



Fitoterapia Vol. 81, No. 7, 2010

Contents

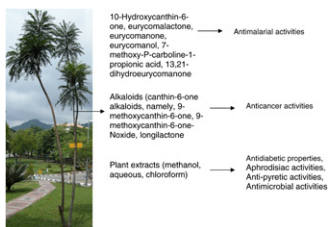
REVIEWS

Tongkat Ali (*Eurycoma longifolia* Jack): A review on its ethnobotany and pharmacological importance

pp 669–679

Rajeev Bhat*, A.A. Karim

Eurycoma longifolia in a natural habitat.

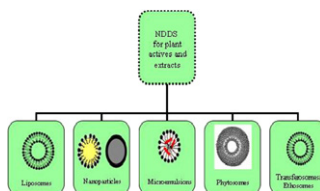


Applications of novel drug delivery system for herbal formulations

pp 680–689

Ajazuddin, S. Saraf*

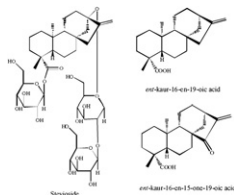
The novel formulations reported to have remarkable advantages over conventional formulations of plant actives and extracts.



Hypotensive action of naturally occurring diterpenes: A therapeutic promise for the treatment of hypertension

pp 690–702

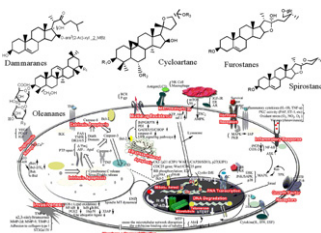
Carlos R. Tirapelli*, Sergio R. Ambrosio, Ana M. de Oliveira, Rita C. Tostes



Chemical study and medical application of saponins as anti-cancer agents

pp 703–714

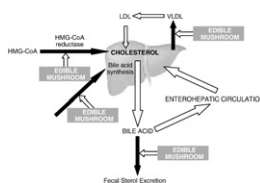
Shuli Man, Wenyuan Gao*, Yanjun Zhang, Luqi Huang, Changxiao Liu

**Edible mushrooms: Role in the prevention of cardiovascular diseases**

pp 715–723

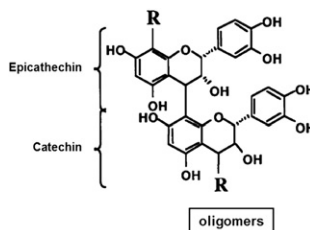
Eva Guillamón*, Ana García-Lafuente, Miguel Lozano, Matilde D'Arrigo, Mauricio A. Rostagno, Ana Villares, José Alfredo Martínez

Edible mushrooms have become increasingly attractive as functional foods for their potential beneficial effects on human health. Indeed, there are some mushroom components involved in cardiovascular disease prevention or treatment.

**Pycnogenol: A blend of procyanidins with multifaceted therapeutic applications?**

pp 724–736

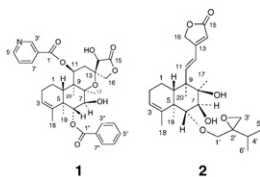
Gabriele D'Andrea*

**FULL PAPERS****New neo-clerodane diterpenoids from *Scutellaria barbata* with cytotoxic activities**

pp 737–741

Sheng-Jun Dai*, Gui-Wu Qu, Qun-Ying Yu, De-Wu Zhang, Gui-Sheng Li

Two new neo-clerodane diterpenoids have been isolated from the whole plant of *Scutellaria barbata* D. Don, and their structures were established by detailed spectral analyses as scutehenanine H (1) and 6-(2,3-epoxy-2-isopropyl-n-propoxyl)barbatin C (2).

