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THE GENUS *GLABELLULA* BEZZI (DIPTERA:  
MYTHICOMYIIDAE) IN FLORIDA, WITH DESCRIPTIONS  
OF FOUR NEW SPECIES

NEAL L. EVENHUIS



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Cover photo: *Glabella deyrupi*, n. sp. from the Archbold Biological Station, Lake Placid, Florida.

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## The genus *Glabellula* Bezzi (Diptera: Mythicomyiidae) in Florida, with descriptions of four new species

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**Abstract.** Four new species of *Glabellula* Bezzi from Florida are described and illustrated: *Glabellula archboldi*, n. sp., *G. deyrupi*, n. sp., *G. floridana*, n. sp., and *G. wirthi*, n. sp. These mark the first records of the genus from Florida and the southeasternmost records of the genus in North America.

### INTRODUCTION

Species of *Glabellula* Bezzi are tiny (0.9–3.0 mm in length), usually dark colored, almost beetle-like flies. The genus is one of the more diverse genera of mythicomyiids with 36 described species (ranking behind only *Mythicomya* Coquillett [183 spp.], *Cyrtosia* Perris [42], and *Empidideicus* Becker [54]) in numbers of species (Evenhuis 2024). Extant described species of the genus are known from all the zoogeographic realms except the Oriental (where there are at least two undescribed species from India known to the author; NB: two species originally described as *Glabellula* from India in Kapoor *et al.* (1979) are actually species of *Cephalodromia* [see Evenhuis (2024: 24–25)]). In the Nearctic (harboring nine species including those described herein), the genus was known previously from primarily the Western United States with one species (*G. crassirostris* Cresson) occurring in the Northeastern United States, into southeastern Canada, and across the northern latitudes (ca. 45–50°N) to Montana and Idaho (Evenhuis 2024). The four new species described and illustrated herein—*Glabellula archboldi*, n. sp., *G. deyrupi*, n. sp., *G. floridana*, n. sp., and *G. wirthi*, n. sp.—mark the first records of the genus in Florida and the southeasternmost records of the genus in the North America. A key for the Florida species is given to assist in their identification.

### MATERIAL AND METHODS

Material examined derives primarily from the Archbold Biological Station, Lake Placid, Florida (ABS), supplemented with a few specimens from the National Museum of Natural History (USNM). All were collected and sent to me for study many years ago, and I apologize to those institutions for the delay in publishing on them.

Morphological terminology follows Cumming & Wood (2017). Images were accomplished by obtaining a series of stacked images using a Leica M165C stereo dissecting scope via the Leica Microsystems LASX Multifocus software and using Zereine Stacker® stacked focusing software (v. 1.04) (Zereine Systems, LLC, Richmond, Washington, USA) to align and stack-focus each final image. Genitalic preparations were made by macerating parts in hot lactic acid (30 sec bursts in a microwave), washing in distilled water, and dissecting and examining in concave slides in glycerine; male genitalia are preserved in microvials pinned below the specimen; female genitalia are mounted on slides.



FIGURES 1–4. *Glabellula*, habitus, lateral view. 1. *Glabellula archboldi*, n. sp.; 2. *G. deyrupei*, n. sp.; 3. *G. floridana*, n. sp.; 4. *G. wirthi*, n. sp.

### TAXONOMY

The genus *Glabellula* is easily distinguished from other genera of Mythicomyiidae by the wing vein  $R_{2+3}$  ending in the costa and forming a small triangular cell  $r_1$ , by the confluence of cells  $bm$  and  $dm$ , and by the interruption medially of sclerotization on tergite I of the abdomen.

The most recent work on Nearctic *Glabellula* was by Hall & Evenhuis (1984, 1986) in which two new species were described, resulting in seven total species for the region. Later, Evenhuis (2002) synonymized both *G. nanella* Melander and *G. pumila* Melander under *G. fasciata* Melander. With the four new species described here, the total Nearctic *Glabellula* is now nine species.

In Hall & Evenhuis (1984, 1986), female genitalia were described for two species (*G. binotata* Hall & Evenhuis, *G. rotundipennis* Melander). Subsequent studies on Mythicomyiidae, and especially on *Glabellula* (e.g., Gharali *et al.* 2011; Evenhuis 2009, 2019, 2022;

