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

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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: *aitheni*, *bromeliae*, *cayoensis*, *dentifemur*, *filiductus*, *fusca*, *mexicana*, *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 Downes 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 nyasae* 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

dark rings or entirely yellow; tibiae light or with a dark ring in the middle or basally; spines of fore femur stout. Anteromarginal spine of scutum present or absent. Mandible of female with 9-15 teeth, basal teeth smaller than distal ones. Twelfth segment of male antenna no longer than 13th; antennal plume weakly developed, extending to base of 13th segment. Female claws usually with a denticle on inner face. Tergites of female abdomen with 0-5 pairs of gland rods. Aedeagus of male triangular, with spinules or hairs. Males considerably smaller than females. Male dististyle well developed, of practically the same length as basistyle, pilose.

### 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
- 5(4'). Dark brown species, gland rods well sclerotized; male flagellar segments 3-11 yellowish, indistinctly 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
- ### *venustula* Group
- 6(3). Ventral femoral spines present only on fore leg 7
  - 6'. Ventral femoral spines present on all legs . 12
  - 7(6). Large species (wing length 2.25 mm); all femora yellow . . . . . *nigritibialis* 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 . . . . . *aikeni* 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

- 12'. Legs yellowish, joints dark and distal 1/3 of hind femur dark brown; spermathecae without small punctations . . . . . 13
- 13(12') Halter pale brown; spermathecae unequal (largest measuring 0.095 by 0.075 mm) with short necks; male dististyle 0.75 as long as basistyle; parameres 1.5 times as long as length of aedeagus, distal process swollen in middle; respiratory horn of pupa with four spiracular openings . . . . . *bromeliae* new species
- 13'. Halter dark brown; spermathecae subequal, measuring 0.044 by 0.037 mm, with long necks; male dististyle 0.60 as long as basistyle; parameres two times as long as length of aedeagus, distal process uniformly slender; respiratory horn of pupa with 11 spiracular openings . . . . . *snowi* Lane

### *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 45-28-28-28-27-29-33-59-63-65-74-97; 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 tarsomeres 1-2 of mid leg, in two rows on tarsomeres 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 (1.27-1.40, 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 30-17-17-17-17-17-17-21-32-33-30-30-41; 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 spinelike seta; hind tibial comb with 5-6 setae. Tarsi pale brown, fifth tarsomeres dark; ventral palisade setae absent on foretarsus, 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; 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 28-20-20-17-17-17-20-25-33-35-43-52. 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.

**Types.**- Holotype female, Colombia, Valle, Rio Raposo, 10.vi.1964, V. H. Lee, light trap; allotype male, same data except iii.1964. Paratypes, 60 females, 7 males, as follows. BELIZE: Nattieville, Western Highway, 7-9.vii.1968, W. L. Hasse, UV light trap, 8 females. BRAZIL: Belem, Para, ii.1970, T. H. G. Aitken, light trap, APEG Forest, 1 female; same data except iv.1970, 1 male; vi.1970, 3 females; vii.1970, 1 female; viii.1970, 1 female, sticky trap. COLOMBIA: Rio Raposo, iv.1963, V. H. Lee, light trap, 3 females, 1 male; same data except v.1963, 1 male; vii.1963, 1 female; iii.1964, 1 female; 15.iv.1964, 1 female; v.1964, 14 females; 3.vi.1964, 4 females; 10.vi.1964, 2 females; 1.vii.1964, 2 females; 28.vii.1964, 3 females; viii.1964, 3 females; xii.1964, 2 females, 2 males; ii.1965, 1 female; iii.1965, 7 females, 1 male; iv.1965, 2 females; vii.1965, 1 female. TRINIDAD: Macqueripe, 3.i.1968, T. H. G. Aitken, light trap, 1 male.

**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.

**Head:** Brown. Eyes narrowly separated. Antenna brown, narrow bases of flagellar segments pale; lengths of flagellar segments in proportion of 27-17-16-16-16-18-18-20-30-30-30-33-41; antennal ratio 1.10 (1.05-1.14,  $n = 5$ ). Palpus short, brown; lengths of segments in proportion of 9-13-20-14-12; third segment with numerous sensilla; palpal ratio 2.25 (2.00-2.85,  $n = 5$ ). Mandible with 9-10 teeth.

**Thorax:** Pale brown, scutum covered by fine pubescence and short hairs, without anterior spine; three prealar setae, one postalar; scutellum with six setae. Legs 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; mid tibia with apical, stout, spinelike seta; hind tibial comb with five setae. Tarsi pale brown, fifth tarsomeres dark; 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 tooth. 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 27-17-16-14-13-13-13-14-17-25-28-30-37. Palpus with

lengths of segments in proportion of 6-9-14-9-8. 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 1.vii.1864. Paratypes, 21 females, 27 males, as follows: COLOMBIA: Rio Raposo, iv.1963, V. H. Lee, light trap, 1 female; same data except v.1964, 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, 4 females, 1 male; 28.vii.1964, 1 male; viii.1965, 2 females, 2 males; xii.1964, 6 females, 4 males; iv.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 nigrifemoralis* 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 34-26-27-26-27-27-27-29-52-50-56-61-74; 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 bases yellow; 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 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.

