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NOTE

Myricetin-3′,4′,7-trimethyl ether from the leaves of *Premna tomentosa*

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Chemical investigation of the leaves of *Premna tomentosa* afforded myricetin-3′,4′,7-trimethyl ether from the benzene insoluble fraction of the methanol extract.

P. tomentosa Willd. (Verbenaceae) is a medium-size tree distributed in Madhya Pradesh, Northern Circars, Deccan and Carnatic down to South Travancore in deciduous forests upto a height of 4000 ft. The oil from the roots is aromatic and used as a remedy for stomach disorders. In Siddha system of medicine, this plant is konwn as *Pidangunari* and the decoction of the leaves is used as a stomachic[1].

No detailed work been done on this plant other than the isolation of a flavone-C-glycoside (vicenin-3) from the heartwood and a study on the antihepatotoxic and antioxidant properties of the leaf extract in albino rats[2]. In this communication, we report the isolation of myricetin-3′, 4′,7-trimethyl ether (3,5,5′-trihydroxy-3′,4′,7-trimethoxyflavone) (**1**) from the leaves of *P. tomentosa*. This compound has earlier been isolated from the oil secreted by the buds of *Aesculus hippocastanum* Linn. (Sapindaceae) and characterized[3].

Shade-dried and coarsely powdered leaves of *P. tomentosa* (2.0 kg) collected from in and around Chennai city was extracted with methanol in cold (72 h) and fractionated into benzene soluble and insoluble portions. The latter fraction (35 g) was column chromatographed over silica gel (100–200 mesh) and eluted with solvents of increasing polarity. Elution of the column with benzene-ethyl acetate (4 : 1) afforded compound **1**, purified by crystallization from ethyl acetate, m.p. 230–232°, R_f 0.58 in chloroform-methanol (19 : 1) and gave blue-green ferric chloride reaction as well as positive Shinoda test for flavonoid. The structure **1** elucidated was based on its IR, UV, ^1H and ^{13}C NMR spectral information of its triacetate, 3,5,5′-triacetoxy-3′,4′,7-trimethoxyflavone (**2**). Due to solubility problem, the triacetate **2** (m.p. 223–225°) was considered for NMR studies which was prepared by heating **1** with acetic anhydride-sodium acetate on an oil-bath for 2 h. Compound **1** : λ_{max} (MeOH) 256, 362; +NaOAc 255, 365; +NaOAc and H_3BO_3 259, 366; +$AlCl_3$ 273, 445; +$AlCl_3$ and HCl 270, 408; +NaOMe 294, 421 nm (with decrease in intensity of band I); ν_{max} (KBr) 3419, 2945, 2854, 1657, 1591, 1505, 1438, 1362, 1214, 1158, 1098, 1036, 909, 838, 792 cm^{-1}. Compound **2** : δ_H ($CDCl_3$, 300 MHz) 6.60 (1H, d, *J* 2.2 Hz, H-6), 6.80 (1H, d, *J* 2.2 Hz, H-8), 7.50 (1H, d, *J* 1.7 Hz, H-6′), 7.68 (1H, d, *J* 1.7, H-2′), 2.33, 2.33, 2.46 (3H each, s, 3 × OAc), 3.82 (3H, s, 1 × OMe), 3.90 (3H, s, 1 × OMe), 3.91 (3H, s, 1 × OMe); δ_C ($CDCl_3$, 75 MHz) 157.8 (C-2), 134.0 (C-3), 173.0 (C-4), 150.8 (C-5), 108.3 (C-6), 163.8 (C-7), 98.8 (C-8), 163.8 (C-9), 108.7 (C-10), 128.6 (C-1′), 110.3 (C-2′), 152.4 (C-3′), 143.7 (C-4′), 141.9 (C-5′), 115.5 (C-6′), 56.0 (7-OCH_3), 56.5 (3′-OCH_3), 60.3 (4′-OCH_3), 169.3, 167.6, 167.2 (3 × $OCOCH_3$), 21.0, 20.7, 20.5 (3 × $OCOCH_3$).

This is the second report on the occurrence of this flavonoid in nature and first from family Verbenaceae.

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