

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

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Palavras Chave: essential oil composition, *Duguetia gardneriana*, *Duguetia moricandiana*.

Introduction

The genus *Duguetia* comprises about 80 species native to tropical America. The center of distribution is the Amazon basin and Guiana, but the genus is represented also in South America south to Sao Paulo, Brazil, and Paraguay¹.

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 peaces, and subjected to water distillation for 4 h in a Clevenger-type apparatus². 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 flask 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 literature³ and the retention index⁴.

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 papers⁵ indicated that sphaulenol 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.

Acknowledgements

CNPq, CAPES, UNIVASF, LTF, Maria de Fátima Agra for botanical identification.

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