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Flavonol Glycosides from *Epimedium sagittatum*

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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 sagittosides 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 \rightarrow 2)- α -L-rhamnoside, anhydroicaritin 3-O- β -xylosyl-(1 \rightarrow 2)- α -L-rhamnoside and anhydroicaritin 3-O- β -D-glucosyl-(1 \rightarrow 2)- α -L-3-acetyl-rhamnoside, respectively. On the structural view point of *Epimedium* flavonol glycosides, sagittosides 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*

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

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Flavonol Glycosides in *Epimedium* Species

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Twenty peaks based on flavonol glycosides of *Epimedium* species (epimedins A-C, icariin, sagittosides A-C, icarisids I and II, ikarisosides A-F, diphyllside 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 the quality of the plants. As the result, the apparent amount of icariin does not always reflect the quality of *Epimedium* species because the amount 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.