The composition of the leaf essential oils of *Duguetia gardneriana* Mart. and *Duguetia moricandiana* Mart. (Annonaceae)

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**Introduction**

The genus *Duguetia* comprises about 80 species native to tropical America. The center of distribution is the Amazon basin and Guiana, but is the genus is represented also in South America south to Sao Paulo, Brazil, and Paraguay.

Chemical investigations of various *Duguetia* species have revealed alkaloids and volatile composition. No reports on the use in traditional medicine of *Duguetia gardneriana* and *Duguetia moricandiana* are available in literature.

**Results and Discussion**

The plants *Duguetia gardneriana* and *Duguetia moricandiana* were collected in November 2006, near the city of Santa Rita, State of Paraíba, Brazil, a coastal area around the Atlantic Forest.

Fresh leaves of *Duguetia gardneriana* (2000 g) and *Duguetia moricandiana* (1760 g) were cut into pieces, and subjected to water distillation for 4 h in a Clevenger-type apparatus. The oils were dried over anhydrous sodium sulfate and their percentage contents were calculated on basis of the dry weight of plant material. The essential oils obtained (0.19 and 0.23% w/w, respectively) had green color and characteristic odor. The oils were kept in amber bottle and maintained in temperature lower than 4 °C.

The qualitative analysis of the volatile compounds was performed on a gas chromatograph coupled to a mass spectrometer (Shimadzu, QP 5000), operating at an MS ionization voltage of 70 eV.

The identification of the volatile compounds was performed through the comparison of the mass spectra of the substances and the data bank of CG-EM (NIST 62 lib), the related literature and the retention index. The chromatogram of oils from *Duguetia gardneriana* and *Duguetia moricandiana* exhibited 33 peaks, representing 92.10% and 98.40%, respectively, of the total oils. Were identified by comparison of their mass spectral data with reference spectra in the computer library.

The main constituents found in the leaves oil of *D. gardneriana* were germacrene D (28.08%), viridiflorene (24.04%), β-pinene (12.59%), α-pinene (9.08%) and β-caryophyllene (5.60%). The leaves oil of *D. moricandiana* was dominated by germacrene D (44.26%), α-pinene (13.03%), viridiflorene (9.34%), β-pinene (9.21%) and trans-caryophyllene (6.81%).

**Conclusion**

Early papers indicated that sphatulenol and α-muurolol were also important volatile constituents in the leaf oils of *Duguetia* species which contrasts with the present study. Further investigations looking at determination of new bioactive constituents should be carried out.

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