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**NEW SPECIES OF CRANE FLIES FROM
 TROPICAL AMERICA. VI.
 (Diptera: Tipulidae)¹**

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ABSTRACT

Seven new species of crane flies are described from Panama: *Gonomyia* (*Gonomyia*) **idiostyla**, *G. (G.) sejuncta*, *Cheilotrichia (Empeda) appressa*, *C. (E.) brevifida*, *C. (E.) luteivena*, *Erioptera (Erioptera) interrita*, and *E. (Mesocyphona) latilimbata*.

In the present report, I am continuing the discussion of eriopterine crane flies that were taken in northern Panama by Lt. Col. Gordon Field of the University of Rhode Island, Kingston, and his associates. I am greatly indebted to Dr. Field for the privilege of retaining the types of the species here considered. "El Volcan" is the 11,410-foot Volcan de Chiriquí in northwestern Chiriqui Province, western Panama.

Gonomyia (Gonomyia) idiostyla, new species

General coloration of mesonotal praescutum and scutum brownish black, restrictedly patterned with yellow; pleura conspicuously patterned, brownish black, with a broad whitened longitudinal stripe; male hypopygium with the outer dististyle a very long slender rod, inner style profoundly bifid, including a long slender outer spine, body of style broader, terminating in a long spine; phallosome with apex of aedeagus an oval pale lobe to appear galeate.

MALE. Length about 5-5.2 mm; wing 5.5-5.8 mm.

Rostrum and palpi blackened. Antennae with scape black, remainder of organ brownish black. Head dull orange, center of posterior vertex slightly darker.

Pronotum and pretergites light yellow. Mesonotal praescutum dark brown to brownish black, humeri and lateral margins narrowly and abruptly light yellow; scutal lobes brownish black, median area and posterior calli brownish yellow; scutellum obscure yellow, base brownish black, parascutella yellowed; mediotergite yellow, posterior half and a

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central anterior area dark brown, pleurotergite obscure yellow, the lower margin darkened. Pleura dark brown to brownish black, variegated by a broad whitened longitudinal stripe extending from behind the fore coxa to the metapleura. Halteres brown throughout. Legs with all coxae brown, trochanters obscure yellow; remainder of legs brown. Wings weakly darkened, stigmal area scarcely indicated, prearcular and costal fields slightly more yellowed; veins brown. Venation: *Sc* short, *Sc*₁ ending just before origin of *Rs*, *Sc*₂ shortly removed; anterior branch of *Rs* about two-thirds *R*₂₊₃₊₄; *m-cu* close to fork of *M*.

Abdominal tergites brown, sternites and hypopygium yellowed. Male hypopygium with apical lobe of basistyle fleshy, apparently unequal in length on the two sides. Dististyles distinctive; outer style a very long slender rod, its length exceeding ten times the diameter, the setae more concentrated at outer end; inner style profoundly bifid, including a long slender outer spine that is nearly as long as the outer style, terminating in a darkened point, body of style much broader, extended into a longer darkened spine, the modified setae near its base. Phallosome with outer end of aedeagus an oval pale lobe to appear galeate; apophyses unequal, one a long, very slender spine that narrows gradually to the acute tip, second apophysis short and stout, subangularly bent at near midlength, apex suddenly narrowed into a short spine.

Holotype, male, El Volcan, Chiriqui, Panama, 4,200 feet, April 4, 1954 (Gordon Field). Allotype, female, Cerro Punta, Chiriqui, 6,200 feet, April 20, 1954, at light over stream. Paratopotypes: 2 males, May 11, 1954. Paratype: 1 male, with allotype.

The species' general appearance is much as in *Gonomyia* (*Gonomyia*) *remota* Alexander, *G. (G.) salmani* Alexander, and some others, but it differs in the male hypopygium, including both dististyles and the galeate aedeagus. The closest relative is *G. (G.) connivens* Alexander, of Chiapas, Mexico, with all details of the hypopygium distinct.

Gonomyia (*Gonomyia*) **sejuncta**, new species

Size medium (wing of male 5 mm); thoracic pleura brown with a broad whitened longitudinal stripe; halteres and legs brown; wings suffused with brown, *Sc* short, *Sc*₁ ending a short distance before origin of *Rs*, *Sc*₂ at its extreme tip, cell *M*₂ closed; male hypopygium with outer dististyle long and slender, simple; outer arm of inner style a darkened rod, its tip obtuse; phallosome with apex subtriangular, outer apical angle a short blackened spine.