**Types.**- Holotype female, Belize, Cayo District, Western Highway MP 66, vi.1969, W. & D. Hasse, light trap. Paratypes, 2 females, as follows: BELIZE: Same data as holotype, 1 female. COSTA RICA: Puntarenas, Palmar Sur, 5.viii.1964, F. S. Blanton, 1 female.

**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 (Fig. 24) entirely brown; lengths of flagellar segments in proportion of 28-21-23-23-22-23-24-26-33-37-35-38-50; 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. Wing (Fig. 28) with costal ratio 0.81 (0.79-0.83,  $n = 5$ ); vein M broadly sessile; membrane slightly infuscated, anterior veins brown. Halter dark brown.

**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.

**Types.-** Holotype female, Brazil, Para, Belem, ii.1970, T. H. G. Aitken, APEG Forest, light trap. Paratypes, 11 females as follows: BRAZIL: Same data as holotype, 7 females; same data except iv.1970, 3 females; ix.1970, 1 female.

**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* Spinelli & 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. Eyes nearly contiguous, forming a V-shape where they contact. Antenna (Fig. 30) with lengths of flagellar segments in proportion of 25-14-14-14-14-14-16-43-45-39-39-50; 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 tibia 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 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 brownish. 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.

**Types.-** Holotype female and 2 female paratypes, Mexico, El Salto, San Luis Potosi, 8.v.1964, F. S. Blanton, light trap.

**Discussion.-** *Bezzia mexicana* can be distinguished from *B. cayoensis* 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.

### *Bezzia cayoensis* Spinelli & Wirth

new species

Figures 35-42.

**Female.-** Wing length 1.64 (1.55-1.77,  $n = 5$ ); breadth 0.57 (0.56-0.59,  $n = 5$ ) mm.

**Head:** Dark brown. Eyes separated by a distance equal to diameter of one ommatidial facet. Antenna (Fig. 35) brown, narrow bases of flagellar segments pale; lengths of flagellar segments in proportion of 22-17-16-15-16-17-18-20-53-56-52-56-63; antennal ratio 2.04 (2.00-2.07,  $n = 5$ ). Palpus (Fig. 36) brown; lengths of segments in proportion of 13-23-26-24-20; palpal ratio 2.60 (2.25-2.99,  $n = 5$ ); third segment with scattered sensilla. Mandible with 10-11 teeth.

**Thorax:** Dark brown, scutum covered by fine pubescence and small hairs, with anterior median

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 0.057 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 25-15-15-15-15-14-14-15-18-28-33-49-48; 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.

**Types.-** Holotype female, allotype male, Belize, Cayo District, Western Highway MP 66, vi.1969, W. & D. Hasse, light trap. Paratypes, 20 females, 9 males, as follows: BELIZE: Same data as holotype, 14 females, 9 males; Nattieville, Western

Highway, 7-8.vii.1968, W. L. Hasse, black light, 4 females; Columbia Forest Station, vii.1968, W. L. Hasse, black light, 1 female; Cayo Dist., MP 67, Central Farm, 15.vii.1968, W. L. Hasse, black light, 1 female.

**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.

**Female.-** Wing length 1.45 (1.10-1.64,  $n = 5$ ) breadth 0.56 (0.43-0.62,  $n = 5$ ) mm.

**Head:** Dark brown. Eyes separated by a distance equal to diameter of one ommatidial facet. Antenna (Fig. 43) brown, narrow bases of flagellar segments pale; lengths of flagellar segments in proportion of 25-15-15-16-16-16-17-18-31-31-33-33-49; antennal ratio 1.18 (1.04-1.31,  $n = 5$ ). Palpus (Fig. 44) brown; lengths of segments in proportion of 9-17-25-14-16; third segment slender, with scattered sensilla; palpal ratio 3.00 (2.85-3.25,  $n = 3$ ). Mandible with 10-12 teeth.

**Thorax:** Dark brown, scutum covered by fine pubescence and short hairs, with small anterior spine; 2-3 prealar setae, one postalar; scutellum with four setae in addition to small hairs. Legs (Fig. 45) dark brown, bases of tibiae pale (in some specimens, bases of femora and apices of fore or mid tibiae somewhat pale); fore femur slender, armed ventrally with 2-8 spines of similar lengths with strong basal tubercle (exceptionally 11 spines in one specimen); mid tibia with stout apical spinelike seta; hind tibial comb with seven spines. Tarsi brown, fifth tarsomeres deeply infuscated; a pair of strong black 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 tarsomeres 1-3 of mid leg and tarsomere 3 of hind leg, in two rows on



tarsomeres 1-2 of hind leg; claws small, slightly curved, each with internal basal tooth. Wing (Fig. 46) with costal ratio 0.80 (0.76-0.84,  $n = 5$ ); vein M1 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); ovoid 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. 48) with flagellar segments distinctly separated. Palpus with lengths of segments in proportion of 6-11-18-14-15; palpal ratio 2.35 (2.15-2.65,  $n = 4$ ). Hind tarsal ratio 2.32 (2.24-2.36,  $n = 4$ ).

