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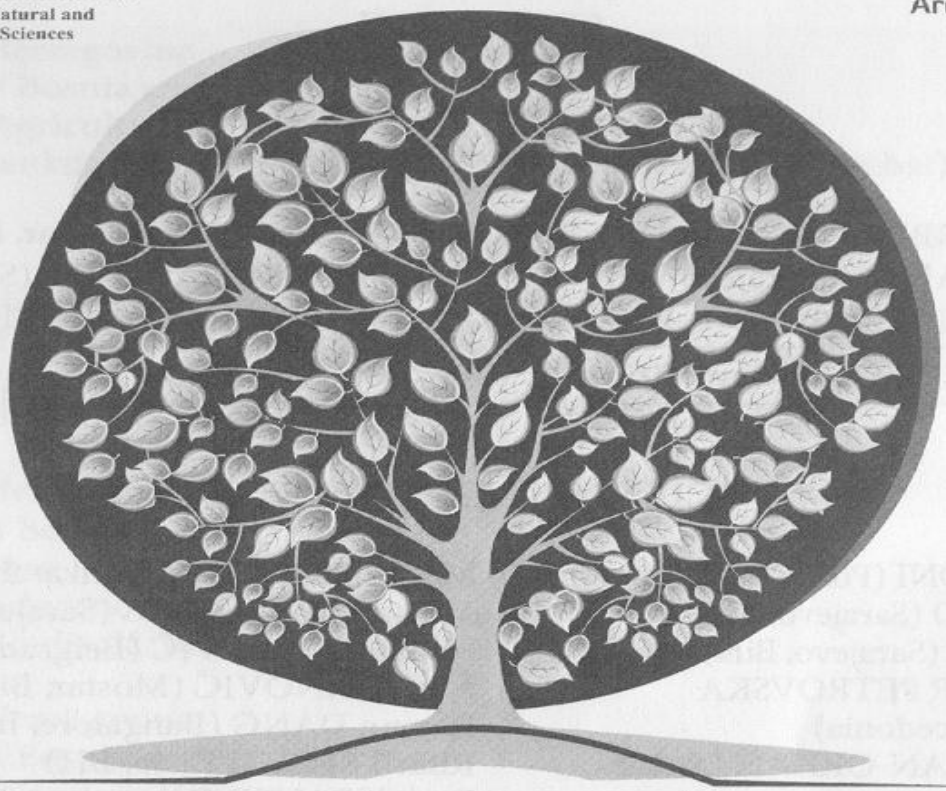

International Conference

Medicinal and Aromatic Plants in Generating of New Values in 21st Century

November 9-12th, 2011 Sarajevo, Bosnia and Herzegovina
Congress Center, Hotel HOLLYWOOD, Ilidža - Sarajevo

INTERNATIONAL CONFERENCE

„MEDICINAL AND AROMATIC PLANTS IN GENERATING OF NEW VALUES IN 21ST CENTURY"

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20.6 μg/mL for OH radical). Although no correlation was obtained between RSC and content of evaluated classes of phenolics, the correlation with the dry matter was observed.

Keywords: *Ornithogalum umbellatum*, biogeochemistry, phenolics, antioxidants

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HPLC ANALYSIS OF THE SECOIRIDOID GLYCOSIDES AND MANGIFERIN CONTENT IN METHANOL EXTRACT AND ITS FRACTIONS OF *GENTIANA ASCLEPIADEA* L. ROOTS

