

# 59<sup>th</sup> International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research

**Date/Location:** 4<sup>th</sup>–9<sup>th</sup> September 2011, Antalya, Turkey  
**President:** Prof. Dr. K. Hüsnü Can Başer

Dear Colleagues,

It is my great pleasure and honour to hold the 59th International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research on September 4–9, 2011 in Antalya, Turkey. This congress series has been organized annually since 1953 and has become the most important and popular congress in Europe in its respected field. It is the first time the congress is organized in Turkey. Turkey is a large peninsula bridging the east and the west at the junction of two continents and has been a passage way between Europe and Asia and even Africa. Due to its geographic location Turkey has been a melting pot of civilizations, cultures and nations, and is full of history and home to diverse traditions. It is a land of many firsts since history starts here. Thanks to its climatically and phytogeographically unique position and its transect ranging from sea level (0 m) to the peak of the Ararat mountain (5137 m) the flora of Turkey is rich and diverse with over 12.000 flowering plant taxa recorded of which 33% are endemic. Anatolia is the land of Galenus of Pergamon and Dioscorides of Anavarza. Pedanius Dioscorides, a physician in the Roman Army had written his famous *Materia Medica* in the 1st century AD. His birthplace Anavarza is in Kozan, Adana in Southern Turkey not too far from Antalya. The 59th Congress has attracted global attention and there are participants from all parts of the world. Its scientific level is high thanks to the efforts of the Scientific Committee. High rate of rejects were due to the meticulous work of the reviewers who gave it time and effort to keep the scientific level as high as possible.

Main topics of the Congress are as follows:

- New Trends in Pharmacognosy
- Traditional and Natural Medicines
- Lead Finding from Nature
- Antimicrobials – What's next?
- Endophytes – Importance in Pharmacognosy
- Natural Immune Enhancers
- Nutraceuticals, Cosmeceuticals, Functional Foods – Prevention of Metabolic Diseases
- Essential Oils – Analysis, Bioactivities, Uses, Therapeutical Potential
- Biotechnology and Nanobiotechnology
- Advances in the Analysis of Natural Products

Ten plenary and two keynote lectures will be presented by distinguished scientists. 73 short lectures will be presented in three parallel sessions. Numerous researchers will be able to report their research findings in 900 poster presentations. In addition, young researchers will be able to present their papers at two parallel Young Researchers Workshops. There will also be three more Permanent Committee Workshops of the GA on regulatory affairs, pharmacology, agriculture and quality of natural products. An additional workshop will be held on Traditional Chinese Medicine (TCM). 31 lectures will be presented in the workshops. All in all over 1100 scientific presentation will be made at the congress.

I would like to thank the Executive and the Advisory Board members of the GA for their help and encouragement during the preparatory stages of the Congress. I wish to extend my grateful thanks to Georg Thieme Verlag KG for processing such a huge number of abstracts in a short time. My special thanks go to the members of the Organizing Committee and to the Congress Organizing Company FTS who have done their utmost to offer you a successful, satisfying and enjoyable congress.

I wish you all a fruitful congress which I hope will strengthen old friendships and develop new ones in a friendly, scientific and cultural atmosphere. I hope everybody enjoys their stay in sunny Antalya, gets the opportunity to discover hidden beauties of the region and Turkey, and takes home new scientific knowledge and unforgettable memories.

Prof. Dr. K. Hüsnü Can Başer  
 President of the 59th International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research

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nylthane-C-glycoside, encountered for the first time in nature, by the extensive use of <sup>1</sup>H NMR, <sup>13</sup>CNMRDEPT, <sup>1</sup>H-<sup>1</sup>H COSY, NOESY, HSQC, HMBC and LC-MS experiments. References: 1. Trease GE, Evans WC (1989) Pharmacognosy. English Language Book Society, Balliere Tindall. London. 2. Loizzo MR et al. (2008) J Ethnopharmacol 119: 109–116. 3. Kalyoncu F (2009) Iran J Pharm Res 8: 263–268. 4. Corrigan D et al. (1978) Phytochemistry 17: 1131–1133. 5. Borisov MI et al. (1972) Khim Priir Soedin 3: 281–285. 6. Constantinescu E (1974) Farmacia 22: 335–344.

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**A New Guaianolide from the aerial parts of *Centaurea pannonica* (Heuffel) Simonkai**  
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*Centaurea* is a complex genus of about 500 species belonging to the Asteraceae family [1]. Sesquiterpene lactones are the main chemical taxonomic markers of the genus [2,3]. Some members of this genus are used in folk medicine [4]. In the present study, we report the main compounds isolated from *Centaurea pannonica* (Heuffel) Simonkai, a taxon belonging to the section *Jacea*. The plant was collected in Šumadija region-Serbia, on September 2008. The aerial parts were extracted according to the Bohlmann isolation method, slightly modified [5]. One new naturally occurring sesquiterpene lactone (Fig. 1), six known guaianolides, namely babylonin A, chlorohyosylofifolin C, chlororepdiolide, repdiolide, janerin, 19-deoxyjanerin and three known lignans arctigenin, matairesinol, arctiin were isolated by repeated CC and RP18-HPLC. The structure of the isolated compounds were elucidated by spectroscopic methods, particularly high-field NMR spectroscopy (<sup>1</sup>H-NMR, <sup>1</sup>H-<sup>1</sup>H COSY, HSQC, HMBC). So far, the presence of guaianolides is characteristic for the taxa of the section *Jacea* [6, 7].

