

**UNDESCRIBED SPECIES OF CRANE-FLIES FROM THE  
HIMALAYA MOUNTAINS (DIPTERA: TIPULIDAE), IX\***

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**Abstract** The following new species, all belonging to the Eriopterine genus *Baeoura* Alexander, are described; *Baeoura dihybosa*, *B. coloneura* and *B. schmidiana* from Kumaon; *B. acustyla*, *B. furcella*, *B. sternata* and *B. sternofurca* from Sikkim.

Part VIII under this title was published in the *Journal of the New York Entomological Society*, 71: 73-80; 1963. I am continuing discussion of the vast series of crane-flies from India and Pakistan taken by Dr. Fernand Schmid. All species discussed at this time belong to the genus *Baeoura* Alexander, a close relative of *Cryptolabis* Osten Sacken, represented by a host of species in southern and eastern Asia, with fewer representatives in eastern and south-eastern Africa. A single somewhat aberrant member of the genus is known from Chile, *Baeoura advena* Alexander. The types of the new species are preserved in my personal collection.

*Baeoura dihybosa* n. sp.

General coloration gray; antennae black; halteres dirty white; legs brownish black, vestiture short; wings weakly infuscated, prearcular field light yellow,  $Sc_1$  long, subequal to  $R_{1+2}$ ; male hypopygium with tergal lobes broad; dististyle narrowed to the obtuse apex; aedeagus very long and slender, the curved free filament longer than the dististyle.

**MALE** Length about 4.8-5 mm.; wing 5.2-5.5 mm.

Rostrum and palpi black. Antennae black; flagellar segments oval, the outer ones elongate, subequal to their verticils. Head light gray; anterior vertex broad.

Pronotum gray, vaguely yellowed on sides, pretergites yellow. Mesonotum almost uniformly dark gray. Pleura gray, dorsopleural membrane dusky. Halteres dirty white. Legs with fore coxae dark brown, remaining coxae slightly brighter; trochanters brownish yellow; remainder of legs brownish black; vestiture of femora sparse and inconspicuous basally, somewhat more abundant on outer half and on the remaining segments. Wings weakly infuscated, prearcular field light yellow; veins brown,  $Sc$  before the arculus yellowed. Longitudinal veins beyond level of origin of  $Rs$  with macrotrichia. Venation:  $Sc_1$  ending nearly opposite  $R_2$ ,  $Sc_2$  retracted, before the fork of  $Rs$ ,  $Sc_1$  subequal to  $R_{1+2}$ .

Abdomen, including hypopygium, brownish black. Male hypopygium with tergite transverse, lateral lobes glabrous, very broad; median emargination extensive, posterior border gently convex. Dististyle terminal, relatively long, gradually narrowed to the obtuse apex, subangularly bent at near midlength. Aedeagus very long and slender, base dilated, the free outer filament curved, longer than the dististyle.

**HOLOTYPE** ♂, Akhrotkoti, Pauri Garhwal, Kumaon, 5700-6500 feet, May 18, 1958 (Schmid). **Paratopotypes**, 1 ♂, pinned with type; ♂ ♀, May 8, 1958 (Schmid).

\* Contribution from the Entomological Laboratory, University of Mass.

*Baeoura dihybosa* is distinguished from other similar regional species by the hypopygial structure, especially the unusually broad tergal lobes and the long slender aedeagus.

*Baeoura coloneura* n. sp.

Size small (wing about 3.5 mm); general coloration brownish yellow, head gray; legs light brown; wings light grey, macrotrichia of veins abundant and well distributed; *Sc* unusually short, *Sc*<sub>1</sub> ending about opposite two-thirds *Rs*; vein *R*<sub>4</sub> deflected strongly caudad, cell *E*<sub>3</sub> at margin very extensive; cell 2nd *A* narrow; male hypopygium with the phallosome trifold.

MALE Length about 3 mm.; wing 3.5 mm.

FEMALE Length about 3 mm.; wing 3.5 mm.

Rostrum and palpi brown. Antennae broken. Head gray.