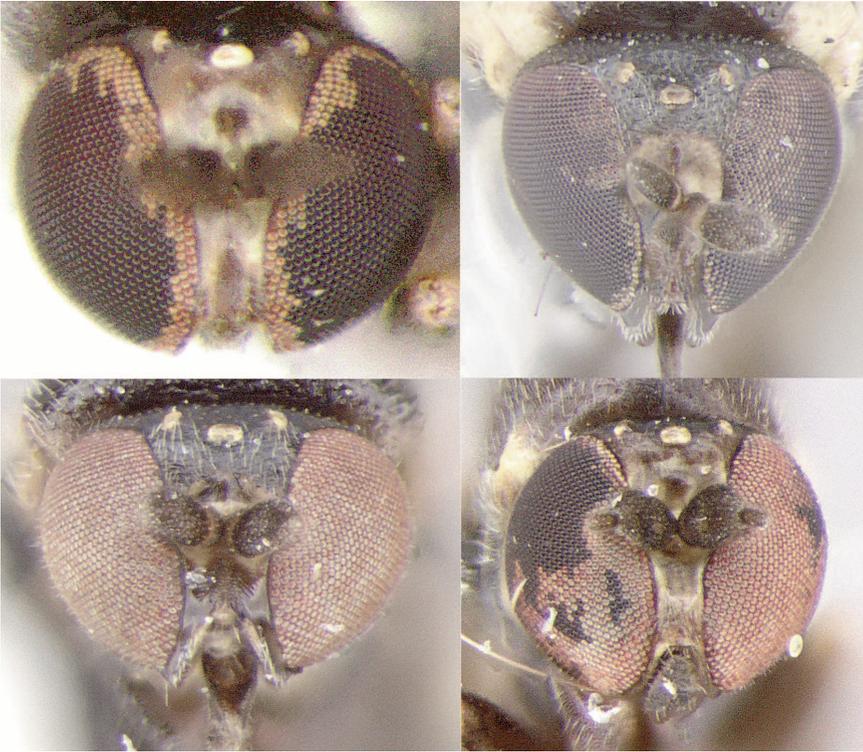


**FIGURES 5–7.** *Glabellula* antennae. 5. *Glabellula archboldi*, n. sp.; 6. *G. deyrupei*, n. sp.; 7. *G. floridana*, n. sp.

Evenhuis & Gharali, 2020; Evenhuis & Kettani 2018; Mendes *et al.* 2022; Ramos-Pastrana *et al.* 2023) have shown it to be an excellent tool in helping distinguish species and, in some cases, show infra-generic patterns that may conform to species groups or possible subgenera. The female genitalia of the new species described here are illustrated in hopes it will provide future research with information that can help in phylogenetic analyses and elucidating relationships among taxa.

KEY TO SPECIES OF *GLABELLULA* BEZZI OCCURRING IN FLORIDA

- 1. Antenna without second flagellomere (Fig. 6); mesonotum relatively flat in profile (Fig. 2); vein M<sub>1</sub> distinctly sinuous to wing margin; hind tibia flared apically; tibiae yellow ... **2**
- . Antenna with distinct second flagellomere (Fig. 5); mesonotum more rounded in profile than above (Fig. 1); vein M<sub>1</sub> fairly straight to wing margin; hind tibia not flared apically; tibiae brownish ..... **3**
- 2.** Anepisternum yellow with small spot of black; mesonotum broadly yellowish white laterally; vein R<sub>4+5</sub> straight to wing margin; wing Wing Interference Pattern (WIP) generally bronzy magenta (Fig. 17) (occurs in the autumn) ..... *G. deyrupei*, n. sp.
- . Anepisternum predominantly black with thin line of yellow to white dorsally; mesonotum dark brown to black laterally; vein R<sub>4+5</sub> slightly bowed toward wing margin; wing WIP generally blue to purple (Fig. 18) (occurs in the spring) ..... *G. floridana*, n. sp.
- 3.** Thorax and abdomen matte black (Fig. 1); lateral mesonotum with transverse sutural and supra alar area faded whitish in color; mesonotum dorsally with grayish pollinose admedian and mediae vittae ..... *G. archboldi*, n. sp.
- . Thorax and abdomen subshining black (Fig. 4); lateral mesonotum dark brown to black in transverse sutural and supra alar areas; mesonotum dorsally without grayish pollinose vittae ..... *G. wirthi*, n. sp.



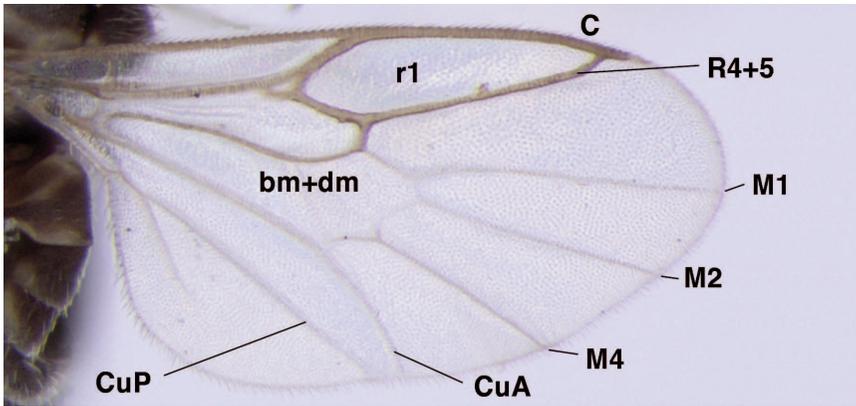
FIGURES 8–11. *Glabellula* heads, frontal view. 8. *Glabellula archboldi*, n. sp.; 9. *G. deyrupei*, n. sp.; 10. *G. floridana*, n. sp.; 11. *G. wirthi*, n. sp.