Genitalia (Fig. 49): Ninth sternum short with shallow caudomedian excavation. Basistyle short, slightly longer than basal breadth, with blunt anteromesal protuberance; dististyle short, stout, strongly curved hooklike, tapering to 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. 50) with well-developed, bilobed, anterolateral plates; distal process long and slender, with rounded tip.

**Distribution.**- Widely distributed, from Mexico to northern Argentina.

**Specimens Examined.**- ARGENTINA: Salta, Pocitos, 16.ii.1968, Woodruff & Martinez, 1 female; Rio Carapari, 8 km S Pocitos, ii.1968, R. Woodruff, 1 female. BOLIVIA: Santa Cruz, Saavedra Agr. Exp. Sta., i.1960, R. E. Cummings, black light, 8 females. BRAZIL: Bahia, Itajuípe, Fazenda Almirante, 18.xii.1989, J. A. Winder, 1 male. COLOMBIA: Valle, Rio Raposo, viii.1964, V. H. Lee, light trap, 2 females; Oleoducto de Pacifico, 10 km NW Dagua, 27.ii.1969, R. E. Woodruff, 2 females. COSTA RICA: San Jose, San Isidro, Perez Zeledon, viii.1962, F.S. Blanton, light trap, 2 females; Limon, Los Diamantes, 16-18.vii.1964, R. E. Woodruff, 2 females. DOMINICA: Clarke Hall, 19.vii.1964, T. J. Spilman, light trap, 1 female; same except 1-8.viii.1964, 1 female; Fond Figue River, 25.i.1965, W. W. Wirth, rain forest, 1 male; Manets Gutter, 15.iii.1965, W. W. Wirth, light trap,

1 female, 1 male. ECUADOR: Puyo, Pasta Prov., ii.1976, P. J. Spangler, at light, 1 female; Puyo, Pastaza, 18.v.1977, W. E. Steiner, 7 females; same data except 21.v.1977, 8 females; Pastaza, 1.5 km S Puyo, 14.v.1977, P. J. Spangler, 3 females; Napo, Tena, 25.v.1977, W. E. Steiner, 1 female; Napo, San Francisco de Borja, 1610 m, 17.i.1978, W. N. Mathis, 2 females. EL SALVADOR: Quetzaltepeque, 11.ii.1965, W. D. Duckworth, 1 female; San Vicente, Santo Domingo, xii.1966, F. S. Blanton, 1 female. HONDURAS: Comayagua, Rancho Chiquito, v-vi.1964, F. S. Blanton, 4 females, 1 male; Santa Barbara, Chumbagua, vii-viii.1966, J. F. Matta, 2 females; Comayagua, Siguatepeque, ix.1966, F. S. Blanton, 1 male. MEXICO: Chiapas, Puente Macalapa, 22.v.1964, F. S. Blanton, 6 females, light trap; Veracruz, Fortin de las Flores, 23.v.1965, H. V. Weems, Jr., 1 female; Morelos, El Salto Falls, 17.vi.1969, W. & D. Hasse, light trap, 2 females. PANAMA: Chiriqui, El Volcan, 22.vii.1966, A. Broce, 1 female; Dolega, Chiriqui Prov., 25.vi.1966, A. Broce, 1 female; Canal Zone, Balboa, Mousson Forest, fogging *Cassia* tree canopy, 19.vii.1979, E. Broadhead, 3 females. TRINIDAD: Balandra, 4.i.1970, M. Yaseen, at window, 1 female. VENEZUELA: Aragua, Ocumare, 19.ii.1969, P. & P. Spangler, 1 female.

**Discussion.**- This widespread species can be distinguished from the related species *B. 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 28-19-20-20-20-21-21-25-40-40-40-40-53; 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, scutum covered by fine pubescence and short hairs, with small, blunt, anterior spine; three slender prealar setae, one postalar; scutellum with four similar setae. Legs

(Fig. 53) dark brown including tarsi; tibiae with faint basal pale rings; fore femur slender, armed with 3-4 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 tarsal ratio 2.85 (2.75-2.95,  $n = 3$ ); claws moderately long, slightly curved, each with internal basal tooth. Wing (Fig. 54) with costal ratio 0.85 (0.83-0.87,  $n = 3$ ); 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), no trace of vestigial third; subspherical with moderately long slender necks; slightly unequal, measuring 0.042 mm in diameter with neck 0.012 mm long, and 0.035 mm diameter, neck 0.009 mm long.

