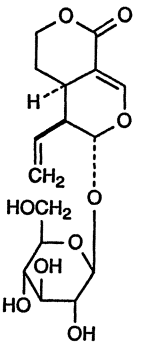
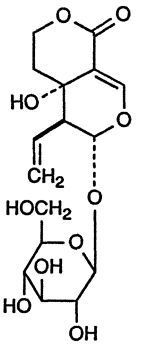
Gentiopicroside was also detected in *G. scabra* in large amounts. The gentiopicroside content in the root of *G. scabra* was dependent on the season of collection and on the years of cultivation. It was highest in the fall during the 3rd year of cultivation (7.8%). The gentiopicroside content in the above ground part of the plant was about 1% [2]. In addition to gentiopicroside, the secoiridoid glycosides sweroside (*72-2*) and swertiamarin (*72-3*) were also isolated from the root of *G. scabra* [3].



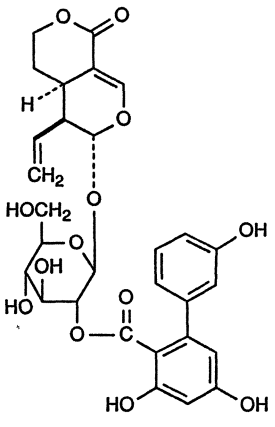
Sweroside (*72-2*)



Swertiamarin (*72-3*)

Results of quantitative determination by thin-layer chromatography-densitometry of the three bitter glycosides in different *Gentiana* species showed that gentiopicroside and total bitter glycoside content is higher (4.1%–6.7%) in the roots of *G. rigescens, G. triflora, G. atuntsiensis, G. manshurica,* and *G. scabra* compared with the roots of *G. cephalantha* and *G. suffrutescens* (1.8%–3.7%) [4, 5].

The roots of *G. atuntsiensis* and *G. rigescens* also contain amarogentin (*72-4*), another secoiridoid glucoside, having a tri-hydroxy-biphenyl-carboxylic acid moiety esterified with glucose at C-2 [5].



Amarogentin (*72-4*)