

Structure of Exoticin, a Flavone from the Leaves of *Murraya exotica* Linn.*

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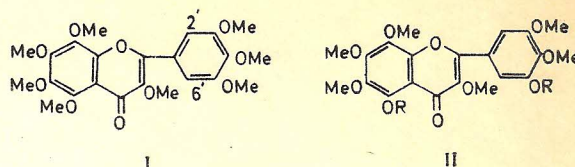
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Manuscript received 7 April 1969

The structure of exoticin, a flavonoid pigment of the leaves of *Murraya exotica* Linn., has been shown to be 3,3',4',5,5',6,7,8-octamethoxyflavone (dimethyl ether of digicitrin).

THE leaves of *Murraya exotica* Linn. (Fam. Rutaceae), collected in the Thenmala forest region (Kerala) in October 1965, have been chemically examined. Hexane extraction and chromatography on alumina gave a crystalline compound, mp 125-6°, in 0.1% yield, designated as exoticin. It analysed for $C_{23}H_{26}O_{10}$ (Found: C, 60.0; H, 5.8. $C_{23}H_{26}O_{10}$ requires C, 59.7; H, 5.7%). The compound gave a red colour in Shinoda test¹ and exhibited λ_{max}^{EtOH} 209, 255, 274 (infl) and 334 m μ (log ϵ 4.72, 4.26, 4.24 and 4.30 respectively) indicating that exoticin is a flavonoid compound². Its NMR spectrum ($CDCl_3$) showed signals at 7.55 (s, 2H) and 4.0 δ (m, 24H). On the basis of this data structure (I) could be proposed for exoticin. The aromatic two-proton singlet should be attributed to the 2',6'-protons of ring B (ref 3) and the eight methoxyl groups are shown by the signals at 4.0 δ .

Digicitrin⁴ (II, R = H) has been isolated from the leaves of *Digitalis purpurea* Linn., but its dimethyl ether (II, R = CH_3) has not been reported to be naturally occurring. The identity of exoticin with digicitrin dimethyl ether was established by mmp, TLC and superimposable IR spectra with a sample kindly provided by Dr W. Meier. The mass



spectrum of exoticin shows the molecular ion peak (M^+) at m/e 462 and a base peak at m/e 447, obtained by the loss of a methyl group⁵. It also shows the loss of 43 units due to $M-COCH_3$ and a peak at m/e 417 due to loss of CH_2O from m/e 447 (ref 6). It is of taxonomic interest to note that 3,3',4',5,5',6,7-heptamethoxyflavone has been isolated from the leaves of *M. paniculata* Linn. Jack. (*M. exotica* Linn.) collected in California⁷. The isolation of these closely related flavones and also coumarins^{7,8} from the leaves of *Murraya exotica* may be due to geographical or ecological variations⁹.

We thank Dr T. R. Govindachari for his interest in the problem and Dr S. Selvavinayakam and his group for the elemental analysis and spectra.

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*Contribution No. 160 from CIBA Research Centre, Bombay 63.