(Phytochemistry, 27, 1831 (1988))

## Three Prenylflavanones from Euchresta japonica

Mizuo Mizuno,\* Koh-ichi Tamura, Toshiyuki Tanaka, Munekazu Iinuma

Three new prenylflavanones, euchrenones  $a_1$ ,  $a_2$  and  $a_3$ , were isolated from the roots of *Euchresta japonica*. Euchrenone  $a_1$ ,  $C_{25}H_{24}O_5$  ((M+) 404.1623, calcd. 404.1623) was deduced one of the alternative structures of 5-hydroxy- (6",6"-dimethylpyrano (2",3":7,8)) - (6"',6"-dimethylpyrano (2",3":7,6)) derivate. The oxydative material of euchrestaflavanone A by DDQ supported the structure for euchretin  $a_1$  could be presented as the former. Euchrenones  $a_2$  and  $a_3$  were also concluded to be 5,4'-dihydroxy-3'-( $\gamma$ ,  $\gamma$ -dimethylallyl) - (6",6"-dimethylpyrano (2",3":7.8) flavanone and 5,7,4'-trihydroxy-6,8,3'-tri-( $\gamma$ ,  $\gamma$ -dimethylallyl) flavanone, respectively.

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## Prenylisoflavones from Euchresta japonica

Mizuo Mizuno,\* Koh-ichi Tamura, Toshiyuki Tanaka, Munekazu Iinuma

Three new prenylisoflavones, designated euchrenones  $b_1$ ,  $b_2$  and  $b_3$ , were isolated from the roots of Euchresta japonica Hook. f. ex Regel(Leguminosae) collected at Mt Taradake, Nagasaki prefecture, Japan. The roots of E. japonica have been used traditionally as a substituent of Sophora tonkinensis Gagnep. for the treatment of tumors. The structures of euchrenone  $b_1$ ,  $C_{30}H_{34}O_5(M^+$  at m/z 474, euchrenone  $b_2$ ,  $(M^+ m/z 490)$  and euchrenone  $b_3$   $(M^+ m/z 462)$  were concluded to be 5,7,4'-trihydroxy-6,8,3'-tri  $(\gamma, \gamma$ -dimethylallyl) isoflavone, 5,7,2',4'-tetrahydroxy-6,8,3'-tri  $(\gamma, \gamma$ -dimethylallyl) isoflavone and 5-hydroxy-6-isoprenyl-(6'', 6''-dimethypyrano (2'', 3'': 7,8) -2'-methoxy-4', 5'-methylenedioxyisoflavone on the basis of spectroscopic methods and chemical evidence.

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## A Novel Coumaronochromone from the Stems of *Euchresta japonica* and its Antibacterial Activity

Mizuo Mizuno,\* Koh-ichi Tamura, Toshiyuki Tanaka, Munekazu Iinuma

In the course of our continuing chemotaxonomical search on the genus Euchresta, a new highly substituted coumaronochromone, designated as euchretin A mp 208-209°C, was isolated as pale yellow needles from the  $C_6H_6$  extract of the stems of E. japonica Hooker fil. ex Regel. The structure was determined to be 5, 7, 5'-trihydroxy-6, 8-di (3, 3-dimethylallyl)-(6''', 6'''-dimethylpyrano (2'''', 3'''': 4', 3') coumaronochromone by the spectral evidences. The efficiency of euchretin A against bacteria was examined. Euchretin A showed much stronger effect than that of p-hydroxy-benzoyl methyl ester against  $Escherchia\ coli$ ,  $Staphylococcus\ aureus\ and\ Candida\ tropicalis$ .