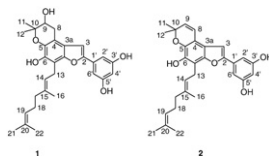


Bioactive 2-arylbenzofuran derivatives from *Morus wittiorum*

pp 742–746

Yong-Xia Tan, Yan Yang, Ting Zhang, Ruo-Yun Chen*, De-Quan Yu

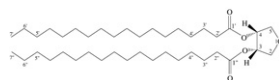
Five new 2-arylbenzofuran derivatives were isolated from the stem bark of *Morus wittiorum*. Two new compounds along with five previously isolated compounds were assayed for their antioxidant and anti-inflammatory activities respectively.

**Isolation and identification of the antibacterial active compound from petroleum ether extract of neem oil**

pp 747–750

Yu-Qun Zhang, Jiao Xu, Zhong-Qiong Yin*, Ren-Yong Jia, Yang Lu, Fan Yang, Yong-Hua Du, Ping Zou, Cheng Lv, Ting-Xiu Hu, Shu-Liang Liu, Gang Shu, Geng Yi¹

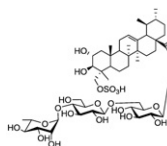
M-Octadecanoic acid-3,4-Tetrahydrofuran Diester, isolated from the petroleum ether extract of neem oil, showed potent antibacterial activity.

**A new triterpene glycoside from *Centella erecta***

pp 751–754

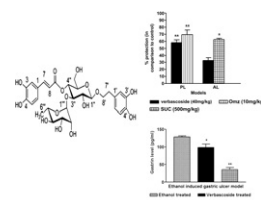
Chidananda S. Rumalla, Zulfiqar Ali, Aruna D. Weerasooriya, Troy J. Smillie, Ikhlas A. Khan*

(2 α ,3 β)-23-sulphonyl-2,3-dihydroxyurs-12-en-28-oic acid *O*- α -L-rhamnopyranosyl-(1 \rightarrow 4)-*O*- β -D-glucopyranosyl-(1 \rightarrow 6)- β -D-glucopyranosyl ester (1) together with eighteen known compounds were isolated from *Centella erecta*. Their structures were determined mainly by NMR mass techniques.

**Verbascoside isolated from *Tectona grandis* mediates gastric protection in rats via inhibiting proton pump activity**

pp 755–761

Neetu Singh, Nivedita Shukla, Pratibha Singh, Rolee Sharma, S.M. Rajendran, Rakesh Maurya, Gautam Palit*

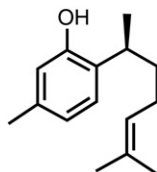


Antiproliferative effects of curcuphenol, a sesquiterpene phenol

pp 762–766

Gloria Rodrigo, Geovanna Almanza, Yajun Cheng, Jiangnan Peng, Mark Hamann, Rui-Dong Duan, Björn Åkesson*

Curcuphenol, a sesquiterpene phenol has antiproliferative and pro-apoptotic activity against Caco-2 colon cancer cells.

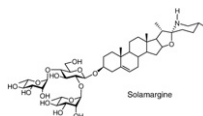


Evaluation of the biological activity of the molluscicidal fraction of *Solanum sisymbriifolium* against non target organisms

pp 767–771

Jean-Jacques M. Bagalwa, Laurence Voutquenne-Nazabadioko*, Charlotte Sayagh, Augustin S. Bashwira

A bioassay-guided fractionation of the fruit of *Solanum sisymbriifolium* involving non target organisms such as aquatic insects, fish and snails lead to the isolation of steroidal alkaloids, solamargine and β -solamarine, from the active fractions. The fraction B seems to be less toxic to fish and aquatic insect and larvae contrary to others extracts and fractions. Thus the fraction B can be used as a molluscicide in the future.

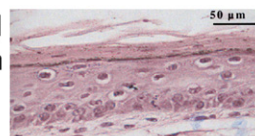


Arabinogalactan protein from *Jatropha curcas* L. seeds as TGF β 1-mediated inducer of keratinocyte *in vitro* differentiation and stimulation of GM-CSF, HGF, KGF and in organotypic skin equivalents

pp 772–778

Janina Zippel, Thomas Wells, Andreas Hensel*

Arabinogalactan protein from *Jatropha curcas* L. seeds as TGF β 1-mediated inducer of keratinocyte *in vitro* differentiation and stimulation of GM-CSF, HGF, KGF and TGF β 1 in organotypic skin equivalents.



