

ESSENTIAL OIL OF *EUGENIA JAMBOLANA*

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Since 1975, essential oils isolated from northeastern Brazilian plants have been under an intensive screening program involving botanical, pharmacological, and chemical aspects (1). *Eugenia jambolana* Lamk. is a tree of the *Myrtaceae* family native to tropical Asia and introduced into Brazil.

The ripe fruits of dark violet color resemble the fruit of the olive tree both in weight and shape and have an astringent taste. The powder obtained from the seeds has found some popular uses in the treatment of diabetes (2).

The present note describes the composition of the essential oils isolated from freshly collected leaves, stems, and fruits of *E. jambolana*.

DISCUSSION

The essential oils were analyzed by gc/ms and showed the composition given in table 1. The percentages presented were estimated by glc. Compound identification was made by using library search programs based on ms and chromatographic data (3). Confirmation of the identifications involved visual analysis of the mass spectra and other spectrometric data, as well as a comparison with authentic samples, if present.

Except for bornyl acetate, which is present in the leaves, stems, and fruits, the components are mono- or sesqui-terpene hydrocarbons very common in essential oils. Because the oil of *E. jambolana* has not been described previously, the compounds are being reported for the first time in this species.

TABLE 1. Chemical composition of essential oils from leaves, stems, and fruits of *Eugenia jambolana* Lamk.

Compound	Kovat's Index ^a	Percentages		
		F 709 ^b Leaves	F 706 ^b Stems	F 707 ^b Fruits
α -Pinene	926	30.10	18.56	30.89
Camphene	938	—	1.31	1.00
β -Pinene	967	20.50	12.61	10.81
Myrcene	982	—	4.28	3.82
Limonene	1016	8.50	6.48	4.50
<i>cis</i> -Ocimene	1032	9.00	14.83	18.50
<i>trans</i> -Ocimene	1041	9.50	12.24	12.10
γ -Terpinene	1048	—	0.65	—
Terpinolene	1074	—	0.96	—
Bornyl acetate	1261	2.20	1.46	0.32
α -Copaene	1365	—	2.15	—
β -Caryophyllene	1407	2.50	—	0.40
α -Humulene	1440	2.80	6.51	2.30
γ -Cadinene	1462	—	0.64	—
δ -Cadinene	1508	—	1.46	—
Total % accounted for		85.10	84.14	84.64

^aAverage value obtained from the three above-mentioned chromatographic analyses. For glc conditions see Experimental section.

^bLibrary file number in the Departamento de Química Orgânica e Inorgânica.

EXPERIMENTAL

COLLECTION OF MATERIAL.—Leaves, stems, and fruits of *E. jambolana* were gathered in September 1981 from trees growing in the Campus do Pici, Universidade Federal do Ceará, Brazil.

ESSENTIAL OIL.—Isolation from ground material was carried out by steam distillation for 1 h in apparatus developed in our laboratory (4). The yields from leaves, stems, and fruits were, respectively, 0.11, 0.20, and 0.03 (% v/w).

ANALYSIS.—The fresh oils were analyzed on a Hewlett Packard 5995A quadrupole mass spectrometer coupled to a gas chromatograph with an SP 2100 open tubular column (30 m × 0.25 mm id), Helium as carrier gas, programmed temperature 50–250°/4°/min. On-line computations were made on 9825A HP data System with 32K. Kovat's indexes were calculated using eight internal standards as previously outlined (3).

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