

Phytochemistry Vol. 66, No. 21, 2005

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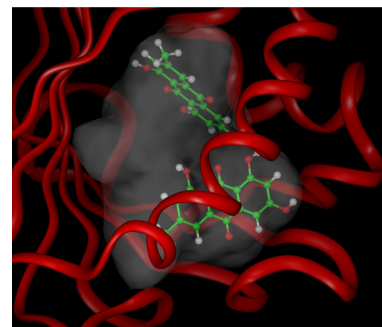
PROTEIN BIOCHEMISTRY

Birch PR-10c interacts with several biologically important ligands

pp 2524–2533

Kaisa M Koistinen, Pasi Soininen, Tuomas A Venäläinen, Jukka Häyrinen, Reino Laatikainen, Mikael Peräkylä, Arja I. Tervahauta, Sirpa O. Kärenlampi*

Protein–ligand interaction studies with saturation transfer difference (STD) NMR and molecular modelling revealed that birch PR-10c interacts with several biologically important molecules, such as cytokinin, flavonoid glycosides, sterols and emodin.



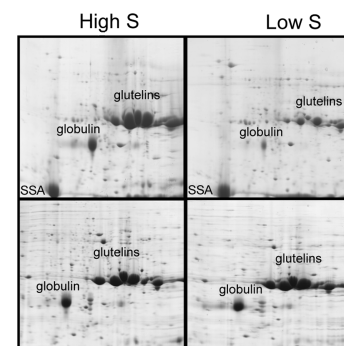
MOLECULAR GENETICS AND GENOMICS

Decreased accumulation of glutelin types in rice grains constitutively expressing a sunflower seed albumin gene

pp 2534–2539

Nazrul Islam*, Narayana M. Upadhyaya, Peter M. Campbell, Ray Akhurst, Nick Hagan, Thomas J.V. Higgins

Differential accumulation of three classes of glutelin proteins and a globulin in sunflower seed albumin (SSA) transgenic rice seeds were observed with 2-DE. Sulfur nutrition did not affect the accumulation of SSA but the levels of four identified glutelins and the globulin were lower in transgenic seeds compared to non-transgenic seeds. Such re-allocation of sulfur reserves from endogenous proteins to the sulfur sink in transgenic grain is suggestive of a transcriptional control of sulfur mobilization in plants.



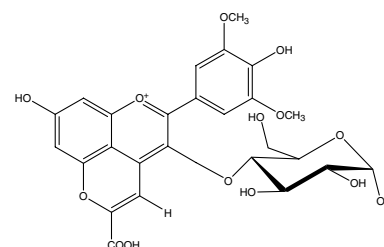
METABOLISM

Anthocyanins from red wine – Their stability under simulated gastrointestinal digestion

pp 2540–2548

G.J. McDougall*, S. Fyffe, P. Dobson, D. Stewart

Vitisin A anthocyanin derivatives from red wine were more stable to in vitro gastrointestinal digestion than their parent anthocyanins.



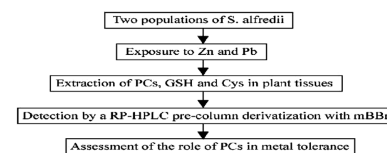
ECOLOGICAL BIOCHEMISTRY

Increase of glutathione in mine population of *Sedum alfredii*: A Zn hyperaccumulator and Pb accumulator

pp 2549–2556

Q. Sun, Z.H. Ye, X.R. Wang, M.H. Wong*

Sedum alfredii is a new Zn hyperaccumulator and Pb accumulator found at an old Pb/Zn mine in China. Phytochelatin and other low molecular weight thiols were examined in tissue parts of the mine and control plants of *S. alfredii* exposed to Zn and Pb using a RP-HPLC pre-column derivatization with monobromobimane (mBBBr).



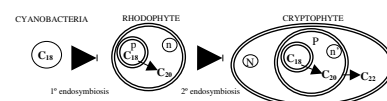
CHEMOTAXONOMY

Cryptophyceae and rhodophyceae; chemotaxonomy, phylogeny, and application

pp 2557–2570

Graeme A. Dunstan*, Malcolm R. Brown, John K. Volkman

It is postulated that the primary endosymbiosis of a photosynthetic $n - 3$ C₁₈ PUFA-producing prokaryotic cyanobacteria and a eukaryotic host capable of chain elongation and desaturation of exogenous PUFA, resulted in the Rhodophyceae capable of producing $n - 3$ C₂₀ PUFA. The secondary endosymbiosis of a photosynthetic C₂₀ PUFA-producing eukaryote (a rhodophyte) and a eukaryotic host capable of further chain elongation and desaturation, resulted in the Cryptophyceae, capable of producing both $n - 3$ C₂₀ and C₂₂ PUFA de novo.