***Glabellula archboldi* Evenhuis, new species**

(Figs. 1, 5, 8, 12, 16, 22, 25, 28)

**Types.** *Holotype* ♀ and 8♀ *paratypes* from **United States:** Florida: Highlands Co: Archbold Biological Station, Lake Placid, 8 Feb 1989, M. Deyrup, Malaise trap (FSCA). *Other paratypes:* **United States:** Florida: Highlands Co: 16♀, topotypic, collected between 12 Feb and 31 May in 1985 and 1986, M. Deyrup, Malaise trap. Holotype in FSCA. Paratypes in FSCA, ABS, and BPBM.

**Diagnosis.** Using the key to species in Hall & Evenhuis (1986), this species runs to *Glabellula crassicornis* (Greene) but can be separated from it by the matte black integument (integument shining black in *G. crassicornis*), the white propleuron (black in *G. crassicornis*), and the wing vein  $R_{4+5}$  ending in the costa at a level before the end of  $M_2$  (vein  $R_{4+5}$  ending at a level beyond the end of  $M_2$  in *G. crassirostris*). In Florida, it is closest to *G. wirthi* based on both having a second flagellomere, but it can be separated from it by the matte integument (subshining in *G. wirthi*), and the presence of admedian and medial gray pollinose stripes on the mesonotum ( these stripes lacking in *G. wirthi*).



**FIGURE 12.** *Glabellula archboldi*, n. sp., wing; Abbreviations: C = costa; CuA = cubitus-anal vein; CuP = cubitus-posterior vein; M = medial veins; R = radial veins; r1 = first radial cell; bm+dm = confluent basal-medial and discal cell.

### Description

**Female** (Fig. 1). Length: 0.95–1.00 mm. *Head* (Fig. 8). Black to dark gray pollinose; eyes dichoptic, separated at vertex by 1.5× distance between lateral ocelli; frons slightly depressed medially, grayish brown to brownish white with medial black spot; face grayish to whitish, tip of oral margin brown; antennae black; scape minute; pedicel cylindrical, slightly wider than long; first flagellomere (Fig. 5) ovoid, length about 2× greatest width; second flagellomere about 1/2 length of flagellomere, with minute apical style; mentum dark brown, white along oral margin; proboscis short, black, thick, length slightly extending beyond oralgenal cup; palpus not evident.

*Thorax.* Mesonotum (rounded in profile) and scutellum matte black, with scattered minute white hairs; mesonotum with gray pollinose admedian vittae and median vittae extending from anterior portion to base of scutellum; yellowish white color on humeral callus connected to vague notopleural line to post alar callus, propleuron, thin line on dorsal edge of anepisternum and katepisternum; halter stem brown, knob yellowish white, brown dorsally.

*Legs.* Coxae, femora and tibiae dark brown; apex of femur and tarsi yellowish.

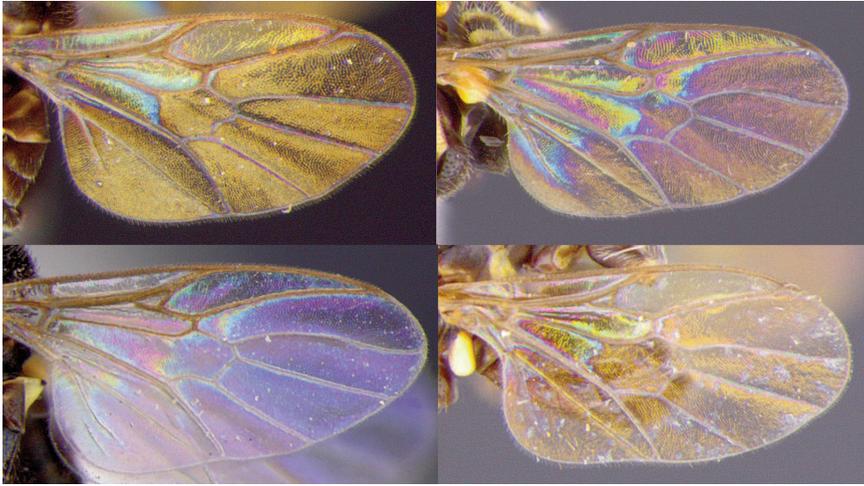
*Wing* (Figs. 12, 16). Hyaline; veins brown; costa ends just beyond end of R<sub>4+5</sub>; R<sub>4+5</sub> evanescent at connection with R<sub>1</sub>; R<sub>4+5</sub> straight to wing margin, not curved, vein ends in costa at level just before end of M<sub>2</sub>; vein M<sub>1</sub>, M<sub>2</sub> and M<sub>4</sub> straight toward wing margin; CuA thick at base, thin on apical 1/3 to wing margin; CuP straight to wing margin, not curved or sinuous; anal cell open at wing margin. Wing Interference Pattern (Fig. 16) with wing generally bronzy orange with blue highlights in cells br and base of bm+dm.