Thoracic dorsum light brownish yellow, pronotal scutellum, pretergites and pleura light yellow. Halteres very weakly darkened, especially the large knobs. Legs with coxae and trochanters yellow; remainder of legs light brown, terminal tarsal segment black; vestiture of legs appressed, inconspicuous. Wings light gray, prearcular and costal fields a little more whitened; veins pale brown, still paler in the costal field. Macrotrichia of veins long and unusually abundant, on *R*<sub>3</sub>, virtually all of *R*<sub>4</sub>, *R*<sub>5</sub>, *M*<sub>1+2</sub>, *M*<sub>3</sub>, *M*<sub>4</sub>, *M*<sub>3+4</sub> and outer two-thirds to three-fourths of 1st *A*; a few trichia at outer end of 2nd *A*. In the female, trichia also on *Rs*, *R*<sub>2+3+4</sub> and outer two-thirds of *M*. Venation: *Sc* unusually short, *Sc*<sub>1</sub>, ending about opposite two-thirds *Rs*; vein *R*<sub>4</sub> deflected strongly caudad, terminating shortly before wing tip, cell *E*<sub>3</sub> at margin thus very extensive, about five to seven times cell *E*<sub>3</sub>, the area of cell *E*<sub>2</sub> very restricted; *m-cu* about one-fourth to one-half its length beyond fork of *M*; cell 2nd *A* narrow, Anal angle of wing inconspicuous.

Abdomen dark brown, ovipositor more yellowed. Male hypopygium with the tergite transverse, posterior border thickened, convex, not produced into lateral arms or rods, on either side of midline with about twelve strong setae. Apex of basistyle produced into an obtuse sclerotized blade. Dististyle elongate, simple, about equal in length to the basistyle, appearing as a curved darkened rod that narrows very gradually to the subacute tip, surface with numerous microscopic punctures that bear short setae. What appears to be an extension of the sternite is an elongate parallel-sided depressed-flattened structure, its apex obtuse, with a few strong setae. Phallosome distinctive, trifold, including the long slender aedeagus and two more ventral structures, one a flattened blade, the other a slender rod.

HOLOTYPE ♂, Katkor, Teri Garhwal, Kumaon, 3500 ft, April 7, 1958 (Schmid). ALLOTYPE ♀, Palwara, Pauri Garhwal, Kumaon, 4300 feet, August 3, 1958 (Schmid).

This unusually small pale species is most nearly related to *Baeoura acustyla* n. sp. and *B. sternata* new species, distinguished by its small size, body coloration, unusually short vein *Sc* and more strongly deflected vein *R*<sub>4</sub>, and in details of structure of the male hypopygium, including the tergite, basistyle and phallosome.

*Baeoura schmidiana* n. sp.

General coloration gray, mesonotal scutellum extensively dull orange; halteres light yellow; femora yellow basally, tips blackened, very extensive on fore legs; wings faintly tinged with gray, very inconspicuously patterned with darker gray clouds; male hypopy-

gium with the basistyle extended into a long fingerlike lobe; dististyle subterminal, a little longer than the lobe of basistyle, at outer end with two erect spines, the apical one longer; aedeagus very long, setoid.

MALE Length about 5 mm. wing 4.5 mm.

Rostrum and palpi light brown. Antennae with scape brown, the enlarged pedicel black; flagellum yellowish brown to light brown, outer segments darker; proximal two or three flagellar segments subglobular, the outer ones more elongate; segments with a dense white pubescence, verticils of intermediate segments very long. Head light gray; anterior vertex very broad.

Pronotal scutum brownish gray, scutellum and pretergites yellowed. Mesonotal praescutum gray with scarcely indicated darker brownish gray stripes, lateral borders clearer gray; scutum gray, centers of lobes vaguely darkened; scutellum dull orange posteriorly, base pruinose; postnotum light gray. Pleura light gray; dorsopleural region obscure yellow. Halteres light yellow. Legs with fore coxae darkened, remaining coxae and all trochanters brownish yellow; fore femora yellow with about the outer half blackened, remaining femora chiefly obscure yellow, tips narrowly blackened; tibiae and tarsi black; vestiture of femora inconspicuous except on upper surface, setae of tibiae and tarsi longer. Wings with a faint gray tinge, slightly clouded with darker gray over cord, origin of *Rs* and near outer end of cell *1st A* adjoining vein *2nd A*; prearcular field yellow; veins light brown, anterior cord darker, *Sc* yellowed. Longitudinal veins beyond cord with macrotrichia, including restricted series at ends of both Anal veins. Venation: *Sc*<sub>1</sub> ending nearly opposite fork of *R*<sub>2+3+4</sub>, *Sc*<sub>2</sub> retracted, *Sc*<sub>1</sub> alone about three times *R*<sub>2+3+4</sub>; basal section of *M*<sub>1+2</sub> very short; *m-cu* at near two-fifths *M*<sub>3+4</sub>; vein *2nd A* gently sinuous on outer fourth.

Abdomen brownish black, sternites more pruinose. Male hypopygium entirely distinctive; ninth tergite narrowed outwardly, posterior border shallowly emarginate to form broad obtuse lateral lobes; dorsal surface of plate with abundant long setae, shorter on the lobes. Basistyle with body small, beyond the insertion of the dististyle produced into a long fingerlike lobe that is provided with unusually long delicate setae, the apical ones approximately two-thirds as long as the lobe. Dististyle a little longer than the lobe of the basistyle, appearing as a slender yellow rod, distally with two nearly perpendicular spines, the outer terminal one longer; outer surface of style at near mid-length with about a dozen setae, the outer ones very long, nearly equal in length to the terminal spine; outer end of style with numerous microscopic setae. Aedeagus very long, setoid, exceeding the dististyle.

