

[Phytochemistry, 44, 715-718 (1997)]

[Lab. of Pharmacognosy]

Isoflavanones in Roots of *Sophora secundiflora*.

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In the previous paper, we reported the isolation and structural elucidation of 13 phenolic compounds including the three new isoflavonoids, secundiflorols A-C, from the roots of *Sophora secundiflora*. Three new isoflavanones, secundiflorols D-F, were isolated from the roots of *Sophora secundiflora* in addition to the nine known flavonoids, geraldol, pseudobaptigenin, pratensein, formononetin, calyosin, secundifloran and secundiflorols A-C. The structures of secundiflorols D-F were established as 5'- α , α -dimethylallyl-7,2',3'-trihydroxy-4'-methoxyisoflavanone, 5'- α , α -dimethylallyl-5,7,3'-trihydroxy-2,4'-dimethoxyisoflavone and (3*R*)-2'- γ , γ -dimethylallyl-7,3'-dihydroxy-4'-methoxyisoflavanone, respectively, by means of spectral evidence.

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Unusual Biflavonoids in the Farinose Exudate of *Pentagramma triangularis*.

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In the continuing studies of the chemistry of farinose exudate found in some ferns, we have isolated two unusual biflavonoids which are composed of a flavonol and dihydrochalcone nucleus through a methylene group from the frond exudate of *Pentagramma triangularis*. The genus *Pentagramma* has recently been separated from *Pityrogramma* on the basis of morphological characters and flavonoids chemistry. Further investigation of flavonoid constituents in the exudate of *Pentagramma triangularis* resulted in the isolation of three new biflavonoids and herbacetin dimethyl ether. In this paper, the isolation and structural elucidation of these compounds as well as the behavior of a chelated hydroxy proton and methoxyl signals in the biflavonoid skeleton observed in the NMR spectrum are discussed.

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[Lab. of Pharmacognosy]

Antinociceptive Activities of 70% Methanol Extract of *Evodiae Fructus* (Fruit of *Evodia rutaecarpa* var. *bodinieri*) and Its Alkaloidal Components.

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The effects of 70% methanol extract from *Evodiae Fructus* consisting of dried fruits of *Evodia rutaecarpa* var. *bodinieri* (Rutaceae) on nociceptive responses were investigated. Oral administration of 50 or 200 mg/kg of extract had the same antinociceptive effect on writhing responses as induced by acetic acid. Its major alkaloidal constituents, evodiamine and rutaecarpine also had the antinociceptive effect. The extract significantly decreased the frequency of licking behavior within a unit of time at the late phase without affecting that of the early phase in the formalin test. The extract also increased nociceptive threshold of the inflamed paw without increasing that in the non-inflamed paw in the Randall-Selitto test. Although the extract inhibited the rise of vascular permeability induced by acetic acid and the increase of paw edema induced by carrageenin, it was ineffective on nociceptive response in the hot plate test and on locomotor activity.

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Three Xanthenes from *Poeciloneuron pauciflorum* and *Mammea acuminata*.

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From the stem of *Poeciloneuron pauciflorum*, two new xanthenes (1,6-dihydroxy-7-methoxyxanthone and 1,6-dihydroxy-7-methoxyxanthone-6-O- β -glucopyranoside) in addition to 12 known compounds (1,5-dihydroxy-, 1,5-dihydroxy-3-methoxy-, 1,7-dihydroxy-, 1-hydroxy-7-methoxy-, 2-methoxy-, 4-methoxy-, 1,4,5-trihydroxy-, 1,3,5-trihydroxy-, 1,3,6-trihydroxy-7-methoxy-, 1,3,7-trihydroxy-, 3-hydroxy-2-methoxyxanthone and (-)-epicatechin) were isolated. From the aerial parts (stems and bark) of *Mammea acuminata*, a new xanthone (2,7-dihydroxyxanthone) was isolated in addition to two known xanthenes (1,5-dihydroxy- and 5-hydroxy-1-methoxyxanthone) and (-)-epicatechin. These structures were established by spectral analysis and total synthesis in case of 1,6-dihydroxy-7-methoxyxanthone.