*Abdomen.* Dorsum matte black, gray pollinose, with scattered white hairs; gray-white laterally on tergites II–VII, extending medially as posterior fasciae on tergites IV–VII; venter brown.

*Genitalia.* Genital fork (Fig. 22) V-shaped, thin, with sclerotized medial process; basal duct absent, ejection apparatus (Fig. 25) connected basally, short, length subequal to



FIGURES 13–15. *Glabellula* wings. 13. *G. deyrupei*, n. sp.; 14. *G. floridana*, n. sp.; 15. *G. wirthi*, n. sp.



**FIGURES 16–18.** *Glabellula* wing interference patterns. **16.** *Glabellula archboldi*, n. sp.; **17.** *G. deyrupei*, n. sp.; **18.** *G. floridana*, n. sp.; **19.** *G. wirthi*, n. sp.

genital fork; no basal valve evident; apical valve flared, contained within membranous sphere; apical duct extremely long, thin; spermatheca (Fig. 28) long, narrow, coiled, sclerotized apically, with numerous glandular trichomes subapically emanating from non-sclerotized ring.

**Male.** Unknown.

**Etymology.** Named for conservationist, philanthropist, explorer, and aviator, Richard Archbold (1907–1976) who established the Archbold Biological Station in 1941 at Lake Placid, Florida, where the holotype was found.

**Distribution.** Known only from south central Florida.

***Glabellula deyrupei* Evenhuis, new species**

(Figs. 2, 6, 9, 13, 17, 20, 23, 26, 29)

**Types.** Holotype ♂ and 22♂♀ from **United States:** Florida: Highlands County: Lake Placid: Archbold Biological Station, Trail 2 So, 12 Nov 1986, M. Deyrup (FSCA). *Other paratypes.* **United States:** Florida: Highlands County: Lake Placid: 67♂♀, topotypic, 28 Oct to 5 Dec collected in 1985, 1986, and 1987, M. Deyrup. Paratypes in FSCA, BPBM and ABS.

**Flower record:** Many specimens of the type series collected on *Polygonella gracilis* (Nuttall) Meisner.

**Diagnosis.** Using the key to species in Hall & Evenhuis (1986), this species runs to *Glabellula binotata* Hall & Evenhuis, but can be easily separated from it by the lack of a second flagellomere (present in *G. binotata*) and the more flattened mesonotum in profile (rounded in *G. binotata*). From the congeners in Florida, *G. deyrupei* is closest to *G. flori-*

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*dana* based on the lack of a second flagellomere, but it can be separated by the more conspicuous yellow patterning on the anterior and lateral mesonotum and abdomen (these areas predominantly black in *G. floridana*). *Glbellula deyrupi* is also an autumn species, occurring from late October to early December, while *G. floridana* is a late winter-spring species occurring from late January to late April.

### Description

**Male** (Fig. 2). Length: 1.5–1.8 mm. *Head* (Fig. 9). Black to dark gray pollinose; eyes dichoptic, separated at vertex by  $1.5\times$  distance between lateral ocelli; frons slightly depressed medially, white with medial black spot; face black, white along inner eye margins; antennae black; scape minute; pedicel cylindrical, slightly wider than long; first flagellomere (Fig. 6) ovoid, length about  $2.5\times$  greatest width; second flagellomere absent, with minute bulbous style at apex; mentum dark brown, white along oral margin; proboscis short, black, thick, length slightly extending beyond oralgenal cup; palpus not evident.

*Thorax*. Mesonotum (relatively flattened in profile) and scutellum subshining black, with scattered minute white hairs; small spot of yellowish white color on humeral callus connected to thin notopleural line to wing base, propleuron with yellow dorsally, remainder of pleura generally dark brown; halter stem brown, knob white.

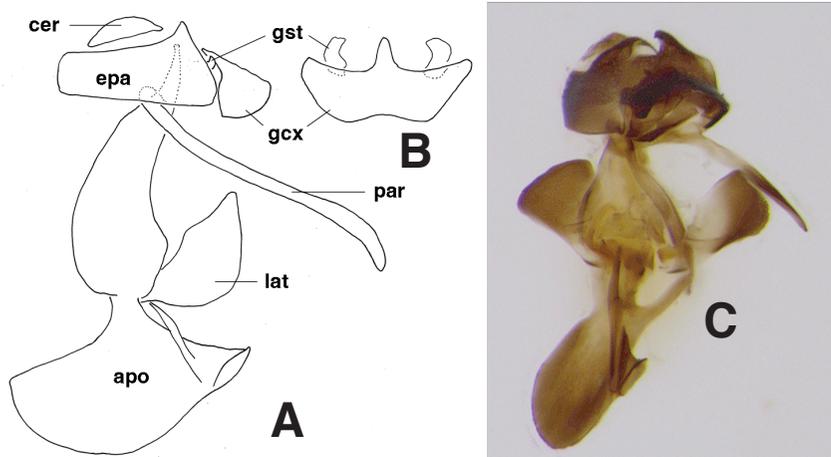
*Legs*. Coxae, femora and fore and mid tibiae dark brown; apex of femur and tarsi yellowish; hind tibia flared apically, brown.

