

Contents

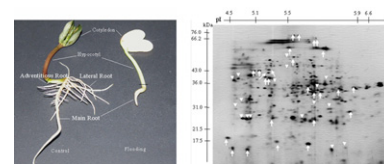
PROTEIN BIOCHEMISTRY

Cytosolic ascorbate peroxidase 2 (cAPX 2) is involved in the soybean response to flooding

pp 1295–1303

Fang Shi, Ryo Yamamoto, Satoshi Shimamura, Susumu Hiraga, Norikazu Nakayama, Takuji Nakamura, Kiyoshi Yukawa, Mayumi Hachinohe, Hiroshi Matsumoto, Setsuko Komatsu*

Proteomic analyses of soybean seedlings responding to flooding were conducted to identify key proteins involved in the response. Soybean seeds were germinated on a spongy matrix for two days and then subjected to flooding for three days. One of the changed proteins was dominantly down-regulated under flooded conditions and was identified as cytosolic ascorbate peroxidase 2 (cAPX 2). Northern-hybridization showed that the abundance of APX 2 transcript decreased significantly after floodings, as did the enzymatic activity of cAPX 2. These results suggest that cAPX 2 is involved in flooding stress responses in young soybean seedlings.



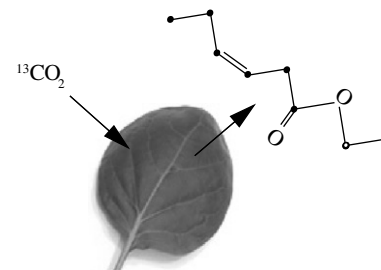
METABOLISM

¹³C-labelling patterns of green leaf volatiles indicating different dynamics of precursors in *Brassica* leaves

pp 1304–1312

Edward C. Connor, Anja S. Rott, Michael Zeder, Friedrich Jüttner, Silvia Dorn*

Differential ¹³C-labelling of green leaf volatiles from *Brassica* plants indicates different precursors (re. spatial organisation or chemical structure) of chemically related compounds.



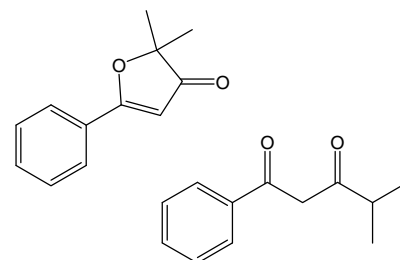
CHEMOTAXONOMY

Bullatenone, 1,3-dione and sesquiterpene chemotypes of *Lophomyrtus* species

pp 1313–1318

John McK.R. Woollard, Nigel B. Perry, Rex T. Weavers, John W. van Klink*

Extracts of *Lophomyrtus bullata*, *L. obcordata* and the hybrid *L. "ralphii"* showed several chemotypes, with varying levels of bullatenone, bullataketal, 4-methyl-1-phenylpentane-1,3-dione and allo-aromadendrene and other sesquiterpenes.

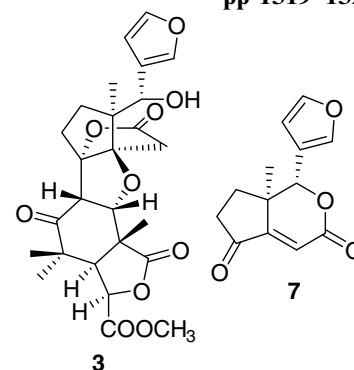


Structural elucidation of limonoids and steroids from *Trichilia connaroides*

pp 1319–1327

Xiao-Ning Wang, Cheng-Qi Fan, Sheng Yin, Li-She Gan, Jian-Min Yue*

Six limonoids, trijugins D–H (**1–5**) and methyl 8 α -hydroxy-8,30-dihydroangolensate (**6**), two degraded limonoids, trichiconnarins A and B (**7–8**), and a pregnane steroid, 3 β ,4 α -dihydroxypregnan-21-one (**9**), were isolated from the twigs and leaves of *Trichilia connaroides*.



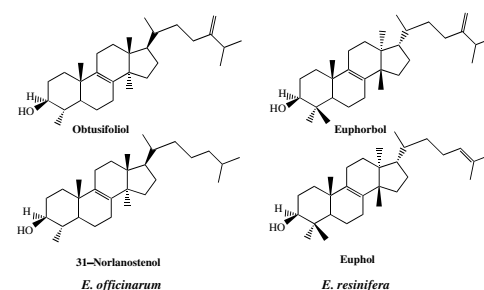
BIOACTIVE PRODUCTS

Bioactive triterpene derivatives from latex of two *Euphorbia* species

pp 1328–1338

Noureddine Mazoir, Ahmed Benharref, María Bailén, Matías Reina, Azucena González-Coloma*

We have investigated the antifeedant and toxic effects of 23 semisynthetic terpenoid derivatives obtained through chemical modifications of the major components of *Euphorbia resinifera* (α -euphol and α -euphorbol) and *E. officinarum* (obtusifolol and 31-norlanostenol) latex on several insect species (*Spodoptera littoralis*, *Myzus persicae* and *Rhopalosiphum padi*), their selective cytotoxicity on insect Sf9 and mammalian CHO cells, and their phytotoxic effects on *Lactuca sativa*.

