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## Afrotropical flower flies (Diptera: Syrphidae). A new genus and species from Kenya, with a review of the melanostomine group of genera

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### Abstract

A new genus and species of flower flies (Diptera: Syrphidae: Syrphinae: Syrphini) are described from central Africa (Kenya & Uganda), *Afrostoma quadripunctatum*. A key to the Afrotropical genera of the subfamily Syrphinae is given. A review of the melanostomine [Bacchini] genera and subgenera is provided along with a key to them. Phylogenetic placement of *Afrostoma* is included based on mitochondrial cytochrome c oxidase subunit I (COI) data.

**Key words:** Syrphinae key, Bacchini, Melanostomini

### Introduction

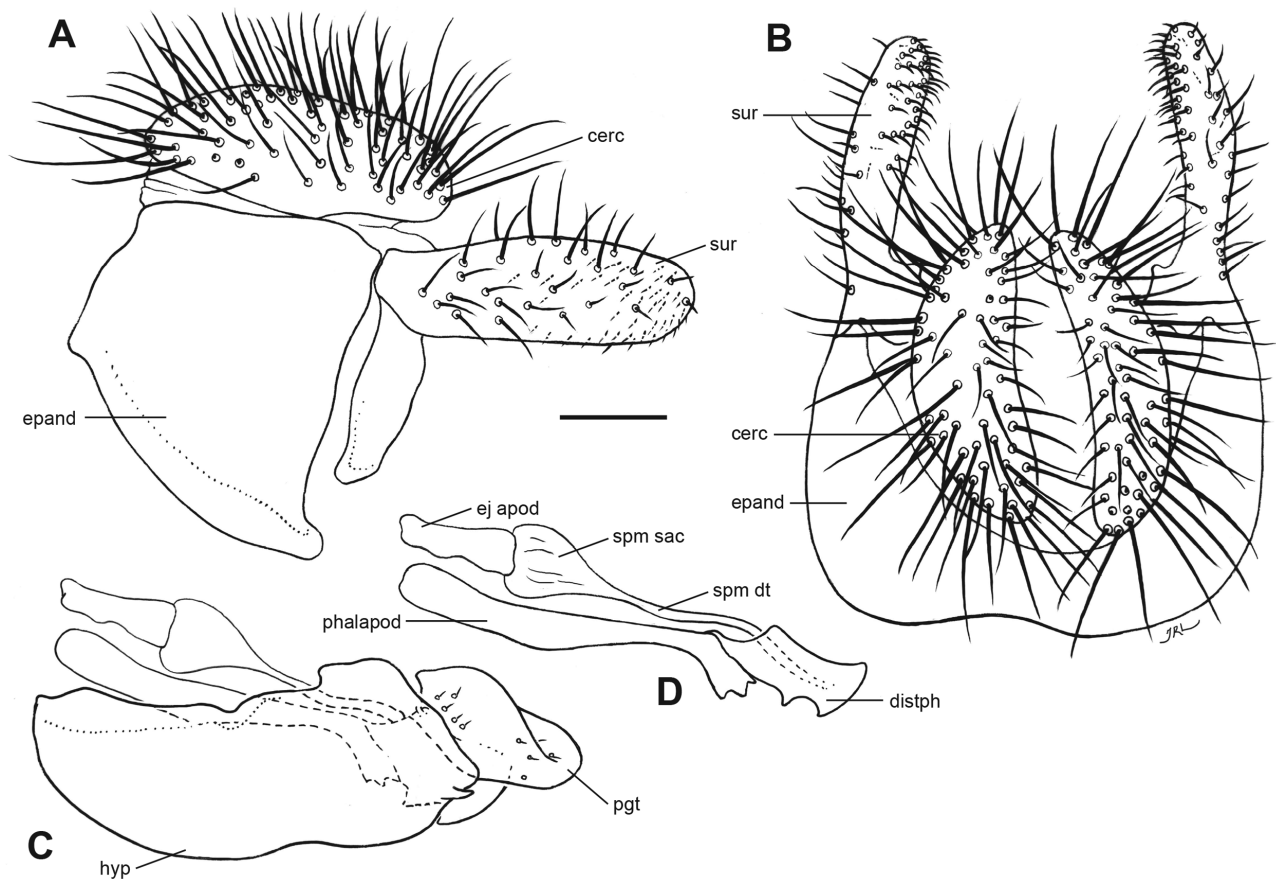
Flower flies are common in all areas from the Arctic to the Antarctic. They are important pollinators and the larvae of some of these flies (subfamily Syrphinae) are predators of various soft-bodied insects, especially plant pests (see Rotheray 1993; Rotheray & Gilbert 2011).