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Gentiana asclepiadea L. is a perennial plant belonging to the genus *Gentiana* (fam. Gentianaceae). The major bioactive constituents of *G. asclepidea* are secoiridoids, xanthones, and flavone-C-glycosydes [1,2]. Secoiridoids (e.g. swertiamarin, gentiopicrine and sweroside) are the bitter principles in various gentians which are used for preparation of bitter tonics. In addition, secoiridoid glycosides have a variety of biological effects, such as anti-tumor, fungitoxic and hepatoprotective activities. According to the literature, xanthone compounds often exhibit a wide range of biological and pharmacological activities, eg, antioxidative, hypoglycemic, antiviral, antibacterial and hepatoprotective [3]. The aim of this study was to determine amounts of secoiridoid glycosides (gentiopicrine, swertiamarin and sweroside) and xanthone compound mangiferin in methanol extract and its chloroform, ethyl acetate and *n*-butanol fractions of *G. asclepidea* roots by HPLC-DAD analyses. Extracts were chromatographically separated, and amounts of secoiridoids and mangiferin were quantified using calibration curves of the corresponding standards. Results indicate that secoiridoid compounds; sweroside, swertiamarin and gentiopicrine exist in *G. asclepiadea* root extracts at different amounts, depending on the solvent used for

the extraction. All values were expressed on a dry mass basis of extracts in mg/g. The results (Figure 1) showed that the most abundant secoiridoid compound in the extracts was gentiopicrine, and its amount varied within the range of 14.39 to 442.89 mg/g, depending on the extraction procedure. The sweroside contents in the extracts were 1.52-27.85 mg/g, while the swertiamarin contents ranged from 5.74 to 16.62 mg/g. The *n*-butanol fraction possessed the highest amount of secoiridoid compounds and its swertiamarin, sweroside and gentiopicrine contents were found to be 16.62, 27.85 and 442.89 mg/g of extract, respectively.

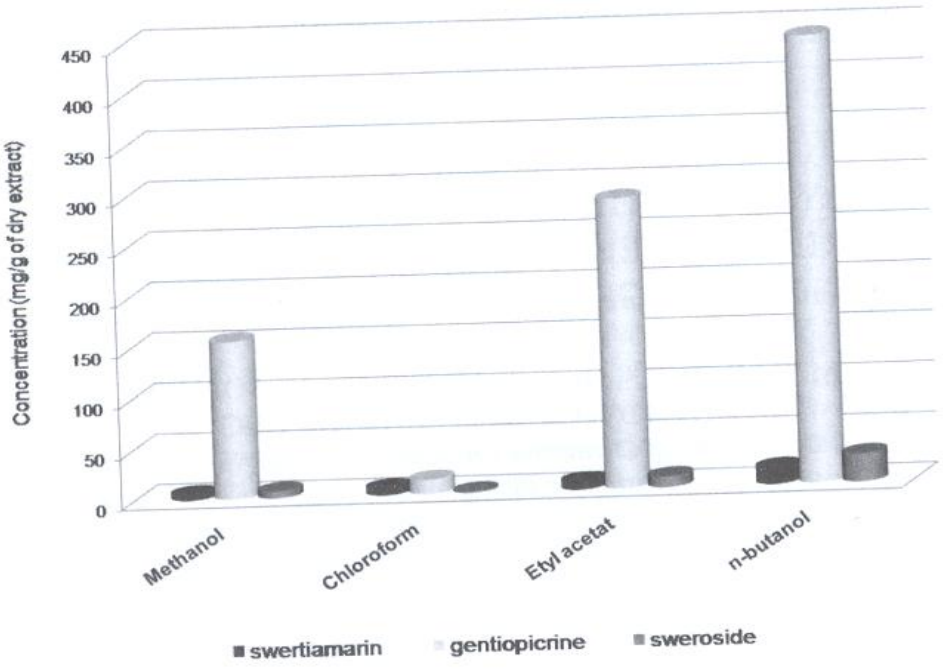

Figure 1. Secoirridoid compounds

No detectable amounts of mangiferin were found in roots extracts of *G. asclepiadea*. Obtained results suggest that *G. asclepidea* root, especially *n*-butanol fraction, was a rich source of bioactive secoiridoid compounds.

Keywords: *Gentiana asclepiadea* L., secoiridoid glucosides, HPLC-DAD

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