The Neotropical Predaceous Midges of the genus Bezzia 
(Diptera: Ceratopogonidae) Part IV. 
The dentifemur and venustula Groups

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Abstract
The dentifemur and venustula groups of the subgenus Homobezzia Macfie, genus Bezzia Kieffer, are represented in the Neotropical Region by 12 species. A key is presented for their identification, and to distinguish them from other groups of the subgenus Homobezzia. The two previously known species, B. venustula (Williston) and B. snowi Lane, are described and illustrated, as well as the following ten new species: aitkeni, bromeliae, cayoensis, dentifemur, filidactus, fuscamedicina, nigritibialis, pseudovenustula, and raposoensis. Bezzia concoloripes Macfie is regarded as a junior synonym of B. venustula (Williston).

Introduction
This is the fourth and final paper in a series comprising a taxonomic study of the Neotropical species of the genus Bezzia Kieffer. Previous papers in this series dealt with the glabra and brevicornis groups of the subgenus Homobezzia Macfie (Spinelli & Wirth 1989a), the nobilis and punctipennis groups of the subgenus Bezzia (Spinelli & Wirth 1989b), and the gibbera group of the subgenus Bezzia (Spinelli & Wirth 1991).

The present contribution deals with the two remaining groups of the subgenus Homobezzia, which are here named the dentifemur and venustula groups. The only two Neotropical species in these groups previously described are Bezzia venustula (Williston), described from St. Vincent in 1896, and Bezzia snowi Lane, from Guatemala in 1958. Macfie (1940) described Bezzia concoloripes from Guyana, but this species is shown herein to be a junior synonym of B. venustula. In this paper we present the diagnosis of the subgenus Homobezzia, a key to separate the species groups which includes modifications with respect to the keys given in the two above-mentioned papers, and the descriptions and illustrations of ten new species.

The types of the new species are deposited in the collection of the National Museum of Natural History, Smithsonian Institution (USNM), in Washington, D. C. Some paratypes will be deposited in the collection of the Museo de La Plata, La Plata, Argentina (MLP). We have attempted to illustrate types whenever possible.

Explanation of our terminology can be found in the papers by Wirth (1952), Dow and Turner (1976), Wirth et al. (1977), and Downs and Wirth (1981). For references about the background, diagnoses, and synoptic key to subgenera and species groups of Neotropical Bezzia, see Spinelli and Wirth (1989a).

Subgenus Homobezzia Macfie

Homobezzia Macfie, 1932: 496. Type-species, Homobezzia nyasa Macfie (by monotypy); Remm, 1974: 137 (status, as subgenus; diagnosis).

Diagnosis (modified from Remm 1974). Scutum dull, occasionally weakly shiny, brownish or grayish, with or without vittae. Legs frequently with
venustula Group

5(4'). Dark brown species; gland rods well sclerotized; male flagellar segments 3-11 yellowish, distinctly separated; 9th sternum with shallow caudomedian excavation; basistyle stout, dististyle ending in a broad tip; aedeagus 1.5 as long as basal breadth ... dentifemur new species

5'. Pale brown species; gland rods very slightly sclerotized; male flagellar segments 3-11 brown, distinctly separated; 9th sternum with deep caudomedian excavation; basistyle slender, dististyle ending in a sharp-pointed process; aedeagus as long as basal breadth ... raposoensis new species

Key to Neotropical Species Groups of Subgenus Homobezzia, and Species included in the dentifemur and venustula Groups

1. Fore femur slender, without spines or with 1-9 stout to slender spines, with or without strong basal tubercles; scutum usually with anterior spine ................. 2

1'. Fore femur moderately to greatly swollen, with 7-10 stout ventral spines of alternating uneven lengths arising from distinct elevations; scutum without anterior spine ... (dentifemur Group) 4

2(1). Fore femur armed ventrally with one or more short black spines ................. 3

2'. Fore femur unarmed ventrally .......... glabra Group

3(2). Two functional spermathecae (venustula Group) 6

3'. One functional spermatheca .......... brevicornis Group

dentifemur Group

4(1'). Large species (wing length 2.05 mm); fore femur moderately swollen, pale brown; fore and hind tibiae dark brown; antennal ratio 1.45; spermathecae large (largest measuring 0.138 by 0.110 mm), globose with filiform necks ............ filiductus new species

4'. Small species (wing length 1.10-1.40 mm); fore femur greatly swollen, dark brown; fore and hind tibiae pale brown; antennal ratio 1.03-1.18; spermathecae ovoid with moderately broad necks, measuring 0.034 by 0.030 mm ... 5

6(3). Ventral femoral spines present only on fore legs ... 7

6'. Ventral femoral spines present on all legs ... 12

7(6). Large species (wing length 2.25 mm); all femora yellow ................. nigritibiulis new species

7'. Small species (wing length 1.12-1.77 mm); at least hind femur brown or dark brown .......... 8

8(7). Antennal ratio 0.9-1.31; mid femur and fore and hind tibiae without subapical pale rings ... 9