Antibacterial and antifungal activities of (beta)-carboline alkaloids of *Peganum harmala* (L) seeds and their combination effects

pp 779–782

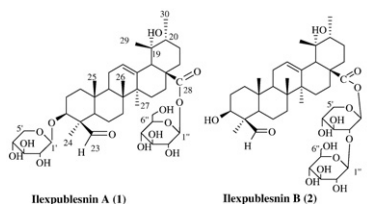
Gomah Nenaah*



Study on the structure–function relationship of 20(S)-panaxadiol and its epimeric derivatives in myocardial injury induced by isoproterenol

pp 783–787

Tian Wang, Qingguo Meng*, Jiangfeng Zhang, Yi Bi, Naicai Jiang

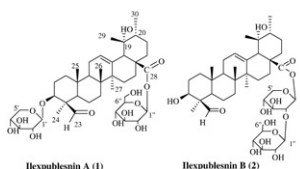


New triterpene saponins from the root of *Ilex pubescens*

pp 788–792

Cui-Xian Zhang, Chao-Zhan Lin, Tian-Qin Xiong, Chen-Chen Zhu*, Jin-Yan Yang, Zhong-Xiang Zhao

Two new triterpene glycosides ilexpublesnin A (1) and ilexpublesnin B (2) were isolated from the root of *Ilex pubescens*, and their structures were elucidated on the basis of chemical and spectroscopic methods.

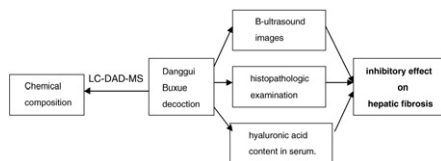


Chemical composition and inhibitory effect on hepatic fibrosis of *Danggui Buxue Decoction*

pp 793–798

Ping Wang*, Yi-Zeng Liang

The chemical components of DBD were analyzed by LC-DAD-MS. The therapeutic effects on hepatic fibrosis of DBD were evaluated by B-ultrasound images, histopathologic examination, and hyaluronic acid content in serum.

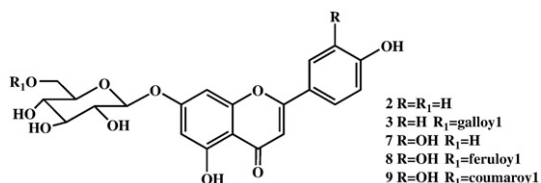


Anti-HBV active flavone glucosides from *Euphorbia humifusa* Willd.

pp 799–802

Ying Tian, Li-Min Sun, Xi-Qiao Liu, Bin Li, Qiong Wang, Jun-Xing Dong*

Anti-HBV constituents investigation on *Euphorbia humifusa* Willd. led to the isolation of thirteen flavone glucosides including five active compounds.

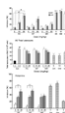


Flavonols attenuate the immediate and late-phase asthmatic responses to aerosolized-ovalbumin exposure in the conscious guinea pig

pp 803–812

Chan Hun Jung, Ji Yun Lee, Jin Hyung Park, Bong Jae Cho, Sang Soo Sim, Chang Jong Kim*

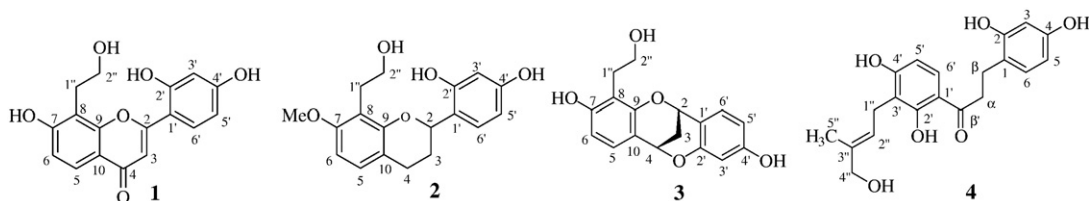
Flavonols (FS: fisetin, KF; kaempferol, MR; morin) inhibited specific airway resistance (sRaw), and recruitment of histamine and eosinophil peroxidase (EPO) in the bronchoalveolar lavage fluid (BALF). Fisetin has the most active in antiasthmatic effect, and kaempferol has the most active in neutrophil chemotaxis. However, their effects were less than that of reference drugs.



