypopygium with phallosome terminating in a blackened shield-shaped plate.

MALE: Length about 5.5–6 mm; wing 4–4.5 mm.

FEMALE: Length about 6 mm; wing 5 mm.

Rostrum brownish yellow, palpi brown. Antennae with scape darkened, remainder yellow. Head yellowish brown to light brown.

Thorax brownish yellow, mesonotum restrictedly patterned with darker brown, including parallel longitudinal stripes on praescutum on either side of a paler central area, postnotum and pleura more uniformly yellowed. Halteres with stem yellow, knob brown. Legs with all coxae and trochanters light yellow; femora yellow with two narrow brown rings, the subterminal one slightly broader; tibiae with apex and a narrower ring at near midlength brown; basitarsi yellowed, the apices and remainder of tarsi brown. Wings faintly brownish yellow, prearcular and broad costal fields clearer yellow, including the veins, remaining veins more darkened, not including the membrane except slightly at *r-m*. Venation: Cell *2nd M*₂ narrowly to more broadly sessile; vein *2nd A* evenly rounded to margin.

Abdominal tergites uniformly medium brown, sternites yellowed, hypopygium brownish yellow. Male hypopygium generally as in *himalayana*, differing especially in the structure of the phallosome. Outer lobe of basistyle with a single stout seta that is longer than its basal tubercle. Dististyle with outer arm slender, unarmed; intermediate armature of style including two flattened yellow blades, their outer borders with a row of dense short blackened pegs, near base of inner blade with a group of long dark setae. Phallosome distinctive, appearing as a flattened yellow stem that terminates in a massive blackened shield-shaped structure with two protruding spines anteriorly and two more separated smaller points at posterior end, behind the shield with a small blackened point. Ninth tergite a broadly oval yellow plate, the apex very obtuse, terminating in a small central point that is tipped with setae. Ninth sternite narrow, terminating in two strong spinoid setae.

HOLOTYPE: ♂, Saran, Almora, Kumaon, Uttar Pradesh, India, 7,200 feet, September 17, 1958 (Schmid). Allotopotype, ♀, pinned with type. Paratopotypes, ♂ ♀, with types. Paratypes, ♂ ♀, Dhur, Almora, 7,400 feet, September 8, 1958; ♂ ♂, Git Dabbling, West Bengal, 5,100 feet, September 15, 1959; ♂ ♂, Labha, West Bengal, September 11, 1959 (Schmid).

The most similar species is *Styringomyia himalayana* Edwards, which differs in wing coloration, including the more conspicuous darkened pattern, and especially in the hypopygial structure, including the quite different phallosome.

Styringomyia nigrobarbata, n.sp.

Thoracic dorsum chiefly brownish yellow, patterned with brown; legs yellow, the darkened areas narrow and not forming complete bands; wings yellow, the restricted but clearly defined brown pattern including areas at *r-m*, *m* and *m-cu*, vein *2nd A* with outer fourth more weakly darkened; abdominal tergites with a pale brown longitudinal stripe, posterior borders of segments narrowly darker brown; male hypopygium with apical lobe of tergite circular; dististyle with inner body compact, the outer smooth blade short and obtuse, blackened pegs very abundant, crowded, darkened setae of lower margin abundant, longer and stouter than in related species; phallosome chiefly yellow, the ends blackened.

MALE: Length about 7 mm; wing 5.5 mm.

FEMALE: Length about 6.5 mm; wing 6 mm.

Rostrum and palpi brown. Antennae with scape brown above, yellowed beneath, pedicel dark brown, flagellum yellow. Head chiefly yellowed.

Pronotum and anterior end of praescutum light brown, remainder of thoracic dorsum yellow to brownish yellow, patterned with brown, pleura yellow. Halteres yellow. Legs with coxae and trochanters yellow; femora yellow, very restrictedly patterned with brown, including two areas on upper surface only, the outer spot subterminal, tibiae yellow, tip narrowly dark brown, fore pair with a vague darkening at near midlength; tarsi yellow, terminal segment blackened. Wings yellow, with a restricted clearly defined brown pattern that includes *r-m*, *m* and *m-cu*; outer fourth of vein *2nd A* more weakly darkened, not including the membrane; veins yellow except in the patterned areas. Venation: Vein *R*₃ oblique; cell *2nd M*₂ narrowly sessile; vein *2nd A* curved gently to margin, not spurred or recurved, cell *2nd A* broad.

