

West Indian species of *Beameromyia* Martin (Diptera: Asilidae)

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Abstract: The West Indian species of *Beameromyia* Martin are reviewed. Four new species are described, and *Beameromyia insulara* Martin and *B. cubensis* (Bigot) are redescribed. Illustrations of the genitalia and a key to the known West Indian species are included.

Key Words: Diptera, Asilidae, robber flies, *Beameromyia* Martin, West Indies, New Species

Introduction

Martin (1957a) proposed the genus *Beameromyia* Martin to include small (4.5-8 mm) leptogastrine flies in the United States. Species included in this genus are all very similar, having only slight differences in the structures of the male genitalia. They also have weak postocular setae, usually a band of fine, erect setae across the middle of the second abdominal tergum, the first and second sterna are narrow or obsolete, vein M2 is sharply angular, and the apex of the epandrium is tapered to a point or it has a shallow apical notch. Furthermore, the apical one-third of the hind femur and most of the length of the hind tibia are unusually swollen. The hind tibia and most of the hind femur are otherwise contrastingly narrow.

Members of this genus are common in the United States with at least sixteen valid species (Martin 1957a). Though specimens are common in museum collections, only a few species are known from other parts of the New World, i. e. *B. chrysops* Martin (Martin 1957a), *B. insulara* Martin (Martin 1957b) from the Bahamas, and *B. graminicola* Farr (Farr 1963) from Jamaica. *Beameromyia floridensis* (Johnson) (Johnson 1894, Martin 1957a) from Florida may also occur in nearby continental islands. Of the confirmed West Indian species, the male of *B. insulara* is unknown, and its genitalia is neither described nor illustrated. The epandrium of *B. chrysops* (Martin 1957a) and dorsal and lateral views of the intact male genitalia of *B. graminicola* (Farr 1963) are illustrated. The purpose of this paper is to describe four new West Indian species, redescribe *B. cubensis* (Bigot) and the female of *B. insulara*, provide illustrations of the genitalia of these species and a key to the known species from the West Indies. Type specimens are deposited in the collections of the United States National Museum (USNM) and Museum of Comparative Zoology (MCZC). The codens AMNH and MNHN in the text

refer to the American Museum of Natural History, New York, USA, and the Museum National d'Historie Naturelle, Paris, France, respectively.

Beameromyia Martin

Of the known West Indian fauna, the species may be divided into two discrete groups: 1) with a long, slender, acutely pointed epandrium; aedeagus long, thin, and curved behind the base of the genitalia; and the lateral spermatheca with a single, elongate, apical bulbous capsule; crossvein cu-m is present; and veins CuA1 and M3 are not fused; and 2) with a shallow apically notched epandrium; aedeagus short, slightly arched; each lateral spermatheca with a median and an apical swollen bulbous capsule; crossvein cu-m absent; and veins CuA1 and M3 are fused.

Key to the species of *Beameromyia* Martin in the West Indies

1. Apex of epandrium pointed, not divided apically (Figs. 1-3, 7-9); aedeagus unusually long and thin, curved behind base of genitalia (Figs. 4, 10); crossvein cu-m present, CuA1 and M3 not fused; lateral spermatheca with single, apical, bulbous capsule (Figs. 6, 12) 2.
- Apex of epandrium wide, divided with prominent dorsal and ventral branches (Figs. 13-15, 21-23, 30-32); aedeagus short, only slightly curved downward (Figs. 17-18, 25-26, 34-35); crossvein cu-m absent, CuA1 and M3 fused for at least a short distance; lateral spermatheca with intermediate and apical capsules (Figs. 20, 27, 37) 3.
2. Basal 2 antennomeres yellowish brown; metapleuron dark brown to black; face whitish tomentose; female with apical margin of sternum 8 subtruncate, thick setae limited to lateral margins and apical corners (Fig. 8); % && genitalia as in Figs. 7-12; (Cuba) *cubensis* (Bigot)

- Basal 2 antennomeres wholly brown; metapleuron reddish yellow; face of male largely blackish tomentose with oral margin narrowly white, face of female yellow tomentose with oral margin narrowly white; sternum 8 of female differing from above; ♂ & ♀ genitalia as in Figs. 1-6; (Dominican Republic) ... *melana*, new species.
3. Face largely white tomentose, front white to yellowish 4.
—Face yellowish tomentose, front yellow-brown to brown 5.
4. Frons white tomentose, basal 2 antennomeres brownish yellow or orange-brown, abdomen dark brown with apices of terga 2-5 grayish tomentose; CuA1+M3 as long as crossvein r-m; (Jamaica).....*graminicola* Farr.
- Frons yellow tomentose, basal 2 antennomeres yellow; abdomen largely yellow-brown to reddish brown, subapices and lateral margins of terga 2-5 yellowish with yellowish tomentum; CuA1+M3 longer than crossvein r-m; lateroapical corner of cercus pointed; apical margin of sternum 8 truncate, numerous stiff bristles bordering elongate, bare area medially (Figs. 19) *insulara* Martin.
5. Face with a row of only 4 setae, swollen portion of hind femur uniform brown, without light or yellow subapical band; hind tibia with only light brown band; apical margin of sternum 8 of female subtruncate, apical ½ to ¾ polished with numerous, stiff bristles laterally (Fig. 8); each side of tergum 8 with short row of 8-10, closely spaced, stiff setae; ♂ & ♀ genitalia as in Figs. 21-29; (Mona Island, Puerto Rico) *quaterna*, new species.
- Face with a row of 6 or more setae; hind femur and/or hind tibia with distinct subapical bands 6.
6. Dark brown to black body, mesonotum largely dark brown tomentose, without distinct median stripe; dorsal branch of epandrium wide, spatulate (Fig. 16); ♂ & ♀ genitalia as in Figs. 13-18; (Dominican Republic) *dicrana* new species.
- Reddish brown to yellowish body, mesonotum with a well defined yellow-brown tomentose median stripe; dorsal branch of epandrium slender, not spatulate (Fig. 33); ♂ & ♀ genitalia as in Figs. 30-37; (U. S. and British Virgin Islands) *virginensis* new species.

