

Gas chromatographic patterns of cuticular hydrocarbon composition were analyzed for 9 sandfly species, including *Phlebotomus* (*Larroussius*) *aculeatus* Lewis, Minter & Ashford [syn. *P.* (*L.*) *elgonensis* Ngoka, Madel & Mutinga], *P.* (*sensu stricto*) *duboscqi* Neveu-Lemaire, *P.* (*Synphlebotomus*) *martini* Parrot, *P.* *pedifer* (*Larroussius*) Lewis, Mutinga & Ashford, *Sergentomyia* (*Parrotomyia*) *africanus* Newstead, *S.* (*Sergentomyia*) *antennatus* Newstead, *S.* (*Spelacomyia*) *garnhami* Heisch, Giggisberg & Teedale, *S.* (*Rondanomyia*) *ingrami* Newstead, and *S.* (*Sergentomyia*) *schwetzi* Adler, Theodor & Parrot, collected in the field in Kenya or reared in the laboratory. The patterns showed both quantitative and qualitative differences among species. Discriminant analysis of easily identified peaks (expressed as percentages of total peak area) confirmed the uniqueness of the pattern for each species. Species identifications of field-collected flies revealed an excellent correspondence between morphometric criteria and gas chromatography for all species, except *P. duboscqi*. These results indicated that the morphological criteria for the identification of *P. duboscqi* should be reexamined. Chromatograms of females and males showed slight quantitative differences.