Abdominal tergites yellow with a pale brown longitudinal stripe, posterior borders narrowly darker brown; sternites more uniformly yellowed. Male hypopygium generally as in *himalayensis* and allies, the lobe of basistyle with a single spinoid seta. Dististyle with outer arm long and slender, unarmed, inner body of style a compact mass, the outer blade smooth, short and obtuse, pale brown blackened pegs very abundant, those of margin short and crowded; darkened setae on lower margin of style abundant, black, longer and stouter than in related species. Phallosome chiefly yellow, upper end blackened, produced into very short points, the more ventral pair divergent. Ninth tergite with apex produced into a small circular lobule that is clothed with numerous yellow setae.

HOLOTYPE: ♂, Lathong, Sikkim, 6,560 feet, July 26, 1959 (Schmid). Allotype, ♀, pinned with type.

The present fly differs from *Styringomyia himalayana* Edwards, *S. melanaspis*, and some others especially in hypopygial structure, including the distinctive dististyle. The unusually abundant blackened setae on this structure has suggested the specific name.

Styringomyia tenuispina, n.sp.

Head and thoracic dorsum extensively darkened, the pleura chestnut yellow; femora and tibiae yellow, each with two brown rings; wings yellow, restrictedly patterned with brown, including clouds over *r-m*, *m* and *m-cu*, and the outer third of vein *2nd A* which is strongly recurved at outer end; abdominal tergites yellow, patterned longitudinally with pale brown, posterior borders darker brown; male hypopygium with lobe of basistyle bearing a single

spinoid seta; dististyle unusually complex, bearing four separate lobes, the inner two bladelike; phallosome at apex with a long slender curved spine and six small blackened points.

MALE: Length about 6.5–7 mm; wing 4.8–5 mm.

Rostrum and palpi brown. Antennae with scape and pedicel black; flagellum broken. Head dark brown, sparsely pruinose.

Pronotum and anterior half of praescutum dark brown, patterned with black and gray, posterior part of praescutum and central area of scutum yellowed, this extended caudad as a central line on scutellum, mediotergite dark brown. Pleura and pleurotergite chiefly chestnut yellow. Halteres with stem yellowed, apex of knob infuscated. Legs with coxae and trochanters chestnut yellow; femora yellow, with two brown rings, the outer narrow and incomplete, genua narrowly blackened; tibiae yellow, with vague darkenings at near midlength and apex; tarsi yellow, outer segment darkened. Wings yellow, with a restricted brown pattern that includes clouds over *r-m*, *m*, *m-cu* and outer third of vein *2nd A*, with a pale brown wash in cell *M* adjoining vein *Cu*; veins of anterior third of wing yellowed, remaining veins slightly more darkened, especially near margins. Venation: Vein *2nd A* strongly recurved at outer end, without a spur.

Abdominal tergites yellow, each with a conspicuous longitudinal pale brown line, posterior borders narrowly darker brown, these areas producing an almost continuous central line; sternites pale, hypopygium brownish yellow. Male hypopygium with outer lobe of basistyle with a single long spinoid seta, at base the lobe with a small lobe on inner face provided with numerous setae. Dististyle unusually complex, outermost arm long and slender, at near one-third the length with three or four long erect setae, terminating in the usual single long spinoid seta; inner armature including two separate flattened blades that terminate in blackened beaks, the innermost blade with a smaller more basal point and a conspicuous group of unusually long setae, inner blade slightly smaller, its blackened beak shorter and obtuse, outer margin with short dense blackened pegs that appear as a virtually solid line; between the outer arm of style and the inner blades with a fourth extension, longer and narrower than the blades, its inner margin with similar short dense blackened pegs. Phallosome at lower end with four small blackened points and a conspicuous slender curved spine directed dorsad; outer margin of phallosome narrowly blackened, its dorsal end produced into two small black points.

HOLOTYPE: ♂, Chiangmai, Thailand, May 1952 (D. C. Thurman). Paratopotype, ♂, pinned with type.

Styrgomyia tenuispina resembles *S. javana* Edwards in the wing pattern and venation, differing in the body coloration and especially the very distinct male hypopygium. The specific name was suggested by the slender curved spine of the phallosome.



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