*Wing* (Figs. 13, 17). Hyaline; veins brown; costa ends just beyond end of  $R_{4+5}$ ;  $R_s$  connected with  $R_1$ , not evanescent;  $R_{4+5}$  straight to wing margin, not curved, vein ends in costa at level just beyond end of  $M_2$ ; vein  $M_1$ , sinuous to wing margin,  $M_2$  and  $M_4$  straight toward wing margin; CuA thick at base, thin on apical 1/3 to wing margin; CuP straight to wing margin, not curved or sinuous; anal cell open at wing margin. Wing Interference Pattern (Fig. 17) with radial and medial fields generally bronzy magenta, rainbow of colors at base of anal cell and cells  $bm+dm$  and  $r4+5$ .

*Abdomen*. Dorsum matte black, gray pollinose, with scattered white hairs; yellow-white along posterior margin of tergites II–VII; venter matte black.

*Genitalia* (Fig. 21). In lateral view with epandrium subrectangular (much longer than high) with pointed pseudostylus fused to epandrium; gonocoxa subtriangular; in ventral view gonocoxa subrectangular with medial pointed process; gonostylus small, thick, hook-shaped; lateral arms of parameral sheath long, thin, slightly hooked apically (like a hockey stick); aedeagal apodeme very large, rounded axe-shaped in lateral view, in ventral view Y-shaped process ventrally, with lateral rami large, broad, scoop-like. aedeagus (distiphallus) simple, short, protruding above parameral sheath.

**Female**. As in male except: genital fork (Fig. 23) thick, U-shaped, thin, membranous medially (bottom of the “U”); common duct short, lightly sclerotized; basal ducts long, narrow, length of lateral ducts two twice length of medial; ejection apparatus (Fig. 26) long, thin, length of medial ejection apparatus  $2\times$  length of genital fork, lateral two subequal in length to genital fork; no basal valve evident; apical valve slightly flared; apical duct extremely long, thin, length  $2\times$  length of longest basal ducts; spermatheca (Fig. 29) relatively short, obclavate, sclerotized on subapical 2/3, apex non-sclerotized, rounded; numerous glandular trichomes emanating from base of spermatheca.



**FIGURE 20.** *Glabellula deyrupi*, male genitalia. **A**, lateral view. **B**, gonocoxa, ventral view. **C**, Oblique view showing shape of aedeagal apodeme with Y-shaped ventral process and lateral rami. Abbreviations: apo = aedeagal apodeme; cer = cercus; epa = epandrium; gcox = gonocoxa; gst = gonostylus; lat = lateral rami; par = lateral arms of parameral sheath.

**Etymology.** Named for Marc Deyrup, curator emeritus at the Archbold Biological Station, in honor of his fervent interest in the ants and pollinating insect fauna of the Station.

**Distribution.** Known only from the type locality in central Florida.

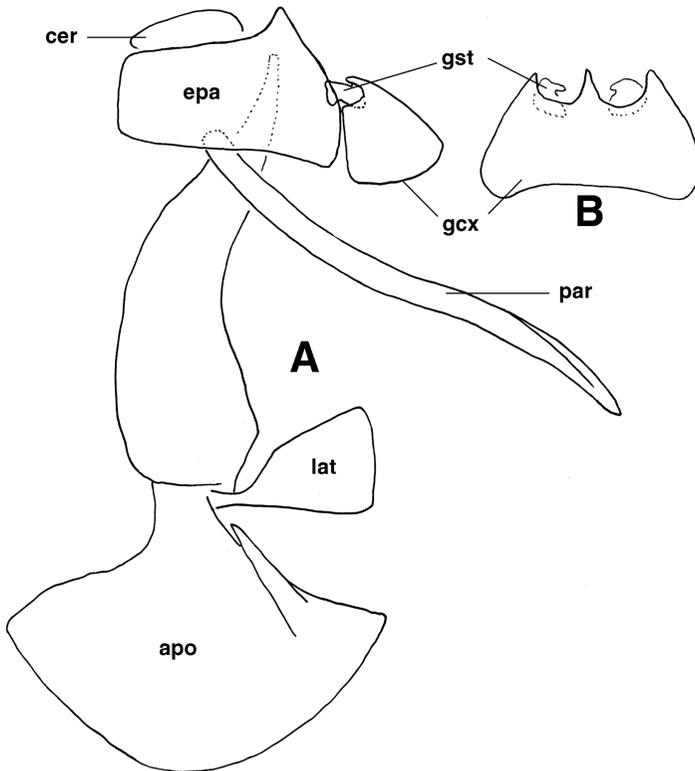
### *Glabellula floridana* Evenhuis, new species

