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ALKALOIDS OF PLEIOSPERMIUM ALATUM (RUTACEAE)

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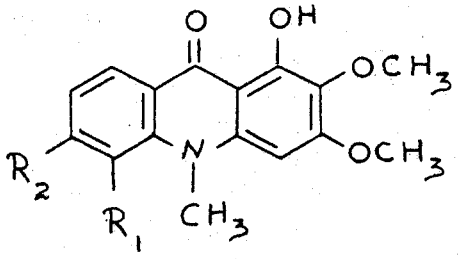
Pleiospermium alatum is a medicinal plant growing in India and Sri Lanka. We have investigated the organic extracts of the root bark of P.alatum and report the isolation of four acridone alkaloids, 1 to 4.

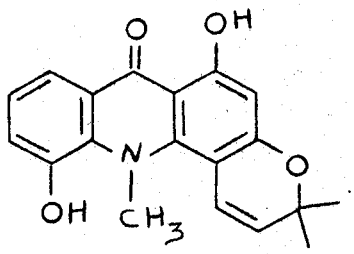
The powdered root bark was sequentially extracted with hexane, dichloromethane and ethyl acetate. Chromatographic fractionation of the hexane extract afforded three coloured crystalline compounds: 1 (m.p. 188-190°C), 2 (m.p. 198-200°C) and 3 (m.p. 261-263°C). The methylated (CH_2N_2) product of 1 was identical to 2 (m.p., tlc, IR and ^1H NMR). These compounds were identified as 1,6-dihydroxy-2,3,5-trimethoxy-10-methyl-9-acridone (1), 1-hydroxy-2,3,5,6-tetramethoxy-10-methyl-acridone (2), and 5-hydroxynoracronycine (3) from their spectroscopic data.

Chromatographic separation of the dichloromethane extract yielded a yellow crystalline compound, m.p. 205-207°C, which was characterized as 1,5-dihydroxy 2,3-dimethoxy-10-methyl-9-acridone (4) from its spectral properties.

Bowen and Patel[1] recently reported the presence of 1 and 4 in the stem of P.alatum. The noracrynocine 3 has been isolated from Atalantia ceylanica[2].

To our knowledge, this is the first report of the alkaloid 2 as a natural product.





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1. $R_1 = OCH_3$, R_2=OH
2. $R_1 = OCH_3$, $R_2 = OCH_3$
4. R_1 = OH, R_2 = H

References

1. Bowen, I.H. and Patel, Y.N. (1986) Phytochemistry 25 429.
2. Fraser, A.W. and Lewis, J R (1973) J. Chem. Soc. Perkin I 1173.