8'. Antennal ratio 1.80-2.13; mid femur and fore and hind tibiae with subapical pale rings ... 10

9(8). Legs yellowish brown, apex of hind femur brown ................. aiikeni new species

9'. Legs dark brown, tibiae with faint basal pale rings .......... 11

10(8'). Light brown species; broad apex of hind tibia pale; costal ratio 0.85; vein M broadly sessile; four pairs of gland rods; vestigial third spermatheca present .......... mexicana new species

10'. Dark brown species; apex of hind tibia dark brown; costal ratio 0.80; vein M just sessile; one pair of gland rods; no trace of vestigial third spermatheca .......... cayoensis new species

11(9). One pair of gland rods; mandible with eight teeth; costal ratio 0.85; spermathecae subspherical, no trace of vestigial third .......... pseudovenustula new species

11'. Four pairs of gland rods; mandible with 10-12 teeth; costal ratio 0.80; spermathecae ovoid, vestigial third present (well developed in some specimens) .......... venustula (Williston

12(6). Legs dark brown, fore femur and narrow apex of fore tibia slightly pale; spermathecae with small punctations .......... fusca new species
Legs yellowish, joints dark and distal 1/3 of hind femur dark brown; spermathecae without small punctations

Halter pale brown; spermathecae unequal (largest measuring 0.099 by 0.075 mm) with short necks; male dististyle 0.75 as long as basisty; paratermes two times as long as length of aedeagus, distal process swollen in middle; respiratory horn of pupa with four spiracular openings

Halter dark brown; spermathecae unequal, measuring 0.044 by 0.037 mm, with long necks; male dististy 0.60 as long as basisty; paratermes two times as long as length of aedeagus, distal process uniformly slender; respiratory horn of pupa with 11 spiracular openings

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**Bezzia dentifemur** Group

**Bezzia filiductus** Spinelli & Wirth

New species

Figures. 1-6.

**Female.** Wing length 2.05 mm; breadth 0.65 mm.

Head: Dark brown. Eyes separated for a distance equal to diameter of two ommatidial facets. Antenna (Fig. 1) long, uniformly brown; lengths of flagellar segments in proportion of 45-28-28-28-28-27-29-53-63-65-74-97; antennal ratio 1.45. Palpus (Fig. 2) brown; lengths of segments in proportion of 9-23-30-20-21; palpal ratio 2.75; third segment with numerous sensilla. Mandible with eight teeth.

Thorax: Dark brown, scutum without anterior spine; three strong prealar setae, one postalar; scutellum with four similar setae in addition to small hairs. Legs (Fig. 3) with fore femur slightly swollen, bearing nine ventral black spines of alternating uneven lengths arising from distinct low elevations (Fig. 4); fore femur pale brown, mid femur pale brown except apex dark brown, hind femur dark brown except narrow base pale brown; tibiae dark brown; mid tibia without apical spine-like seta; hind tibial comb with six setae. Tarsi uniformly brown; ventral palisade setae absent on fore tarsus, in one row on tarsomerese 1-2 of mid leg, in two rows on tarsomerese 1-2 of hind leg; hind tarsal ratio 2.17; claws short, slightly curved, each with internal basal tooth. Wing (Fig. 5) infuscated, especially along veins; costal ratio 0.83; M broadly sessile, anterior veins brown. Halter dark brown.

Abdomen: Brown, slightly paler than thorax. Gland rods absent. Two spermathecae (Fig. 6) plus vestigial third; large, globose with filiform necks; unequal, measuring 0.138 by 0.110 mm, and 0.122 by 0.099 mm.

**Male.** Unknown.

**Distribution.** Colombia.

**Type.** Holotype female, Colombia, Valle, Rio Raposo, viii.1964, V. H. Lee, light trap.

**Discussion.** Bezzia filiductus differs from B. dentifemur and B. raposoensis, the other two Neotropical species of the dentifemur Group, by its large size, fore femur moderately swollen with spines arising from low elevations, and large globose spermathecae with filiform necks.

**Bezzia dentifemur** Spinelli & Wirth

New species

Figures 7-15.

**Female.** Wing length 1.36 (1.2/-1.40, n = 5) mm; breadth 0.46 (0.53-0.50, n = 5) mm.

Head: Dark brown. Eyes separated by a distance equal to diameter of one ommatidial facet. Antenna (Fig. 7) brown, narrow bases of flagellar segments pale; lengths of flagellar segments in proportion of 30-17-17-17-17-17-17-21-32-33-30-41; antennal ratio 1.09 (1.03-1.19, n = 5). Palpus (Fig. 8) brown, lengths of segments in proportion of 9-12-20-15-13; third segment with numerous sensilla; palpal ratio 2.05 (1.95-2.20, n = 5). Mandible with 8-10 teeth.

