TRITERPENES AND FLAVONES FROM *COLEUS SPICATUS*[1]

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A 90% ethanolic extract of aerial parts of *Coleus spicatus* Benthm (Labiatae) has shown cytotoxic properties (KB cells), antitumor activity (*in vivo* P388), and diuretic activity (1). Arihara *et al* (2) reported the isolation of diterpenes of abietan series, i.e., coleon S and coleon T from the leaves of *C. spicatus*. In our continuing chemical analysis (3) of *Coleus* species, we report here the triterpenes α-amyrin, tormentic acid, flavones kumatakinin, 3,7-dimethylquercetin and sitosterol from *C. spicatus*.

EXPERIMENTAL[2]

PLANT MATERIAL.—Plants and vouchers were collected from Mannanur (Andhra Pradesh). A voucher specimen is deposited in the Botany Division, CDRI, Lucknow, India.

EXTRACTION AND ISOLATION[2].—Air dried, powdered aerial parts (5.0 kg) of *C. spicatus* were extracted with 90% ethanol. The concentrate was fractionated with benzene, ethyl acetate and *n*-butanol, successively. A portion of benzene-soluble fraction, (20 g) on chromatography over silica gel, gave α-Amyrin (250 mg) (4) and β-sitosterol (180 mg) (5). Chromatography of the ethyl acetate fraction (50 g) over silica gel yielded kumatakinin, i.e. 3,7-dimethylkaempferol (1.0 g) (6), 3,7-dimethylquercetin (300 mg) (7) and tormentic acid i.e. 2-α,3-β,19-α-trihydroxy-Δ^{12}-olean-28-oic acid (390 mg) (8). α-Amyrin and β-sitosterol were identified by standard spectral data as well as by authentic sample comparison. The flavones and tormentic acid were identified by ir, ur and pmr spectral data and mass fragmentation pattern of compounds and their derivatives.

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[2]Full details of isolation and identification of the compounds are available on request to the senior author.