Four new flavonoids from the leaves of *Morus mongolica*

pp 813–819

Xiao-Qi Zhang, Ying Jing, Guo-Cai Wang, Ying Wang, Hui-Nan Zhao, Wen-Cai Ye*

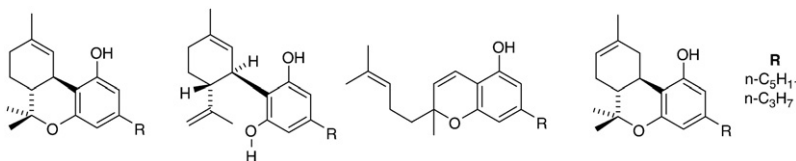


Comparative topical anti-inflammatory activity of cannabinoids and cannabivarin

pp 816–819

Aurelia Tubaro*, Anna Giangaspero, Roberto Negri, Gianpaolo Grassi, Roberto Della Loggia, Giovanni Appendino

Differences in the terpenoid moiety of seven phytocannabinoids seem to be far more important for topical anti-inflammatory activity than those at the C-3 alkyl residue.

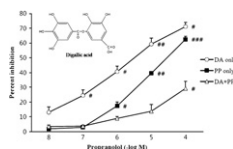


Hydrolysable tannins depress cardiac papillary muscle contraction and propranolol-induced negative inotropism

pp 820–825

Hobeom Lee, Ji Yun Lee, Moo Hyun Suh, Sang-Soo Sim, Min-Won Lee, Chang Jong Kim*

Digallic acid (DA) depress cardiac muscle contraction and propranolol (PP)-induced negative inotropism.

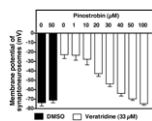


Pinostrobin from *Cajanus cajan* (L.) Millsp. inhibits sodium channel-activated depolarization of mouse brain synaptoneuroosomes

pp 826–829

Russell A. Nicholson*, Laurence S. David, Rui Le Pan, Xin Min Liu

Pinostrobin from *Cajanus cajan* (L.) Millsp. inhibits voltage-gated sodium channels of mammalian brain as determined by its ability to suppress the depolarizing effects of the sodium channel-selective activator veratridine in a synaptoneurosomal preparation from mouse brain. The resting potential of synaptoneuroosomes was unaffected by pinostrobin. The pharmacological profile of pinostrobin resembles that of tetrodotoxin and depressant drugs that block sodium channels.

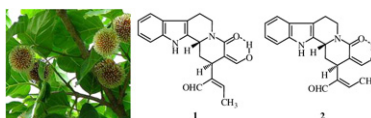


Two new cytotoxic isomeric indole alkaloids from the roots of *Nauclea orientalis*

pp 830–833

Jirapast Sichaem, Serm Surapinit, Pongpun Siripong, Suttira Khumkratok, Jonkolnee Jong-aramruang, Santi Tip-pyang*

A pair of new isomeric indole alkaloids, naucleorals A (**1**) and B (**2**) were isolated from the roots of *Nauclea orientalis*. The structures of compounds **1** and **2** were fully characterized using spectroscopic data, and were tested for their cytotoxicity (HeLa and KB cells). Compound **1** showed significant cytotoxicity against HeLa cells, while compound **2** exhibited very modest cytotoxicity against both cell lines.

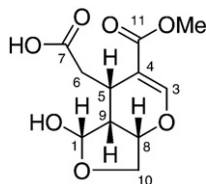


A secoiridoid with quinone reductase inducing activity from *Cortex fraxini*

pp 834–837

Lijun Wang, Fang Sun, Xiaoyu Zhang, Zhongjun Ma*, Lin Cheng*

A new secoiridoid named chinensisol which showed moderate quinone reductase inducing activity was isolated from *Cortex fraxini*.