Taxa

Beameromyia melana, new species

Figs. 1-6

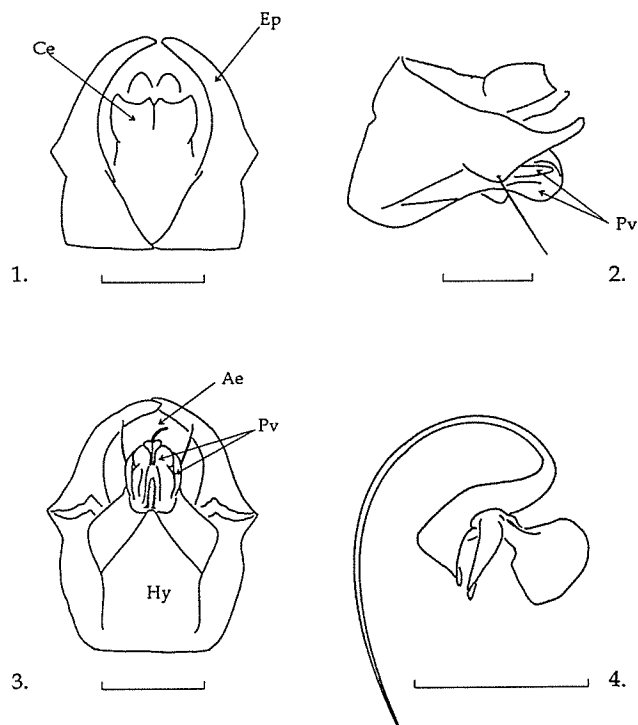
Male. Body dark brown to blackish. Length: body 8.9 mm; wing 5.0 mm. Face largely blackish tomentose, oral margin narrowly white; 6 long,

whitish setae present. Proboscis and Palpus black with sparse, pale yellow or white setae. Antenna brownish with brown setae. Frons and ocellar tubercle yellow-brown tomentose dorsally and posteriorly. Occiput mostly yellowish gray tomentose, narrow margin of eye brownish gray; setae pale, postocular setae long, 1½x as long as crossvein r-m.

Mesonotum black with dense, brown tomentum dorsally; two narrow light yellow-brown lines separating median stripe from lateral brown areas, yellowish to whitish tomentum laterally and posteriorly; setae sparse, mostly brown, row of dorsocentral setae extending entire length of mesonotum, those setae on posterior ⅓ long, 1½-2 x as long as crossvein r-m; lateral bristles light brownish yellow. Scutellum and mesopleuron blackish with whitish tomentum and vestiture. Metapleuron reddish yellow. Halter yellow, knob brown.

Wing hyaline, apical ⅔ with dense microtrichia. Crossvein r-m at basal ⅓ of cell d; crossvein cu-m present, veins CuA1 and M3 not fused; base of r4 cell at apex of cell d.

Coxa and trochanter yellow. Anterior legs largely yellow, light brownish anteriorly; hind legs largely brown, apical ½ of clavate portion of hind femur



Figs. 1-4. *Beameromyia melana*, new species, ♂. 1-3: Genitalia, dorsal, lateral and ventral views. 4: Aedeagus. Scale: Figs 1-4 = .3 mm. Aedeagus. Abbr. Ae=aedeagus, Ce=cercus, Ep=epandrium, Hy=hypandrium, Pv=penal valve.

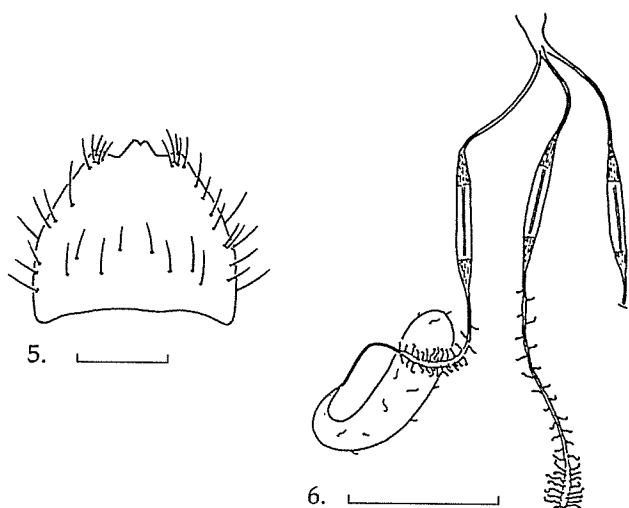
yellow; hind tibia brown except for wide, subapical, yellow band. Tarsi with basal tarsomeres mostly yellow, narrow apices slightly brown to brown, tarsomeres 2-4 and base of tarsomere five light brown, narrow apex of five brown. Empodium about $\frac{1}{2}$ as long as claws.

Abdomen largely dark brown, lateral and apical margins of terga 1-7 partly or completely yellowish. Tomentum primarily brownish with side and apex of most terga grayish to pale yellowish.

Genitalia (Figs. 1-4) largely yellow, cercus and apical one-half of epandrium brown. Epandrium slender apically with pointed apex. Primary penal valve flat, leaf-like, secondary penal valve digitate. Aedeagus thin apically, long, curved ventrally.

Female. As male except as follows: Length: body 7.5 mm; wing 4.4 mm. Face above mystax yellowish, below narrowly whitish. Vein CuA1+M3 short, about one-half as long as crossvein r-m. Each abdominal tergum dorsally with large, brown tomentose spot, wide apical and lateral margins whitish or grayish; sterna grayish. Sternum 8 slightly longer than wide, apical margin produced medially, setae laterally and basally. Lateral spermatheca with large, swollen, apical capsule, median spermatheca only slightly swollen; capitate tentacles most abundant between valves and capsule, capsule with sparse tentacles; median spermatheca only slightly swollen apically, capitate tentacles most abundant apically.

Holotype ♂. Dominican Republic: Jarabacoa, xi.1950, N. L. H. Krauss, (USNM). **Allotype** ♀, Haiti: Port-au-Prince & vic., 2.x.1934, Darlington, (MCZC).



