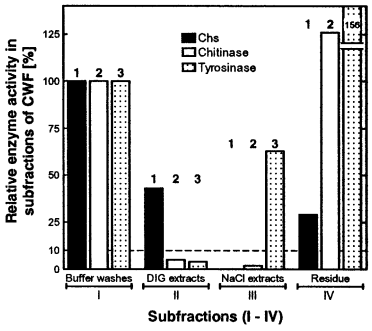
Phytochemistry, 2003, **64**, 339

Cell wall-associated enzymes in fungi

Dora M. Rast[a], Daniel Baumgartner[b], Christoph Mayer[c], G.O. Hollenstein[a]

[a]*Department of Plant Biology, University of Zürich, CH-8008 Zürich, Switzerland*
[b]*Swiss Federal Research Station for Fruit-Growing, Viticulture and Horticulture, CH-8820 Wädenswil, Switzerland*
[c]*Department of Biology, University of Konstanz, D-78457 Konstanz, Germany*

The identity, compartmentation in muro and presumptive function of fungal wall-associated enzymes (WAEs) have been reviewed. A facile and rapid fractionation protocol for WAEs is presented, which has been applied, inter alia, to chitin synthase (1), chitinase (2), and tyrosinase (3).



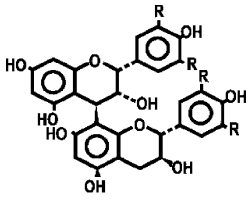
Phytochemistry, 2003, **64**, 367

New perspectives on proanthocyanidin biochemistry and molecular regulation

M.A. Susan Marles, Heather Ray, Margaret Y. Gruber

Saskatoon Research Centre, Agriculture and Agri-Food Canada, 107 Science Place, Saskatoon, SK, Canada S7N 0X2

The ability to manipulate proanthocyanidin synthesis was recently extended by several exciting developments. New stereo-specific structural genes (leucoanthocyanidin reductase and anthocyanidin reductase), a vacuolar transport gene and six regulatory genes are reviewed. Leucocyanidin reductase activity and the levels of proanthocyanidin accumulation have been increased in alfalfa forage.



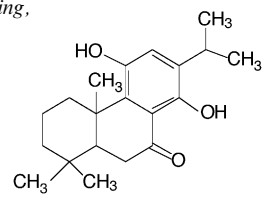
Phytochemistry, 2003, **64**, 385

Terpenoids in *Buddleja*: relevance to chemosystematics, chemical ecology and biological activity

Peter J. Houghton, Abraham Y. Mensah, Noha Iessa, Liao Yong Hong

Pharmacognosy Research Laboratories, Department of Pharmacy, King's College London, Franklin-Wilkins Building, 150 Stamford Street, London SE1 9NN, UK

The value of the terpenoids in *Buddleja* in taxonomy, ecological interactions and medicinal uses is discussed.



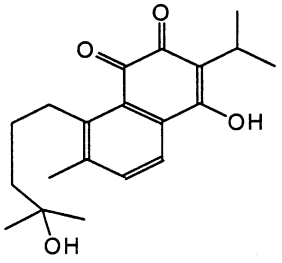
Phytochemistry, 2003, **64**, 395

Cardioactive and antibacterial terpenoids from some *Salvia* species

Ayhan Ulubelen

Faculty of Pharmacy, Istanbul University, 34119 Istanbul, Turkey

Cardioactive and antibacterial diterpenoids were isolated from seven *Salvia* species of Turkish origin.

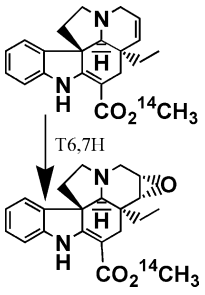


Phytochemistry, 2003, **64**, 401

Jasmonate-induced epoxidation of tabersonine by a cytochrome P-450 in hairy root cultures of *Catharanthus roseus*

Sylvain Rodriguez[a], Vincent Compagnon[b], Nicholas P. Crouch[c], Benoit St-Pierre[d], Vincenzo De Luca[e]

[a]*Service de l'environnement et de l'énergie, Les Croisettes, CP 33 1066 Epalinges, Switzerland*
[b]*IBMP-CNRS, 12 rue du Général Zimmer, 67084 Strasbourg, France*
[c]*Brookes Bell Jarrett Kirman, 14 Horsleydown Lane, Tower Bridge, London SE1 2LN, UK*
[d]*Laboratoire de Physiologie Végétale, E.A. 2106 "Biomolécules et Biotechnologies Végétales", U.F.R. des Sciences et Techniques, Université de Tours, Parc de Grandmont, 37200 Tours, France*
[e]*Biology Department, Brock University, 500 Glenridge Avenue, St Catharines, ON, Canada, L2S 3A1*



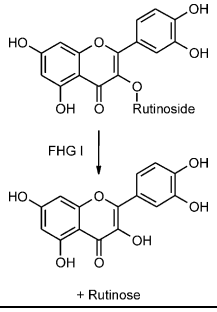
Methyl jasmonate promoted tabersonine biosynthesis in hairy root cultures of *Catharanthus roseus*. Tabersonine 6,7-epoxidase activity in microsomes was inhibited by carbon monoxide, clotrimazole, miconazole, and cytochrome C, indicating that the enzyme was a cytochrome P-450-dependent monooxygenase.

Phytochemistry, 2003, **64**, 411

Purification and characterization of a flavonol 3-*O*-β-heterodisaccharidase from the dried herb of *Fagopyrum esculentum* Moench

Andreas Baumgertel[a], Rudi Grimm[b], Wilhelm Eisenbeiß[a], Wolfgang Kreis[a]

[a]*Lehrstuhl für Pharmazeutische Biologie, Friedrich-Alexander-Universität Erlangen-Nürnberg, Staudtstrasse 5, 91058 Erlangen, Germany*
[b]*TOPLAB Gesellschaft für angewandte Biotechnologie, Am Klopferspitz 19, 82152 Martinsried, Germany*



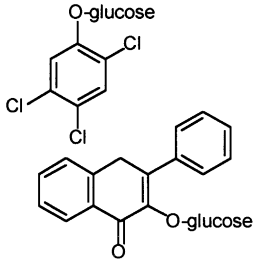
A flavonol-3-*O*-β-heterodisaccharide glycosidase (FHG I) was isolated from dried overground parts of *Fagopyrum esculentum* Moench. FHG I is a monomeric glycoprotein with a carbohydrate content of 23% and a molecular mass of 74.5 kDa.

