



INTERNATIONAL CONFERENCE ON  
NATURAL PRODUCTS UTILIZATION:  
From Plants to Pharmacy Shelf  
3-6 November 2013, Hotel Astera, Bansko



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# PROGRAMME

## Sunday, 3rd November 2013

16:00 – 19:00 Registration

19:30 **Get together party**

## Monday, 4th November 2013

08:00 Registration desk opening

08:30 Exhibition opening

09:00 – 09:30 Opening ceremony of the ICNPU-2013

09:35 – 10:25 **KL: Bharat B. Aggarwal (USA):** Multi-targeting of multigenic cancer by traceuticals: role in prevention and treatment

10:30 – 11:00 *Coffee break*

### Anti-cancer/Cancer prevention

Chairs: Konstantinov (Bulgaria), Diederich (South Korea)

11:00 – 11:25 **IL1: Martin R. Berger (Germany):** Riproximin is the link between a healer's plant powder and a cytotoxic lectin characterized as ribosome inactivating protein

11:25 – 11:50 **IL2: Albena Dinkova-Kostova (UK and USA):** Induction of cytoprotective responses by plant isothiocyanates and synthetic analogues

11:50 – 12:15 **IL3: Marc Diederich (South Korea):** Natural compounds as inhibitors of the 10 hallmarks of cancer

12:15 – 12:30 **SL1: Spiro M. Konstantinov (Bulgaria):** Antineoplastic potential of curcumin (cooperative study in Bulgaria and Germany)

12:30 – 12:45 **SL2: Jacob Gopas (Israel):** Nupharidine inhibits NF-κB activity, induced apoptosis and has synergistic cytotoxic activity with cisplatin and etoposide

12:45 – 13:00 **SL3: Reneta Gevrenova (Bulgaria):** Evaluation of the cytotoxic activity of triterpene saponins from *Gypsophila trichotoma* Wender (Caryophyllaceae)

13:00 – 13:15 **SL4: Radka M. Argirova (Bulgaria):** Anti-viral activity of two benzophenones isolated from *Hypericum elegans*

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## A NEW ACYLATED FLAVONOL GLYCOSIDE FROM *CHENOPODIUM FOLIOSUM*

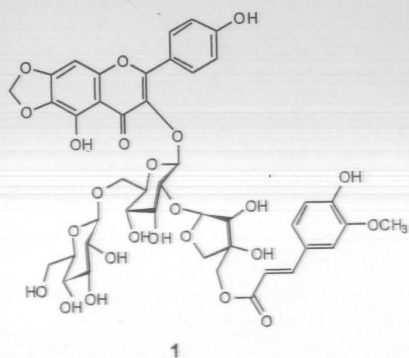
Paraskev T. Nedialkov<sup>1</sup>, Zlätina Kokanova-Nedialkova<sup>1</sup>, Magdalena Kondeva-Burdina<sup>2</sup>, Dimitrina Zheleva-Dimitrova<sup>1</sup>, Daniel Bücherl<sup>3</sup>, Stefan Nikolov<sup>1</sup>, Jörg Heilmann<sup>3</sup>

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A new acylated flavonol glycoside, namely gomphrenol-3-O-(5''-O-E-feruloyl)- $\beta$ -D-apiofuranosyl-(1 $\rightarrow$ 2)[ $\beta$ -D-glucopyranosyl-(1 $\rightarrow$ 6)]- $\beta$ -D-glucopyranoside **1** was isolated from the aerial parts of *Chenopodium foliosum* Asch. The structure of **1** was determined by means of spectroscopic methods (1D and 2D NMR, UV, IR, and HRESIMS). Radical scavenging and antioxidant activities of **1** were established using DPPH and ABTS free radicals, FRAP assay and inhibition of lipid peroxidation (LP) in linoleic acid system by the ferric thiocyanate method. Compound **1** showed low activity (DPPH and ABTS) or lack of activity (FRAP and LP). In combination with CCl<sub>4</sub>, **1** reduced the damage caused by the hepatotoxic agent and preserved cell viability and GSH level, decreased LDH leakage and reduced lipid damage. Effects were concentration dependent, most visible at the highest concentration (100  $\mu$ g/mL), and similar to those of silymarin.



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## CHEMICAL COMPOSITION, ANTIMICROBIAL, ANTIOXIDANT AND CYTOTOXIC ACTIVITY OF *ROSA CENTIFOLIA* L. ESSENTIAL OIL

Miloš Nikolić<sup>1</sup>, Isabel C.F.R. Ferreira<sup>2</sup>, Ricardo C. Calhelha<sup>2</sup>, Ângela Fernandes<sup>2</sup>, Dejan Marković<sup>2</sup>, Tatjana Marković<sup>4</sup>, Ana Ćirić<sup>1</sup>, Jasmina Glamočlija<sup>1</sup>, Marina Soković<sup>1</sup>

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The genus *Rosa* comprises more than 200 species appreciated for their use in perfume and cosmetic industry. The aim of this study was to investigate chemical composition, antimicrobial, antioxidant and cytotoxic activities of *Rosa centifolia* L. essential oil, in an attempt to contribute to the use of this plant as alternative product for microbial control and cancer therapy. The results of GC/MS analysis showed the presence of 12 components. The major constituents were: phenyl ethyl alcohol (57.71%), citronellol (21.61%), geraniol (12.09%). The rose oil showed strong antimicrobial activity inhibiting the growth of selected oral microorganisms (MIC 0.13-0.25 and MBC 0.25-0.50; MIC 0.03-0.13 and MFC 0.06-0.25 mg/ml), assessed by the microdilution method. The results of DPPH activity (2.10 mg/ml), reducing power (0.66 mg/ml),  $\beta$ -carotene bleaching inhibition (0.43 mg/ml) and thiobarbituric acid reactive substances (TBARS) assay (0.11 mg/ml) indicate good antioxidant potential. Cytotoxic activity was tested against human tumor cell lines (breast, lung, colon, cervical and hepatocellular carcinomas) and in a non-tumour liver primary culture (PLP2). *R. centifolia* oil was found to be very active against PLP2 cell line ( $GI_{50} > 400 \mu$ g/ml). Overall, *R. centifolia* contains important phytochemicals with bioactive properties (mainly antitumour potential) to be explored in the pharmaceutical and for medicinal purposes.

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