Thorax: Brown; scutum covered by fine pubescence and short hairs, no anterior spine; three prealar setae, one postalar; scutellum with six setae. Legs (Fig. 9) brown, narrow bases of fore femur and fore and hind tibiae pale brown; fore femur greatly swollen, armed with 7-10 stout black ventral spines of alternating uneven lengths arising from distinct high elevations (Fig. 10); mid tibia with apical stout spine-like seta; hind tibial comb with 5-6 stae. Tarsi pale brown, fifth tarsomeres dark; ventral palisade setae absent on foretarsus, in one row on tarsomerses 1-2 of mid leg and tarsomere 3 of hind leg, in two rows on tarsomerses 1-2 of hind leg; hind tarsal ratio 2.56 (2.48-2.62, n = 5); claws short and curved, each with internal basal tooth. Wing (Fig. 11) with costal ratio 0.82 (0.80-0.83, n = 5); vein M broadly sessile;
membrane slightly infuscated, anterior veins pale brown. Halter brown.

Abdomen: Dark brown. Two pairs of long and well-sclerotized gland rods. Two spermathecae (Fig. 123) plus vestigial third, ovoid with moderately long necks; subequal, measuring 0.034 by 0.030 mm, with neck 0.010 mm long.

Male. Wing length 0.95 (0.90-1.02, n = 5) mm; breadth 0.31 (0.28-0.34, n = 5) mm; costal ratio 0.70 (n = 5). Similar to female with usual sexual differences. Antenna (Fig. 13) yellowish, distal portions of segments 12-15 brownish, segments 3-11 indistinctly separated; lengths of flagellar segments in proportion of 28-20-17-17-17-17-20-25-33-35-43-52. Palpus with lengths of segments in proportion of 7-12-19-13-16. Hind tarsal ratio 2.60 (2.50-2.77, n = 5).

Genitalia (Fig. 14): Ninth sternum broad, with shallow rounded caudomedian excavation; ninth tergum tapering, with two elongated lateral lobes. Basistyle stout, slightly longer than greatest breadth; dististyle short, stout, strongly curved hooklike. Aedeagus triangular, 1.5 times as long as basal breadth, with low basal arch; basal arms strongly sclerotized, tapering distally to moderately slender, rounded tip. Parameres (Fig. 15) with deeply bilobed, stout anterolateral plates; distal process long and slender with rounded tip, produced beyond aedeagus a short distance.

Distribution. Belize, Brazil, Colombia, Trinidad.


Discussion. Bezzia dentifemur can be distinguished from the related species, B. raposoensis, by its dark general coloration, strongly sclerotized gland rods, flagellar segments of male antenna yellowish and indistinctly separated, stout basistyle, broad tip of dististyle, and longer aedeagus.

Bezzia raposoensis Spinelli & Wirth

new species

Figures. 16-18.

Female. Wing length 1.35 (1.10-1.40, n = 5) mm; breadth 0.46 (0.37-0.50, n = 5) mm.


Thorax: Pale brown, scutum covered by fine pubescence and short hairs, without anterior spine; slightly sclerotized gland rods (not evident in some specimens). Two spermathecae plus vestigial third; ventral palisade setae absent on fore tarsus, in one row on tarsomeres 1-1 of mid leg and tarsomere 3 of hind leg, in two rows on tarsomeres 1-2 of hind leg; hind tarsal ratio 2.57 (2.46-2.64, n = 5); claws short, slightly curved, each with internal basal toth. Wing with costal ratio 0.80 (0.79-0.82, n = 5), nearly identical with that described for B. dentifemur. Halter brown.

Abdomen: Pale brown. Two pairs of very slightly sclerotized gland rods (not evident in some specimens). Two spermathecae plus vestigial third, ovoid with moderately long necks; subequal, measuring 0.034 by 0.030 mm, with neck 0.010 mm long.

Male. Wing length 0.93 (0.90-1.00, n = 5) mm; breadth 0.34 (0.31-0.37, n = 5) mm; costal ratio 0.75 (0.73-0.78, n = 5). Similar to female with usual sexual differences. Antenna (Fig. 16) entirely brown, flagellar segments distinctly separated, lengths of flagellar segments in proportion of 27-17-16-14-13-13-14-17-25-28-30-37. Palpus with

Hind tarsal ratio 2.33 (2.25-2.45, n = 5).

Genitalia (Fig. 17): Ninth sternum short, with deep, rounded caudomedian excavation; ninth tergum tapering, with elongated lateral lobes. Basistyle moderately long, 1.9 times as long as greatest breadth; dististyle short and stout, strongly curved, tapering in a sharp pointed process. Aedeagus triangular, as long as basal breadth; basal arch low, extending to 4/5 of total length; basal arms slender, tapering distally to blunt tip; ventral surface spiculate. Parameres (Fig. 18) with slender bilobed anterolateral plates; distal process long and slender, with rounded tip.

Distribution. - Colombia.

Types. - Holotype female, Colombia, Rio Raposo, 10.vi.1964, V. H. Lee, light trap; allotype male, same data except vii.1864. Paratypes, 21 females, 27 males, as follows: COLOMBIA: Rio Raposo, 10.vi.1964, V. H. Lee, light trap; 2 females, 10 males; 3.vi.1964, 1 female, 2 males; 10.vi.1964, 1 female; 15.vi.1964, 3 females, 4 males; vii.1964, 1 female, 1 male; 28.vii.1964, 1 male; viii.1964, 4 females, 2 males; xi.1964, 6 females, 4 males; 1965, 1 male; v.1965, 1 male; vi.1965, 1 female; viii.1965, 1 male.