MALE. Length about 4.5 mm; wing 5 mm.

Rostrum dark brown, palpi black. Antennae with scape brown, pedicel more yellowed; flagellum broken. Head dark brown.

Pronotum and pretergites light yellow. Mesonotal praescutum uniformly light chestnut brown, humeri and lateral borders very narrowly light yellow; scutal lobes slightly darker brown, central area and

posterior callosities yellowed; scutellum brown, parascutella and anterior half or more of postnotum yellow, the posterior part of the latter dark brown being the end of a conspicuous pleural stripe extending backward from the cervical region, ventral pleura slightly paler brown, the two darkened pleural areas separated by a broad whitish yellow longitudinal band. Halteres entirely dark brown. Legs with fore coxae yellow, middle coxae yellow, bases narrowly darkened, posterior coxae pale brown; trochanters yellow; remainder of legs brown. Wings with a relatively strong brown suffusion, prearcular and costal fields slightly more yellowed; a vague narrow darkening along cord, best evidenced by the slightly darker veins. Venation: Sc short, Sc_1 ending a short distance before origin of R_s , Sc_2 at the extreme tip; vein R_3 only about one-third the long R_4 ; cell M_2 closed; $m-cu$ close to fork of M .

Abdominal tergites dark brown, incisures pale, sternites light yellow, hypopygium paler brown. Male hypopygium with apical lobe of basistyle slightly less than one-half as long as the outer dististyle, the latter a long slender rod narrowing gradually outwardly, apex obtuse, inner margin with a row of long setae; inner style bilobed, outer arm or lobe a darkened rod, the tip obtuse, lower arm terminating in a strong darkened blade extending some distance beyond the apex, apex bearing two strong modified setae. Phallosome with apex beyond the narrowed neck subtriangular, the outer apical angle a short blackened spine; apophyses very unequal, the very long outer one a slender curved darkened spine, basal apophysis very small.

Holotype, male, El Volcan, Chiriqui, Panama, 4,200 feet, April 4, 1954 (Gordon Field).

The most similar species is *Gonomyia* (*Gonomyia*) *salmani* Alexander, described from El Salvador. *G. (G.) sejuncta* has certain of the hypopygial parts about the same, including the dististyles, differing most evidently in the details of structure of both dististyles and especially the phallosome. Other generally similar regional species having a marginal spine on the outer dististyle are more distinct.

Cheilotrichia (*Empeda*) **appressa**, new species

Size small (wing of male about 4 mm); antennae and palpi black; mesonotal praescutum and scutal lobes chiefly dark brown, pleura light brownish yellow; knobs of halteres infuscated; legs brown; wings very weakly darkened; male hypopygium with dististyles yellowed, outer style with arms appressed, the inner one a flattened blade.

MALE. Length about 3.5–3.6 mm; wing 3.8–4.2 mm.

FEMALE. Length about 4.5 mm; wing 4.5–4.6 mm.

Rostrum obscure yellow, palpi black. Antennae brownish black; flagellar segments oval. Head brownish yellow, center of vertex more infuscated.

Pronotum brown, pretergites light yellow. Mesonotal praescutum dark brown, humeral region extensively yellowed, scutal lobes similarly dark brown; median region of scutum and posterior sclerites of notum more yellowed. Pleura light brownish yellow. Halteres with stem yellow, knob infuscated. Legs with coxae and trochanters yellow; remainder of legs light brown, outer tarsal segments blackened. Wings subhyaline to very weakly darkened, stigma not or scarcely indicated; veins light brown. Venation: R_2 slightly oblique, a little shorter than R_{2+3+4} .

Abdominal tergites dark brown, sternites yellowed, hypopygium light brown. Male hypopygium yellowed, including the dististyles; outer style forking at near midlength, the arms appressed, outer arm slender, gently curved, inner arm a broader flattened blade, broadest at midlength; inner style nearly as long, appearing as a parallel-sided rod, apex obtuse.

Holotype, male, El Volcan, Chiriqui, Panama, 4,200 feet, May 11, 1954, at light (Gordon Field). Allotopotype, female, pinned with type. Paratopotypes, males and females, April 7–20, May 11–12, 1954. Paratypes: males, Cerro Punta, Chiriqui, 6,200 feet, April 19, 1954.

Cheilotrichia (Empeda) appressa is generally similar to certain other species, including *C. (E.) abitaguae* Alexander, differing evidently in hypopygial structure.