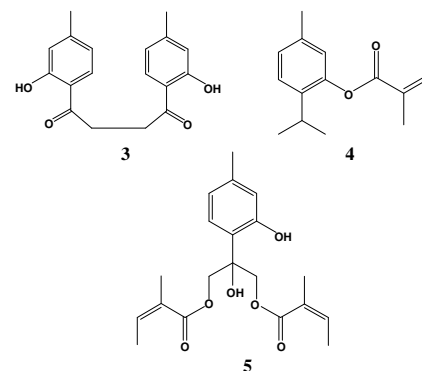


Phytotoxic activity and conformational analysis of thymol analogs from *Hofmeisteria schaffneri*

pp 1339–1347

Araceli Pérez-Vásquez, Edelmira Linares, Robert Bye, Carlos M. Cerda-García-Rojas*, Rachel Mata*

Thymol analogs, **3–5**, along with seven known compounds (**1**, **2** and **6–10**), were isolated from the aerial parts of *Hofmeisteria schaffneri* (Asteraceae). Their conformational behavior was studied by molecular modeling using DFT calculations; **1–4** and **6–10** inhibited radicle growth of seedlings of *Amaranthus hypochondriacus* and *Echinochloa crus-galli* with $IC_{50}s \leq 10^{-4}$ M.

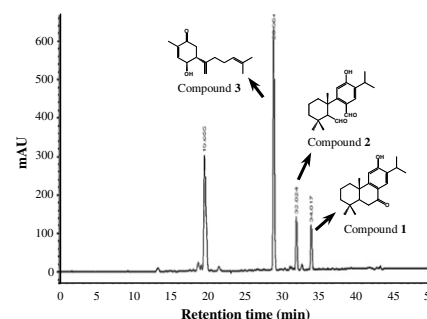


Hepatoprotective phytocompounds from *Cryptomeria japonica* are potent modulators of inflammatory mediators

pp 1348–1358

Lie-Fen Shyur*, Chi-Chang Huang, Chiu-Ping Lo, Chih-Yang Chiu, Yi-Ping Chen, Sheng-Yang Wang, Shang-Tzen Chang

This study demonstrated that phytocompounds from *Cryptomeria japonica* wood extracts possessed potent anti-inflammatory and hepatoprotective activities by attenuating proinflammatory mediator activities and CCl₄-induced acute liver injury in mice. Three terpenoids (**1–3**) were found to be the major bioactive compounds which contributed to the observed bioactivities.

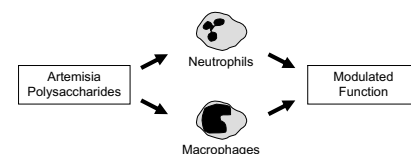


Fractionation and characterization of biologically-active polysaccharides from *Artemisia tripartita*

pp 1359–1371

Gang Xie, Igor A. Schepetkin, Daniel W. Siemsen, Liliya N. Kirpotina, James A. Wiley, Mark T. Quinn*

Sulfated polysaccharides isolated from *Artemisia tripartita* exhibit potent immunomodulatory and anti-inflammatory activities, including modulation of macrophage and neutrophil functions, scavenging of extracellular ROS, and complement-fixation.



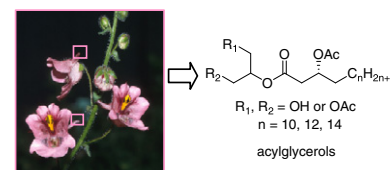
CHEMISTRY

Non-volatile floral oils of *Diascia* spp. (Scrophulariaceae)

pp 1372–1383

Kanchana Dumri, Lars Seipold, Jürgen Schmidt, Günter Gerlach, Stefan Dötterl, Allan G. Ellis, Ludger A. Wessjohann*

The non-volatile floral oils of *Diascia* spp. (Scrophulariaceae) were selectively collected from the trichome elaiophores located within the tips of the paired spurs. Chemical investigations with different mass spectrometric methods (GC/EI-MS and ESI-FTICR-MS) of *Diascia* floral oils disclosed unique, partially acetylated acylglycerols of (3*R*)-acetoxy fatty acids (C_{14} , C_{16} and C_{18}). The mass spectral behaviour of significant compounds is discussed.