Discussion. - This species is very similar to B. dentifemur, especially the female. Characters for separating the two species are given in the key and in the discussion under the latter species.

Bezzia venustula Group

Bezzia nigritibialis Spinelli & Wirth

new species

Figures 19-23.

Female.- Wing length 2.25 (n = 3) mm; breadth 0.78 (n = 3) mm.

Head: Light brown. Eyes contiguous, forming a V-shape where they contact. Antenna long (Fig. 19); lengths of flagellar segments in proportion of 34-26-27-26-27-27-29-52-50-56-61-74; antennal ratio 1.33 (1.31-1.35, n = 3). Palpus (Fig. 20) brown, segments 1-2 pale; lengths of segments in proportion of 12-18-25-15-18; palpal ratio 2.25 (2.20-2.30, n = 3); third segment with scattered sensilla. Mandible with eight teeth.

Thorax: Light brown; scutum covered by short pubescence and fine hairs; small anterior spine present; three slender prealar setae, one postalar; scutellum with four similar setae on each side. Legs (Fig. 21) with femora yellow, tibiae dark brown except narrow bascs yellow; forcc femur slender, armed with 2-4 ventral spines of similar length; each with basal tubercle; mid tibia with stout apical spinelike seta; hind tibial comb with eight setae. Tarsi pale brown, fifth tarsomeres dark; ventral palisade setae absent on fore tarsus, in one row on tarsomeres 1-3 of mid leg, in two rows on tarsomeres 1-3 of hind leg; a pair of strong ventral spines at apices of tarsomeres 1-3 on mid leg, smaller and paler on fore and hind legs; hind tarsal ratio 2.50 (n = 2); claws short, slightly curved, each with internal basal tooth. Wing (Fig. 22) with costal ratio 0.87 (n = 3); vein M broadly sessile; membrane hyaline, anterior veins pale brown. Halter brown.

Abdomen: Pale brown. Four pairs of sclerotized gland rods. Two spermathecae (Fig. 23) plus vestigial third; ovoid with short necks; unequal, measuring 0.069 by 0.058 mm, and 0.058 by 0.048 mm.

Male.- Unknown.

Distribution. - Belize, Costa Rica.


Discussion. - This species is readily distinguished from the other Neotropical species of the venustula Group by its large size and yellow femora.

Bezzia aitkeni Spinelli & Wirth

new species

Figures 24-29.

Female.- Wing length 1.12 (1.02-1.21, n = 5) mm; breadth 0.46 (0.44-0.47, n = 5) mm.

Head: Dark brown. Eyes contiguous, forming a V-shape where they contact. Antenna entirely brown; lengths of flagellar segments in proportion of 28-21-23-22-23-24-26-33-37-35-38-50; antennal ratio 1.05 (0.96-1.26, n = 5). Palpus (Fig. 25) brown; lengths of segments in proportion of 10-14-22-15-13; palpal ratio 2.10 (2.00-2.20, n = 5); third segment with scattered sensilla distally. Mandible with 7-8 teeth.

Thorax: Dark brown; scutum covered by fine pubescence and short hairs, with small anterior
spine; three prealar setae, one postalar; scutellum with four similar setae. Legs (Fig. 26) yellowish brown, apex of hind femur brown; fore femur slender, armed with 2-4 ventral spines of similar lengths, each with basal tubercle (Fig. 27); mid tibia with stout apical spinelike seta; hind tibial comb with five setae. Tarsi brownish, fifth tarsomeres dark; ventral palisade setae absent on fore tarsus, in one row on first tarsomere of mid leg, in two rows on tarsomeres 1-2 on hind leg; hind tarsal ratio 2.53 (2.40-2.63, n = 5); tarsal claws short, slightly curved, each with internal basal tooth.

Abdomen: Dark brown. Five pairs of strongly sclerotized gland rods. Two spermathecae (Fig. 29) plus vestigial third; subspherical to ovoid with moderately long necks; slightly unequal, measuring 0.046 by 0.037 mm with neck 0.016 mm long, and 0.037 by 0.032 mm with neck 0.012 mm long.

Male.- Unknown.

Distribution.- Brazil.


Discussion.- Bezzia aitkeni differs from the other Neotropical species of the venustula Group that bear spines only on the fore femur, by its yellowish brown legs with only apex of hind femur brown.

Bezzia mexicana Spinnelli & Wirth
new species
Figures 30-34.

Female.- Wing length 1.65 mm (n = 3); breadth 0.56 mm (n = 3).