Figs. 5-6. *Beameromyia melana*, new species, ♀. 5: Sternum 8. 6: Spermathecae. Scale: Fig. 5 = .3 mm; Fig. 6 = .2 mm.

Etymology. Greek *melana* meaning black, refers to the black tomentum of the face of the male.

Remarks. The male of *B. melana* is readily recognized by the black tomentose face, the yellow apical $\frac{1}{2}$ of the clavate portion of the hind femur, and dark basal antennomeres. The female is recognized by the apical margin of sternum 8 and the presence of sparse, capitate tentacles on the spermatheca. *Beameromyia melana* is most similar to *B. cubensis* and *B. chrysops* Martin but differs in the characters listed above, the reddish metapleuron and the shapes of the penal valves.

Beameromyia cubensis (Bigot)

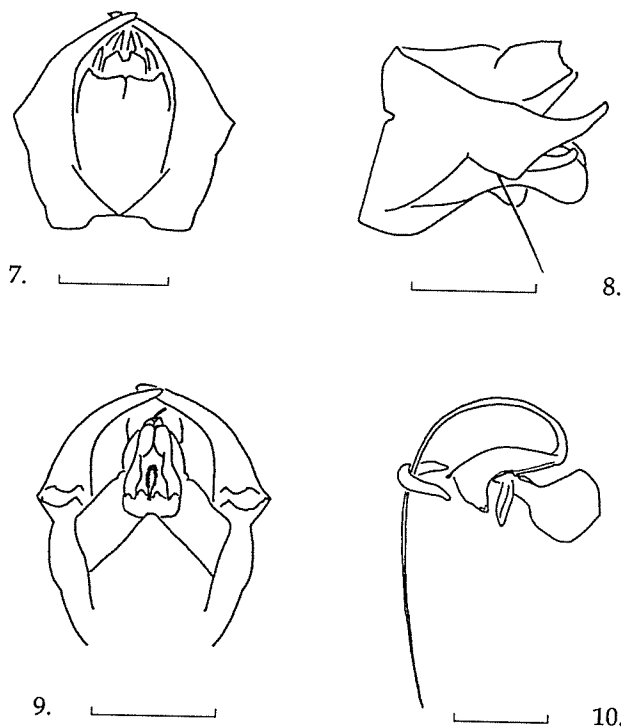
Figs. 7-12

Gonypes cubensis Bigot, 1857(1856):332. Type locality Cuba, Distr. MNHN.

Leptogaster cubensis Bigot. Bromley 1929:272-295. Hull 1962:299.

Beameromyia cubensis (Bigot). Martin 1968:5. catalogue.

Redescription, male. Body largely dark brown to black. Length: body 7.7 mm; wing 4.4 mm. Face mostly white tomentose, slightly yellowish just



Figs. 7-10. *Beameromyia cubensis* (Bigot), ♂. 7-9: Genitalia, dorsal, lateral and ventral views. 10: Aedeagus. Scale: Figs 7-10 = .3 mm.

below antenna, 6 long, pale yellow setae present. Proboscis and Palpus brownish with sparse, pale yellow setae. Antenna brown, basal 2 antennomeres yellowish brown with brown setae dorsally and pale yellow setae ventrally, combined length of basal 2 antennomeres about $\frac{2}{3}$ as long as flagellum; stylus slightly shorter than flagellum, flagellum 3x as long as wide. Frons yellowish brown tomentose; vertex about 3x as wide as face at narrowest point. Occiput dorsally yellowish brown tomentose with pale yellow setae, tomentum mostly whitish ventrally with whitish setae.

Thorax brown to black. Mesonotum largely yellow-brown tomentose, median brown tomentose stripe bordered with light, incomplete, narrow line of light yellow-brown tomentum; mesonotum laterally yellowish tomentose, whitish posteriorly; 2 brownish yellow bristles present laterally; setae sparse, long row of dorsocentral setae present, setae on posterior $\frac{1}{3}$ of mesonotum longest, about $\frac{1}{2}$ -2x as long as r-m crossvein. Scutellum and mesopleuron whitish tomentose with thin, pale setae. Halter yellow, knob brown to yellow-brown.

Apical $\frac{3}{4}$ of wing with abundant microtrichia, basal $\frac{1}{4}$ with microtrichia bordering veins, sparse or absent within basal cells. Veins CuA1 and M3 crossing in the form of an X only; crossvein cu-m present. Base of cell r4 at apex of cell d.

Anterior 4 legs largely yellow, narrow apices of anterior 2 femora slightly brownish and mid tibia anteriorly with an elongate, light brownish spot. Hind femur and hind tibia largely brown, wide, subapical, yellow band present. Tarsi with basal tarsomeres largely pale yellow, narrow apices pale brown or reddish yellow; tarsomeres 2-4 and most of tarsomere 5 reddish yellow, narrow apices brown. Empodium about $\frac{1}{3}$ to $\frac{1}{2}$ as long as claws.

Abdomen with largely brown and yellow-brown tomentum, narrow subapices and lateral margins of terga 2-5 and margins of all sterna, yellow; terga 2-4 apically with narrow, contrasting brown ring, light cuticular areas with yellow to light yellow tomentum; lateral margin of terga with whitish or grayish tomentum.

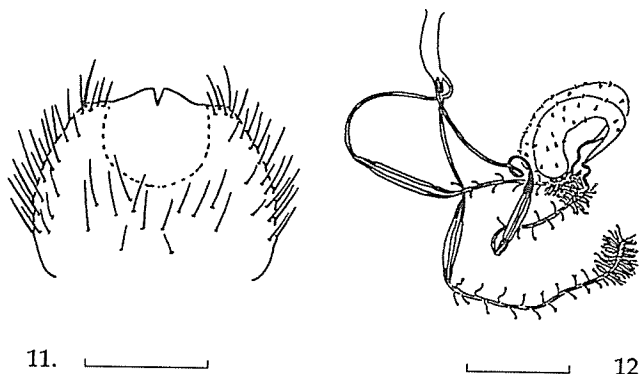
Genitalia (Figs. 7-10). Apical $\frac{1}{2}$ of epandrium slender, apex pointed. Secondary penial valve elongate, digitate in lateral view. Aedeagus extremely slender, elongate and curved behind and below base of genitalia.