Phytochemistry, 2003, **64**, 419

Partial purification and characterisation of a 2,4,5-trichlorophenol detoxifying *O*-glucosyltransferase from wheat

Melissa Brazier[a], David J. Cole[b], Robert Edwards[a]

[a]*Crop Protection Group, University of Durham, Durham DH1 3LE, UK*
[b]*Aventis Crop Science, Fyfield Road, Ongar, Essex CM5 OHW, UK*



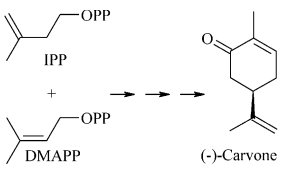
A UDP–glucose-dependent *O*-glucosyltransferase from wheat with activity toward 2,4,5-trichlorophenol also catalyses the 3-*O*-glucosylation of flavonoids.

Phytochemistry, 2003, **64**, 425

Monoterpene biosynthesis pathway construction in *Escherichia coli*

Ora A. Carter, Reuben J. Peters, Rodney Croteau

Institute of Biological Chemistry, and Plant Physiology Program, Washington State University, Pullman, WA 99164-6340, USA



The four step pathway for the biosynthesis of (−)-carvone from primary metabolites was installed in *Escherichia coli* to determine the capacity of the microbial host for producing plant monoterpenes.

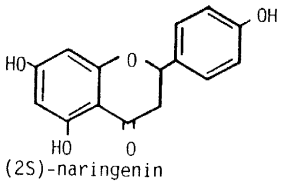
Phytochemistry, 2003, **64**, 435

Flavanone 3-hydroxylase expression in *Citrus paradisi* and *Petunia hybrida* seedlings

Jennifer L. Pelt[a], W. Andrew Downes[a], Robert V. Schoborg[b], Cecilia A. McIntosh[a]

[a]*Department of Biological Sciences, Box 70703, East Tennessee State University, Johnson City, TN 37614, USA*
[b]*Department of Microbiology, James H. Quillen College of Medicine, East Tennessee State University, Johnson City, TN 37614, USA*

Quantification of flavanone-3-hydroxylase (F3H) mRNA in petunia and grapefruit seedlings at different developmental stages indicates that differential metabolism of naringenin into flavanone glycosides by grapefruit and flavonols/anthocyanins by petunia is not due to lower levels of F3H transcription in grapefruit tissues.



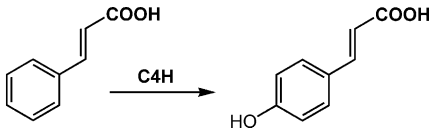
Phytochemistry, 2003, **64**, 445

Functional expression of cinnamate 4-hydroxylase from *Ammi majus* L.

Silvia Hübner, Marc Hehmann, Stephan Schreiner, Stefan Martens, Richard Lukačin, Ulrich Matern

Institut für Pharmazeutische Biologie, Philipps-Universität Marburg, Deutschhausstrasse 17 A, D-35037 Marburg, Germany

Cinnamic acid 4-hydroxylase (C4H) was cloned from elicited *A. majus* cells and functionally expressed in yeast cells. The polypeptide shows 98.6% sequence identity with the C4H from parsley.



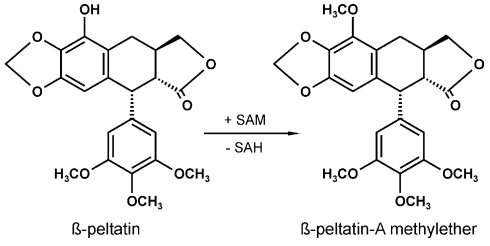
Phytochemistry, 2003, **64**, 453

β-Peltatin 6-*O*-methyltransferase from suspension cultures of *Linum nodiflorum*

Kerstin Kranz, Maike Petersen

Institut für Pharmazeutische Biologie, Philipps-Universität Marburg, Deutschhausstr. 17A, D-35037 Marburg, Germany

The S-adenosyl-L-methionine-dependent β-peltatin 6-*O*-methyltransferase from cell suspension cultures of *Linum nodiflorum* (Linaceae) was isolated and characterized.



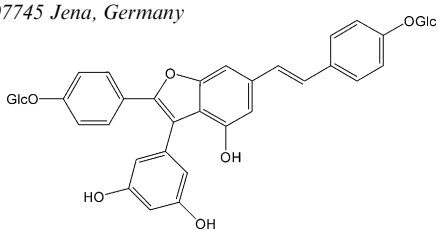
Phytochemistry, 2003, **64**, 459

Differentiation-dependent levels of benzofuran-type resveratrol dimers in root cultures of *Anigozanthos preissii*

Bernd Schneider

Max-Planck-Institut für Chemische Ökologie, Beutenberg Campus, Winzerlaer Strasse 10, D-07745 Jena, Germany

The level of secondary compounds of *Anigozanthos* root cultures depends on the differentiation state of the plant tissue. Three new glucosides of anigopreissin A, a benzofuran-type resveratrol dimer, were isolated and their structures elucidated by NMR and MS.