**Male.**- Unknown.

**Distribution.**- Brazil.

**Types.**- Holotype female, Brazil, Para, Belem, vii.1970, T. H. G. Aitken, sticky trap. Paratypes, 2 females, as follows: BRAZIL: Same data as holotype, 1 female; same except iii.1970, 1 female.

**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 37-22-22-22-22-24-24-28-45-46-46-50-60; 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, 0-3, 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 pale; lengths of flagellar segments in proportion of 24-16-16-16-16-16-17-18-38-41-41-41-

55; 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 four 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 tibial 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 brown. 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, caudomedian excavation, membrane spiculate; 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 length of 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 3.35 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 long as broad, anterior margin tapering to pointed tip, posterior margin slightly excavated; surface with scarcely rounded tubercles. A single *am* 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, apicolateral processes short. Terminal segment of male (Fig. 71) as in female, except for the ventral sexual processes, and apicolateral processes more divergent.

**Distribution.**- Panama.

**Types.**- Holotype female, Panama, Panama Prov., Bayano Field Sta., vi.1976, G. 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.**- *Bezzia bromeliae* differs from the related species *B. snowi* by the large unequal spermathecae 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*).

### *Bezzia snowi* Lane

Figures 72-77.

*Bezzia 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.

**Head:** Dark brown. Eyes nearly contiguous. Antenna brown, narrow bases of flagellar segments pale; lengths of flagellar segments in proportion of 40-25-25-25-26-25-27-29-57-60-58-60-77; antennal ratio 1.34 (1.02-1.46, n = 5). Palpus brown; lengths of segments in proportion of 9-13-20-15-13; palpal ratio 2.60 (2.40-2.80, n = 5); third segment with numerous sensilla. Mandible with 11 teeth.

**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 darkish, 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, each with basal tubercle; hind tibial 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

(2.37-2.67,  $n = 5$ ); claws short, slightly curved, each with internal basal tooth. Wing with costal ratio 0.81 (0.80-0.83,  $n = 5$ ); vein M broadly sessile; 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 37-20-18-17-17-19-21-23-35-48-65-68. 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. Basistyle moderately slender, with blunt anteromesal protuberance; dististyle 0.6 as long as basistyle, 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.

**Specimens Examined.-** BRAZIL: Para, Belem, iv.1970, T. H. G. Aitken, light trap in APEG Forest, 1 female. COLOMBIA: Rio Raposo, 3-4.vi.1964, V. H. Lee, light trap, 1 female; same data except 15.vi.1965, 1 female; 28.vii.1964, 2 females, 1 male; xii.1964, 1 female; ii.1965, 1 female. PANAMA: Ancon, Canal Zone, xi.1965, L. H. Dunn, reared from water in tree hole, 1 female; Balboa, Canal Zone, 27.x.1942, P. A. Woke, tree hole debris in tidal marsh, 1 female; Canal Zone,