Female. As male except as follows: Length: body 4.8-7.7 mm; wing 3.4-4.7 mm. Dorsal $\frac{1}{4}$ to $\frac{1}{5}$ of face yellow tomentose. Basal 2 antennomeres yellowish brown to brown. Mesonotum with medi-

an brown tomentose stripe more distinct than in male, pleuron yellowish tomentose. Base of r4 cell well beyond apex of cell d. Apices and margins of terga and of apical 4-5 segments white or gray tomentose. Apical margin of cercus oblique, sternum 8 (Fig. 11) oval, about as long as wide, apical margin produced medially, anteroapical and lateral margins with numerous, thick setae, setae elsewhere sparse; anteromedian surface somewhat oval, devoid or almost devoid of vestiture, area somewhat oval. Lateral spermatheca (Fig. 12) greatly swollen apically, bulbous, recurved; median spermatheca entirely thin, tube-like, only slightly enlarged apically; spermathecae with long, weakly capitate, tentacles; tentacles dense at apex of median spermatheca or just beyond valves of lateral spermatheca; swollen capsules of lateral spermatheca with numerous, short, scale-like setae.

Specimens examined. Cuba: 1 ♂, Calabazar, 5.viii.1928, S. C. Bruner; 1 ♀, Habana, 5.vi.1922, Seiz; 1 ♀, Las Pozag, Pinar del Rio, 27.iv.1934, Natenson, (USNM).

Remarks. *Beameromyia cubensis* (Bigot) is similar to *B. melana*, but differs in the white tomentum of the face, tomentum of the frons, the yellowish setae of the basal 2 antennomeres, the wholly black pleuron, hind femur and hind tibia brown with a wide subapical yellow band, and the com-



Figs. 11-12. *Beameromyia cubensis* (Bigot), ♀. 11: Sternum 8. 12: Spermathecae. Scale: Figs 11 and 12 = .2 mm.

bined characters of the genitalia. The female is readily recognized by the unusually dense tentacles on the spermathecae, the oval shaped sternum eight, and the flat, scales-like setae on the surface of the spermathecal capsules.

Beameromyia dicrana, new species

Figs. 13-18

Male. Body dark brown to black. Length: body 8.4 mm; wing 6.2 mm. Face with yellowish tomentum and 6 long, yellow setae. Proboscis and Palpus dark brown with sparse, yellow vestiture. Antenna with stylus and flagellum brown and of equal length; basal 2 antennomeres yellow with slight tint of brown, setae yellow, combined length of basal 2 antennomeres $\frac{1}{2}$ as long as flagellum. Occiput brown tomentose dorsally, grading to brownish gray ventrally, with whitish to pale yellow vestiture.

Thorax dark brown to black. Mesonotum largely brown tomentose, without distinct median stripe, especially anteriorly; posteriorly bordered by 2 thin, light, grayish tomentose lines, mesonotum gray tomentose laterally and posteriorly; 2 brown, scutal bristles present laterally, setae sparse and brown; dorsocentral setae short, about $\frac{1}{2}$ as long as crossvein r-m; margin of scutellum with 2 long, thin,

brown setae, length slightly longer than crossvein r-m. Halter with yellow stalk, brownish knob.

Wing entirely microtrichose, uniformly dense on apical $\frac{3}{4}$, less dense basally. Veins M2 and M3+CuA1 short, about as long as crossvein r-m.

Coxae yellow with grayish tomentum and pale vestiture. Femora largely yellowish brown to brown, bases narrowly yellow; fore and mid femora lighter posteriorly, yellowish to brownish yellow. Apical $\frac{1}{3}$ of hind femur swollen, brown with subapical, light yellow-brown spot anteriorly. Fore and mid tibiae brown anteriorly with bases narrowly yellow, more yellowish posteriorly, vestiture largely yellow; hind tibia largely brown except subapical yellow-brown spot laterally; vestiture of hind tibia brown. Fore and mid tarsi with basal 3 tarsomeres yellow, apices narrowly brown, apical 2 tarsomeres yellowish brown to brown; vestiture brown except for 1 or 2 yellow lateral setae. Empodium $\frac{1}{3}$ as long as claws.

Abdomen largely with brown tomentum, lateral and apical margins of most terga yellowish gray to grayish; vestiture largely whitish or pale yellow, including lateral setae on tergum 1.

Genitalia (Figs. 13-18) yellowish brown. Apex of epandrium divided with 1 short, ventral process, and 1 longer, spatulate, dorsal process (Fig. 16). Aedeagus short apically, about as long as aedeagal apodeme, basally strongly u-shaped (Figs. 17-18). Each side of distiphallus with forked, digitate, penial valve, ventrally a flat, weakly sclerotized plate or penial valve present. Hypandrium subrectangular.

Female. Unknown.

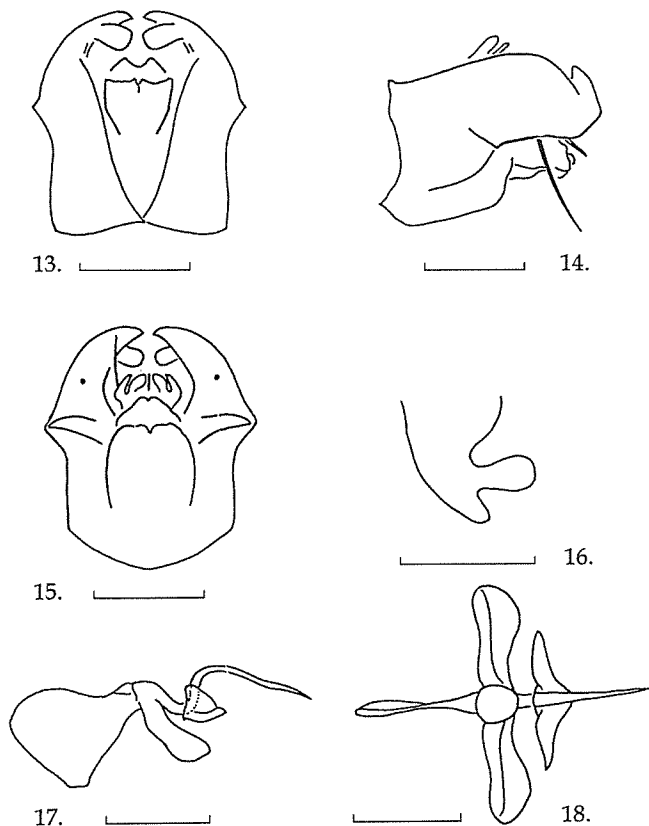
Holotype ♂. Dominican Republic: Prov. Pedernales, ca. 35 km n. Cabo Rojo, 1250 m, Las Abejas, malaise trap, 26.vii-09.ix. 1988, M. A. Ivie, T. K. Philips, & K. A. Johnson, (USNM).