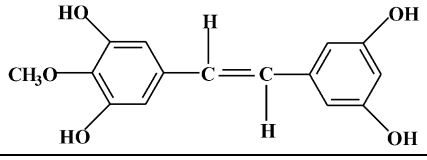
Phytochemistry, 2003, **64**, 463

Antioxidant and insect growth regulatory activities of stilbenes and extracts from *Yucca periculosa*

Patricio Torres[a], J. Guillermo Avila[b], Alfonso Romo de Vivar[c], Ana M. García[b], Juan C. Marín[c], Eduardo Aranda[d], Carlos L. Céspedes[c]

[a]*Botany Department, Faculty of Natural Sciences and Oceanography, University of Concepción, Concepción, Chile*
[b]*UBIPRO FES Iztacala, Universidad Nacional Autónoma de México, Coyoacán 04510, Mexico D.F., Mexico*
[c]*Chemical Ecology Laboratory, Chemistry Institute, Universidad Nacional Autónoma de México. Coyoacán 04510, Mexico D.F., Mexico*
[d]*Biological Control Laboratory, Biotechnology Center, Universidad Autonoma del Estado de Morelos, Cuernavaca, Mexico*

Stilbenes could be involved in the interference of the sclerotization and moulting properties, and appear to have selective effects on the pre-emergence metabolism of the insect.



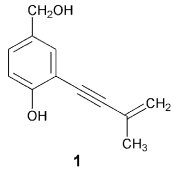
Phytochemistry, 2003, **64**, 475

Phenolic and heterocyclic metabolite profiles of the grapevine pathogen *Eutypa lata*

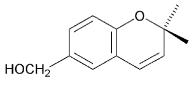
Noreen Mahoney[a], Richard Lardner[b], Russell J. Molyneux[a], Eileen S. Scott[b], Leverett R. Smith[a], Thomas K. Schoch[a]

[a]*Western Regional Research Center, Agricultural Research Service, US Department of Agriculture, 800 Buchanan Street, Albany, CA 94710, USA*
[b]*Cooperative Research Centre for Viticulture (CRCV), PO Box 154, and Department of Applied and Molecular Ecology, Adelaide University (Waite Campus), PMB1, Glen Osmond, South Australia 5064*

Eutypinol (**1**) and eulatachromene (**2**), were the most abundant metabolites produced by different isolates of *Eutypa lata* grown on grapewood aqueous extract. Eutypinol was not phytotoxic in a grapeleaf disc bioassay but eulatachromene produced necrosis.



1



2

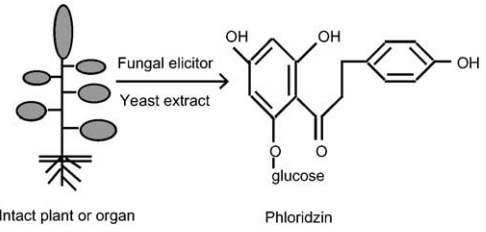
Phytochemistry, 2003, **64**, 485

Response of scab-susceptible (McIntosh) and scab-resistant (Liberty) apple tissues to treatment with yeast extract and *Venturia inaequalis*

Geza Hrazdina

Department of Food Science and Technology, Cornell University, NYSAES, 630 W, North St., Geneva, NY 14456, USA

Yeast extract or fungal elicitor treated scab resistant apple cell cultures produce biphenyl and dibenzofuran phytoalexins, while intact plants or organs accumulate phloridzin, phloretin, cinnamyl glucose, *p*-coumaric or *p*-coumarylquinic acids.



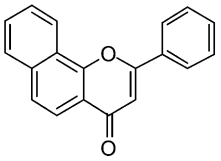
Phytochemistry, 2003, **64**, 493

7,8-Benzoflavone: a phytotoxin from root exudates of invasive Russian knapweed

Frank R. Stermitz[a], Harsh Pal Bais[b], Tommaso A. Foderaro[c], Jorge M. Vivanco[b]

[a]*Department of Chemistry, Colorado State University, Fort Collins, CO 80523-1872, USA*
[b]*Department of Horticulture and Landscape Architecture, Graduate Degree Program in Ecology, Colorado State University, Fort Collins, CO 80523-1173, USA*
[c]*Roche Colorado Corporation, 2075 North 55th Street, Boulder, CO 80301, USA*

7,8-Benzoflavone is exuded from roots of *Acroptilon repens* grown in vitro and is phytotoxic to a variety of weed species. Flavone was also shown to be phytotoxic.

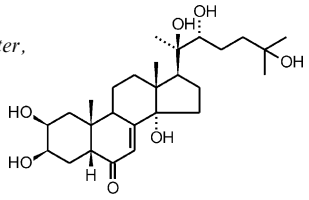


Phytochemistry, 2003, **64**, 499

Distribution of phytoecdysteroids in the Caryophyllaceae

Larisa Zibareva[a], Vladimir Volodin[b], Zyadilla Saatov[c], Tamara Savchenko[d], Pensri Whiting[d], René Lafont[e], Laurence Dinan[d]

[a]*Laboratory of Phytochemistry, Siberian Botanical Garden, State University of Tomsk, Tomsk 634050, Russia*
[b]*Institute of Biology, Komi Science Centre, Russian Academy of Sciences, 167610 Syktyvkar, Russia*
[c]*Institute of Plant Chemistry, Academy of Sciences of Uzbekistan, 700170 Tashkent, Uzbekistan*
[d]*Department of Biological Sciences, University of Exeter, Hatherly Laboratories, Prince of Wales Road, Exeter, Devon EX4 4PS, UK*
[e]*Laboratoire d'Endocrinologie Moléculaire et Evolution, Université Pierre et Marie Curie, IFR 83, EA 3501, 7 Quai St. Bernard, 75252 Paris 05, France*



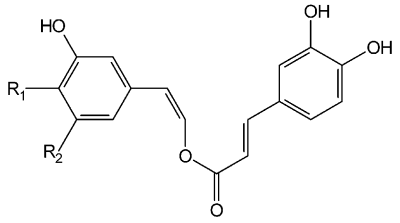
The distribution of ecdysteroids in members of the Caryophyllaceae is surveyed and their value as chemotaxonomic markers assessed.