Head: Light brown including antenna and palpus. Ears nearly contiguous, forming a V-shape where they contact. Antenna (Fig. 30) with lengths of flagellar segments in proportion of 25-14-14-14-14-14-16-16-43-45-39-39-50; antennal ratio 1.93 (1.80-2.13, n = 3). Palpus (Fig. 31) short; lengths of segments in proportion of 9-16-20-15-18; palpal ratio 2.15 (2.10-2.30, n = 3); third segment with scattered sensilla. Mandible with 12-13 teeth.

Thorax: Pale brown; scutum covered by short, fine hairs, with small anterior spine; 2-3 slender prealar setae, one postalar; scutellum with four similar setae. Legs (Fig. 32) brown, slightly pale on fore leg, with narrow pale rings subbasally on tibiae, subapically on mid femur and fore and mid tibiae; broad apex of hind tibi pale; fore femur slender, armed with 2-4 ventral spines of similar lengths, each with basal tubercle; mid tibia with stout apical spinelike seta; hind tibial comb with seven setae. Tarsi pale brown, fifth tarsomeres dark; ventral palisade setae absent on fore tarsus, in one row on first tarsomere of mid leg, in two rows on tarsomeres 1-2 of hind leg; a pair of strong ventral spines at apices of tarsomeres 1-3 on mid leg, smaller and paler on fore and hind legs; hind tarsal ratio 2.57; claws short, slightly curved, each with internal basal tooth. Wing (Fig. 33) with costal ratio 0.85 (n = 3); vein M broadly sessile; membrane hyaline, anterior veins brown. Halter brown.

Abdomen: Pale brown. Four pairs of gland rods. Two spermathecae (Fig. 34) plus vestigial third; elongated with long necks; unequal, measuring 0.055 by 0.040 mm with neck 0.020 mm long, and 0.044 by 0.035 mm with neck 0.012 mm long.

Male.- Unknown.

Distribution.- Mexico.


Discussion.- Bezzia mexicana can be distinguished from B. cayoenis by its pale general coloration, broad apex of hind tibia pale, vein M broadly sessile, four pairs of gland rods, and vestigial third spermatheca present.
spine; three prealar setae, one postalar; scutellum with four setae. Legs (Fig. 37) dark brown, narrow pale rings subbasally on tibiae, subapically on fore and hind femora and tibiae; fore femur slender, armed with 1-3 (4 in one specimen) ventral spines of similar lengths with basal tubercle; mid tibia with apical stout spinelike setae; hind tibial comb with nine setae. Tarsi brownish; fifth tarsomeres dark; ventral palisade setae absent on fore tarsus, in one row on tarsomeres 1-2 of mid leg and tarsomere 3 of hind leg; in two rows on tarsomeres 1-2 of hind leg; a pair of strong ventral spines at apices of tarsomeres 1-3 of mid leg, smaller and paler on fore and hind legs; hind tarsal ratio 2.52 (2.40-2.66, n = 5); claws short, slightly curved, each with internal basal tooth. Wing (Fig. 38) with costal ratio 0.80 (0.78-0.81, n = 5); vein M just sessile; membrane infuscated, anterior veins brown. Halter stem pale, knob dark brown.

Abdomen: Dark brown. One pair of well-sclerotized, slender gland rods. Two spermathecae (Fig. 39), no trace of vestigial third; ovoid with long necks, unequal, measuring 0.03 by 0.044 mm with neck 0.034 mm, and 0.044 by 0.039 mm with neck 0.023 mm long.

Male.- Wing length 0.93 (0.87-0.96, n = 5) mm; breadth 0.31 (0.30-0.32, n = 5) mm; costal ratio 0.73 (0.71-0.76, n = 5). Similar to female with usual sexual differences. Antenna (Fig. 40) brown, narrow bases of segments 13-15 slightly pale; lengths of flagellar segments in proportion of 25-15-15-15-14-15-18-28-33-49; lengths of palpal segments in proportion of 9-13-15-11-14; palpal ratio 2.16 (2.00-2.40, n = 5). Hind tarsal ratio 2.27 (2.10-2.40, n = 5).

Genitalia (Fig. 41): Ninth sternum short, with shallow, broad caudomedian excavation; ninth tergum tapering distally, with two lateral elongated lobes. Basistyle moderately long, twice as long as greatest breadth; dististyle slightly longer than basistyle, curved, ending in a sharp pointed process. Aedeagus triangular, basal arch 3/5 of total length, basal arms heavily sclerotized, membrane spiculate. Parameres (Fig. 42) short, with bilobed anterolateral plates; distal process slender in middle and rounded caudally.

Distribution.- Belize.


Discussion.- This species is similar to B. mexicana. Characters for separating the two species are given in the key and in the discussion under the latter species.

Bezzia venustula (Williston)

Figures 43-50.

Ceratopogon venustulus Williston, 1896: 278 (female; fig wing, fore leg, palpus; St Vincent, Trinidad).

Bezzia venustula (Williston); Lane, 1958: 27 (in key); Wirth, 1974: 53 (in catalog.)

Bezzia concoloripes Macfie, 1940: 31 (female; Guyana); Lane, 1958: 26 (in key); Wirth, 1974: 52 (in catalog).