HOLOTYPE ♂, Pau Kal, Teri Garhwal, Kumaon, 4000–5000 feet, April 22, 1958 (Schmid).

This distinct species is named for the collector of this outstanding series of Tipulidae, Dr. Fernand Schmid. It differs from all known species in the hypopygial structure, particularly the basistyle and dististyle.

*Baeoura sternata* n. sp.

Size medium (wing about 4 mm.); general coloration of thorax plumbeous black, praescutum with a major opaque blackened area, posterior border of scutellum obscure orange; halteres and legs darkened, vestiture of the latter short and inconspicuous; wings weakly darkened; male hypopygium with tergite transversely subquadrate, the posterior border nearly truncate; ninth sternite produced into an elongate flattened blade, the apex broadly obtuse; dististyle a strongly curved blade, tip oblique, not acute, aedeagus produced into a long nearly straight spine.

**MALE** Length about 3.5 mm.; wing 4 mm.; antenna about 0.5 mm.

**FEMALE** Length about 3.5 mm.; wing 4 mm.

Rostrum, palpi and antennae black. Head dark gray.

Pronotum blackish gray, sides of scutellum restrictedly yellowed. Mesonotal praescutum and scutum polished plumbeous black, sides of the former with a major opaque intensely black area; posterior sclerites of notum plumbeous, the border of scutellum obscure orange. Pleura plumbeous black, dorsopleural region light brown. Halteres brownish black. Legs with coxae and trochanters brownish black; femora brownish black, tibiae and tarsi paler brown; vestiture of legs inconspicuous, short and appressed. Wings weakly darkened, unpatterned; veins pale brown. Longitudinal veins of outer half of wing with macrotrichia, lacking on  $R_{2+3+4}$ , present on outer ends of  $R_s$ ,  $M$  and  $Cu_1$ , more extensive on 1st  $A$ . Venation:  $Sc_1$  ending opposite three-fifths  $R_s$ , the latter slightly longer than  $R$ ,  $R_2$  very short;  $m-cu$  about one-third its length beyond the fork of  $M$ .

Abdomen, including hypopygium, brownish black. Male hypopygium with tergite transversely subquadrate, posterior border subtruncate to indistinctly trilobed, outer lateral angles not produced into evident lobes. Ninth sternite a conspicuous elongate depressed-flattened lobe, apex broadly obtuse, outer fifth with about a score of pale setae. Dististyle a powerful boomerang-like blade, bent at about one-third its length, the outer two-thirds nearly parallel-sided, apex oblique, obtuse. Aedeagus produced apically into a long nearly straight spine, directed slightly dorsad, apophyses at its base, paired.

**HOLOTYPE** ♂, Chateng, Sikkim, 8700 feet, May 22, 1959 (Schmid). Allotopotype, ♀, pinned with type. Paratopotypes, 2 ♂♂.

The present fly is readily told from other generally similar regional species that have major blackened lateral praescutal stripes and short leg vestiture by the structure of the male hypopygium, particularly the tergite, sternite and dististyle. The most similar such species is *Baeoura acustyla* n. sp.

*Baeoura acustyla* n. sp.

Similar in size and general appearance to *Baeoura sternata* n. sp., differing evidently in the hypopygial structure. Male hypopygium with tergite transverse, posterior border gently and evenly convex, fringed with short inconspicuous setulae; lateral angles produced into small lobes, each with six or seven long basal setae. Ninth sternite elongate, as in *sternata* but much narrower, gradually more slender outwardly, tip obtuse; apical setae very few but long, placed laterally. Dististyle a curved rod, narrowed gradually to the acute tip, surface at near midlength with numerous long erect setae, these becoming fewer and shorter outwardly. Aedeagus pale, extended into a very long slender nearly straight spine; apophyses more pointed than in *sternata*.

**HOLOTYPE** ♂, Chateng, Sikkim, 8700 feet, May 22, 1959 (Schmid).

*Baeoura furcella* n. sp.

Size small (wing of male 4 mm.); mesonotum uniformly black; antennae, halteres and legs black; wings strongly darkened; male hypopygium with tergal lobes slender, ninth sternite produced; dististyle a simple gently curved rod; phallosome with aedeagus relatively short, straight, very slender, with short broadly flattened incurved gonapophyses that form a conspicuous forked structure at near midlength.