Phytochemistry, 2003, **64**, 519

The chemotaxonomic significance of two bioactive caffeic acid esters, nepetoidins A and B, in the Lamiaceae

Renée J. Grayer, Maria R. Eckert, Nigel C. Veitch, Geoffrey C. Kite, Petar D. Marin, Tetsuo Kokubun, Monique S.J. Simmonds, Alan J. Paton

Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AB, UK



1: $R_1 = H$, $R_2 = OH$
2: $R_1 = OH$, $R_2 = H$

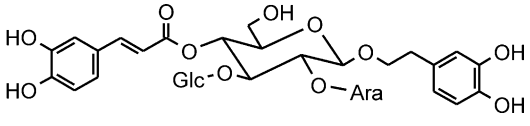
(*Z,E*)-[2-(3,5-dihydroxyphenyl)ethenyl]3-(3,4-dihydroxyphenyl)-2-propenoate (**1**) and (*Z,E*)-[2-(3,4-dihydroxyphenyl)ethenyl]3-(3,4-dihydroxyphenyl)-2-propenoate (**2**) were detected in leaf surface extracts of the great majority of species investigated for subfamily Nepetoideae of the Lamiaceae, whereas they were absent from species of the other subfamilies examined. Hence they are of chemotaxonomic significance. Compound **2** showed a high antioxidant activity.

Phytochemistry, 2003, **64**, 529

Aragoside and iridoid glucosides from *Aragoa cundinamarcensis*

Nina Rønsted[a], Maria Angelica Bello[b], Søren Rosendal Jensen[c]

[a]*Jodrell Laboratory, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3DS, UK*
[b]*Instituto de Ciencias Naturales, Universidad Nacional de Colombia, AA. 7495, Bogota, Colombia*
[c]*Department of Chemistry, The Technical University of Denmark, DK-2800 Lyngby, Denmark*



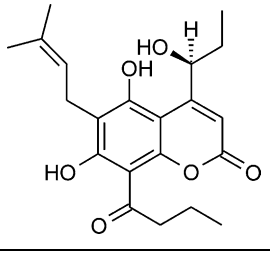
In a chemical investigation of *Aragoa cundinamarcensis* both iridoid glucosides and a new caffeoyl phenylethanoid triglycoside were isolated. The garniture of compounds was very similar to that previously known from *Plantago* and *Veronica*, supporting the close relationship between these taxa.

Phytochemistry, 2003, **64**, 535

Biologically active alkylated coumarins from *Kayea assamica*

Kyung-Hee Lee[a], Hee-Byung Chai[a], Pamela A. Tamez[a], John M. Pezzuto[a], Geoffrey A. Cordell[a], Khin Khin Win[c], Maung Tin-Wa[b]

[a]*Program for Collaborative Research in the Pharmaceutical Sciences and Department of Medicinal Chemistry and Pharmacognosy, College of Pharmacy, University of Illinois at Chicago, IL 60612, USA*
[b]*PharmChem, Inc., 2281 Golden Circle, Newport Beach, CA 92660, USA*
[c]*Myanmar Medicinal Plants Conservation (MMPC) Group, Myanmar*



Theraphins A, B, C, and D, were isolated as cytotoxic principles from the bark of *Kayea assamica* (Clusiaceae) native to Myanmar.

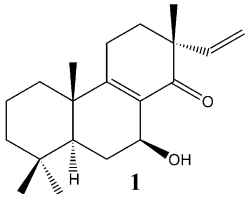
Phytochemistry, 2003, **64**, 543

Antifungal isopimaranes from *Hypoestes serpens*

L. Rasoamiaranjanahary[a,b], D. Guilet[a], A. Marston[a], F. Randimbivololona[b], K. Hostettmann[a]

[a]*Institut de Pharmacognosie et Phytochimie, Université de Lausanne, CH-1015 Lausanne, Switzerland*
[b]*Laboratoire de Pharmacologie Générale et de Pharmacocinétique, Université d'Antananarivo, BP 8351, 101 Antananarivo, Madagascar*

From the leaves of *Hypoestes serpens*, five antifungal isopimarane diterpenoids were isolated. Their structures were elucidated by detailed spectral analysis.



1

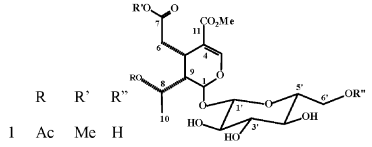
Phytochemistry, 2003, **64**, 549

seco-Iridoids from *Calycophyllum spruceanum* (Rubiaceae)

Luz Margarita Cardona Zuleta[a], Alberto José Cavalheiro[a], Dulce Helena Siqueira Silva[a], Maysa Furlan[a], Maria Claudia Marx Young[b], Sérgio Albuquerque[c], Ian Castro-Gamboa[a], Vanderlan da Silva Bolzani[a]

[a]*NuBBE-Núcleo de Bioensaios, Biossíntesse e Ecofisiologia de Produtos Naturais, Instituto de Química, Universidade Estadual Paulista, CP 355, CEP 14801-970, Araraquara, São Paulo, Brazil*
[b]*Seção de Fisiologia e Bioquímica de Plantas, Instituto de Botânica, CP 4005, CEP 10051, São Paulo, Brazil*
[c]*Faculdade de Ciências Farmacêuticas, Universidade de São Paulo, Avenida do Café, 14040-903, Ribeirão Preto, São Paulo, Brazil*

Three *seco*-iridoids 7-methoxydiderroside, 6′-*O*-acetyldiderroside and 8-*O*-tigloyldiderroside, were isolated from the wood bark of *Calycophyllum spruceanum* together with the known iridoids loganetin, loganin and the *seco*-iridoids secoxyloganin, kingiside and diderroside. Some of these micromolecules showed weak in vitro activity against trypomastigote forms of *Trypanosoma cruzi*.