Cheilotrichia (Empeda) brevifida, new species

Size small (wing of male about 3.3 mm); general coloration of thorax and abdomen brownish yellow, thoracic pleura clearer yellow; knobs of halteres infuscated; legs yellowish brown; wings weakly darkened, unpatterned, Sc ending about opposite one-fourth R_s ; male hypopygium with outer dististyle horn yellow, bearing a curved lateral spine at a right angle, apex of style shallowly notched.

MALE. Length about 2.5 mm; wing 3.3 mm.

Head lacking. Thoracic dorsum brownish yellow, praescutum without well-defined stripes. Pleura clearer yellow. Halteres with stem whitened, knob infuscated. Legs with coxae and trochanters yellow; remainder of legs yellowish brown, setae darker. Wings weakly tinged with brown, unpatterned; veins light brown. Venation: Sc_1 ending about opposite one-fourth R_s ; vein R_2 slightly oblique, about two-thirds R_{2+3+4} .

Abdomen, including hypopygium, brownish yellow. Male hypopygium with outer dististyle distinctive, horn yellow, including the main axis, with a more slender branch arising at a right angle at near midlength of inner margin, apex of axis very shallowly notched, branch gently curved to an acute point.

Holotype, male, El Volcan, Chiriqui, Panama, 4,200 feet, May 13, 1954, at red light (Gordon Field).

Cheilotrichia (Empeda) instrenua (Alexander), of Peru, has the outer dististyle of the hypopygium generally as in the present fly but with the branches of the inner style distinctive, the wing venation with *Sc* longer. The Mexican *C. (E.) divaricata* (Alexander) is more distinct in the hypopygial structure.

Cheilotrichia (Empeda) luteivena, new species

Head, including rostrum and antennae, yellow; mesonotal praescutum with three broad brown stripes, pleura chiefly yellow; wings pale yellow, veins only slightly darker, *Sc* long, *Sc*₁ ending shortly before midlength of *Rs*; abdomen brownish yellow, tergites with a broad brown central stripe; male hypopygium with outer dististyle forking into two broad slightly unequal arms, the outer broadly obtuse, inner dististyle narrow.

MALE. Length about 3.5 mm; wing 4.5 mm.

Rostrum light yellow, palpi darker. Antennae with basal segments clear light yellow, outer four or five darker. Head yellow.

Prothorax and pretergites clear light yellow. Mesonotal praescutum yellow with three broad brown stripes, posterior sclerites more uniformly brown, posterior border of scutellum, parascutella, pleurotergite and lateral borders of mediotergite yellowed. Pleura chiefly yellow, with a vague pale brown dorsal cloud, ventral sternopleurite and meron more reddened. Halteres with stem light yellow, outer half of knob weakly infuscated. Legs with coxae and trochanters yellow; remainder of legs broken. Wings pale yellow, prearcular and costal fields clearer yellow; veins yellow, only slightly darker than the ground. Veins beyond general level of origin of *Rs* with long dark trichia, lacking on basal veins. Venation: *Sc* relatively long, *Sc*₁ ending before midlength of *Rs*; vein *R*₂ slightly oblique, nearly equal to *R*₂₊₃₊₄; *m-cu* at fork of *M*.

Abdomen brownish yellow, tergites with a broad brown central stripe; hypopygium brownish yellow, styli darker but not blackened. Male hypopygium with stem of outer dististyle short and stout, forking into two broad slightly unequal arms, the inner a more slender curved horn narrowing gradually to the subacute tip, inner arm broadly obtuse; inner dististyle narrow throughout.

Holotype, male, El Volcan, Chiriqui, Panama, 4,200 feet, April 13, 1954 (Gordon Field).

The most similar species is *Cheilotrichia (Empeda) nigrolineata* (Enderlein), described from Costa Rica. *C. (E.) appressa* agrees in the darkened pattern of the abdomen but has darker wing veins and with the hypopygial structure distinct, particularly the outer dististyle. The generally similar *C. (E.) pubescens* (Alexander) differs from all other known members of the subgenus in the relatively numerous long trichia in the wing cells, these being virtually as long as those on the veins.

Erioptera (Erioptera) interrita, new species

Head and pronotum whitened, mesonotum light cinnamon brown, pleura brownish black with a conspicuous whitened longitudinal stripe; halteres white; wings light fulvous brown, veins and trichia pale; male hypopygium with both dististyles subequal in length, the inner style expanded on outer third, thence extended into a long straight spine.

