THE CHEMISTRY OF BRAZILIAN LEGUMINOSAE. LXI. (+)-METHYL VOUACAPENATE FROM VOUACAPOUA PALLIDIOR.

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SUMMARY

The wood of ***Vouacapoua pallidior*** *(Leguminosae-Caesalpinioideae) contains (+)-methyl vouacapenate.*

The genus **Vouacapoua** Aubl. (family Leguminosae-Caesalpinioideae) comprises three arboreous species found in tropical South America where they are popularly known under the collective designation "acapu". Their wood is of great durability and has been exploited in construction, mostly of flooring and furniture, for so many years that the trees are nearing extinction (Rizzini & Mors, 1976).

V. americana Aubl. and **V. macropetala** Sandw. have been examined previously with respect to their chemical constituents. Wood samples of both species were found to contain (+)-methyl vouacapenate (Sploelstra, 1930; King **et al.**, 1955). In continuation of our work on the chemistry of Leguminosae (for Part LX see Dias **et al.**, 1982), we wish to report that the trunk wood of **V.pallidior** Ducke also contains a substantial quantity of the same compound. Methyl vouacapenate is also accesscible through total synthesis (Spencer **et al.**, 1971).

EXPERIMENTAL

Trunk wood of **V.pallidior** (voucher INPA herbarium 58.612) was collected at the

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Forest Reserve A. Ducke, near Manaus. A ground sample (0.7 kg) was extracted by percolation with ethanol. The solution was evaporated and the residue (18 g) was washed successively with light petrol, benzene and chloroform. The petrol solution, upon concentration and cooling, gave a precipitate (2g) which was filtered and crystallized from methanol to (+)-methyl vouacapenate, mp 103-104°, $[\alpha]_D$ + 120° (c 1.5, CCl_4); lit. (King et al., 1955) mp 103-104°, $[\alpha]_D$ + 101° (c 1.5, CCl_4). IR and ^{1}H NMR spectra identical with the analogous published spectra (Spencer et al., 1971). The benzene solution was evaporated and the residue (0.9 g) was chromatographed on a silica (10 g) column. Elution with benzene gave fatty material; and elution with benzene - chloroform 1.1 and chloroform gave fatty material plus sitosterol. All fractions contained small proportions of methyl vouacapenate. The chloroform solution was evaporated and the residue (0.8 g) was chromatographed on a silica (10 g) column. Elution with benzene gave again fatty material, sitosterol plus a trace of methyl vouacapenate; and elution with benzene-ethyl acetate 1:1 and 3:7 gave additionally another compound. The latter two fractions were united and evaporated. The residue was crystallized from chloroform to the compound (1.5 mg), mp 187-193°. IR ν_{max}^{KBr} cm^{-1}: 3390, 3077, 2941, 2667, 2564, 2299, 1718 (broad), 1642, 1465, 1449, 1434, 1418, 1391, 1299, 1233, 1205, 1157, 1099, 1058, 1026, 990, 975, 962, 939, 879, 853, 828, 769. ^{1}H NMR $|(CD_3)_2CO$, 60 MHz| δ: 7.87 (d,j = 1.6 Hz, 1 H), 7.24 (d, j = 1.6 Hz, 2H), 4.25-2.95 (m), 3.57 (s, OMe), 2.95-1.25 (several m), 1.20 (s, Me), 1.15 (d, J = 7 Hz, Me), 0.71 (s, Me). The minute amount and low stability of the compound obtained precluded further examination.

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RESUMO

A madeira de **Vouacapoua pallidior** (Leguminosae-Caesalpinioideae) contém (+)-vouacapenato de metila.

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