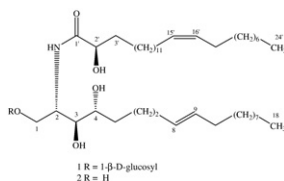


Cerebroside and ceramide from the pollen of *Brassica napus* L.

pp 838–843

Dong Pei, Jun-Xi Liu, Duo-Long Di*

The new cerebroside (**1**) and ceramide (**2**) were isolated from the pollen of *Brassica napus* L. Compound **2** was shown to possess significant cytotoxic activity against Tca8113 cells.

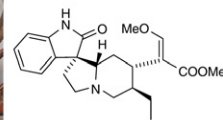


Effect of rhynchophylline on central neurotransmitter levels in amphetamine-induced conditioned place preference rat brain

pp 844–848

Ji-Yin Zhou, Zhi-Xian Mo*, Shi-Wen Zhou*

Rhynchophylline (60 mg/kg) reversed conditioned place preference expression and central neurotransmitter levels induced by amphetamine; and by itself had no effect on them in control rats.

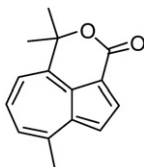


A new natural azulene-type pigment from *Oreocnide frutescens*

pp 849–851

Changhao Zhang, Hong Liang*, Guangzhong Tu*, Yuying Zhao

A new natural red-purple azulene-type pigment, oreolactone (1), together with nine known compounds, was isolated from the rhizomes of *Oreocnide frutescens*. Its structure was elucidated on the basis of spectroscopic analysis.

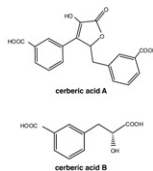


Phenylpropionic acid derivatives from the bark of *Cerbera manghas*

pp 852–854

Xiao Po Zhang, Ming Sheng Liu*, Yue Hu Pei, Jun Qing Zhang, Sheng Li Kang

Two new phenylpropionic acid derivatives, cerberic acids A (1) and B (2), were isolated from the bark of *Cerbera manghas*. Primary bioassays showed that 1 possessed weak cytotoxic activity against three human cancer cell lines.

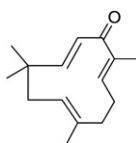


Anti-inflammatory effect of zerumbone on acute and chronic inflammation models in mice

pp 855–858

M.R. Sulaiman*, E.K. Perimal, M.N. Akhtar, A.S. Mohamad, M.H. Khalid, N.A. Tasrip, F. Mokhtar, Z.A. Zakaria, N.H. Lajis, D.A. Israf

Zerumbone (1), a natural cyclic sesquiterpene, isolated from *Zingiber zerumbet* Smith, produced significant dose-dependent inhibition of paw edema induced by carrageenan and significantly suppressed granulomatous tissue formation in cotton pellet-induced granuloma test in mice.

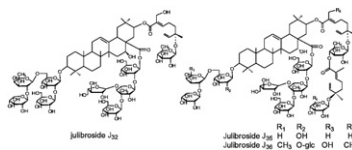


Three new oleanane triterpenoid saponins acetylated with monoterpenoid acid from *Albizia julibrissin*

pp 859–863

Lu Zheng, Jian Zheng, Qingying Zhang*, Bin Wang, Yuying Zhao*, Lijun Wu

Three new minor oleanane triterpenoid saponins acetylated with monoterpenoid acid were isolated from the stem bark of *Albizia julibrissin*.

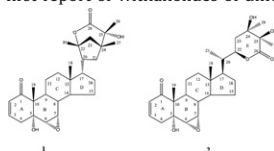


New withanolides from *Mandragora officinarum*: First report of withanolides from the Genus *Mandragora*

pp 864–868

Rami K. Suleiman*, Musa Abu Zarga, Salim S. Sabri

Two new withanolides named mandragorolide A (1) and mandragorolide B (2) were isolated from the study of the chemical constituents of all parts of the plant *Mandragora officinarum* of Jordanian origin. This is the first report of withanolides of different biogenetic types from the genus *Mandragora*.