(Figs. 3, 7, 10, 14, 18, 21, 24, 27, 30)

**Types.** *Holotype* ♂ and 3♂, 16♀ *paratypes* from **United States:** Florida: Highlands County: Lake Placid: Archbold Biological Station, 4 Feb 1989, M. Deyrup, on flowers of *Prunus*. *Other paratypes.* **United States:** Florida: Highlands County: Lake Placid: Archbold Biological Station, 8♂, 30♀, topotypic, collected from 31 Jan to 21 Apr in 1986, 1988, and 1989, M. Deyrup; 1♂, topotypic, 13–19 Apr 1970, W.W. Wirth (USNM); 1♂, topotypic, 1 May 1990, Price tract, W.W. Wirth, Malaise trap (USNM). *Holotype* in FSCA. *Paratypes* in ABS, BPBM, FSCA, and USNM.

**Flower record:** Many collected on flowers of *Prunus* sp.

**Diagnosis.** Using the key to species in Hall & Evenhuis (1986) this species runs to *G. crassicornis* (Greene), but can be easily separated from it by the lack of a second flagellomere (present but small in *G. crassicornis*). In Florida, this species is closest to *G. deyrupi* based on both lacking a second flagellomere, but it can be separated from it by the lack of conspicuous yellow patterning on the anterior and lateral mesonotum and abdomen (these areas predominantly yellow in *G. deyrupi*). *Glabellula floridana* is also a spring species, occurring from late January to early May, while *G. deyrupi* is a late winter-spring species occurring from late October to early December April.

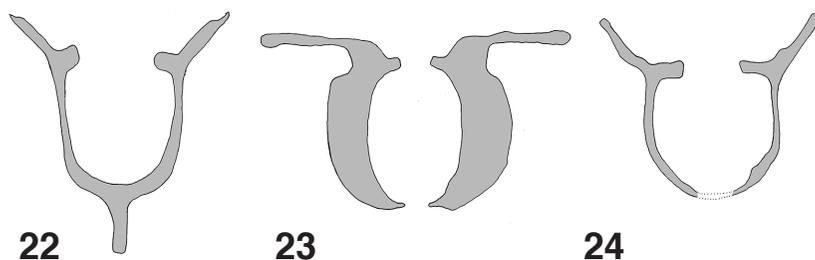


**FIGURE 21.** *Glabellula floridana*, male genitalia. **A**, lateral view. **B**, gonocoxa, ventral view. Abbreviations: apo = aedeagal apodeme; cer = cercus; epa = epandrium; gcx = gonocoxa; gst = gonostylus; lat = lateral rami; par = lateral arms of parameral sheath.

### Description

**Male** (Fig. 3). Length: 1.5–1.8 mm. *Head* (Fig. 10). Black to dark gray pollinose; eyes dichoptic, separated at vertex by  $1.5\times$  distance between lateral ocelli; frons slightly depressed medially, white with medial black spot; face black, white along inner eye margins; antennae black; scape minute; pedicel cylindrical, slightly wider than long; first flagellomere (Fig. 7) ovoid, length about  $2.5\times$  greatest width; second flagellomere absent, no evident style; mentum dark brown, white along oral margin; proboscis short, black, thick, length slightly extending beyond oralgenal cup; palpus not evident.

*Thorax*. Mesonotum (relatively flattened in profile) and scutellum subshining black, with scattered minute white hairs; yellowish white color on humeral callus, broad notopleural line from transverse suture to post alar callus, propleuron, broad stripe on dorsal edges of anepisternum, katepisternum, and meron; halter stem brown, knob yellowish white.



FIGURES 22–24. *Glabellula* female genitalia, genital forks. 22. *Glabellula archboldi*, n. sp.; 23. *G. deyrupi*, n. sp.; 24. *G. floridana*, n. sp.

*Legs.* Coxae, femora and fore and mid tibiae dark brown; apex of femur and tarsi yellowish; hind tibia flared apically, brown.

*Wing* (Figs. 14, 18). Hyaline; veins brown; costa ends just beyond end of  $R_{4+5}$ ;  $R_s$  connected with  $R_1$ , not evanescent;  $R_{4+5}$  bowed to wing margin, vein ends in costa at level of  $M_2$ ; vein  $M_1$ , sinuous to wing margin,  $M_2$  and  $M_4$  straight toward wing margin;  $CuA$  thick at base, thin on apical 1/3 to wing margin;  $CuP$  straight to wing margin, not curved or sinuous; anal cell narrowly open at wing margin. Wing Interference Pattern (Fig. 18) with radial and medial fields generally purple and dark blue, rainbow of colors at base of anal cell and cells  $bm+dm$  and  $r4+5$  (that in cell  $bm+dm$  predominantly dark blue).