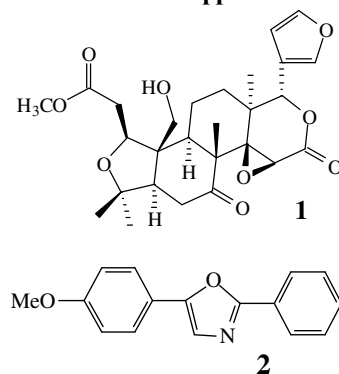


An azole, an amide and a limonoid from *Vepris uguenensis* (Rutaceae)

pp 1384–1388

Peter K. Cheplogoi, Dulcie A. Mulholland*, Philip H. Coombes, Milijaona Randrianarivejosia

The limonoid, methyl uguenesonate, **1**, the azole, uguenenazole, **2**, and the amide, uguenenonamide, together with the known furoquinoline alkaloids flindersiamine and maculosidine, and syringaldehyde have been isolated from the root of the East African Rutaceae *Vepris uguenensis*.

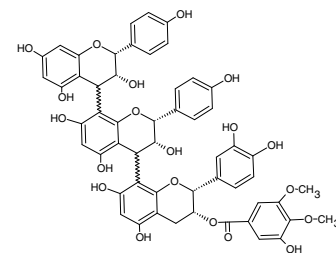


Identification of galloylated propelargonidins and procyanidins in buckwheat grain and quantification of rutin and flavanols from homostylous hybrids originating from *F. esculentum* × *F. homotropicum*

pp 1389–1397

Carolin Ölschläger, Ionela Regos, Friedrich J. Zeller, Dieter Treutter*

From methanol extracts of buckwheat grains the following proanthocyanidins were identified: epicatechin-[4–8]-epicatechin-dimethylgallate, epiafzelechin-[4–6]-epicatechin, epiafzelechin-[4–8]-epiafzelechin-[4–8]-epicatechin, epiafzelechin-[4–8]-epicatechin-dimethylgallate, epiafzelechin-[4–8]-epiafzelechin-[4–8]-epicatechin-dimethylgallate.

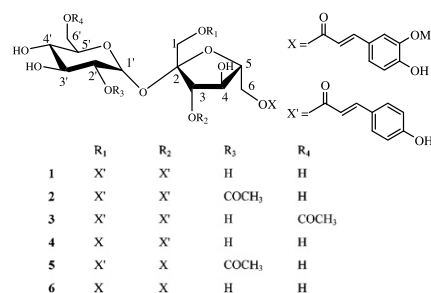


Antioxidant phenylpropanoid glycosides from *Smilax bracteata*

pp 1398–1404

Lijie Zhang, Chia-Ching Liao, Hui-Chi Huang, Ya-Ching Shen,
Li-Ming Yang, Yao-Haur Kuo*

From the ethanolic extract of *Smilax bracteata*, six phenylpropanoid glycosides, smilasides G–L (**1–6**), along with four known phenylpropanoid compounds, helonioiside A, helonioiside B, smilaside E, and (1-*p*-*O*-coumaroyl-6-*O*-feruoyl)- β -D-fructofuranosyl- α -D-glucopyranoside, and fourteen known phenolic compounds were isolated. The structures of the compounds were elucidated on the basis of spectroscopic analysis. Moreover, **1–6** exhibited scavenging activities against DPPH radicals.

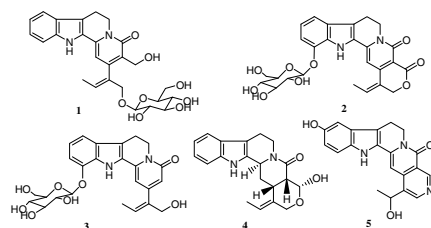


Indole alkaloids from *Nauclea officinalis* with weak antimalarial activity

pp 1405–1410

Jingyong Sun, Hongxiang Lou, Shengjun Dai, Hui Xu, Feng Zhao, Ke Liu*

Five indole alkaloids were isolated from the stems (with bark) of *Nauclea officinalis*, together with two known compounds. *In vitro*, they showed weak to moderate inhibitory activity against *Plasmodium falciparum*.

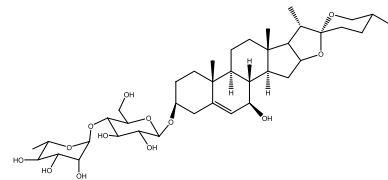


Cholestane and spirostane glycosides from the rhizomes of *Dioscorea septemloba*

pp 1411–1418

Xue-Ting Liu*, Zhen-Zhong Wang, Wei Xiao, Hui-Wu Zhao, Jie Hu, Biao Yu*

Eight steroidal glycosides were isolated from the rhizomes of *Dioscorea septemloba*. Spirostane aglcones containing hydroxyl group at C-7 were reported in the family Dioscoreaceae for the first time.

