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Flavonol Glycosides from *Epimedium sagittatum*

MIZUO MIZUNO,* NORIO SAKAKIBARA, SAKURA HANIOKA, MUNEKAZU IINUMA, TOSHIYUKI TANAKA, XIN-SHUN LIU, DA-WEN SHI

Two new flavonol glycosides together with icarisid I and icariin were shown as the constituents of *Epimedium sagittatum*. Further investigation of the aerial parts of *E. sagittatum* revealed three new flavonol glycosides, designated sagittatosides A, B and C in addition to epimedins A, B and C. The new structures were established by spectroscopic methods to be anhydroicalitin 3-O-β-D-glucosyl (1→2)-α-L-rhamnoside, anhydroicaritin 3-O-β-xylosyl-(1→2)-α-L-rhamnoside and anhydroicaritin 3-O-β-D-glucosyl-(1→2)-α-L-3-acetyl-rhamnoside, respectively. On the structural view point of *Epimedium* flavonol glycosides, sagittatosides A, B and C are commonly lacking of a glucose at C-7 of aglycone moiety.

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Flavonol Glycosides in the Roots of *Epimedium diphyllum*

MIZUO MIZUNO,* MUNEKAZU IINUMA, TOSHIYUKI TANAKA, NORIO SAKAKIBARA, TAKUDAI FUJIKAWA, SAKURA HANIOKA, YUKA ISHIDA, XIN-SHUN LIU, HIROKO MURATA

In *Epimedium* species, the aerial parts are mainly utilized as tonic, robust agents, whereas the underground parts are used for treating asthamatic fits and menstrul irregularity. Investigation on chemical constiuents of the underground parts (roots and rhizomes) of *E. diphyllum* resulted in the isolation of two new flavonol glycosides named diphyllosides A and B. Their structures were established by spectroscopic methods to be 8-γ, γ-dimethylallylkaempferol 3-O-α-L-glucopyranosyl (1→2)-β-D-rhamnopyranoside 7-O-β-D-glucopyranoside and 8-γ, γ-dimethylallylkaempferol 3-O-α-L-rhamnopyranosyl (1→2)-α-L-rhamnoloyranoside 7-O-β-D-glucopyranoside.

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Flavonol Glycosides in *Epimedium* Species

MIZUO MIZUNO,* MUNEKAZU IINUMA, TOSHIYUKI TANAKA, NORIO SAKAKIBARA, SAKURA HANIOKA, XIN-SHUN LIU

Twenty peaks based on flavonol glycosides of *Epimedium* species (epimedins A-C, icariin, sagittatosides A-C, icarisids I and II, ikarisosides A-F, diphylloside B) were clearly identified by high-performance liquid chromatography. The structural alterations of the glycosides caused by physical factors such as heat, light and oxygen were investigated as a measure of rhe quality of the plants. As the result, the apparant amount of icariin does not always reflect the quality of *Epimedium* species because the ɐmount determined depends on the extraction method. Furthermore, the glycosides in P-I, which are major components in the roots and rhizomes, are not easy to determine because they are too unstable to physical factors.