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Norman E. Woodley

Smithsonian Institution, norman.woodley@ars.usda.gov

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Norman E. Woodley
Systematic Entomology Laboratory
Beltsville Agricultural Research Center ARS-USDA
% Smithsonian Institution NHB-168
P. O. Box 37012
Washington, DC 20013-7012, USA

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Norman E. Woodley
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A new species of *Paraberismyia* Woodley (Diptera, Stratiomyidae, Beridinae) from Chiapas, Mexico

Norman E. Woodley
Systematic Entomology Laboratory
Beltsville Agricultural Research Center ARS-USDA
% Smithsonian Institution NHB-168
P. O. Box 37012
Washington, DC 20013-7012, USA
norman.woodley@ars.usda.gov

Abstract. A new species of *Paraberismyia* Woodley (Diptera, Stratiomyidae, Beridinae), *P. imitator*, **n. sp.**, is described from Chiapas, Mexico. The new species is compared to previously described species and diagnostic notes are presented for separation of *Paraberismyia* from *Berismyia* Giglio-Tos.

Key words. Neotropical Region, soldier fly, taxonomy, distribution, identification

Introduction

Woodley (1995) described the genus *Paraberismyia* based on a single new species, *P. tzontehuitza* Woodley, in the stratiomyid subfamily Beridinae. The genus was subsequently revised (Woodley 2013) with the description of three additional species. All known specimens at the time were from the state of Chiapas in southern Mexico and Totonicapán Department in southwestern Guatemala.

During recent work with the closely related genus *Berismyia* Giglio-Tos, an additional species of *Paraberismyia* was discovered. Unlike all previously known species, the new one described here is more somber in coloration so it superficially resembles species of *Berismyia* in general appearance. However, the male terminalia of the new taxon are very similar to previously described species of *Paraberismyia*, which are markedly different from known species of *Berismyia*.

Because overall coloration has been used previously to pragmatically separate *Paraberismyia* from *Berismyia*, rather than the more definitive characters of the male terminalia, the discovery of the new species described here makes it advisable to point out additional characters that can be used to separate the two genera on a practical level. The most diagnostic feature that I have found to separate the two genera is the coloration of the palpi. In *Paraberismyia* the palpi are completely pale yellow to orangish in color (Fig. 2, 5), while in *Berismyia* the second segment of the palpus is completely velvety black (Fig. 4, 6) in all known specimens of the three described species and several that are undescribed. Also, in males of *Paraberismyia* the lower frons is completely tomentose or has a discrete narrow, vertical medial band that is bare (Fig. 3), and the lower frons of females has a well-defined bare area in the shape of an inverted triangle. In *Berismyia*, both sexes have a more extensive bare area on the medial portion of the lower frons (Fig. 4) so that the tomentose area is more or less restricted to the lateral margins adjacent to the eyes, and in some species the lower frons is almost entirely bare and shiny.

Materials and Methods

Specimens examined for this study are from the Canadian National Collection of Insects, Agriculture and Agri-Food Canada, Ottawa, Ontario, Canada (CNC); the Division of Invertebrate Zoology, American Museum of Natural History, New York, NY, USA (AMNH); and the Department of Entomology, National Museum of Natural History, Smithsonian Institution, Washington, DC, USA (USNM).

Specimens were examined with a Zeiss Stemi SV 11 stereomicroscope. Male terminalia were dissected from specimens relaxed in a humidity chamber for about 24 hours, cleared in hot KOH, neutralized with weak acetic acid, and rinsed with water. The terminalia are preserved in a microvial on the specimen pin. Morphological terminology follows that of McAlpine (1981) as modified by Cumming and Wood (2009). Body lengths are given exclusive of antennae.

Taxonomic Treatment

Paraberismyia imitator Woodley, new species

Diagnosis. *Paraberismyia imitator* can be distinguished from all other species in the genus by having the abdomen uniformly brown, without yellowish areas medially on tergites (Fig. 1, 2). In my previous key (Woodley 2013: 27), *P. imitator* will not key to any species because at couplet 2, while cell cup is completely covered with microtrichia, the first tarsomere of the hind leg is completely pale so one cannot proceed to couplet 3. Thus, the key could be modified so that at couplet 1, when choosing “males” it leads to couplet 1a:

- 1a(1). Abdomen completely dark, without pale coloration medially on tergites *P. imitator* Woodley, new species
 — Abdomen bicolored, with extensive pale coloration medially on tergites 2

Description. Male. Head: Black, without metallic reflections; lower frons and face densely silvery gray tomentose, the former with a narrow medial shiny, bare band, occiput also tomentose except for median occipital sclerite, but tomentum is sparser and dark, not strongly contrasting with background coloration, median area of upper frons very sparsely tomentose; upper frons with sparse dark hairs, lower frons and face with brownish pilosity that is about the length of the first antennal segment; gena with pale yellowish-white hairs about as long as those of face, occiput with scattered appressed dark hairs; eye moderately densely pilose, hairs brownish black, slightly less than length of first antennal segment; antenna 0.95 length of head, first two segments and first flagellomere yellowish, following four flagellomeres yellow internally, apical flagellomeres brownish black; first two antennal segments with stiff black hairs, longer hairs on flagellum black; palpus yellow, with numerous long black hairs, some pale hairs intermixed on basal part of first segment; proboscis brownish yellow.