NEW SYNONYMY.
tarsomeres 1-2 of hind leg; claws small, slightly curved, each with internal basal tooth. Wing (Fig. 46) with costal ratio 0.90 (0.76-0.84, n = 5); vein M broadly sessile; membrane slightly infuscated, anterior veins brown. Halter stem pale, knob dark brown.

Abdomen: Dark brown. Four pairs of slender gland rods. Two spermathecae (Fig. 47) plus vestigial third (well developed in some specimens); ovid with long necks; unequal, measuring 0.048 by 0.042 mm with neck 0.014 mm, and 0.042 by 0.034 mm with neck 0.009 mm long.

Male: Wing length 0.96 (0.87-1.14, n = 4) mm; breadth 0.32 (0.31-0.34, n = 4) mm; costal ratio 0.73 (0.71-0.74, n = 5). Similar to female with usual sexual differences. Antenna (Fig. 49) with flagellar segments distinctly separated. Palpus with lengths of segments in proportion of 6-9-10-8-8; palpal ratio 2.10 (2.00-2.25, n = 3); third segment with scattered sensilla. Mandible with eight teeth.

Distribution. Widely distributed, from Mexico to northern Argentina.


Discussion.- This widespread species can be distinguished from the related species *Bezzia pseudovenustula* by the characters pointed out in the key and in the discussion under the latter species.

Bezzia pseudovenustula Spinelli & Wirth

new species

Figures 51-55.

Female: Wing length 1.37 (1.27-1.49, n = 3) mm; breadth 0.50 (0.46-0.54, n = 3) mm. Head: Dark brown. Eyes narrowly separated by a distance equal to diameter of 1/2 ommatidial facet. Antenna (Fig. 51) entirely brown; lengths of flagellar segments in proportion of 28-19-20-21-21-25-40-40-40-40-53; antennal ratio 1.22 (n = 3). Palpus brown (Fig. 52); lengths of segments in proportion of 6-9-10-8-8; palpal ratio 2.10 (2.00-2.25, n = 3); third segment with scattered sensilla. Mandible with eight teeth.

Thorax: Dark brown, setum covered by fine pubescence and short hairs, with small, blunt, anterior spine; three slender prealar setae, one postalar; scutellum with four similar setae. Legs
dark brown including tarsi; tibiae with faint basal pale rings; fore femur slender, armed with 2–4 ventral spines of similar lengths with basal tubercle; mid tibia with apical stout spinelike seta, hind tibial comb with five setae, ventral palisade setae absent on fore tarsus, in one row on tarsomeres 1–3 of mid leg and tarsomere 3 of hind leg, in two rows on tarsomeres 1–2 of hind leg; a pair of strong ventral spines at apices of tarsomeres 1–3 on mid leg, smaller and paler on fore and hind legs; hind tibial comb with five setae; ventral palisade setae absent on fore tarsus, in one row on basitarsus of mid leg, in two rows on tarsomeres 1–2 of hind leg; hind tarsal ratio 2.70 (2.62–2.80, n = 4); claws short, slightly curved, each with internal basal tooth. Wing (Fig. 59) with costal ratio 0.77 (0.76–0.78, n = 4); vein M broadly sessile; membrane slightly infuscated, anterior veins brown. Halter stem pale brown, knob dark brown.

Abdomen: Brown, slightly paler than thorax. One pair of slender gland rods. Two spermathecae (Fig. 55), ovoid with long necks, subequal, measuring 0.050 by 0.0432 mm, necks 0.023 mm long.

Male.- Unknown.

Distribution.- Brazil.


Discussion.- Bezzia pseudovenustula can be distinguished from B. venustula by the presence of only one pair of gland rods, mandible with eight teeth, costal ratio 0.85, and spermathecae subspherical without trace of vestigial third.

Bezzia fusca Spinelli & Wirth
new species
Figures 56–60.

Female.- Wing length 1.58 (1.46–1.67, n = 4) mm; breadth 0.56 (0.50–0.59, n = 4) mm.

Head: Dark brown. Eyes narrowly separated by a distance equal to diameter of 1/2 ommatidial facet. Antenna (Fig. 56) brown, narrow bases of flagellar segments slightly pale; lengths of flagellar segments in proportion of 37:22:22:22:24:24:24:28:45=46=50:60; antennal ratio 1.24 (1.19–1.34, n = 4). Palpus dark brown (Fig. 57); lengths of segments in proportion of 12:16:25:16:18; third segment with numerous sensilla, which are implanted in irregular pits; palpal ratio 2.00 (n = 4). Mandible with 11 teeth.