**MALE** Length about 3.2–3.9 mm.; wing 3.5–4 mm.

Rostrum and palpi black. Antennae relatively long, if bent backward extending about

to the wing root, black throughout; flagellar segments long-oval, the outer ones more elongate, their verticils more conspicuous. Head light gray.

Prothorax brownish. Mesonotum almost uniformly black, the praescutum more polished. Pleura brownish black, posterior sclerites gray pruinose. Halteres brownish black. Legs black, vestiture short and inconspicuous. Wings strongly darkened, veins still darker. Venation:  $Sc_1$  ending shortly before fork of  $R_s$ ,  $Sc_2$  retracted,  $Sc_1$  subequal to  $m-cu$ ;  $R_{2+3}$  oblique, subequal to  $R_{2+3+4}$ , in cases shortening or obliterating  $R_2$ ;  $m-cu$  variable in position, from about one-third to nearly midlength of  $M_{3+4}$ .

Abdomen, including hypopygium, black. Male hypopygium with tergite transverse, posterior border virtually truncate, lateral angles produced into slender lobes, only their tips glabrous. Ninth sternite produced, depressed, apex very obtuse, with several strong pale setae. Basistyle with inner apical angle produced into an obtuse lobe. Dististyle simple, relatively stout, gently curved at near midlength, gradually narrowed to the subacute tip; basal half of outer surface with long setae, these smaller outwardly, outer half of style with numerous pale punctures. Phallosome with aedeagus relatively short, very slender, straight, subtended by broadly flattened incurved apophyses to form a conspicuous fork at near midlength of the aedeagus.

HOLOTYPE ♂, Chumtang, Sikkim, 5120 feet, July 18, 1959 (Schmid). Paratopotypes, 5 damaged ♂♂.

*Baeoura furcella* is entirely different from other regional species in the hypopygial structure, especially the distinctive phallosome.

*Baeoura sternofurca* n. sp.

Size medium (wing to 5.5 mm.); general coloration of thorax gray, the anterior end of praescutum intensely blackened; antennae and legs blackened; wings gray, prearcular and costal fields yellowed; male hypopygium with tergal lobes relatively long and slender; ninth sternite elongate, apex conspicuously bilobed; aedeagus with free filament very slender, about as long as the dististyle.

MALE Length about 4–4.5 mm.; wing 4.8–5.5 mm.

FEMALE Length about 4.5 mm.; wing 5.5 mm.

Rostrum brownish gray; palpi black. Antennae black throughout; proximal flagellar segments oval, the outer ones elongate, their setae long and pale. Head light gray.

Prothorax brownish yellow, vaguely patterned with brown on either side; pretergites light yellow. Mesonotal praescutum light gray with three slightly darker gray stripes, the anterior half of central stripe intensely blackened, contrasting with the yellowed pronotum; posterior sclerites of notum gray, posterior border of scutellum broadly dull orange, in cases less evident. Pleura below dark colored, light blue gray pruinose, posterior sclerites pale, heavily light gray pruinose; dorsopleural membrane conspicuously yellowed. Halteres brown, basal half of stem paler brown. Legs with fore coxae and trochanters brownish black, mid pair pale brown, posterior coxae yellowed; remainder of legs dark brown to black, femoral bases narrowly more yellowed; vestiture inconspicuous. Wings tinged with gray, prearcular and costal fields light yellow; veins brown, yellowed in the brightened areas. Venation:  $Sc_1$  ending about opposite two-thirds to three-fourths  $R_s$ , the latter long and straight, nearly equal to  $R$ ;  $R_{2+3}$  subperpendicular,  $R_2$  shortened;  $m-cu$  sinuous.

Abdomen brownish black. Male hypopygium with tergal lobes relatively long and slender, the intervening posterior border convexly rounded; longest setae concentrated at and near the bases of the lobes. Ninth sternite distinctive, elongate, gently widened at outer end, divided into two obtuse lobes by a U-shaped emargination, apices of lobes

with three or four long setae and abundant delicate setulae. Dististyle a simple arcuated darkened rod, gradually narrowed to the obtuse tip, base not dilated; outer surface with abundant long setae from conspicuous punctures. Aedeagus with the free apical filament very slender, about as long as the dististyle, tip acute.

HOLOTYPE ♂, Zema, Sikkim, 9100 feet, June 15, 1959 (Schmid). Allotopotype, ♀. Paratopotypes, 16 ♂ ♀, mostly in poor condition from fungus attack.

*Baeoura sternofurca* is distinguished from other regional allies by the size, coloration of the mesonotum, and especially by the hypopygial structure, including the bilobed apex of the ninth sternite. *B. nigromedia* Edwards, still known only from the female, is generally similar in coloration but is much smaller (length about 3 mm.; wing 4 mm.).