	R	R'	R"
1	Ac	Me	H
2	Ac	H	Ac
3		H	H

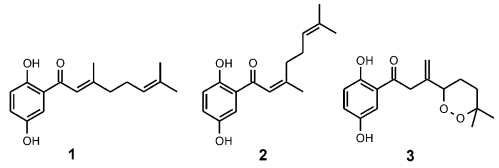
Phytochemistry, 2003, **64**, 555

Antifungal flavanones and prenylated hydroquinones from *Piper crassinervium* Kunth

Ana Paula Danelutte[a], João Henrique G. Lago[a], Maria Claudia M. Young[b], Massuo J. Kato[a]

[a]*Instituto de Química, Universidade de São Paulo, C.P. 26077, CEP 05599-970, São Paulo, SP, Brazil*
[b]*Seção de Fisiologia e Bioquímica de Plantas, Instituto de Botânica, CP 4005, CEP 10051, São Paulo, SP, Brazil*

Bioactivity-guided fractionation of the leaves extract from *Piper crassinervium* resulted in the isolation of three antifungal prenylated hydroquinones (**1**–**3**) together with two known antifungal flavanones.



Phytochemistry, 2003, **64**, 561

Composition and antimicrobial activity of the essential oils from invasive species of the Azores, *Hedychium gardnerianum* and *Pittosporum undulatum*

Jorge R. Medeiros[a], Lurdes B. Campos[b], Susana C. Mendonça[b], Laurence B. Davin[c], Norman G. Lewis[c]

[a]*Centro de Investigação de Recursos Naturais, Universidade dos Açores, 9502 Ponta Delgada, Açores, Portugal*
[b]*Instituto de Inovação Tecnológica dos Açores, Estrada de São Gonçalo, 9504-540 Ponta Delgada, Açores, Portugal*
[c]*Institute of Biological Chemistry, Washington State University, PO Box 646340, Pullman, WA 99164-6340, USA*

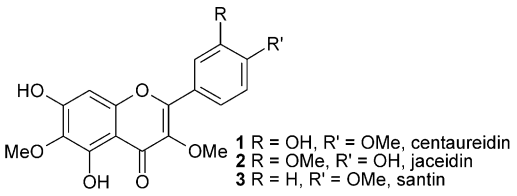
The major terpenoid components of the essential oils of the invasive plant species, *Hedychium gardnerianumn* leaf and floral tissues and *Pittosporum undulatum* leaf tissues were identified. Essential oils from *H. gardnerianumn* were active against *Staphylococcus aureus*, *S. epidermis*, whereas *P. undulatum* oils had antithrombin activity.

Phytochemistry, 2003, **64**, 567

Bioactive flavonoids of *Tanacetum parthenium* revisited

Christophe Long[a], Pierre Sauleau[a], Bruno David[a], Catherine Lavaud[b], Valérie Cassabois[c], Frédéric Ausseil[c], Georges Massiot[a]

[a]*UMR CNRS 1973, Institut de Recherche Pierre Fabre, 3, rue Ariane, 31527, Ramonville, France*
[b]*UMR CNRS 6013, Laboratoire de Pharmacognosie, Université de Reims Champagne-Ardenne, Bâtiment 18- BP 1039- 51097 Reims cedex 2, France*
[c]*UMR CNRS 5089, Institut de Pharmacologie et de Biologie Structurale, 205, route de Narbonne, 31077 Toulouse, France*



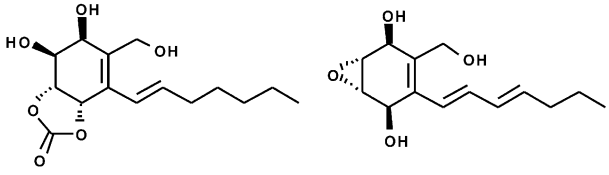
Bio-guided fractionation of an extract from Tanacetum parthenium showing activity as mitotic blocker allowed the isolation and identification of santin **3**, jaceidin **2** and centaureidin **1**. The latter two closely related flavonols, which, to the best of our knowledge, are isolated here together for the first time, form a mixture difficult to resolve and which is probably the reason for the confusion in the literature regarding their occurrence. Centaureidin **1** had an IC50 of 1 μM while jaceidin **2** and santin **3** were 200 times less active.

Phytochemistry, 2003, **64**, 571

A cyclic carbonate and related polyketides from a marine-derived fungus of the genus *Phoma*

Zimin Liu, Paul R. Jensen, William Fenical

Center for Marine Biotechnology and Biomedicine, Scripps Institution of Oceanography, University of California-San Diego, La Jolla, CA 92093-0204, USA



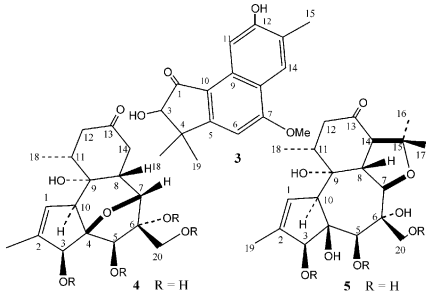
Phytochemistry, 2003, **64**, 575

Diterpenoids from *Neoboutonia glabrescens* (Euphorbiaceae)

Alembert T. Tchinda[a], Apollinaire Tsopmo[a], Mathieu Tene[a], Pierre Kamnaing[a], David Ngnokam[a], Pierre Tane[a], Johnson F. Ayafor[a], Joseph D. Connolly[b], Louis J. Farrugia[b]

[a]*Department of Chemistry, University of Dschang, Box 67, Dschang, Cameroon*
[b]*Chemistry Department, The University of Glasgow G12 8QQ, Scotland, UK*

Glabrescin, a daphnane diterpenoid, neoboutonin (**3**), a degraded diterpenoid with a novel skeleton, and neoglabrescins A (**4**) and B (**5**), two rhamnofolane derivatives, have been isolated from the stem bark of *Neoboutonia glabrescens*.



Phytochemistry, 2003, **64**, 583

Furanonaphthoquinones, atraric acid and a benzofuran from the stem barks of *Newbouldia laevis*

Rainer Gormann[a], Maki Kaloga[a], Xing-Cong Li[b], Daneel Ferreira[b], Dieter Bergenthal[c], Herbert Kolodziej[a]

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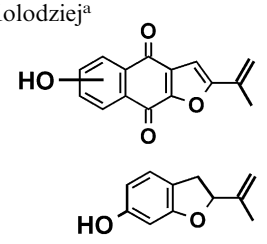
[b]*NCNPR, School of Pharmacy, The University of Mississippi, University, MS38677, USA*
[c]*Institut für Pharmazeutische Chemie, Universität Münster, D-48149 Münster, Germany*



The series of naturally occurring furanonaphthoquinones is extended by identification of the derivatives 2-(1′-methylethenyl)-5-hydroxynaphtho[2,3-*b*]furan-4,9-dione and 2-(1′-methylethenyl)-7-hydroxy-naphtho[2,3-*b*]furan-4,9-dione. They are accompanied in the stem barks of *Newbouldia laevis* by the rare atraric acid and the new 2-(1′-methylethenyl)-6-hydroxy-2,3-benzofuran. The structures of these compounds were established from spectroscopic studies.

