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A NEW MELISSOMIMETIC FLY OF THE GENUS *MICRODON* (DIPTERA, SYRPHIDAE)

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THE remarkably large fly described below was found in the collection of the University of Michigan Museum of Zoology, pinned beside a specimen of the euglossid bee *Eulaema dimidiata* F.[1] Both insects were taken at Progreso in Chiriquí Province, Panama, by Frederick M. Gaige—the fly on April 25, the bee on April 6, 1923. They closely re-resemble each other in size and coloration, and it seems likely that some biological relation exists between the two species. A related fly, *Syrphipogon* [=*Microdon*] *fucatissimus* Hull,[2] is regarded by its describer as a mimic of the bee *Euglossa fasciata* Lep., and Curran[3] has called attention to the resemblance of his Panamanian *Microdon apiculus* to bees of the genus *Trigona*. In those few species of *Microdon* in which the life history is at least partly known the larvae are associated with ants.

Microdon gaigei, new species

(Fig. 1)

FEMALE.—Length of body, 28 mm.; length of wing, 22 mm. Entire body shining jet-black, except dark brown ultimate tarsal segments, orange-brown margin of last abdominal tergite, and yellowish proboscis and pulvilli. Antennal arista also black.

Head as figured; entirely black pilose, except for two small silvery white pilose spots on each facial orbit as indicated; a rather dense beard of stiff, curved hairs about anterior oral margin; a shining bare tri-

[1] A color figure of this bee was published in the *Nat. Geographic Mag.*, 56(1) (July, 1929): 54 (Pl. X).

[2] F. M. Hull, "Exotic Forms of Syrphid Flies," *Ann. Carnegie Mus.*, 27(1939):126, Pl. VIII, Fig. 6.

[3] C. H. Curran, "New Syrphidae from Central America and the West Indies," *Amer. Mus. Novitates*, 416(1930):6.

angular area above antennae, extending a little more than halfway to anterior ocellus. Ocellar triangle small, placed at a distance approximately equal to its length anterior to the posterior orbits; posterior ocelli slightly closer to each other than to anterior ocellus; ocellar region rather tumid.

Thorax with all pilosity black. Scutellum, as shown in Figure 1C, somewhat upturned, its spines and lateral margins with rather long and dense pile.

Legs black pilose except plantar brush of tarsi, which is dark brown. Hind tibiae compressed, bearing in their distal two-thirds a fringe of black hairs almost as long as tibia is wide, and crossed (on anterior face, at least) by a very well-marked suture or groove[4] extending distad at a 45° angle from the middle of the ventral edge.

Tarsi broad and strongly depressed, hind basitarsi especially broad. Relative lengths of tarsal segments on mid-line as follows (counting from base): fore and middle tarsi, 4.5, 2.0, 1.2, 1.3; hind tarsi, 9.5, 3.5, 2.0, 1.2, 3.0. Hind femora lacking bristly hairs below.

Wings as figured; basal half, including alulae and squamae and their fringes, blackish, but the black limited as shown, especially in anterior part; apical half yellowish or almost hyaline, with two light brown spots as shown.

Abdomen broad and convex; last tergite somewhat compressed and with margins overhanging venter. Third and fourth tergites with dense, raised crossbands of recumbent pale yellowish gray pile in middle; second tergite with a similar band that is less dense, scarcely raised, and almost interrupted mesad. Posterior margin of fourth and entire fifth tergite densely golden-orange pilose. Venter black with black pilosity except for an extensive orange pilose area in middle of fifth sternite.

I take pleasure in dedicating this species to its collector, Frederick M. Gaige, former director of the Museum of Zoology.

RELATIONSHIPS.—*Microdon gaigei* is close to *Syrphipogon fucatissimus* Hull,[5] mentioned above, but is larger by 3 mm. and differs also in having silvery pilose spots on the facial orbits, a proportionately smaller second antennal segment, a less convex face, wider cheeks, and a black arista; it has somewhat different banding on the abdomen.

[4] This structure is at least faintly visible in all of the several species of *Microdon* which I have examined.

[5] F. M. Hull, "A Megamorphic and Two Curious Mimetic Flies," *Psyche*, 44(3)(1937):120. The head profile is figured and the species discussed in the reference given in my footnote 2.