Etymology. Greek, *dicrana*, adj., "two pointed", refers to the forked or branched penial valve.

Remarks. *Beameromyia dicrana* is recognized by its dark color, basal 2 antennomeres about $\frac{1}{2}$ as long as the flagellum, the light yellowish brown spot on the anterior surface of the hind femur, the brown tomentose dorsum of the mesonotum, wings wholly microtrichose, the spatulate dorsal branch of the epandrium, and the forked penial valves.

Beameromyia graminicola Farr

Beameromyia graminicola Farr, 1963:16-17. Type locality Jamaica, holotype ♂ and allotype ♀, USNM, 24 paratypes. Martin 1968:5, catalogue.



Figs. 13-18. *Beameromyia dicrana*, new species, ♂. 13-15: Genitalia, dorsal, lateral and ventral views. 16: Apex of epandrium. 17-18: Aedeagus, lateral and dorsal views. Scale: Figs 13-15, 17 and 18 = .3 mm; Fig. 16 = .2 mm.

Remarks. *Beameromyia graminicola* is recognized by the stylus being slightly shorter than the flagellum, the empodium of the hind tarsus is about $\frac{2}{3}$ as long as the claws, and the tomentum of the abdomen is mostly whitish or grayish. Furthermore, the entirely or largely yellow legs, the 1-2 prominent, brown bands of the hind femur and hind tibia, and the combined characters of the genitalia characterize the species. Sternum 8 of the females of *B. graminicola* and *B. virginensis* is almost identical. However, *B. graminicola* has several, bristly setae primarily limited to the narrow, lateral margins of sternum 8, and 2 transverse rows of 4-5 setae medially.

Specimens examined. Jamaica: Holotype ♂, allotype ♀, 24 paratypes, (USNM); 1 ♂, 2 ♀, (MCZC).

Beameromyia insulara Martin

Figs. 19-20

Beameromyia insulara Martin, 1957b:3. Holotype ♀, AMNH, type locality, Turks and Caicos Islands, West Caicos Island. Martin 1968:5, Catalogue.

Redescription, female. Body largely reddish brown to yellow-brown. Length: body 8.7-9.1 mm; wing 6.0-5.9 mm. Face white to slightly yellowish tomentose with 6 long, pale yellow or whitish setae. Proboscis and Palpus brownish with sparse, pale yellow setae. Antenna with apical 2 antennomeres brown, basal 2 yellow with brown setae dorsally and pale yellow setae ventrally; stylus slightly shorter than flagellum, flagellum 3x as long as wide, and slightly longer than basal 2 antennomeres combined. Frons yellow tomentose. Occiput dorsally brownish yellow grading to brownish gray to

grayish ventrally, vestiture sparse, pale yellow or whitish.

Thorax slightly reddish yellow to yellow with mostly light yellowish tomentum. Mesonotum dorsally with 3 wide, longitudinal, reddish brown, cuticular stripes, each covered with yellow-brown tomentum, middle stripe divided anteriorly for short distance by thin line of yellowish tomentum; setae mostly brown, generally sparse, most abundant as long row of dorsocentral setae and those setae between dorsocentral setae posteriorly, posterior dorsocentral setae as long as or longer than crossvein r-m; 2 brown bristles present on each side of mesonotum. Scutellum with thin, brown, marginal setae. Halter yellow, knob brown.

Wing hyaline, apical $\frac{2}{3}$ of wing with dense microtrichia. CuA1+M2 slightly longer than crossvein r-m; base of r4 just beyond apex of cell d.

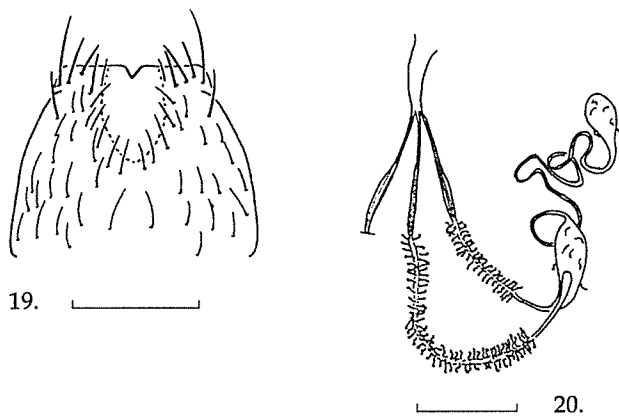
Coxae and trochanters yellow; anterior 2 femora and tibiae largely light brownish yellow, more yellowish posteriorly, bases yellow. Hind femur and hind tibia largely brown, with narrow, subapical, yellowish band, yellowish basally. Tarsi with basal tarsomeres largely pale yellow, apices narrowly light brownish yellow, tarsomeres 2-4 and most of 5 darker brownish yellow, apex of tarsomere 5 brown. Empodium about $\frac{1}{2}$ as long as claws.