The Afrotropical flower fly fauna has been little studied, especially its generic classification. Only two generic identification keys have ever been written for this fauna (Bezzi 1915, Curran 1927), although Hull (1949b) did provide an overview of all flower fly groups.

Now, continuing the trend that first began in Europe (Schiner 1860–64; most recent Papp & Darvas 1997–2000) and was followed in the Nearctic (Williston 1885, 1888, 1896, 1908; Curran 1934, 1965; McAlpine *et al.* 1981; McAlpine 1987, 1990) and most recently Central America (Brown *et al.* 2009–2010), an effort has commenced to revise the Afrotropical fly fauna (Kirk-Spriggs & Mostovski 2010). We herewith provide descriptions of a new genus and species of Afrotropical flower flies. The new genus is incorporated into an identification key to Afrotropical Syrphinae, as well as in a key covering the world genera of the Bacchine and Melanostomine groups. We do not present generic diagnoses for all of the syrphines here as the planned Manual of Afrotropical Diptera is intended to provide this.

### Material and methods

The terminology used follows from Thompson (1999), which was derived originally from the *Manual of Nearctic Diptera* (McAlpine 1981) and is largely congruent with it. Updates to genitalic terminology are derived from Cumming & Wood (2009). Specimens examined in this study were obtained from the following collections: British Museum (Natural History), London, UK (BMNH), Canadian National Collection of Insects, Ottawa, ON, Canada (CNC) and National Museum of Natural History, Washington, DC, USA (USNM). Photographs were taken with a Canon EOS 50D camera equipped with a 65 mm macro lens. All specimens are labeled with a unique reference number, in the format “USNM ENT number [8 digits]” or “CNC DIPTERA number [6 digits]”. Data are stored electronically in the CNC database (available from <http://www.cnc-ottawa.ca/taxonomy/TaxonMain.php>).



**FIGURE 3.** *Afrostoma quadripunctatum* Skevington & Thompson, male genitalia: A. epandrium, lateral view; B. epandrium, dorsal view; C. hypandrium, lateral view; D. aedeagal complex, lateral view. Abbreviations: cerc—cercus; distph—distiphallus; ej apod—ejaculatory apodeme; epand—epandrium; hyp—hypandrium; phalapod—phallapodeme; pgt—postgonite; spm dt—sperm duct; spm sac—sperm sac; sur—surstylus. Scale bar: 0.1 mm.

**Discussion.** *Afrostoma quadripunctatum* is superficially similar to *Melanostoma infuscatum* Becker, but the yellow abdominal maculae are much smaller and the facial tubercle is more abrupt and prominent than those in *infuscatum*. The type series of *infuscatum* Becker (2 males, 2 females in Paris) was examined and herewith we validate the unpublished lectotype selected by Kassebeer (a male, labeled by him) to ensure consistent and universal interpretation of this name.

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The authorship of this work is a team effort. Vockeroth first recognized that a central African species represented a new group. Thompson agreed and recognized that it was based on a new species, not *infuscatum* Becker. Skevington provided the DNA character evidence to place the group within the current classification. Together, Skevington and Thompson wrote the manuscript.

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