Thorax: Dark brown, scutum covered by fine pubescence and short hairs, without anterior spine; three prealar setae, one postalar, scutellum with four similar setae in addition to numerous small hairs. Legs (Fig. 58) dark brown, fore femur and narrow apex of fore tibia slightly paler; fore femur slender; femora armed with (fore, mid, hind) 6–9, 0, and 0–1 spines of similar lengths with basal tubercle; mid tibia with apical stout spinelike seta; hind tibial comb with six setae. Tarsi entirely brown; a pair of strong ventral spines at apices of tarsomeres 1–3 on mid leg, smaller and paler on fore and hind legs; ventral palisade setae absent on fore tarsus, in one row on basitarsus of mid leg, in two rows on tarsomeres 1–2 of hind leg; hind tarsal ratio 2.70 (2.62–2.80, n = 4); claws short, slightly curved, each with internal basal tooth. Wing (Fig. 59) with costal ratio 0.77 (0.76–0.78, n = 4); vein M broadly sessile; membrane slightly infuscated, anterior veins dark brown. Halter dark brown.

Abdomen: Dark brown. Four pairs of gland rods. Two spermathecae (Fig. 60) plus vestigial third; ovoid with long necks, surface with small punctations; subequal, measuring 0.050 by 0.0432 mm, necks 0.023 mm long.

Male.- Unknown.

Distribution.- Colombia.

Types.- Holotype female, Colombia, Valle, Rio Raposo, xii.1964, V. H. Lee, light trap. Paratypes, 3 females, as follows: COLOMBIA: Same data as holotype except viii.1964, 2 females; same data except x.1964, 1 female.

Discussion.- Bezzia fusca differs from B. bromeliae and B. snowi, the other two Neotropical species of the venustula Group with femoral spines present on all legs, by the dark brown legs and spermathecae with small punctations.

Bezzia bromeliae Spinelli & Wirth
new species
Figures 61–71.

Female.- Wing length 1.85 mm; breadth 0.63 mm.

Head: Brown. Eyes narrowly separated by a distance equal to diameter of 1/2 ommatidial facet. Antenna (Fig. 61) brown, narrow bases of flagellar segments slightly pale; lengths of flagellar segments in proportion of 24:16:16:16:16:16:16:17:18:38=41=41=41.
10; antennal ratio 1.55. Palpus (Fig. 62) brown; lengths of segments in proportion of 7-10-17-12-10; third segment with scattered sensilla; palpal ratio 2.42. Mandible with 7-8 teeth.

Thorax: Dark brown, scutum with small pale anterior spine, and covered by fine pubescence and short hairs; three prealar setae, one postalar; scutellum with three setae. Legs (Fig. 63) yellowish, joints darker, distal 1/3 of hind femur and distal 1/5 of hind tibia brown; fore femur moderately swollen; femora armed ventrally with 4-8, 2-3, 1-2, spines respectively, spines of similar lengths and with basal tubercle; hind tibia comb with eight spines. Tarsi yellowish brown, fifth tarsomeres dark; ventral palisade setae absent on fore tarsus, in one row on basitarsus of mid leg, in two rows on tarsomeres 1-2 of hind leg; hind tarsal ratio 2.60 (2.58-2.60, n = 2); claws short, slightly curved, each with internal basal tooth. Wing (Fig. 64) with costal ratio 0.83 (0.82-0.84, n = 2); vein M broadly sessile; membrane hyaline, anterior veins pale. Halter pale brown.

Male.- Wing length 1.38 mm; breadth 0.44 mm; costal ratio 0.75. Similar to female with usual sexual differences. Antenna (Fig. 66) brownish, narrow bases of flagellar segments pale, flagellar segments distinctly separated; lengths of flagellar segments in proportion of 26-13-11-11-10-10-11-11-15-27-42-50. Palpus with lengths of segments in proportion of 6-6-11-10-8.

Genitalia (Fig. 67): Ninth sternum with shallow, broad, coudomedian excavation, membrane speicate; ninth tergum short, with two rounded apical lobes. Basistyle 1.6 times as long as greatest breadth, with blunt anteromesal protuberance; dististyle 0.75 as long as basistyle, curved and pointed distally. Aedeagus triangular, shorter than basal breadth, basal arch very low, lateral arms strongly sclerotized; with blunt tip; surface spiculate distally. Parameres (Fig. 68) 1.5 times as long as aedeagus, with bilobed, strongly sclerotized, anterolateral plates; distal process slightly swollen in middle with rounded tip.

Pupa.- Length of female 3.75 mm; length of male 3.95 mm. Pale yellow. Respiratory horn (Fig. 69) 6.5 times as long as greatest breadth, four apical spiracular openings, surface smooth. Female operculum missing; male operculum as broad, anterior margin tapering to pointed tip, posterior margin slightly excavated; surface with scarcely rounded tubercles. A single ant tubercle which bears a single long seta. Female terminal segment (Fig. 70) 1.35 times as long as basal breadth, with scattered anterior spinules dorsally, apicalateral processes short. Terminal segment of male (Fig. 71) as in female, except for the ventral sexual processes, and apicalateral processes more divergent.

Distribution.- Panama.

Types.- Holotype female, Panama, Panama Prov., Bayano Field Sta., vi. 1976, C. C. Vitale, reared from Vriesia heliconioides; allotype male, same data except reared from Aechmea pubescens. Paratypes, 1 female, 1 male, same data as holotype.

