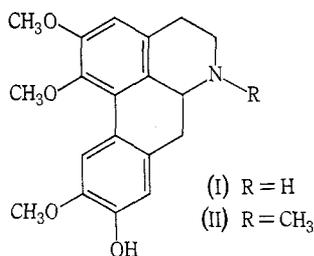


LAUROTETANINE AND *N*-METHYLLAUROTETANINE FROM *PALMERIA FENGERIANA* PERK. (FAMILY MONIMIACEAE)*

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Palmeria fengeriana Perk. (family Monimiaceae) is a heavy tropical liana of the New Guinea rain-forest. The bark alkaloids, isolated in 0.16% yield, consisted essentially of a mixture of the known¹ aporphine alkaloids laurotetanine (I) and *N*-methyllaurotetanine (II) in the approximate ratio of 8 : 1. The leaves did not give a positive field test for alkaloids.



Experimental

Dried milled bark (3 kg) from *P. fengeriana* was extracted by continuous percolation with ethanol at 40°. The crude alkaloids (4.8 g) were isolated by the method previously described,² and the alkaloids were separated by chromatography on alumina previously treated with ethyl acetate and dried in vacuum at 100°. *N*-Methyllaurotetanine was eluted with benzene/chloroform, and laurotetanine with chloroform and chloroform/methanol. The benzene/chloroform fractions (10% of the total alkaloids) consisted of *N*-methyllaurotetanine (II), which was obtained as a colourless gum, $[\alpha]_D +82^\circ$ (*c*, 0.55 in CHCl₃), and was shown to be homogeneous by thin-layer chromatography. The alkaloid was characterized by its 60-Mc/s n.m.r. spectrum (CDCl₃ solution) which showed a three-proton singlet at δ 2.50 (NCH₃), a six-proton singlet at δ 3.85 (C2, C10 methoxyl groups), a three-proton singlet at δ 3.63 (C1 methoxyl group), and three singlet signals for the aryl protons at δ 8.02 (C11), δ 6.55 (C3), and δ 6.73 (C8). Its identification was confirmed by comparison (by t.l.c., i.r., u.v., and n.m.r. spectra) with a sample of *N*-methyllaurotetanine prepared by heating laurotetanine in a mixture of formic acid and formaldehyde.

The chloroform and chloroform/methanol fractions (c. 80% of the total alkaloids) consisted of laurotetanine which could not be induced to crystallize but was obtained as a colourless friable foam. It was shown to be a single compound by t.l.c., and by conversion in quantitative yield into *N*-acetyllaurotetanine, m.p. 143°, $[\alpha]_D +331^\circ$ (*c*, 0.12 in CHCl₃), which was identified by comparison with an authentic specimen of *N*-acetyllaurotetanine. There was no depression of melting point on mixing the two specimens, and their i.r. and n.m.r. spectra were identical.

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¹ Boit, H. G., "Ergebnisse der Alkaloid-Chemie bis 1960." p. 266. (Akademie-Verlag: Berlin 1961.)

² Johns, S. R., Lamberton, J. A., and Sioumis, A. A., *Aust. J. Chem.*, 1966, **19**, 2331.