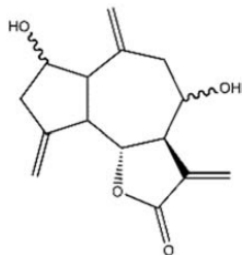


Figure 1

**Acknowledgement:** Greek foundation of Scholarships (IKY) and Ministry of Science, Republic of Serbia (project III 43004). References: 1. Mabberley DJ (1997) The Plant Book. Cambridge University Press. Cambridge. 2. Djeddi S et al. (2008) Biochem Syst Ecol 36: 336–339. 3. Bruno M et al. (2005) Biochem Syst Ecol 33: 817–825. 4. Platéarius (1986) Le livre de simples médecines. Ed. Ozalid et Textes Cardinaux. Paris. 5. Bohlmann F et al. (1984) Phytochemistry 23: 1979–88. 6. Gonzalez AG et al. (1974) Phytochemistry 13: 1193–1197. 7. Gonzalez AG et al. (1978) Can J Chem 56: 491–494.

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**Discovery of bioactive metabolites from the leaves of *Vitex pinnata* using high-throughput flash chromatography**

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In our study we report the chemical investigation and various biological activities of secondary metabolites isolated from the leaves of *Vitex pinnata* L. In Malaysia, leaves of *V. pinnata* were traditionally used to treat cuts and wounds while the bark decoction is used for stomach

ache and post-childbirth medicine [1,2]. High-throughput flash chromatography proved to be fast, robust, efficient and reproducible in the isolation and purification of the biologically active natural products. Ten compounds were isolated and chemical investigation revealed that retusin, kaemferol trimethyl ether, pheophytin a, β-sitosterol, and a new diterpene are the major compounds found in this leaves. The structures of all isolated compounds were determined by using 1D and 2D-NMR and also LC-MS. Antioxidant and antibacterial activities were tested on isolated compounds and fractions. In the qualitative antioxidant TLC assay, new diterpene and pheophytin a bleached the DPPH (0.2% in MeOH) purple colour indicating antioxidant activity. Retusin and β-sitosterol isolated from hexane extract showed to have antibacterial activity against *Microbacterium marinum*. Other bioassays such as antityrosinase and cytotoxicity studies are still under investigation. Consequently, this plant is a promising source for various biological activities. **Acknowledgement:** The Ministry of Higher Education, Malaysia Universiti Sultan Zainal Abidin, Kuala Terengganu Malaysia References: 1. Burkill IH (1968) A Dictionary of the Economic Products of the Malay Peninsula (Vols. I and II), Ministry of Agriculture Publication Unit, Kuala Lumpur. 2. Ong HC, Nordiana M (1999) Fitoterapia 70: 502–513

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**Enrichment of bioactive phenolic compounds from aqueous solution by foam separation**

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Olive mill wastewater (OMWW) is an abundant source of polyphenols [1]. Due to their different bioactivities, OMWW would be a worthwhile source of highly valuable compounds for pharmaceutical and food industry. However, a simple and cost-effective extraction technique has still to be found. The present study aimed to evaluate foam separation for the isolation of phenolic compounds from OMWW. Thereby, surface-active substances can be enriched in an up-rising foam produced by introducing gas in an aqueous solution [2]. Running the process with inert gas at room temperature provides a mild technique for heat- and oxygen-sensitive substances. Aqueous solutions of phenolic acids (vanillic acid, 4-hydroxybenzoic acid, 4-hydroxyphenylacetic acid, 4-hydroxybenzoic acid, protocatechuic acid), all found in OMWW, were used as simple models of OMWW. The added cetyltrimethylammonium bromide (CTAB) acted as a foaming agent and as an anion-collector for the deprotonated reference substances. Enrichment factors (concentration in the collected foam relative to the concentration in the feed solution verified via HPLC analysis) for the phenolic acids were optimized by varying important process parameters like pH, CTAB concentration, biophenol concentration, and gas flow rate. As a result, enriched extracts were obtained for all tested substances. **Acknowledgement:** This work was funded by the Bundesministerium für Bildung und Forschung, Bio-Disc. References: 1. Obied HK et al. (2005) J Agric Food Chem 53: 823–937. 2. Lemlich R (1986) Ind Eng Chem Res 60: 16–29.

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**Microgram-scale, *in vivo* natural product discovery using zebrafish bioassays, UHPLC-TOF-MS and microflow NMR: Identification of anticonvulsants in the Philippine medicinal plant *Solanum torvum***

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The rapid acquisition of structural and bioactivity information on natural products at the sub-milligram scale is key for performing efficient bioactivity-guided isolations. We have recently established zebrafish as an ideal *in vivo* system for natural product discovery<sup>1,2</sup>. Zebrafish offer