Discussion.- Bezzaia bromeliav differs from the related species B. snowi by the large unequal spermaphthecae with short necks, only one pair of gland rods, longer dististyle, shorter parameres with distal process swollen in middle, and respiratory horn of pupa with four spiracular openings (11 in snowi).

Bezzaia snowi Lane, 1958: 34 (female, male; fig. genitalia; Guatemala); Wirth, 1974: 53 (in catalog).

Female.- Wing length 1.74 (1.61-1.86, n = 5) mm; breadth 0.56 (0.50-0.59, n = 5) mm.


Thorax: Dark brown, scutum covered by fine pubescence and short hairs, with small, pale anterior spine; 3-4 prealar setae, one postalar; scutellum with four setae. Legs yellowish, joints darker, distal 1/3 of hind femur and distal 1/5 of hind tibia brown; fore femur moderately swollen; femora armed ventrally with 5-8, 3-6, 1-4 spines respectively, spines of similar lengths, with basal tubercle; hind tibia comb with eight spines. Tarsi yellowish brown, fifth tarsomeres dark; ventral palisade setae absent on fore tarsus, in one row on basitarsus of mid leg, in two rows on tarsomeres 1-2 of hind leg; hind tarsal ratio 2.55.
claws short, slightly curved, each with internal basal tooth. Wing with costal ratio 0.81 (0.80-0.83, n = 5); vein \( M \) broadly scissal; membrane hyaline, anterior veins pale brown. Halter dark brown.

Abdomen: Dark brown. Three pairs of long slender gland rods. Two spermathecae (Fig. 72) plus rudimentary third; subspherical with long necks; slightly unequal, measuring 0.044 by 0.037 mm and 0.040 by 0.035 mm, necks 0.017 mm long.

Male.- Wing length 1.18 mm; breadth 0.40 mm; costal ratio 0.74. Similar to female with usual sexual differences. Antenna brown, narrow bases of segments 13-15 pale; flagellar segments distinctly separated; lengths of flagellar segments in proportion of 37-20-18-17-17-17-17-19-21-23-35-48-65-68. Palpus with lengths of segments in proportion of 9-12-21-11-14. Hind tarsal ratio 2.27.

Genitalia (Fig. 73): Ninth sternum short, with shallow caudomedian excavation, membrane spiculate; ninth tergum short, tapering, with two elongated apicolateral lobes. Basisty le moderately slender, with blunt anteromesal pori durance, dististyle 0.6 as long as basisty le, strongly curved hooklike. Aedeagus triangular, shorter than basal breadth, basal arch very low, surface smooth. Parameres (Fig. 74) two times as long as length of aedeagus, with bilobed, well-developed anterolateral plates; distal process long and uniformly slender with rounded tip.

Pupa.- Length of female 3.35 mm; length of male 2.60 mm. Brownish. Respiratory horn (Fig. 75) 4.6 times as long as greatest breadth, surface smooth; distal 1/4 with 11-12 spiracular openings. Female operculum (Fig. 76) with anterior margin rounded, surface densely covered with strong rounded tubercles anteriorly and on mid-portion. Two \( am \) tubercles, the posterior one bearing a long slender seta. Female terminal segment (Fig. 77) with abundant pointed tubercles.

Distribution.- Brazil, Colombia, Panama, Trinidad.


Discussion.- Characters for separating \( B. \) snowi from the related species \( B. \) bromeliae are given in the key and in the discussion under the latter species.

Literature Cited


Figures 1-15. *Bezzia filiductus*; 7-15, *B. dentifemur*: 1, 7, female antenna; 2, 8, female palpus; 3, 9, femora and tibiae of (left to right) fore, mid, and hind legs of female; 4, 10, femoral spines enlarged; 5, 11, female wing; 6, 12, spermathecae; 13, male antenna; 14, male genitalia, parameres omitted; 15, parameres.
Figures 16-18, Bezia raposoensis; 19-23, B. nigritibialis; 24-29, B. aitheni: 16, male antenna; 17, male genitalia, parameres omitted; 18, parameres; 19, 24, female antenna; 20, 25, female palpus; 21, 26, femora and tibiae of (left to right) fore, mid, and hind legs of female; 22, 28, female wing; 23, 29, spermatotheca; 27, femoral spines enlarged.
Figures 30-34, *Bezzia mexicana*; 35-42, *D. cayoensis*: 30, 40, female antenna; 31, 36, female palpus; 32, 37, femora and tibiae of (left to right) fore, mid and hind legs of female; 33, 38, female wing; 34, 39, spermathecae; 35, male antenna; 41, male genitalia, parameres omitted; 42, parameres.
Figures 61-71, *Bezzia bromeliae*: 72-77, *B. snowi*: 61, female antenna; 62, female palpus; 63, femora and tibiae of (left to right), fore, mid and hind legs of female; 64, female wing; 65, 72, spermathecae; 66, male antenna; 67, 73, male genitalia, parameres omitted; 68, 74, parameres; 69, 75, pupal respiratory horn; 70, 77, last segment of female pupa; 71, same, male pupa; 76, operculum of female pupa.