In the latest key to the genera of Microdontinae[6] *Syrphipogon* is not mentioned, and the new species runs out to *Microdon.* Apparently, the only distinction between the two genera is the beard. The possession of hairs on the lower face is general in *Microdon,* and their development into a definite beard does not seem a sufficient basis for the erection of

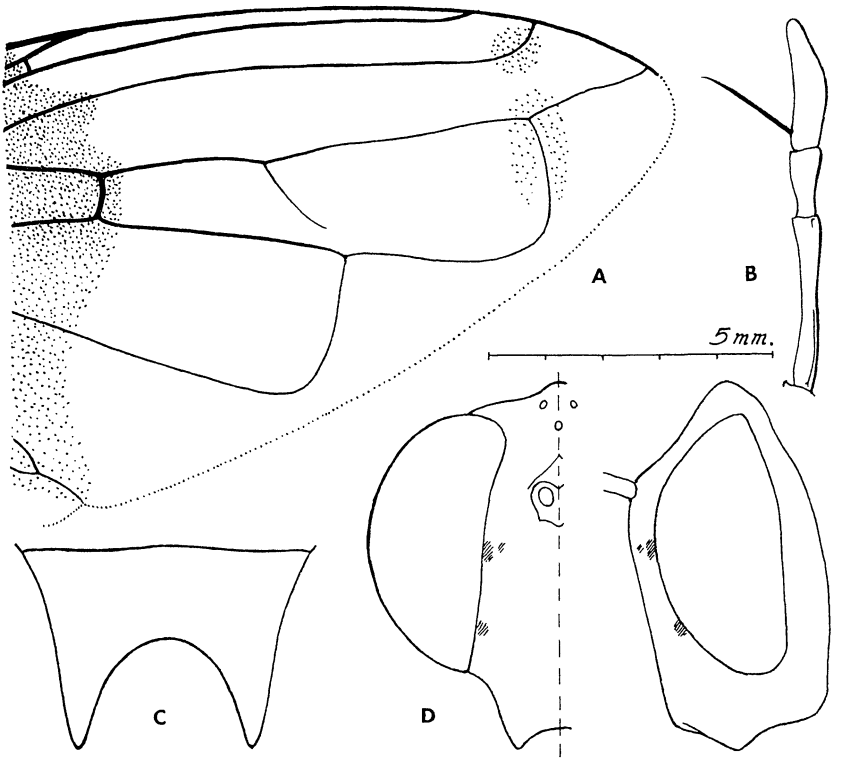

FIG. 1. *Microdon gaigei* Steyskal, new species, female holotype. A, apical part of wing; B, dorsal view of left antenna; C, dorsal view of scutellum; D, front view of left half and profile of head.

a genus. I subscribe to Curran's remarks: "A number of generic and subgeneric names have been proposed for groups of species related to *Microdon* Meigen, but it seems inadvisable to recognize these since the genus contains such a large number of diverse elements which, nevertheless, are connected by intermediate forms. There are, however, a few groups that appear to be worthy of recognition, and I have prepared a key to those occurring in America and Africa. In time it may be possible to recognize other genera, but our knowledge of the groups is

so poor that it seems wise to consider the great majority of the species as belonging to *Microdon*."[6] Shannon's comments[7] (characterized by Carrera *et al.*[8] as "aindo muito atual") are also pertinent: "The Microdontinae of the American tropics seem to have almost unlimited variation in form and color and this, combined with the large number of species occurring in this region, makes the group a very perplexing one. There are numerous structural differences in the group, seemingly well fitted for generic use, and at first consideration it would appear that the genus *Microdon* (to which most of the species of the subfamily belong) is a complex one that should be divided into several. The characters, however, do not lend themselves to this purpose as they do not include natural groups and frequently they appear to be only of specific importance, or are shared in common by only a few closely allied species." In his treatment of the Microdontinae of the Australian fauna, which contains some species similar to Neotropical forms (even one with a bifurcate third antennal segment), Ferguson[9] placed all the known Australian species in the genus *Microdon*.

Curran's key to the Neotropical species of *Microdon* does not contain *fucatissimus* Hull, although some forms are mentioned which must be related to it, such as *M. normalis* Curran.

[6] C. H. Curran, "New American Syrphidae," *Bull. Amer. Mus. Nat. Hist.*, 78(1941): 248.

[7] R. C. Shannon, "A Review of the South American Two-winged Flies of the Family Syrphidae," *Proc. U.S. Nat. Mus.*, 70(1927):17.

[8] M. Carrera, H. de Souza Lopes, and J. Lane, "Contribução ao conhecimento dos Microdontinae neotrópicos e descrição de duas novas espécies de *Nausigaster* Williston (Diptera, Syrphidae)," *Rev. Brasil. Biol.*, 7(1947):472.

[9] E. W. Ferguson, "Revision of Australian Syrphidae (Diptera). Part I," *Proc. Linn. Soc. New S. Wales*, 51(1926):167.

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