MALE. Length about 2.5–2.7 mm; wing 2.7–3.2 mm.

FEMALE. Length about 4 mm; wing 4.5 mm.

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

Pronotum whitened. Mesonotum light cinnamon brown, postnotum darker brown, lateral borders of praescutum and scutum narrowly more infuscated. Pleura brownish black, dorsopleural region broadly whitened; a conspicuous white longitudinal stripe from behind the fore coxae to beneath the halteres, slightly more widened behind. Halteres white. Legs with fore coxae brownish black, remaining coxae and all trochanters brownish yellow; femora white, with three black rings, the subbasal one narrowest, the other two broad, much wider than the intervening pale ring; tibiae yellowed, apex narrowly white, preceded by a subequal blackened ring; tarsi yellow, extreme proximal ends of basitarsi darkened. Wings light fulvous brown, prearcular and costal regions more yellowed; veins yellowed, inconspicuous, trichia pale. Venation: R_{2+3+4} subequal to basal section of R_5 ; cell M_2 open by atrophy of m ; $m-cu$ erect, at fork of M ; vein $2nd A$ sinuous.

Abdomen dark brown, hypopygium slightly darker. Male hypopygium with both dististyles subequal in length, outer style a flattened blade, expanded at near midlength, thence narrowed to an acute point; inner style with basal half smooth, outer third more expanded, provided with numerous setae and a few microscopic marginal points, apex of style a long straight spine. Each gonapophysis a slender, pale, gently curved blade, tip subacute.

Holotype, male, Camp Pina, Panama, 100 feet, January 14, 1954 (Gordon Field). Allotype, female, El Volcan, Chiriqui, Panama, 4,200 feet, April 13, 1954. Paratypes, males, with the allotype, April 4, 1954.

The most similar species is *Erioptera (Erioptera) polydonta* Alexander, of Peru, which differs in leg coloration and in hypopygial structure, especially that of the dististyles.

Erioptera (Mesocyphona) latilimbata, new species

Mesonotal praescutum medium brown, pleura darker, with a conspicuous silvery longitudinal stripe, dorsopleural membrane likewise silvery; knobs of halteres dark brown; femora obscure yellow, outer half with two conspicuous brownish black rings, the outer one broader, apex white, tibiae obscure yellow, tips white, tarsi pale yellow, proximal ends of basitarsi narrowly infuscated; wings strongly darkened, un-

patterned, cell M_2 open by atrophy of basal section of M_3 ; male hypopygium with dististyle tripartite, the major central arm with a conspicuous pale flange on lower concave margin; gonapophyses relatively short, strongly incurved.

MALE. Length about 3 mm; wing 3.2 mm.

Rostrum and palpi dark brown. Antennae dark brown; flagellar verticils long. Head light silvery.

Pronotum brown. Mesonotal praescutum medium brown, without a distinct pattern. Pleura darker brown with a conspicuous silvery longitudinal stripe extending from behind the fore coxae to base of abdomen, dorsopleural membrane similarly silvery white presenting the appearance of two silvery pleural stripes. Halteres with stem whitened, knob dark brown. Legs with fore and middle coxae dark brown, hind coxae and all trochanters pale; femora obscure yellow on basal half, outwardly with two conspicuous brownish black rings, the outer one broader, tip more narrowly white; tibiae obscure yellow, tips white; tarsi pale yellow, proximal ends of basitarsi narrowly infuscated. Wings strongly darkened, unpatterned; veins slightly darker than the ground. Venation: R_{2+3+4} less than twice the basal section of R_5 ; cell M_2 open by atrophy of basal section of M_3 ; $m-cu$ at fork of M .

Abdomen, including hypopygium, brown. Male hypopygium with a single tripartite dististyle, the outer arm a slender acute spine that is more than one-half the major branch beyond it, this with a conspicuous broad pale flange on lower concave margin; third arm a slender pale rod close to base, about one-half as long as the style itself. Phallosome with gonapophyses relatively short, outer half strongly incurved, directed toward the arms of the aedeagus.

Holotype, male, El Volcan, Chiriqui, Panama, 4,200 feet, May 15, 1954 (Gordon Field).

In its hypopygial structure, *Erioptera* (*Mesocyphona*) *turrialbae* Alexander is most similar to the present fly, differing in the details of the dististyle and gonapophyses, and in the coloration of the body, halteres, and legs.