FURTHER INVESTIGATIONS ON ALSTONIA MACROPHYLLA

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Alstonia macrophylla (S. Havarinuga) is a common plant in Sri Lanka.

The crude alkaloids extracted from the bark was fractionated by column chromatography followed by TLC and a new alkaloid was obtained.

The UV spectrum of the compound ahowed λ_{max} 220, 253, 292. The IR spectrum showed bands at 1730 (ester carbonyl) 1710 (conjugated ester carbonyl) and 1595. The mass spectrum gave m/e 560, 530, 365, 349, 195, 165, 157, 144. The base peak at m/e 165 and another peak at 195 indicate the presence of trimethoxy benzoate group. The fragmentation pattern was analogous to that observed [1] for O-benzoyl vincamajine and quebrachidine.

The ^{1}H-NMR showed 3H doublet at δ 1.54, four methoxy groups at δ 3.92, 3.90, 3.89, 3.88 a 3H singlet at δ 2.67. The ^{13}C NMR showed two resonances at δ 172 γ 163.7 due to two ester carbonyls. The methyl carbons resonated at δ 56.17, 56.27, 56.03, 51.25, 34.25 and 12.75. The multiplicity of the signals was varified by DEPT experiments. The assignments were made by comparing with those [2] of Vincamedine. On hydrolysis the compound was converted to vincamagine. In view of these studies the structure of vincamagine 3/4/5/ trimethoxy benzoate was assigned to this new alkaloid.

References:

Biemann, K. et al (1964) J. Amer. Chem. Soc. 86:4624.

Crown, C. et al (1984) Phytochem 23:2355.