Phytochemistry, 2003, **64**, 589

Acylated flavonol glycosides from leaves of *Planchonia grandis*

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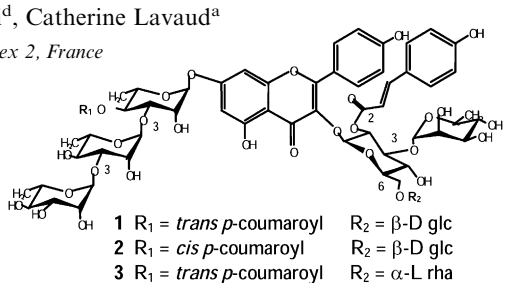
[b]*Laboratoires Pierre Fabre, CRSN, UMR CNRS 1973, 3 rue Ariane, Parc Technologique du Canal—31527 Ramonville, France*
[c]*ICSN, UPR 2031 CNRS, avenue de la Terrasse, 91198, Gif-sur-Yvette cedex, France*
[d]*Faculty of Science, Department of Chemistry, University of Malaya, 59100 Kuala Lumpur, Malaysia*

Three acylated kaempferol glycosides have been identified from leaves of *Planchonia grandis* Ridl. The first unit of each triglycosidic chain is esterified by a *cis* or *trans* *p*-coumaric acid. Their structures were established by spectral evidence.



1 R_1 = *trans p*-coumaroyl R_2 = β-D glc
2 R_1 = *cis p*-coumaroyl R_2 = β-D glc
3 R_1 = *trans p*-coumaroyl R_2 = α-L rha

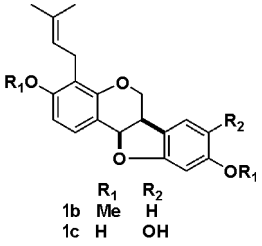
Phytochemistry, 2003, **64**, 595

Pterocarpans from *Bituminaria morisiana* and *Bituminaria bituminosa*

Luisa Pistelli[a], Cecilia Noccioli[a], Giovanni Appendino[b], Federica Bianchi[b], Olov Sterner[c], Mauro Ballero[d]

[a]*Dipartimento di Chimica Bioorganica e Biofarmacia, 56126 Pisa, Italy*
[b]*Dipartimento di Scienze Chimiche, Alimentari, Farmaceutiche e Farmacologiche, Viale Ferrucci 33, 28100 Novara, Italy*
[c]*Department of Organic and Bioorganic Chemistry, Lund University, PO Box 124, 221 00 Lund, Sweden*
[d]*Dipartimento di Scienze Botaniche, Viale San Ignazio 13, 09123 Cagliari, Italy*

The title plants, once part of the genus *Psoralea*, accumulate pterocarpans, including compounds **1b** and **1c**, supporting their inclusion into the distinct genus *Bituminaria*.



	R_1	R_2
1b	Me	H
1c	H	OH

Phytochemistry, 2003, **64**, 599

Three isoflavanones with cannabinoid-like moieties from *Desmodium canum*

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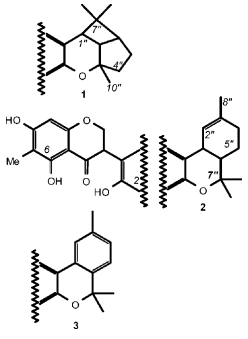
[a]*Dipartimento di Studi di Chimica e Tecnologia delle Sostanze Biologicamente Attive, Università "La Sapienza", P.le A. Moro 5, 00185 Rome, Italy*
[b]*Center Research for Chemistry, Hungarian Academy of Sciences, H-1525 Budapest, Hungary*
[c]*Dipartimento di Agrochimica e Agrobiologia, Università della Tuscia, 01100 Viterbo, Italy*
[d]*Centro di Chimica del Riconoscimento Molecolare, Sezione di Roma, Largo F. Vito 1, 00168 Rome, Italy*

Three isoflavanones were isolated from the methylene chloride extract of the roots of *Desmodium canum*.



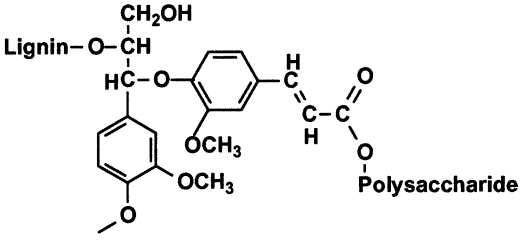
Phytochemistry, 2003, **64**, 603

Hot alkali-labile linkages in the walls of the forage grass *Phalaris aquatica* and *Lolium perenne* and their relation to in vitro wall digestibility

Thi Bach-Tuyet Lam[a], Kenji Iiyama[b], Bruce A. Stone[a]

[a]*Department of Biochemistry, La Trobe University, Bundoora, 3086 Victoria, Australia*
[b]*Asian Natural Environmental Science Center, University of Tokyo, Yayoi, Bunkyo-ku, Tokyo 113-8657, Japan*

Hydroxycinnamic acid ester–ether bridges between polysaccharide and lignin in the cell walls of grasses are important determinants of their digestibility by polysaccharide hydrolases.