Abdomen largely yellow-brown or reddish to brown, narrow lateral margins and subapical bands of terga 2-5 yellowish with yellowish tomentum, apices of these terga contrastingly reddish brown; terga dorsally with largely brown to yellowish brown tomentum, tergum 1 and base of tergum 2 whitish laterally. Tergum 8 yellow, apical $\frac{1}{2}$ polished with numerous, brown setae. Genitalia with apical margin of cercus strongly oblique, corners pointed acutely (Fig. 19). Sternum 8 truncate apically, corners angular with several, long, stiff setae, shorter setae posteriorly. Spermathecae (Fig. 20) with abundant tentacles between valves and enlarge capsules; median spermatheca only slightly enlarged apically, apex without tentacles; lateral spermathecae with intermediate and apical capsules, each with sparse tentacles.

Male. Unknown.

Specimens examined. Bahamas: Holotype ♀, West Caicos Island; paratypes, two ♀, San Salvador Island, field S. of Bahamian Field Station, malaise trap, 7.vi.1980, A. G. Scarbrough, (USNM).

Remarks. *Beameromyia insulara* is recognized by the reddish brown to reddish yellow cuticle, 2 yellow basal antennomeres, 3 reddish, longitudinal, cuticular stripes on the mesonotum which are



Figs. 19-20. *Beameromyia insulara* Martin ♀. 19: Sternum 8. 20: Spermathecae. Scale: Figs 19 and 20 = .2 mm.

covered with yellow-brown tomentum, the middle stripe divided anteriorly, 2 brown, lateral mesonotal bristles, the truncate apical margin of sternum 8, and the absence of tentacles before the spermathecal valves.

Specimens from San Salvador Island, Bahamas, are essentially identical to the holotype female of *B. insulara*. They differ in the larger body and the median tomentose stripe on the mesonotum. Also, the yellow band on the hind femur and hind tibia is more pronounced.

***Beameromyia quaterna*, new species**

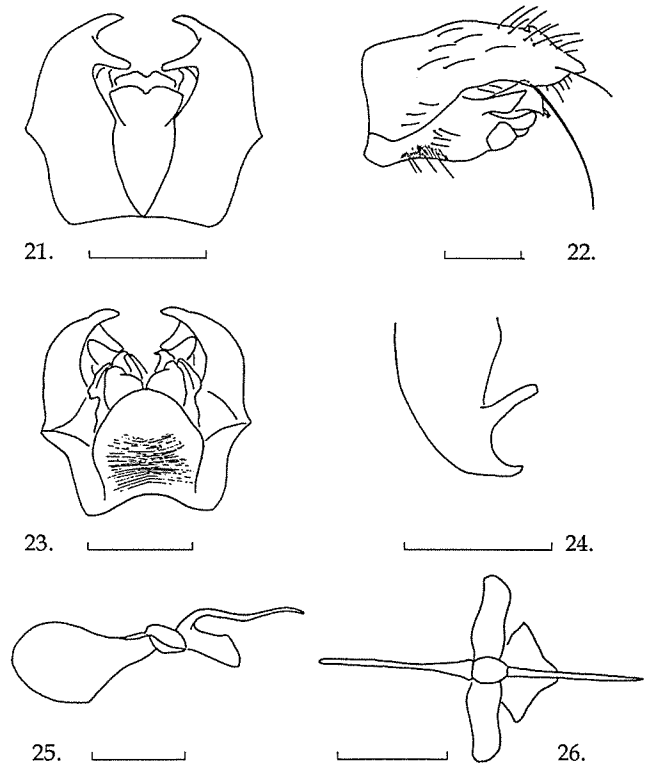
Figs. 21-29

Male: Body reddish to brown. Length: body 8.3 mm; wing 4.7 mm. Face white tomentose with 4 long, pale yellow or whitish setae. Proboscis and Palpus brownish with sparse, pale yellow setae. Frons yellow-brown tomentose. Antenna with yellow pedicel and yellowish brown scape, with brown setae, combined length of basal 2 antennomeres $\frac{2}{3}$ as long as flagellum; flagellum and style brown, style slightly longer than flagellum; flagellum 4x as long as wide. Occiput yellowish brown tomentose dorsally, grayish below, vestiture pale yellow to white.

Mesonotum with medium cuticular stripe and 2 lateral disks reddish brown, wide anterior corners, narrow sides and posterior reddish yellow to yellow; dorsum yellow-brown tomentose, median stripe bordered by thin lines of much lighter tomentum, all margins of mesonotum, whitish; 2 brown bristles present laterally, brown setae sparse except for those on anterior $\frac{1}{3}$ of mesonotum and long row of dorsocentral setae on each side, dorsocentral setae as long as or slightly longer than crossvein r-m. Scutellum mostly brown, apical margin yellow, tomentum and vestiture whitish. Mesopleuron reddish yellow with whitish tomentum and vestiture. Halter with stalk yellowish, knob brown.

Apical two-thirds of wing with dense microtrichia. CuA1+M3 slightly shorter than crossvein r-m. Crossvein r-m well before middle of cell d; base of r4 well beyond apex of cell d.

Coxae yellow with whitish tomentum and vestiture. Femora largely to entirely yellow on basal $\frac{1}{3}$ to $\frac{1}{2}$, hind femur with narrow, brown stripe basally, apical $\frac{1}{2}$ uniformly brown. Fore and mid tibiae brown anteriorly, yellowish posteriorly, vestiture yellow; hind tibia largely brown, yellowish basally with narrow, brown stripe anteriorly, faint, lighter brown, subapical band present. Tarsi with basal tarsomeres mostly pale yellow, narrow apices, light



Figs. 21-26. *Beameromyia quaterna*, new species, ♂. 21-23: Genitalia, dorsal, lateral and ventral views. 24: Apex of epandrium. 25-26: Aedeagus, lateral and dorsal views. Scale: Figs 21-23, 25 and 26 = .3 mm; Fig. 24 = .2 mm.