Thorax: Scutum and scutellum black with only weakly developed metallic coloration, postpronotal lobe and postalar callus brownish; pleura brownish black, anepimeron and narrow posterior margin of katapisternum more brownish; mesonotum finely, densely punctate; thorax with sparse grayish tomentum present over most of prothorax, remainder of thorax lacking tomentum; scutum and scutellum mostly pilose with long, erect brownish hairs, a little longer than first two antennal segments combined, intermixed with short, pale, semi-appressed hairs on scutum and scutellum, with small posteroventral area of anepimeron, katapisternum, meron, anatergite, mediotergite, and subscutellum bare; hind tarsus with tarsomeres 1–4 moderately inflated; front leg yellowish with vague brownish coloration at apex of femur and most of tibia (front tarsi missing) brownish; middle leg with similar coloration to front leg but tibia dark yellowish on apical half, tarsi dark blackish brown except first tarsomere is pale yellowish with narrow apical area brownish; hind femur yellow with brownish apical half, tibia entirely dark brown, and tarsus blackish brown except first tarsomere entirely pale yellow (Fig. 1, 2) and second tarsomere yellowish, becoming brownish on apical half; legs short pilose, posterior surfaces of all femora with longer, erect pale hairs, posteroventral surface of hind tibia with scattered longer, erect hairs, coloration of pilosity similar to cuticular ground color; wing hyaline with brownish infuscation anteriorly and apically, veins brownish; cell cup with entire surface covered with microtrichia; halter with basal part of stem yellowish, remainder brownish.

Abdomen: Tergites and sternites uniformly brown (Fig. 1, 2); tergites vaguely, almost imperceptibly tomentose, quite shiny, with short, blackish pilosity, lateral margins with a fringe of pale hairs about the length of first two antennal segments, tergites 5 and beyond with some dark hairs intermixed; sternites with short, brownish pilosity.

Terminalia: Gonocoxites (Fig. 7) with lateral margins tapering anteriorly, slightly arcuate, with low, broadly rounded process ventral to gonostylus; gonocoxal apodemes short, not reaching anterior margin of genital capsule; synsternite of genital capsule with triangular-shaped process that is narrowly rounded at apex; gonostylus (Fig. 7, 8) slightly arcuate, concave medially with triangular process near middle of ventral margin; phallic complex (Fig. 9, 10) trifold, moderately arcuate in lateral view,

lateral lobes convergent distally, medial lobe distinctly shorter than lateral lobes; epandrium (Fig. 11) narrow, posterior margin evenly rounded; cercus of moderate width, apex sharply rounded.

Length: 6.2 mm.

Female. Unknown.

Distribution. Known only from the state of Chiapas, Mexico.

Type material. Holotype male (CNC), is labeled: "MEX. Chis. 9600ft. Zontehuitz, nr. S. Crist. 25 June 1969 W.R.M. Mason/HOLOTYPE ♂ *Paraberismyia imitator* Woodley 2015". The type locality should presumably be: **MEXICO:** Chiapas, Cerro Tzontehuitz (near San Cristóbal de las Casas), 16°50'N, 92°35'W. The elevation cited on the label indicates a locality near the summit of the peak, which is actually 9514 feet (2900 meters). The holotype is missing both front tarsi and the left middle tarsus. The terminalia are in a microvial with glycerin on the specimen pin. The specimen was possibly mounted from alcohol or got slightly wet, as the wings are a little folded on the posterior margins.

Etymology. The species epithet, *imitator*, is a noun in apposition referring to the fact that this species has the general appearance of a species of *Berismyia* rather than the other known species of *Paraberismyia*.