Phytochemistry, 2003, **64**, 609

Alkaloids and limonoids from *Bouchardatia neurococca*: systematic significance

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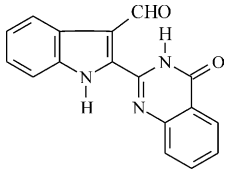
[b]*Department of Pharmacognosy and Pharmaceutical Botany, Prince of Songkla University, Hat Yai, Songkla, Thailand 90112*
[c]*Queensland Herbarium, Environmental Protection Agency, Brisbane Botanic Gardens, Mt Coot-tha Road, Toowong, Qld 4066, Australia*



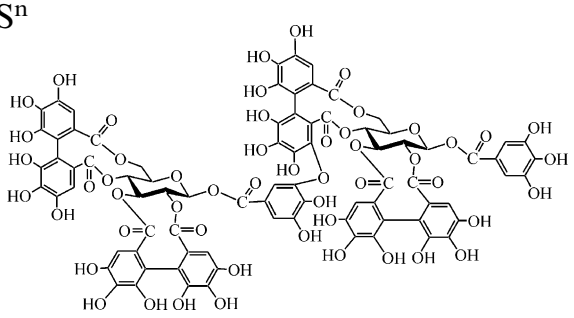
Five alkaloids, four β-indoloquinazoline and one furoquinoline, and four terpenoids, three limonoids and one modified sesquiterpene, have been obtained from the aerial parts of *Bouchardatia neurococca* (Rutaceae). The pattern of secondary metabolites isolated is rather unusual in the Rutaceae and is reminiscent of *Tetradium*, a genus with which *Bouchardatia* has not previously been associated.

Phytochemistry, 2003, **64**, 617

Analysis of ellagitannins and conjugates of ellagic acid and quercetin in raspberry fruits by LC–MS^n

William Mullen[a], Takao Yokota[b], Michael E.J. Lean[c], Alan Crozier[a]

[a]*Plant Products and Human Nutrition Group, Graham Kerr Building, Division of Biochemistry and Molecular Biology, Institute of Biomedical and Life Sciences, University of Glasgow, Glasgow G12 8QQ, UK*
[b]*University of Glasgow Department of Human Nutrition, Queen Elizabeth Building, Royal Infirmary, Glasgow G31 2ER, UK*
[c]*Department of Bioscience, Teikyo University, Utsunomiya 320-8551, Japan*



LC–MS^n can be used to identify trace levels of ellagitannins and conjugates of ellagic acid and quercetin in raspberries.

Phytochemistry, 2003, **64**, 625

A linear sesterterpene, two squalene derivatives and two peptide derivatives from *Croton hieronymi*

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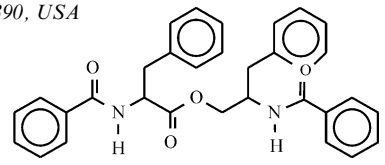
[a]*Instituto de Química Orgánica, Facultad de Bioquímica, Química y Farmacia, Universidad Nacional de Tucumán, Ayacucho 491, 4000 S. M. de Tucumán, Argentina*
[b]*Department of Chemistry and Biochemistry, The Florida State University, Tallahassee, FL 32306-4390, USA*



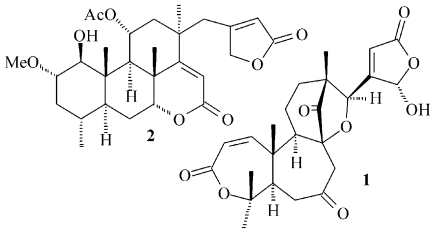
Aerial parts of *Croton hieronymi* furnished the C-25 analog of phytol, two squalene derivatives and the peptide derivatives aurentiamide acetate and *N*-benzoylphenylalanyl-*N*-benzoylphenylalaninate.

Phytochemistry, 2003, **64**, 631

Secondary metabolites from *Cedrelopsis grevei* (Ptaeroxylaceae)

Dulcie A. Mulholland[a], Dashnie Naidoo[a], Milijaona Randrianarivelojosia[a,b], Peter K. Cheplogoi[a], Philip H. Coombes[a]

[a]*Natural Products Research Group, School of Pure and Applied Chemistry, University of Natal, Durban, 4041, South Africa*
[b]*Malaria Research Group, BP 1274- Antananarivo (101)- Institut Pasteur de Madagascar, Madagascar*



The triterpenoid derivative, cedashnine **1** and the quassinoid, cedphiline **2**, together with cedmiline, scoparone, β-amyrin and sitosteryl glucoside have been isolated from the stem bark of *Cedrelopsis grevei*.

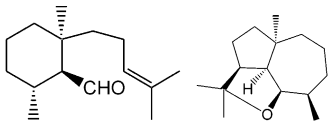
Phytochemistry, 2003, **64**, 637

Volatile constituents in the liverwort *Tritomaria polita*

Adewale Martins Adio[a], Claudia Paul[b], Wilfried A. König[a], Hermann Muhle[c]

[a]*Institut für Organische Chemie, Universität Hamburg, Martin-Luther-King-Platz 6, D-20146 Hamburg, Germany*
[b]*Thetis-IBN GmbH, Notkestrasse 85, D-22607 Hamburg, Germany*
[c]*Abteilung Systemqtische Botanik und Ökologie, Universität Ulm, D-89081 Ulm, Germany*

The sesquiterpenoids (+)-eudesma-3,11-dien-8-one (**1**), (+)-eudesma-3,7(11)-dien-8-one (**2**), (+)-6,11-epoxy-eudesmane (**6**), (-)-6,7-*seco*-eudesm-7(11)-en-6-al (**8**), (+)-6β-hydroxy-eudesm-11-ene (**10**), (-)-6α-hydroxy-eudesm-11-ene (**11**) and (+)-6,11-epoxy-isodaucane (**12**) could be identified in the essential oil of the liverwort *Tritomaria polita*.



