



Study of the volatile fraction of *Medinilla myriantha* (Melastomataceae) flowers by solid-phase microextraction and gas chromatography coupled to mass spectrometry

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The *Medinilla* genus of the Melastomataceae family includes about 375 species. The plant *Medinilla myriantha*, native to Indonesia (1), grows to 160 centimeters tall. The small flowers of this species are characterized by their pink and shiny appearance. These are produced in large panicles in hanging stems. The objective of this work was to study the chemical composition of the volatile fraction of *M. myriantha* flowers, which were collected (N°583901 of the National Herbarium of Colombia) at the pilot agro-industrial complex of the National Research Center for Agro-industrialization of Tropical Aromatic and Medicinal Plants (CENIVAM), located on the main campus of Universidad Industrial de Santander (Bucaramanga, Colombia). Fresh *M. myriantha* flowers (1.5 g) were put inside an amber vial (15 mL), and brought to thermal equilibrium (10 min) at 60°C. The sampling was done by a solid-phase microextraction (SPME) fiber (coated with PDMS/DVB, PDMS or CAR/PDMS) in the vial during 30 min. The largest chromatographic area was obtained with the CAR/PDMS fiber. Triplicate sampling was performed at different times of day (6:00 am; 12:00 m; 6:00 pm). Compound identification was based on data obtained under split (30:1) injection with a GC 7890 (*Agilent Technologies* 6890N, Palo Alto, CA, EE.UU.) gas chromatograph equipped with a mass selective detector AT 5975C (electronic ionization, 70 eV), and a data system (MSDCHEMSTATION version G1701-DA), which included mass spectral libraries (ADAMS, NIST, WILEY). A capillary column with polar stationary phase of poly(ethylene glycol) (DB-WAX, J&W Scientific) of 60 m x 0.25 mm (d.i.) x 0.25 µm (d_i) was used. The main components of *M. myriantha* flower fragrance were 1-octen-3-ol (53%), nonanal (6%), octan-3-ol (4%), and octan-3-one (3%). The main compound, 1-octen-3-ol, was less abundant (22%) at 6 pm. When used alone, 1-octen-3-ol has been a good mosquito attractant for only a few species. However, there appears to be a synergistic response of species of the genera *Aedes*, *Anopheles*, *Coquillettidia*, *Psorophora*, and *Mansonia* to the combination of 1-octen-3-ol and CO₂ (2).

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2. Daniel, L.K. *J. Am. Mosq. Contr. Assoc.* 1994, **10**, 280-287.

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