Short Communication

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CHEMICAL INVESTIGATION OF JACARANDA ACUTIFOLIA HUMB. AND BONPL

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Jacaranda acutifolia Humb. & Bonpl. is a shrub abundantly available in the N.W.F.P. (Pakistan) and in South America. In South America the bark and leaves of the plant are used for syphilis and blennorrhagia. An infusion of the leaves is given as a pectoral and powdered leaves are used as a vulnerary. An infusion of the bark is employed as a lotion for ulcers.[1] Billot[2] has worked on the flowers of the plant and has reported the isolation of two anthocyanins, delphinidin-3,5-diglucoside and delphinidin-3-glucoside. Some work has also been done on the bark of the plant[3] but no work has been done on the fruit capsules and leaves. This communication describes the results of a chemical analysis of the leaves and fruit capsules of the plant.

The fruit capsules were extracted with hexane for 72 hr. The solvent was concentrated to give a coloured solid, yield 0.5%. Repeated crystallization gave a white wax-like substance, m.p. 80°C. (from MeOH), yield 0.084%. Gas chromatography showed it to be a mixture of hydrocarbons (55%), esters (12%) and alcohols (33%).

Hydrocarbon Number. C_{27} (8.1), C_{29} (17.7), C_{31} (56.0) C_{33} (7.3) and C_{35} (0.8%).

Esters. C_{38} (2.1), C_{40} (7.3), C_{42} (46.1) C_{44} (27.0), C_{46} (11.6) and C_{48} (5.7%).

Alcohols. C_{26} (20.3), C_{28} (76.3), C_{30} (3.4%).

The leaves were first extracted with hexane and then with hot ethanol. The hexane extract on concentration gave a greenish solid, yield 0.6%. The solid was chromatographed over active neutral alumina (Brockmann activity 1) to give β-sitosterol, m.p. and mixed m.p. 135°C, $C_{29}H_{50}O$ (acetate m.p. and mixed m.p. 129°C), yield 0.054% and a hydrocarbon, *hentriacontane*, $C_{31}H_{64}$, m.p. 62–63°C, IR (KBr)$_\nu$ 2933, 2877, 1471, 737, 720 cm^{-1}, yield 0.04%.

The alcoholic extract on concentration gave a yellowish solid, yield 0.4%. The solid was chromatographed over active neutral alumina (Brockmann activity 1) to give ursolic acid, m.p. 285°C, which analysed for $C_{30}H_{48}O_{33}$ (Found: C, 78.08; H, 10.71%. $C_{30}H_{48}O_3$ requires: C, 78.90; H, 10.59%), yield 0.075%. Confirmed by IR, NMR and mass spectra.

All m.ps. are uncorrected. The analysis was done by Dr. F.B. Strauss, Microanalytical Laboratory, Oxford.

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