Remarks. *Paraberismyia imitator* is yet another species of the genus found in the highlands of Chiapas. Remarkably, all known specimens of the genus were collected at only three localities. All four species treated by Woodley (2013) were collected at El Triunfo, Chiapas, in May, 1985. This site is at the southern end of the Sierra Madre de Chiapas. One of these, *P. tzontehuitza* Woodley, had been described earlier (Woodley 1995: 136) from Cerro Tzontehuitz, Chiapas, which is in the Central Highlands. The species described herein is from the same locality. Old specimens of *Paraberismyia triunfo* were collected in Totonicapán, Guatemala, which is in the Sierra Madre that is essentially a southern extension of the Sierra Madre de Chiapas. Given the relatively little amount of collecting that has been done in this region and the number of species already known from this area, it seems very likely that still more species of *Paraberismyia* will be discovered. It also indicates that the highland regions of Chiapas and adjacent Guatemala are biodiverse and rich in endemic species.

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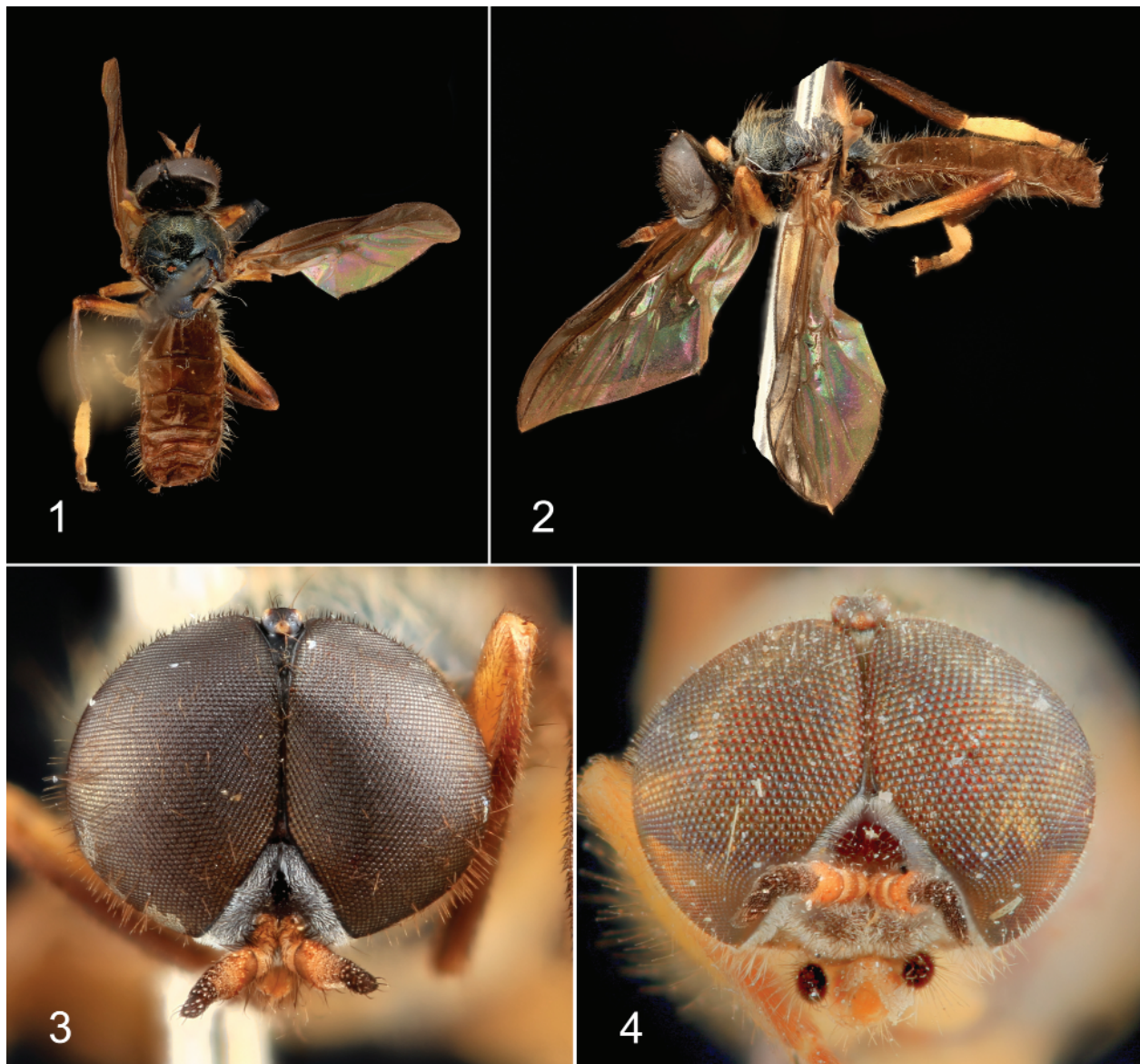
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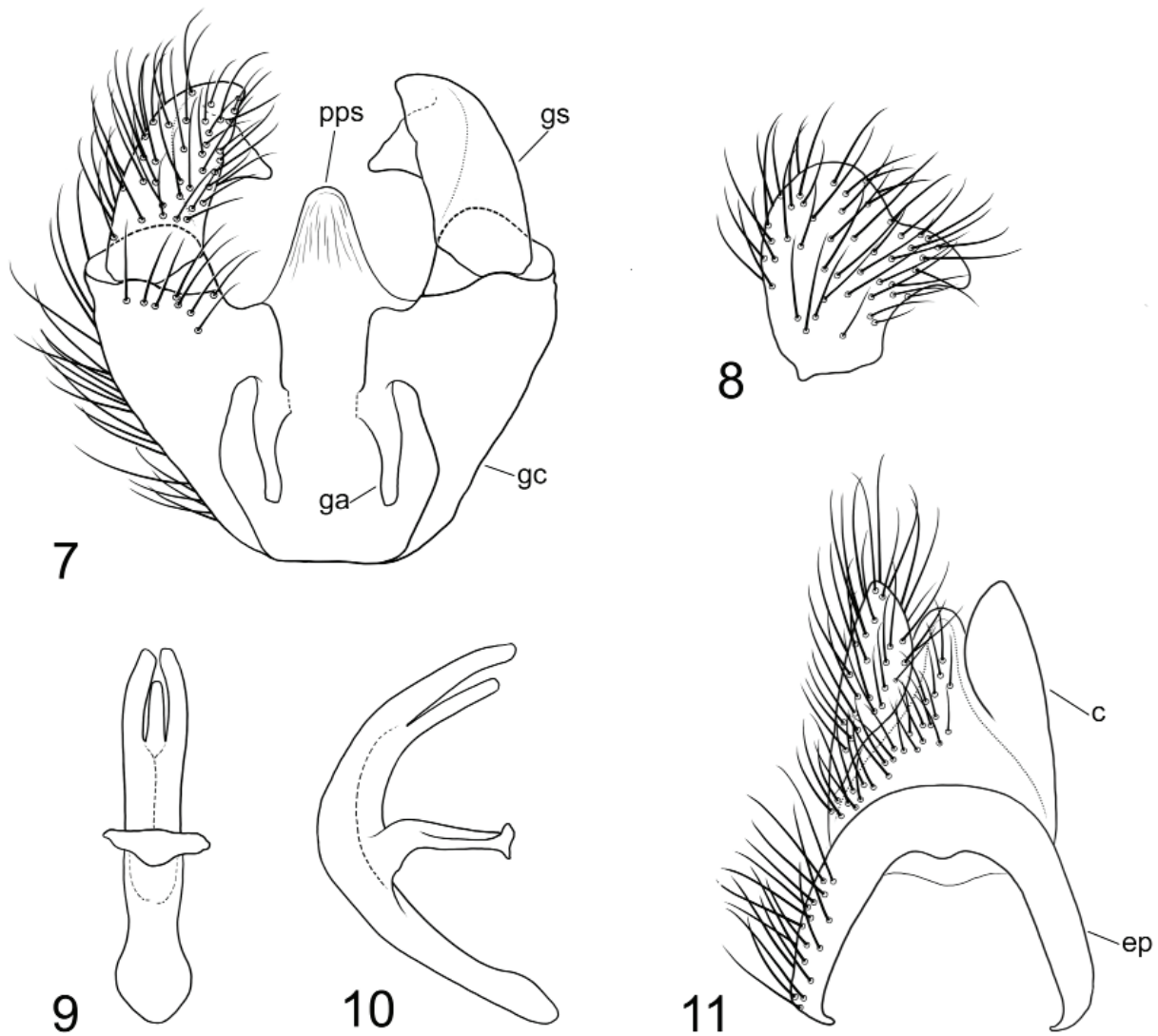
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Figures 1–3. Holotype male of *Paraberismyia imitator*, n. sp. **1)** Dorsal habitus view. **2)** Left lateral habitus view (mirror image). **3)** Anterior view of head. **Figure 4.** Male of *Berismyia fusca* Giglio-Tos. **4)** Anterior view of head.



Figure 5. Holotype male of *Paraberismyia imitator*, n. sp. **5)** Lateral view of head (mirror image). **Figure 6.** Male of *Berismyia fusca* Giglio-Tos. **6)** Lateral view of head.



Figures 7–11. Male terminalia holotype of *Paraberismyia imitator*, n. sp. **7)** Genital capsule, dorsal view. **8)** Gonostylus, lateral view. **9)** Phallic complex, dorsal view. **10)** Phallic complex, left lateral view. **11)** Epandrium and postgenital segments, dorsal view. Abbreviations: *c*, cercus; *ep*, epandrium; *ga*, gonocoxal apodeme; *gc*, gonocoxite; *gs*, gonostylus; *pps*, posteromedial process of synsternite.