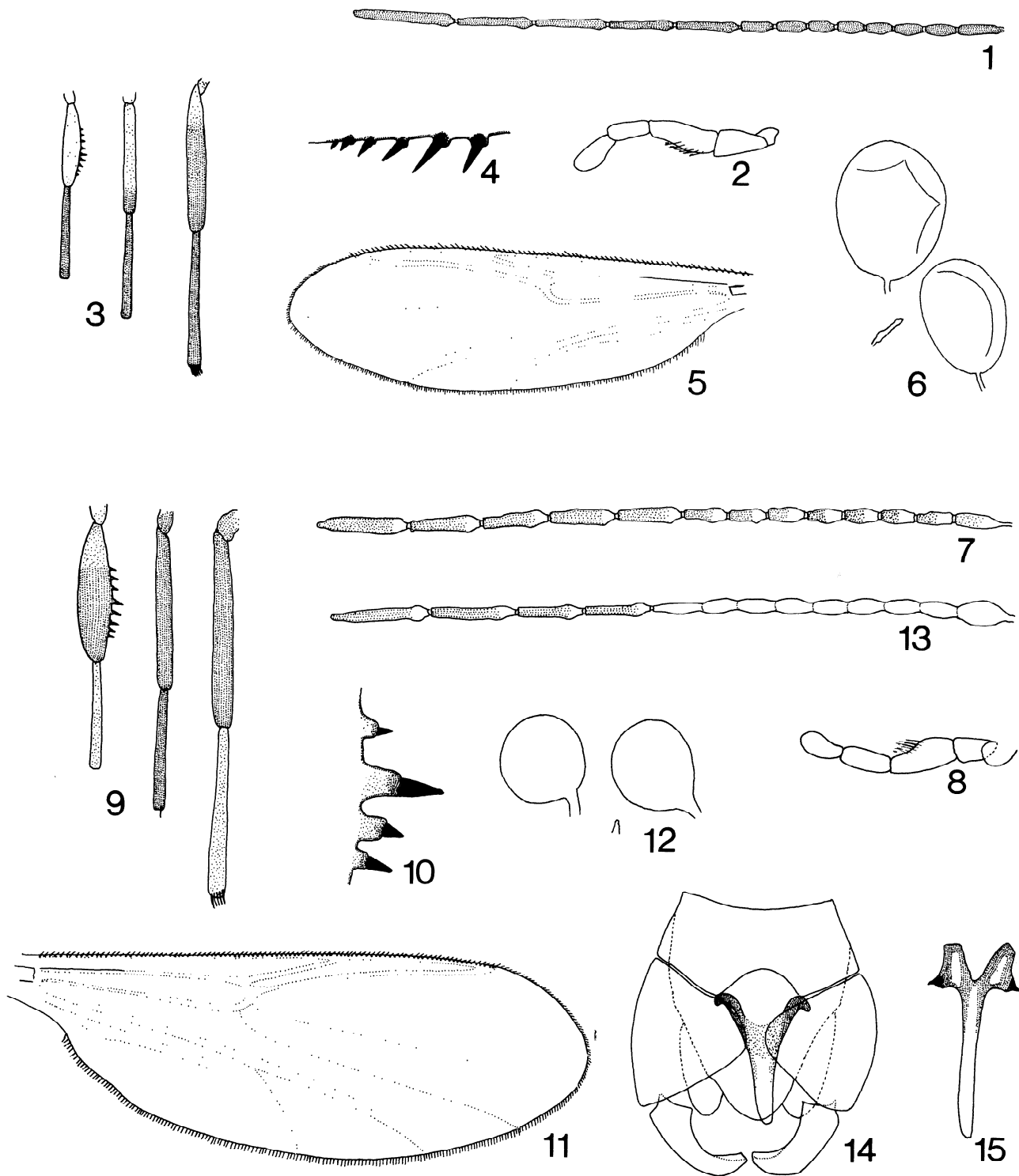
Barro Colorado Island, vii.1967, W. W. Wirth, light trap, 1 male; Panama Prov., Bayano Field Sta., vi.1976, G. C. Vitale, reared from tree hole at ground level, 2 females, 1 male. TRINIDAD: No locality, ix.1963, R. W. Williams, reared from *Poincianna* tree hole, 2 females, 18 males.