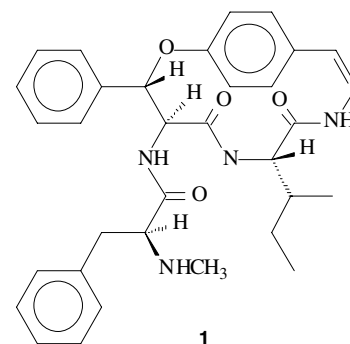
BIOACTIVE PRODUCTS

Cyclopeptide alkaloids from *Scutia buxifolia* Reiss and their antimicrobial activity

pp 2571–2576

Ademir F. Morel*, Graciela Maldaner, Vinicius Ilha, Fabiana Missau, Ubiratan F. Silva, Ionara I. Dalcol

The chemical investigation of the methanolic root bark extract of *Scutia buxifolia* Reiss (Rhamnaceae) afforded a cyclopeptide alkaloid named Scutianine M (**1**) along with six known compounds. The antimicrobial activity of the isolated compounds was investigated towards Gram (+), Gram (−) bacteria, and yeasts.

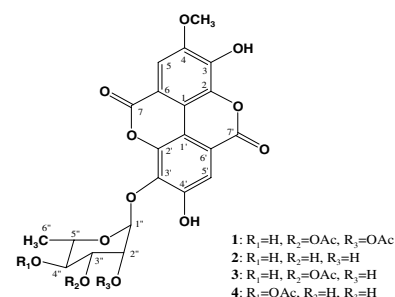


Anti-babesial ellagic acid rhamnosides from the bark of *Elaeocarpus parvifolius*

pp 2577–2580

A. Elkhateeb, Subeki, K. Takahashi, H. Matsuura*, M. Yamasaki, O. Yamato, Y. Maede, K. Katakura, T. Yoshihara, K. Nabeta

4-*O*-Methylellagic acid 3'- α -rhamnoside (**2**), 4-*O*-methylellagic acid 3'-(3''-*O*-acetyl)- α -rhamnoside (**3**), and 4-*O*-methylellagic acid 3'-(4''-*O*-acetyl)- α -rhamnoside (**4**) in addition to the known ellagic acid derivative, 4-*O*-methylellagic acid 3'-(2'',3''-di-*O*-acetyl)- α -rhamnoside (**1**), were isolated from *Elaeocarpus parvifolius* as anti-babesial ingredients.



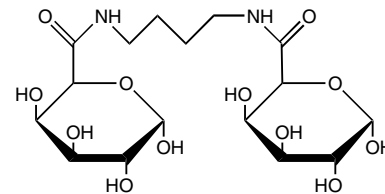
CHEMISTRY

Do polyamines contribute to plant cell wall assembly by forming amide bonds with pectins?

pp 2581–2594

Marcello Lenucci, Gabriella Piro, Janice G. Miller, Giuseppe Dalessandro, Stephen C. Fry*

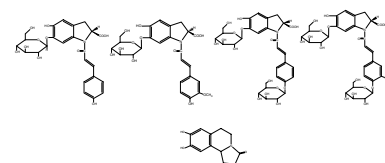
Model compounds possessing galacturonate–putrescine amide bonds (e.g., GalA–Put–GalA; illustrated), were synthesised and characterised. Methods were devised by which to search for their natural occurrence. In the cell walls of cultured *Rosa* and *Arabidopsis* cells and of chickpea internodes, amide bonds between pectin and putrescine, spermidine or spermine are (if present at all) very minor components.

**Alkaloids from *Portulaca oleracea* L.**

pp 2595–2601

Lan Xiang, Dongming Xing, Wei Wang, Rufeng Wang, Yi Ding, Lijun Du*

Five alkaloids (oleraceins A, B, C, D and E) were isolated from *Portulaca oleracea* L., together with other known constituents including *p*-coumaric acid, ferulic acid and adenosine.



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* Corresponding author

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