

Volatile Leaf Oils of Caribbean Myrtaceae. III. *Pimenta haitiensis* (Urban) Landrum of the Dominican Republic

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ABSTRACT: The foliar oils of *Pimenta haitiensis* (Urban) Landrum of the Dominican Republic, which were analyzed by GC/MS, were found to contain 1,8-cineole (11.35-33.14%), methyl chavicol (11.65-41.10%), linalool (15.97-17.81%), and/or methyl eugenol (0-24.39%) as major constituents.

KEY WORD INDEX: *Pimenta haitiensis*, Myrtaceae, essential oil composition, 1,8-cineole, methyl chavicol, linalool, methyl eugenol.

INTRODUCTION: *Pimenta haitiensis* (Urban) Landrum is a shrub or small tree 1-5 m high in dry limestone habitats in the southwest of the Dominican Republic (1). This is the only native Hispaniolan species of *Pimenta* used medicinally. The branches are cut and the leaves later stripped to prepare a tea for gripe and throat problems. To date no analyses have been reported on the foliar oils of this species.

EXPERIMENTAL: Leaves were collected from trees growing on Loma El Guano, Pedernales, Dominican Republic (Landrum 4708.5 and Zanoni et al. 26407) and Cabo

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Table I. Chemical composition of the leaf oils of *P. haitiensis*

Constituent	Landrum 4708.5	Landrum 4717	Zanoni et al. 26407	Zanoni et al. 40355
isopentyl alcohol	-	0.11%	-	<0.01%
RT154	-	-	-	1.45
isopentyl acetate	-	-	-	0.18
3-methyl-2-butenyl acetate*	-	-	-	0.12
α -thujene	-	-	-	0.14
α -pinene	0.33%	0.57	0.81%	0.51
sabinene	-	-	-	0.08
β -pinene	-	0.09	0.13	0.12
3-octanone	-	0.35	0.50	-
myrcene	0.19	0.26	0.56	0.38
3-octanol	0.27	0.36	0.57	-
α -phellandrene	0.04	0.09	0.21	0.15
δ -3-carene	-	0.22	0.11	0.16
α -terpinene	0.03	0.08	0.18	0.09
p-cymene	0.67	0.82	0.68	0.41
limonene	1.68	1.44	2.61	2.12
1,8-cineole	16.63	11.35	17.62	33.14
trans-ocimene	-	0.08	0.12	0.23
γ -terpinene	0.12	0.16	0.37	0.21
cis-linalool oxide (furanoid)	0.32	1.15	0.65	0.20
trans-linalool oxide (furanoid)	0.21	0.81	0.36	0.25
terpinolene	-	0.06	0.08	<0.01
2-nonanone	-	0.02	-	<0.01
linalool	16.03	17.81	16.32	15.97
(E or Z)-2-hexenyl butyrate*	-	-	-	0.11
terpinen-4-ol	2.47	1.98	1.68	0.76
α -terpineol	5.64	4.80	4.92	2.77
methyl chavicol	41.10	11.65	19.94	32.83
chavicol	2.57	0.96	0.72	-
cis-anethole	0.20	0.44	0.32	0.34
p-anisaldehyde	0.08	0.05	-	-
geraniol	0.27	0.08	-	-
trans-anethole	6.76	8.70	8.50	4.66
(chavicol isomer)*	2.15	0.81	0.95	0.37
2-undecanone	0.13	-	0.16	-
eugenol	-	5.16	2.72	-
methyl eugenol	0.61	24.39	14.95	-
cis-methyl isoeugenol	-	0.18	-	-
germacrene D	-	-	-	0.07
trans-methyl isoeugenol	-	3.65	0.41	-
caryophyllene oxide	0.34	0.08	-	-

*tentative identification

Rojo, Pedernales, Dominican Republic (Landrum 4717) and air-dried (29-43°C for 1-2 days) and steam distilled; or Loma El Guano, Pedernales, Dominican Republic (Zanoni et al. 40355) and water distilled fresh. Vouchers were filed at Delaware State College (DOV), Jardín Botánico Nacional (JBSD), and/or the New York Botanical Garden (NY). Water and steam distillations and GC/MS were performed as previously reported for dried and fresh leaves (2).

RESULTS AND DISCUSSION: The essential oils are presented in Table I. The high methyl eugenol or high methyl chavicol foliar essential oils of *P. haitiensis* are most similar to the oils of some collections of *P. racemosa* (Mill.) J. Moore var. *hispaniolensis* (Urban) Landrum (2).

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