**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.

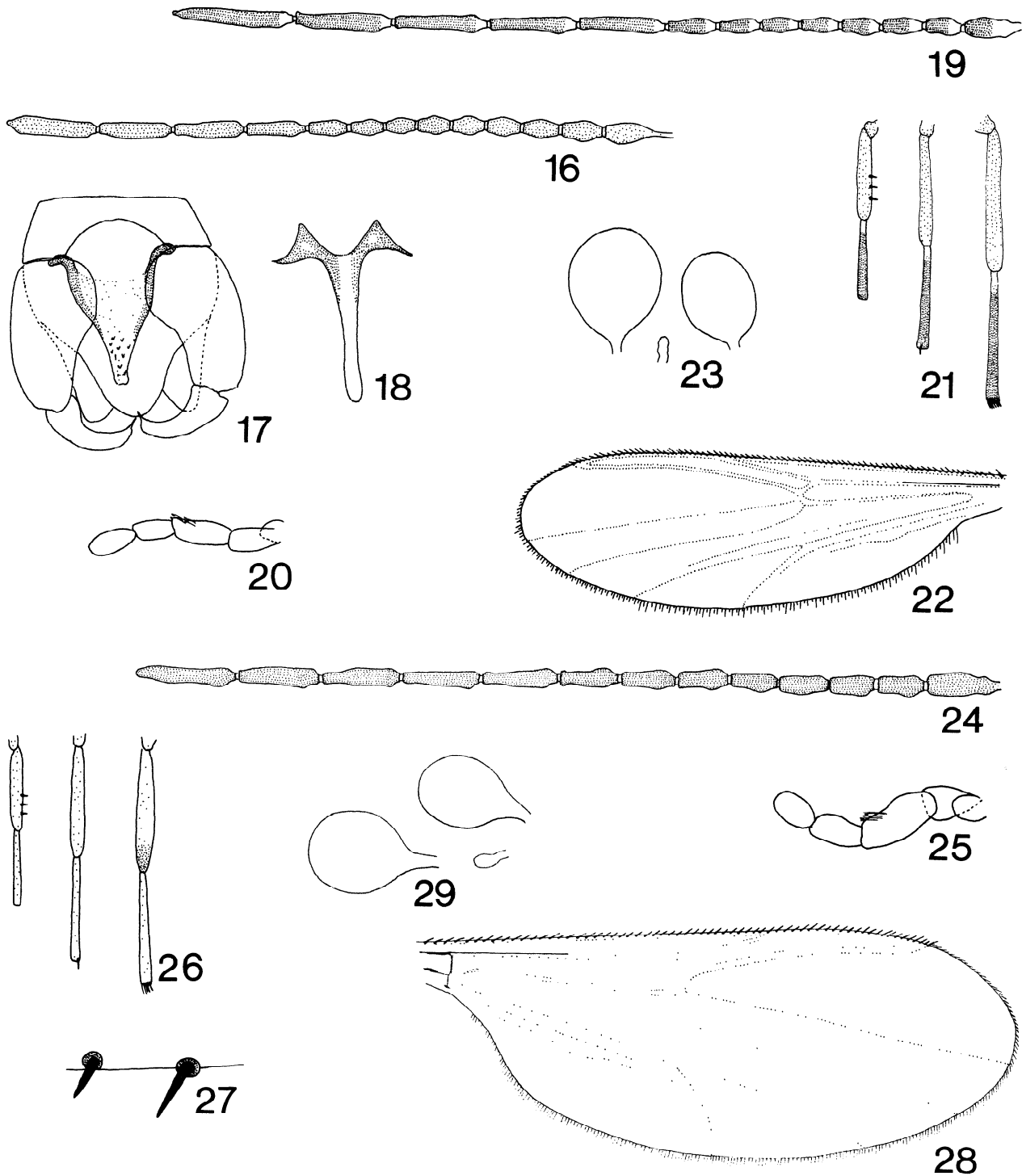
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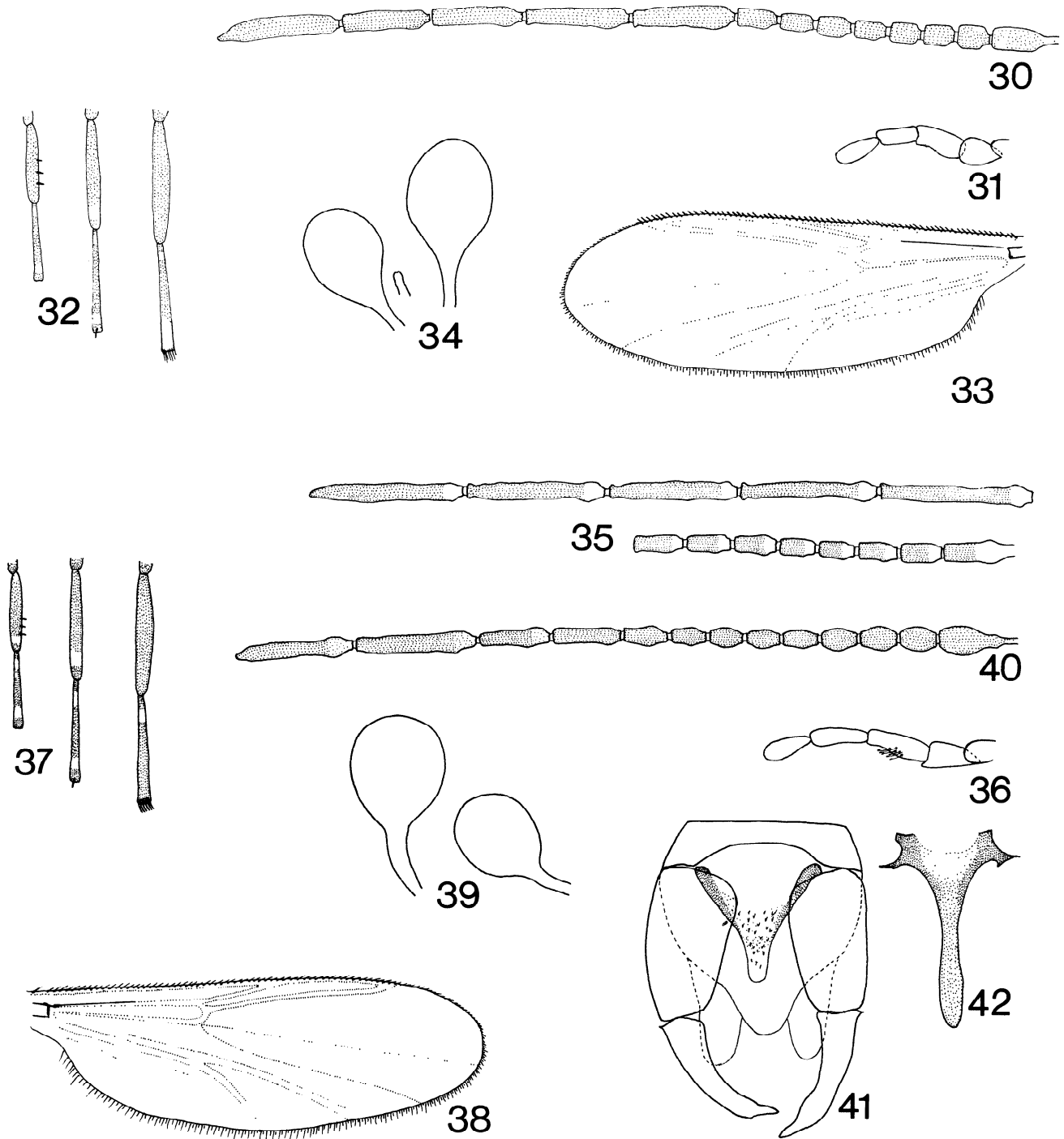
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**Figures 1-15, *Bezzia filiductus*; 7-15, *B. dentifemur*:** 1, 7, female antenna; 2, 8, female palpus; 3, 9, femora and tibiae of (left to right) fore, mid, and hind legs of female; 4, 10, femoral spines enlarged; 5, 11, female wing; 6, 12, spermathecae; 13, male antenna; 14, male genitalia, parameres omitted; 15, parameres.