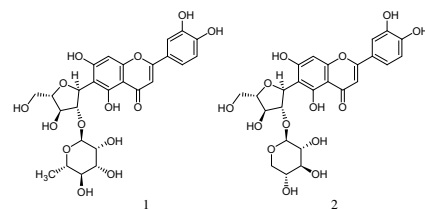


Antioxidant C-glycosyl flavones from the leaves of *Sasa kurilensis* var. *gigantea*

pp 1419–1424

Tatsuya Hasegawa, Ayumi Tanaka, Akiko Hosoda, Fumihide Takano,
Tomihisa Ohta*

C-glycosyl flavones, kurilensin A (**1**) and B (**2**), together with two known compounds, tricin-4'-*O*- β -D-glucopyranoside (**3**) and tricin-5-*O*- β -D-glucopyranoside (**4**), were isolated from hot-water extracts of the leaves of *Sasa kurilensis*. Compounds **1** and **2** exhibited higher radical scavenging activity than ascorbic acid in the 1,1-diphenyl-2-picrylhydrazyl (DPPH) assay system.

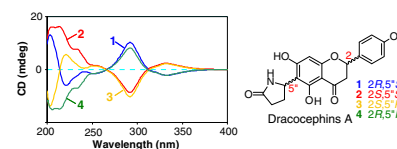


Stereochemistry of flavonoidal alkaloids from *Dracocephalum rupestre*

pp 1425–1433

Dong-Mei Ren, Huai-Fang Guo, Wen-Tao Yu, Shu-Qi Wang, Mei Ji, Hong-Xiang Lou*

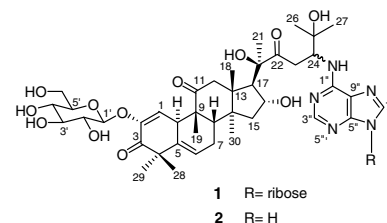
Four groups of flavonoidal alkaloids, dracocephins A–D, were isolated from the aerial parts of *Dracocephalum rupestre*. Each group of the dracocephins was mixture of two pairs of enantiomers. All of the sixteen stereoisomers were separated and their stereochemical features were determined.

Purine-containing cucurbitane triterpenoids from *Cucurbita pepo* cv *dayangua*

pp 1434–1438

Da-Cheng Wang, Hua Xiang, Dan Li, Hui-yuan Gao, Hui Cai, Li-Jun Wu, Xu-Ming Deng*

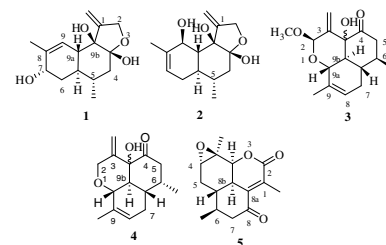
Two cucurbitane triterpenoids linked to an adenosine/adenine moiety were isolated from the fruits of *Cucurbita pepo* cv *dayangua*. Their structures were elucidated mainly by spectroscopic methods.

Stereumin A–E, sesquiterpenoids from the fungus *Stereum* sp. CCTCC AF 207024

pp 1439–1445

Guo-Hong Li, Meng Duan, Ze-Fen Yu, Lei Li, Jin-Yan Dong, Xing-Biao Wang, Jian-Wei Guo, Rong Huang, Min Wang, Ke-Qin Zhang*

Extract of culture broth of a *Stereum* species afforded five cadinane sesquiterpenoids, named stereumin A (1), B (2), C (3), D (4) and E (5). Their structures were assigned on the basis of various spectroscopic studies. Compounds 1–5 showed nematocidal activity against *Panagrellus redivivus* at 400 mg l⁻¹.



OTHER CONTENTS**Erratum** pp 1446–1447**Announcement: Phytochemical Society of North America** p 1448

* Corresponding author

The Editors encourage the submission of articles online, thus reducing publication times. For further information and to submit your manuscript, please visit the journal homepage at <http://www.elsevier.com/locate/phytochem>



ELSEVIER

ISSN 0031-9422

INDEXED/ABSTRACTED IN: *Current Awareness in Biological Sciences (CABS)*, *Curr Cont ASCA. Chem. Abstr.*, *BIOSIS Data*, *PASCAL-CNRS Data*, *CAB Inter*, *Cam Sci Abstr*, *Curr Cont/Agri Bio Env Sci*, *Curr Cont/Life Sci*, *Curr Cont Sci Cit Ind*, *Curr Cont SCISEARCH Data*, *Bio Agri Ind*. Also covered in the abstract and citation database *SCOPUS*[®]. Full text available on *ScienceDirect*[®].

Available online at

www.sciencedirect.com