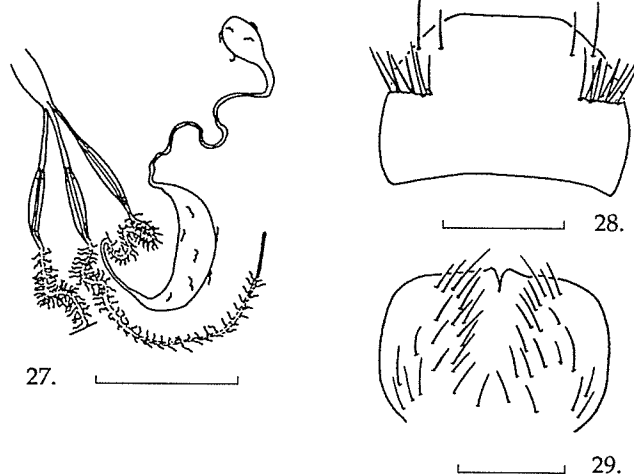
brownish yellow, tarsomeres 2-4 and most of tarsomere 5 brownish yellow, narrow apex of 5 brown. Empodium black, about $\frac{1}{3}$ as long as claws.

Abdomen largely reddish brown with dark yellow-brown tomentum and brown setae; terga 2-4 with narrow apical and lateral margins yellowish with brownish yellow tomentum, tergum 1 laterally with grayish tomentum; terga 5-8 laterally with dull yellowish tomentum.

Genitalia (Figs. 21-26). Apex of epandrium wide and angular, dorsal lobe narrow with truncate apex. Secondary penial valve subrectangular; valve partially folded apically. Hypandrium rounded apically, with minute lines or wrinkles posteriorly, vestiture sparse, short, thin. Aedeagus (Figs. 25-26) slightly undulated medially.

Female. As male except as follows: Length: body 7.5-8.2 mm; wing 5.0-5.5 mm. Scape and pedicel brownish yellow, flagellum 3x as long as wide. Apical and lateral margins of 4-5 terga and margins of most or all exposed sterna yellow with yellow tomentum, apical $\frac{1}{2}$ of sternum 6 and all of 7 yellow in 1 specimen. Tergum 8 (Fig. 28) mediolaterally with short row of closely spaced, stiff setae. Sternum 8 (Fig. 29) reddish, about twice as long as wide,

apical $\frac{1}{2}$ - $\frac{2}{3}$ polished and with numerous, stiff setae on each side of polished middle; 4-5 short, bristly setae behind membranous apical margin, setae weaker than those in *B. virginensis*. Spermathecae (Fig. 27) as in *B. insulara* and *B. virginensis*, except



Figs. 27-29. *Beameromyia quaterna*, new species, ♀. 27: Spermathecae. 28: Tergum 8. 29: Sternum 8. Scale: Fig. 27 = .2 mm; Figs 28 and 29 = .3 mm.

crescent-shaped median capsules and apex of median spermatheca not noticeably swollen; tentacles acuminate apically.

Holotype ♂ & allotype ♀. Puerto Rico: Mona Island, Los Pinos, sweep from grass, 28.x.1955, W. H. Cross, (USNM). Paratypes: 3 ♂, same data, (USNM).

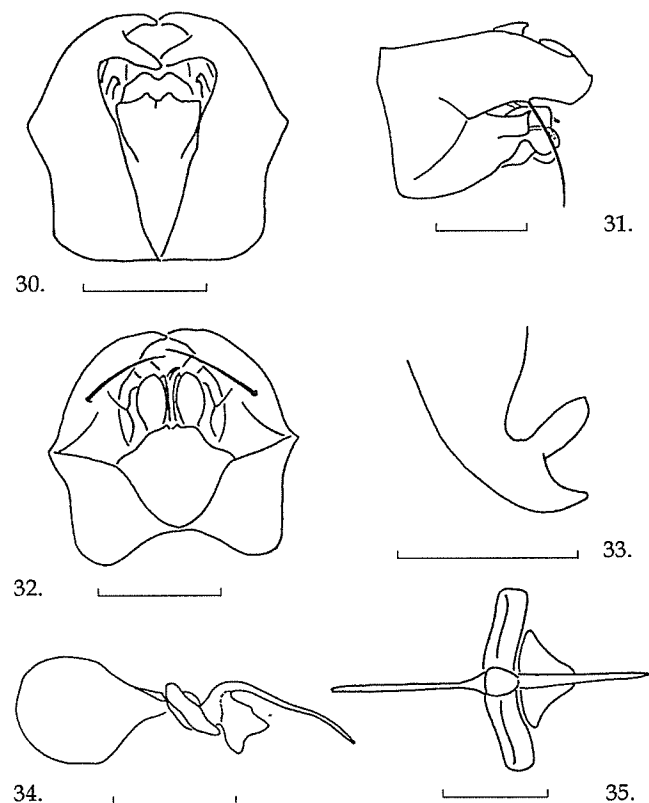
Etymology. Latin, *quaterna*, adj. meaning "consisting of 4", refers to the presence of 4 facial setae.

Remarks. *Beameromyia quaterna* differs from other West Indian species by the reddish color of the body, the 4 setae on the face, the uniform brown color of the swollen portion of the hind femur, the light band on the hind tibia, and the combined characters of the genitalia. In addition, the stylus is slightly longer than the flagellum, the empodium of the hind tarsus is $\frac{1}{3}$ as long as the claws. This species will key to *B. graminicola* in Farr's key but differs from that species by the characters listed above. The female differs from other species by the 4 setae of the face, the wide spread bristly setae of sternum 8, except for a long, narrow polished area medially, the mediolateral short row of setae on tergum 8, and the crescent-shaped median capsule of the lateral spermatheca.

Beameromyia virginensis,
new species
Figs. 30-37

Male. Body largely yellowish brown or blond. Length: body 6.9-9.1 mm; wing 5.0-7.0. Face largely yellowish tomentose grading to whitish ventrally, mystax with 8 long, pale yellow setae. Proboscis brown apically to yellowish brown basally, Palpus yellowish brown with pale yellow vestiture. Frons light to dark yellow-brown tomentose. Basal 2 antennomeres yellow, clearly shorter than flagellum; brown flagellum and style of equal length: flagellum $2\frac{1}{2}$ x as long as wide. Occiput brownish gray or brownish yellow tomentose dorsally grading to whitish ventrally, vestiture pale yellow.