*Abdomen.* Dorsum matte black, gray pollinose, with scattered white hairs, yellow posteriorly on apical segments; venter matte black.

*Genitalia* (Fig. 21). In lateral view with epandrium subrectangular (slightly longer than high) with pointed pseudostylus fused to epandrium; gonocoxa subtriangular; in ventral view gonocoxa subtriangular slightly concave basomedially, with pointed process apicomediaally; gonostylus small, thick, subquadrate; lateral arms of parameral sheath long, thin; aedeagal apodeme very large, rounded axe-shaped in lateral view, in ventral view Y-shaped process ventrally, with lateral rami large, broad, foliate; aedeagus (distiphallus) simple, short, protruding above parameral sheath.

**Female.** As in male except: genitalia with genital fork (Fig. 24) thin, U-shaped, thin, not sclerotized medially; common duct short, lightly sclerotized; basal ducts long, narrow, length of lateral ducts two twice length of medial; ejection apparatus (contained within a membranous sac) (Fig., 27), long, thin, length of medial ejection apparatus  $2\times$  length of genital fork, lateral two subequal in length to genital fork; no basal valve evident; apical valve slightly flared; apical duct extremely long, thin, length  $2\times$  length of longest basal ducts; spermatheca (Fig. 30) relatively short, obclavate, sclerotized darkly on subapical 2/3, apex lightly sclerotized, rounded; numerous glandular trichomes emanating from base and apex of spermatheca.

**Etymology.** Named for the type locality of Florida.

**Distribution.** Known only from the type locality in central Florida.



FIGURES 25–27. *Glabellula* female genitalia, ejection apparatus. 25. *Glabellula archboldi*, n. sp.; 26. *G. deyrupei*, n. sp.; 27. *G. floridana*, n. sp.

### *Glabellula wirthi* Evenhuis, new species

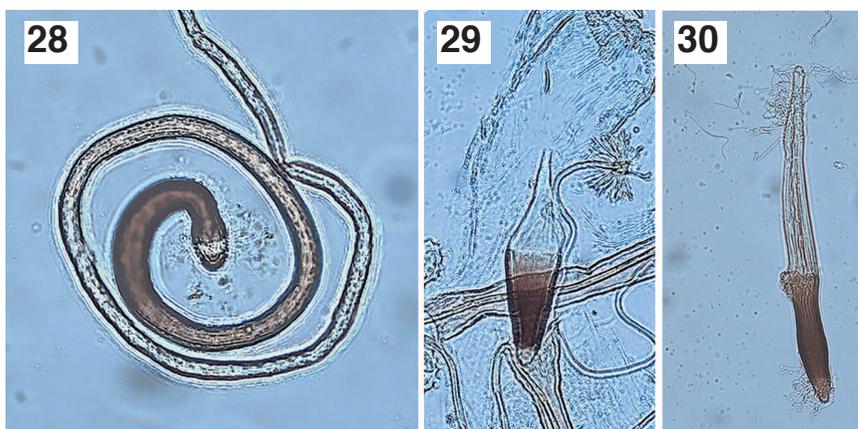
(Figs. 4, 11, 15, 19)

**Types.** *Holotype* ♀ from **United States:** Florida: Jackson County: Florida Caverns State Park, 26 May 1973, W.W. Wirth, Malaise trap (USNM). *Holotype* in USNM.

**Diagnosis.** Using the key to species in Hall & Evenhuis (1986), this species runs to *Glabellula crassicornis* (Greene) but can be separated from it by the white propleuron (black in *G. crassicornis*), and the wing vein  $R_{4+5}$  ending in the costa at a level before the end of  $M_2$  (vein  $R_{2+3}$  ending at a level beyond the end of  $M_2$  in *G. crassirostris*). In Florida it is closest to *G. archboldi* based on both having a second flagellomere, but it can be separated from it by the subshining integument (matte in *G. archboldi*), and the lack of admedian and medial gray pollinose stripes on the mesonotum (mesonotum with these stripes in *G. archboldi*).

### **Description**

**Female** (Fig. 4). Length: 1.10 mm. **Head** (Fig. 11). Black to dark gray pollinose; eyes dichoptic, separated at vertex by  $1.5\times$  distance between lateral ocelli; frons slightly depressed medially, brown with medial black spot; face brown, white along inner eye margins; antennae (as in *G. archboldi*; cf. Fig. 5) black; scape minute; pedicel cylindrical, slightly wider than long; first flagellomere ovoid, length about  $2\times$  greatest width; second flagellomere about  $1/2$  length of flagellomere, with minute apical style; mentum dark brown, white along oral margin; proboscis short, black, thick, length slightly extending beyond oralgenal cup; palpus not evident.



FIGURES 28–30. *Glabellula* female genitalia, spermathecae. 28. *Glabellula archboldi*, n. sp.; 29. *G. deyrupei*, n. sp.; 30. *G. floridana*, n. sp.

