

[*Chem. Pharm. Bull.*, **37**, 195 (1989)]

**Chemotaxonomy of the Genus *Euchresta*. III. Three New Flavonoids
in the Roots of *Euchresta japonica***

MIZUO MIZUNO,* KOH-ICHI TAMURA, TOSHIYUKI TANAKA, MUNEKAZU IINUMA

The chemical constituents of *Euchresta japonica* (Leguminosae) were further investigated not only to search for substances with medicinal potency but also to characterize chemotaxonomically the genus *Euchresta*. From the benzene extract of the roots of *E. japonica*, three new flavonoids, euchrenone a₄ C₃₀H₃₄O₆ (M⁺ at *m/z* 474), euchrenone b₄ C₂₇H₂₈O₇ (M⁺ at *m/z* 464), and euchrenone b₅ C₂₆H₂₆O₇ (M⁺ at *m/z* 450) were isolated. The structures were identified as 5,7-dihydroxy-6,8-di(γ,γ-dimethylallyl) [6''',6'''-dimethylpyrano (2''',3''' : 4',3')] flavanone, 5,7-dihydroxy-2'-methoxy-4',5'-methylenedioxy-6,8-di(γ,γ-dimethylallyl) isoflavone and 5,7,2'-trihydroxy-4',5'-methylenedioxy-6,8-di(γ,γ-dimethylallyl) isoflavone by means of spectral analysis.

[*Asian J. Pl. Sci.*, **1**, 1 (1989)]

**Flavonol Glycosides and Their Distribution in Leaves of the Genus
*Epimedium***

MIZUO MIZUNO,* MUNEKAZU IINUMA, TOSHIYUKI TANAKA, SAKURA
IWASHIMA (nee HANIOKA), NORIO SAKAKIBARA, XIH-SHUN LIU, DAVEN
SHI, HERMANN MÜSSEL

Traditionally the leaves of *Epimedium* species have been used as a herbal medicine for tonics. In China, the leaves are supplied as a tincture or a decoction along with Fructus of Lycii, Schidandrae, Corti and Astragali for the remedy of impotence in males and sterility in females. To estimate the quality of *Epimedium* leaves used as crude drug, the content of flavonol glycosides was examined by high performance liquid chromatography in nineteen species. The species used in the study were collected from Europe, China and Japan. The species from Japan and China were found to have generally abundant quantities of flavonol glycoside.

[*Yakugaku Zasshi*, **109**, 271 (1989)]

Seasonal Fluctuation of Flavonol Glycosides in *Epimedium* Species

MIZUO MIZUNO,* MUNEKAZU IINUMA, TOSHIYUKI TANAKA,
SAKURA IWASHIMA, NORIO SAKAKIBARA

The seasonal fluctuation of flavonoid glycosides (epimedins A-C, icariin, sagittatosides A-C, and icarisid II) in the leaves of *Epimedium grandiflorum* var. *thunbergianum*, *E. creameum* and *E. sempervirens* (Berberidaceae) was investigated. The total content of glycosides was shown in the highest quantity at the flowering time, and as the leaves mature it has become stable amount with a little decrease. The suitable period for the harvest of *Epimedium* leaves was concluded to be two or three months after the flowering time.