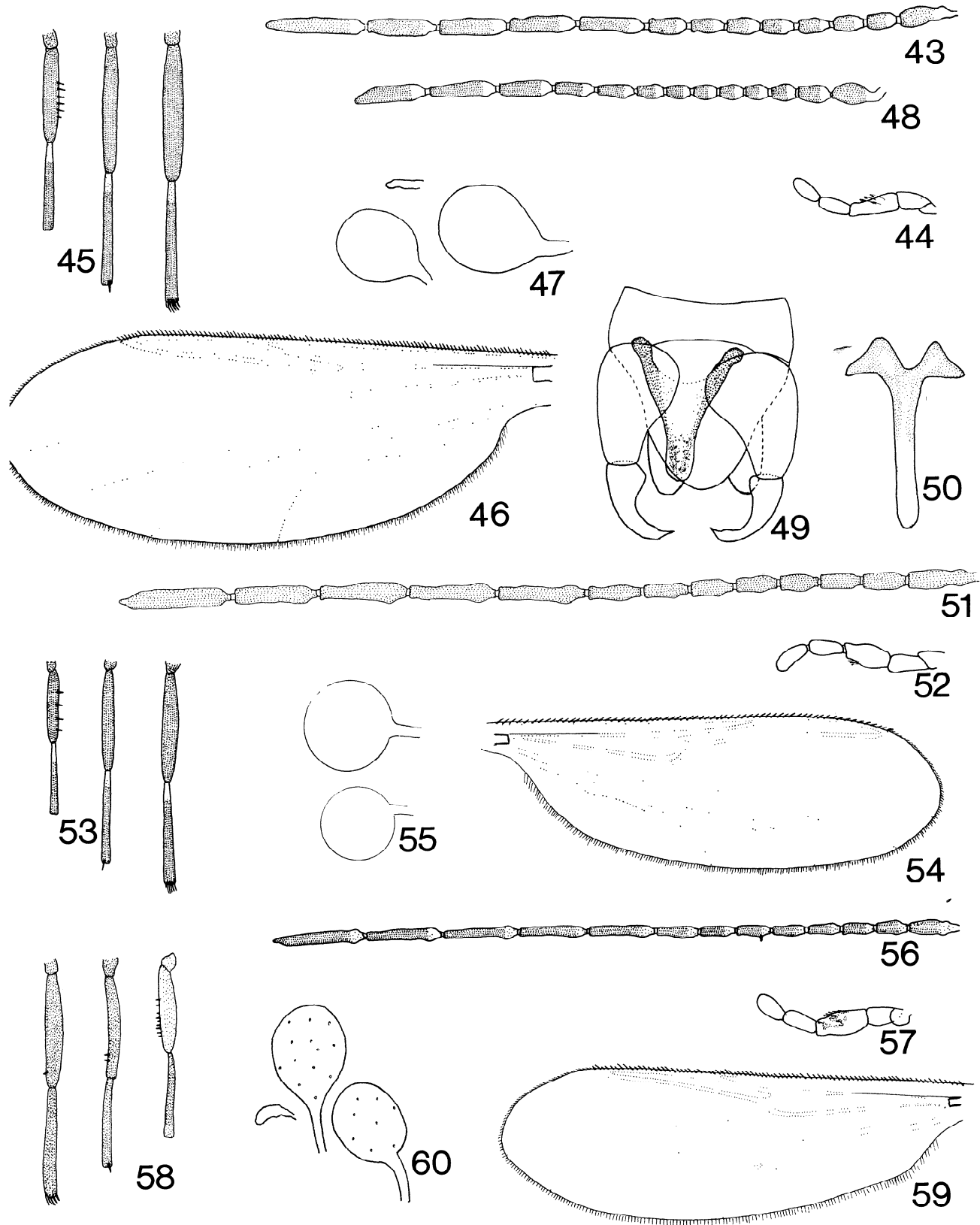


**Figures 16-18, *Bezzia raposoensis*; 19-23, *B. nigritibialis*; 24-29, *B. aitheni*:** 16, male antenna; 17, male genitalia, parameres omitted; 18, parameres; 19, 24, female antenna; 20, 25, female palpus; 21, 26, femora and tibiae of (left to right) fore, mid, and hind legs of female; 22, 28, female wing; 23, 29, spermathecae; 27, femoral spines enlarged.