*Thorax*. Mesonotum (rounded in profile) and scutellum subshining black, with scattered minute yellowish to brownish hairs; mesonotum without gray pollinose vittae; pleura with yellowish white color on humeral callus, post alar callus, propleuron, thin line on dorsal edge of anepisternum and katepisternum; halter stem brown, knob yellowish white, brown dorsally.

*Legs*. Dark brown except apex of femur yellowish.

*Wing* (Figs. 15, 19). Hyaline; veins brown; costa ends just beyond end of  $R_{4+5}$ ;  $R_s$  connected to  $R_1$ ;  $R_{4+5}$  straight to wing margin, vein ends in costa at level well before end of  $M_2$ ; vein  $M_1$  slightly curved upward at wing margin,  $M_2$  and  $M_4$  straight toward wing margin;  $CuA$  relatively thick to wing margin;  $CuP$  straight to wing margin, not curved or sinuous; anal cell open at wing margin.

*Abdomen*. Dorsum subshining black, with scattered yellowish hairs; venter brown.

*Genitalia* Not dissected.

**Male**. Unknown.

**Etymology**. Named for renowned dipterist Willis Wagner Wirth (1916–1994) who collected the holotype.

**Distribution**. Known from the type locality in panhandle of Florida.

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## REFERENCES

- Cumming, J.M. & Wood, D.M.** 2017. Adult morphology and terminology, pp. 89–133. In: Kirk-Spriggs, A.H. & Sinclair, B.J. (eds.), *Manual of Afrotropical Diptera*. Vol. 1. Introductory chapters and keys to Diptera. Suricata 4. South African National Biodiversity Institute, Pretoria.
- Evenhuis, N.L.** 2002. Catalog of the Mythicomyiidae of the world (Insecta: Diptera). *Bishop Museum Bulletin in Entomology*, **10**, 85 pp.
- Evenhuis, N.L.** 2019. The genus *Glbellula* Bezzi (Diptera: Mythicomyiidae) in Australia, with descriptions of two new species. *Bishop Museum Occasional Papers* **127**: 1–11.
- Evenhuis, N.L.** 2022. First record of the micro bee fly genus *Glbellula* Bezzi in Madagascar (Diptera: Mythicomyiidae). *Bishop Museum Occasional Papers* **151**: 1–15.
- Evenhuis, N.L.** 2024. World catalog of Mythicomyiidae (Insecta: Diptera). Revised edition. *Bishop Museum Bulletin in Entomology* **17**, 95 pp.
- Evenhuis, N.L. & Gharali, B.** 2020. The Mythicomyiidae (Insects: Diptera) of the United Arab Emirates. Part 2: genera *Cyrtosia* Perris, *Dolipteryx* Hesse, *Glbellula* Bezzi, and *Leylaiya* Efflatoun. *Bishop Museum Occasional Papers* **140**: 1–29.
- Evenhuis, N.L. & Kettani, K.** 2018. Genera of Mythicomyiidae (Insecta, Diptera) new to the fauna of Morocco, with descriptions of new species. *Zootaxa* **4429**(2): 348–356.
- Gharali, B., Kamali, K., Evenhuis, N.L. & Talebi, A.A.** 2011. First record of the genus *Glbellula* Bezzi (Diptera: Mythicomyiidae: Glbellulinae) from Iran, with the description of a new species. *Studia Dipterologica* **17**[2010]: 113–120.
- Hall, J.C. & Evenhuis, N.L.** 1984. Family Bombyliidae, pp. 281–320. In: Griffiths, G.C.D. (ed.), *Flies of the Nearctic Region*. Vol. V, Part 13, No. 4. E. Schweizerbart, Stuttgart.
- Hall, J.C. & Evenhuis, N.L.** 1986. Family Bombyliidae, pp. 321–592. In: Griffiths, G.C.D. (ed.), *Flies of the Nearctic Region*. Vol. V, Part 13, No. 5. E. Schweizerbart, Stuttgart.
- Kapoor, V.C., Agarwal, M.L. & Grewal, J.S.** 1979. On a collection of bombyliids (Diptera: Bombyliidae) from India. *Oriental Insects* **12**(3)[1978]: 403–418.
- Mendes, L.L., Evenhuis, N.L., Limeira-de-Oliveira, F. & Lamas, C.J.E.** 2022. First record of *Glbellula* Bezzi (Diptera, Mythicomyiidae: Glbellulinae) in South America, with description of three new species from Brazil. *Zootaxa* **5124**(2): 205–215.
- Ramos-Pastrana, Y., Córdoba-Suarez, E. & Evenhuis, N.L.** 2023. A new species of *Glbellula* Bezzi, 1902 (Diptera: Mythicomyiidae: Glbellulinae) from Colombia, and an updated key to South American species. *Zootaxa* **5285**(3): 557–563.