Mesonotum largely brown, yellow-brown anterolaterally and laterally, postalar callus yellow; dorsum brown tomentose with median stripe bordered by narrow yellow-brown stripe of tomentum, mesonotum laterally and posteriorly yellow to grayish tomentose; middle stripe anteriorly divided



Figs. 30-35. *Beameromyia virginensis*, new species, ♂. 30-32: Genitalia, dorsal, lateral and ventral views. 33: Apex of epandrium. 34-35: Aedeagus, lateral and dorsal views. Scales: 30-35 = .3 mm.

with faint line of light yellowish brown tomentum. Dorsum with sparse vestiture, largely brown, consisting mostly of long row of dorsocentral setae and two bristles on each side; posterior dorsocentral setae longer than crossvein r-m. Scutellum and mesopleuron pale yellow to whitish tomentose with largely or entirely pale yellow vestiture. Margin of scutellum with several short, brown and yellow setae, none as long as r-m crossvein. Halter yellow, with knob brownish.

Wing with abundant, brown microtrichia. Vein CuA1+M3 short, less than length of crossvein r-m; crossvein r-m well before middle of cell d; base of cell r4 just beyond apex of cell d.

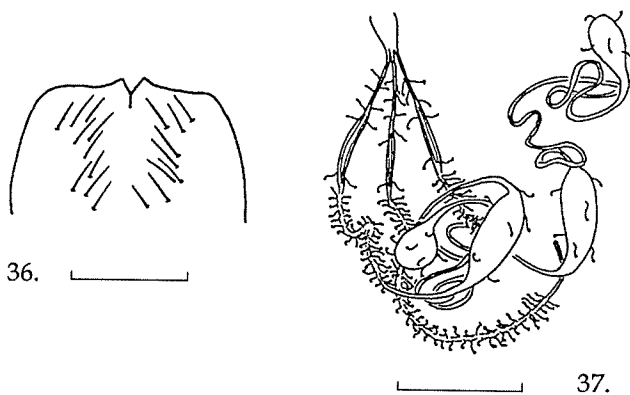
Coxae yellow with pale yellow or whitish tomentum and vestiture. Trochanter yellow. Fore and mid femora yellow basally, yellowish brown to brown otherwise, brown band or anterior spot often present on apical $\frac{2}{3}$; both femora slightly lighter in color posteriorly. Hind femur with apical $\frac{1}{2}$ greatly swollen; basal $\frac{1}{2}$ of hind femur usually yellow, sometimes with narrow, brown, anterior stripe; apical $\frac{1}{2}$ with brown band or spot grading into yellow-brown apically. Fore and mid tibiae brownish anteriorly, yellowish posteriorly, bristles yellow. Hind tibia gradually swollen apically, apex 3-4x basal width, brown with subapical, yellowish band. Tarsi with tarsomeres yellowish basally, apices light to dark brown; basal tarsomere lightest, often pale yellow, and apical tarsomere darkest; all bristles dark brown. Claw and empodium black, empodium of hind tarsus short, $\frac{1}{3}$ - $\frac{1}{2}$ as long as claw.

Abdomen mostly brown, yellow as follows: narrow sides, wide band at apical $\frac{1}{3}$ and narrow, subapical band of tergum 2; narrow sides, and narrow basal and subapical bands of terga 3-5; and narrow sides and subapical band of tergum 7. Tomentum of abdomen mostly brown, gray to yellowish gray in yellow areas of basal 2 segments, tomentum grading to yellowish gray to brown-yellow in yellow areas of each successive segment. Pale tomentose areas with abundant, pale yellow setae, tomentum elsewhere brown.

Genitalia (Figs. 30-35). Dorsal lobe of epandrium thick, posterior branch pointed, shorter with wide base. Secondary penal valve subrectangular with short, dorsolateral point, tertiary valve spatulate. Aedeagus (Figs. 34-35) slightly angled downward, without distinct undulation.

Female. As male except as follows: Length: body 7.3-9.7 mm; wing 6.1-6.2. Basal antennomeres light to dark yellowish brown. Legs darker brown than in males, light apex of hind femur and yellow band

of hind tibia less contrasting than in males. Sternum 8 (Fig. 36) with apical margin, subtruncate, membranous, numerous bristly setae present beside middle; shorter, thicker setae present just behind membranous apical margin. Lateral spermatheca (Fig. 37) with large, apical capsule, and slighter larger, longer, intermediate capsule; spermathecal ducts with numerous, weak tentacles,



Figs. 36-37. *Beameromyia virginensis*, new species, ♀. 36: Sternum 8. 37: Spermathecae. Scale: Fig. 36 = .3 mm; Fig. 37 = .2 mm.

especially between basal valves and median capsules, sparse tentacles present before valves. Median spermatheca, narrow, tube-like with abundant tentacles beyond valves.

Holotype ♂ & allotype ♀. British Virgin Islands: Guana Island, 1-14.vii.1984, S. E. & P. M. Miller, (USNM). Paratypes: 10 ♂ & 3 ♀, same data as types; 1 ♀, St. Thomas Island, Frenchman Bay Estates, 25 May, 1978, 750 ft., M. A. Ivie, (USNM).

Etymology. Latin, *virginensis*, refers to the type locality of this species, British and the U. S. Virgin Islands.

Remarks. *Beameromyia virginensis* is similar to *B. graminicola* Farr and *B. quaterna* but differs by the color of the cuticle, with *B. virginensis* being blond, *B. quaterna* red, and *B. graminicola* brown. In addition, *B. virginensis* differs in the yellow tomentose face, brown-yellow front, the median tomentose stripe and brown-yellow tomentum of the mesonotum; the legs are also much darker, yellow-brown to light brown anteriorly, and lack distinct bands. Furthermore, the style is longer than that in *B. graminicola*, being as long as the flagellum, and the empodium of the hind tarsus is short, less than $\frac{1}{2}$ as long as the claws. The yellow bands of terga 2-5, the abundant yellowish to yel-

low-brown tomentum of the abdomen, and the combined characters of the genitalia separate the species. In addition to the blond color of the body, the yellow bands of the abdomen, the shape of the epandrium, and the penal valve, and 6 facial setae separate it from *B. quaterna*.

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