8 **12**

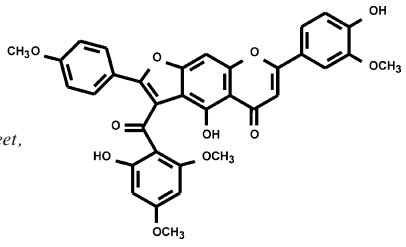
Phytochemistry, 2003, **64**, 645

Cissampeloflavone, a chalcone-flavone dimer from *Cissampelos pareira*

Irama Ramírez[a], Alfredo Carabot[a], Pablo Meléndez[a], Juan Carmona[a], Manuel Jimenez[a], Asmita V. Patel[b], Trevor A. Crabb[b], Gerald Blunden[b], Peter D. Cary[c], Simon L. Croft[d], Manuel Costa[e]

[a]*Faculty of Pharmacy, University of Los Andes, Mérida ZP-5101, Venezuela*
[b]*School of Pharmacy and Biomedical Sciences, University of Portsmouth, St Michael's Building, White Swan Road, Portsmouth, Hampshire P01 2DT, UK*
[c]*School of Biological Sciences and IBBS, University of Portsmouth, King Henry Building, Park Road, Portsmouth, Hampshire P01 2DZ, UK*
[d]*Department of Infectious and Tropical Diseases, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT, UK* [e] *Botanical Garden, University of Valencia, Carrer Quart 80, 46008-Valencia, Spain*
[e]*Botanical Garden, Unversity of Valencia, Carrer Quart 80, 46006-Valencia, Spain*

An antiprotozoal chalcone-flavone dimer, cissampeloflavone, has been isolated and characterised from *Cissampelos pareira*.



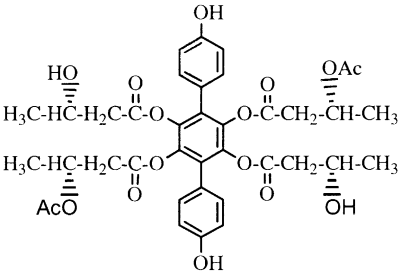
Phytochemistry, 2003, **64**, 649

Curtisians E-H: four *p*-terphenyl derivatives from the inedible mushroom *Paxillus curtisii*

Dang Ngoc Quang[a], Toshihiro Hashimoto[a], Makiko Nukada[b], Isao Yamamoto[b], Masami Tanaka[a], Yoshinori Asakawa[a]

[a]*Faculty of Pharmaceutical Sciences, Tokushima Bunri University, Yamashiro-cho, Tokushima 770-8514, Japan*
[b]*Faculty of Food Culture, Kurashiki Sakuyo University, Kurashiki 710-0290 Japan*

Four *p*-terphenyl derivatives named curtisians E-H (**1-4**) were isolated from the methanolic extract of fruit bodies of the Basidiomycete *Paxillus curtisil*.



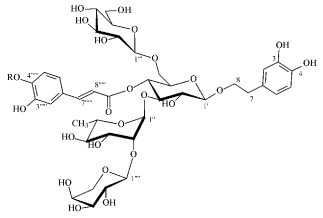
Phytochemistry, 2003, **64**, 655

Acylated flavonoid and phenylethanoid glycosides from *Marrubium velutinum*

Anastasia Karioti[a], Helen Skaltsa[a], Jörg Heilmann[b], Otto Sticher[b]

[a]*Department of Pharmacognosy and Chemistry of Natural Products, School of Pharmacy, Panepistimiopolis, Zografou, 15771 Athens, Greece*
[b]*Department of Applied BioSciences, Institute of Pharmaceutical Sciences, Swiss Federal Institute of Technology (ETH) Zurich, Winterthurerstr. 190, 8057 Zürich, Switzerland*

An acylated flavonoid glycoside, chrysoeriol 7-*O*-(3″,6″-di-O-E-p-coumaroyl)-β-D-glucopyranoside, and two tetrasaccharide phenylethanoid glycosides, velutinosides I-II, have been isolated from the aerial parts of *Marrubium velutinum*.



R=H: **I**, R=CH_3: **II**

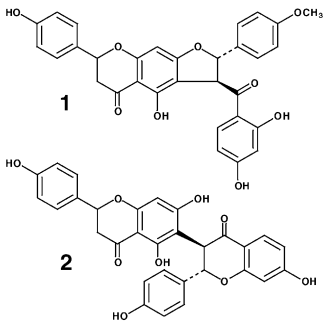
Phytochemistry, 2003, **64**, 661

Flavonoids of *Ochna afzelii*

Dieudonné Emmanuel Pegnyemb[a], Raphael Ghogomu Tih[a], Beibam Lucas Sondengam[a], Alain Blond[b], Bernard Bodo[b]

[a]*Department of Organic Chemistry, Faculty of Sciences, University of Yaounde I, PO BOX 812, Yaounde, Cameroon*
[b]*Laboratoire de Chimie des Substances Naturelles, UMR 8041 CNRS, Muséum National d'Histoire Naturelle, 63 rue Buffon, 75005 Paris, France*

Two biflavonoids, afzelones A (**1**) and B (**2**) along with six known compounds were isolated from the stem bark of *Ochna afzelii*.



Phytochemistry, 2003, **64**, 667

Trypanocidal tetrahydrofuran lignans from inflorescences of *Piper solmsianum*

Roberto C.C. Martins[a], João Henrique G. Lago[a], Sergio Albuquerque[b], Massuo J. Kato[a]

[a]*Instituto de Química, Universidade de São Paulo, C.P. 26077, 05513-970, São Paulo, Brazil*
[b]*Faculdade de Ciências Farmacêuticas de Ribeirão Preto, Universidade de São Paulo, São Paulo, Brazil*

In addition to sitosterol, syringaldehyde, 3,4,5-trimethoxybenzoic acid, isoelemicin and grandisin, two tetrahydrofuran lignans were isolated from *P. solmsianun* and characterized as *rel*-(7*R*,8*R*,7′*R*,8′*R*)-3′,4′-methylenedioxy-3,4,5,5′-tetramethoxy-7,7′-epoxylignan and *rel*-(7*R*,8*R*,7′*R*,8′*R*)-3,4,3′,4′-dimethylenedioxy-5,5′-dimethoxy-7,7′-epoxylignan on the basis of spectroscopic data, including 2D NMR spectrometric techniques. Their in vitro activities against the *Trypanosoma cruzi* were evaluated.