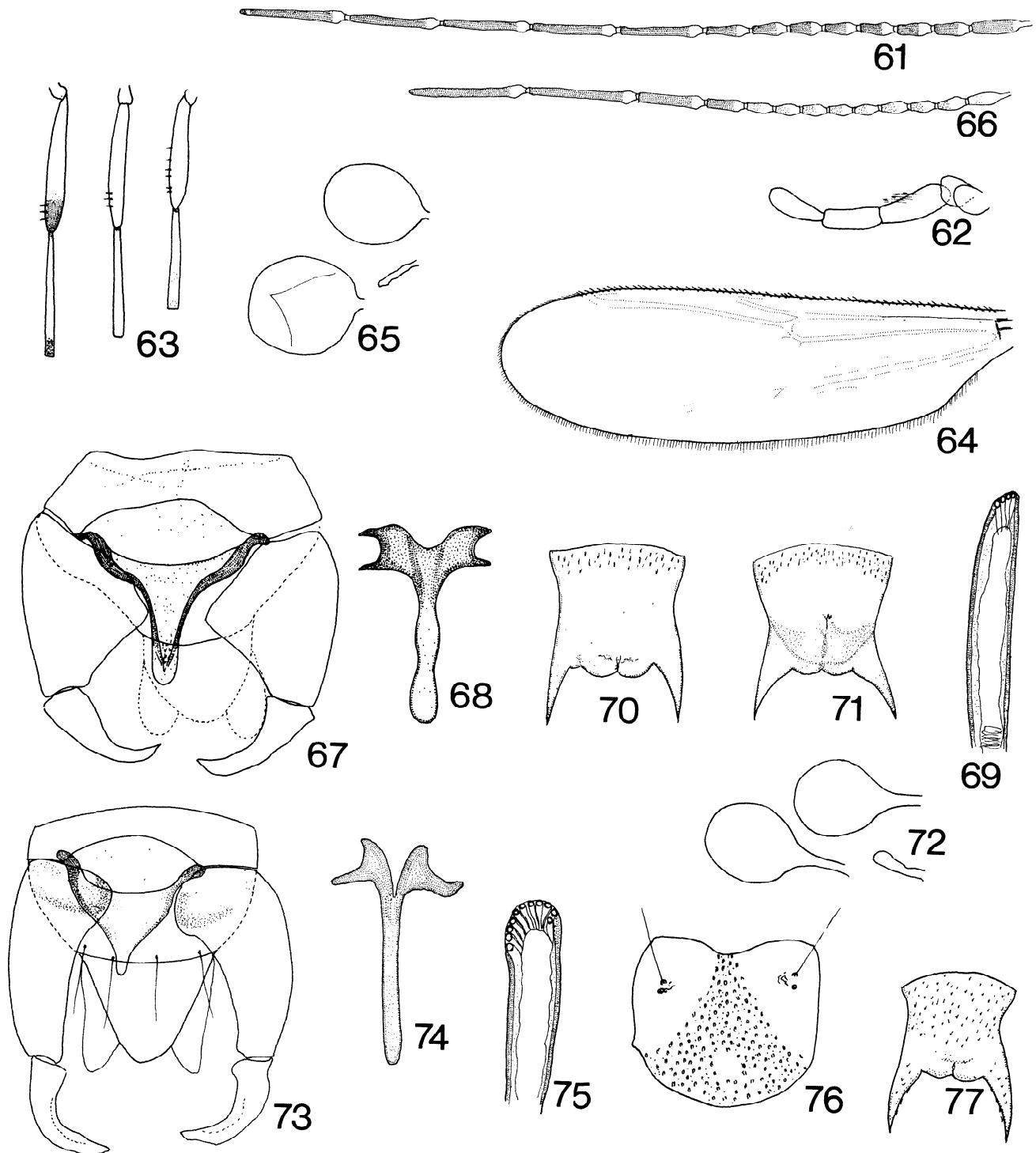


**Figures 30-34, *Bezzia mexicana*; 35-42, *B. cayoensis*:** 30, 40, female antenna; 31, 36, female palpus; 32, 37, femora and tibiae of (left to right) fore, mid and hind legs of female; 33, 38, female wing; 34, 39, spermathecae; 35, male antenna; 41, male genitalia, parameres omitted; 42, parameres.





**Figures 43-50, *Bezzia venustula*; 51-55, *B. pseudovenustula*; 56-60, *B. fusca*:** 43, 51, 56, female antenna; 44, 52, 57, female palpus; 45, 53, 58, femora and tibiae of (left to right) fore, mid and hind legs of female; 46, 54, 59, female wing; 47, 55, 60, spermathecae; 48, male antenna; 49, male genitalia, parameres omitted; 50, 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.