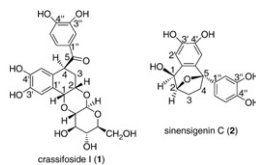


New norlignan derivatives from *Curculigo capitulata*

pp 869–872

Kai-jin Wang, Cui-Cui Zhu, Lei Di, Ning Li*, You-Xing Zhao

Two new norlignan derivatives, crassifoside I (1) and sinensigenin C (2), were isolated from *Curculigo capitulata*, along with six known norlignan derivatives, 1,1-bis(3,4-dihydroxyphenyl)-1-(2-furan)-methane (3), crassifogenin B (4), crassifoside A (5), breviscaside A (6), crassifoside D (7), and curcapital (8).

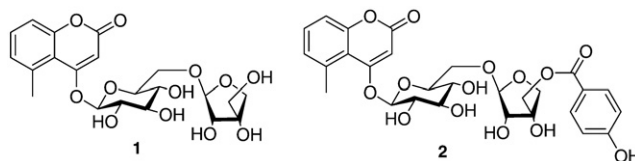


New coumarin glycosides from the leaves of *Diospyros crassiflora* (Hiern)

pp 873–877

Carine Mvot Akak*, Céline Mbazono Djama, Augustin Ephrem Nkengfack, Peng-Fei Tu*, Lian-Di Lei

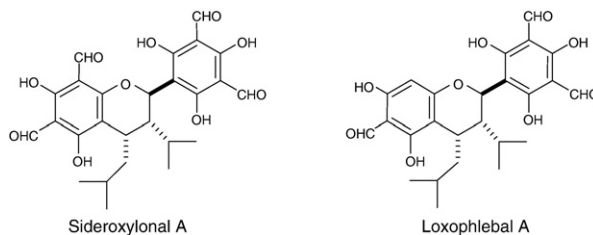
Diosfeboside A (1) and B (2), two new 5-methylcoumarin glycosides from the *n*-butanolic soluble fraction of the leaves of *Diospyros crassiflora* (Hiern).



Antibacterial sideroxylonals and loxophlebal A from *Eucalyptus loxophleba* foliage

pp 878–883

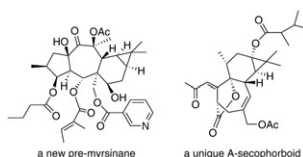
Jasmeen Sidana, Rajesh K. Rohilla, Nilanjan Roy, Russell A. Barrow, William J. Foley, Inder Pal Singh*

**Diterpenoid (poly)esters and a ring A-*seco*-phorboid from the aerial parts of *Euphorbia macroclada* Boiss.**

pp 884–890

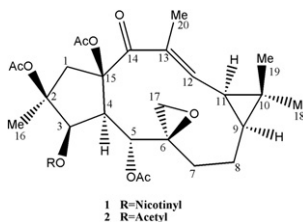
Yalda Shokoohinia, Seyed-Ebrahim Sajjadi, Behzad Zolfaghari, Giuseppina Chianese, Giovanni Appendino, Orazio Tagliatalata-Scafati*

Four pre-myrsinane polyesters, three α -phorboids and one A-*seco*-phorboid, a type of compound so far unreported within natural products, have been isolated from the Iranian *Euphorbia macroclada* Boiss.

**Two new lathyrane type diterpenoids from *Euphorbia aellenii***

pp 891–893

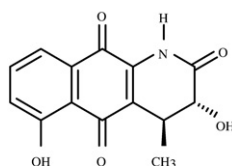
Abdul Majid Ayatollahi, Mustafa Ghanadian*, Suleiman Afsharypuor, Muhammad Iqbal Choudhary, Farzad Kobarfard, Mohammad Rahmati

**A new cytotoxic 1-azaanthraquinone from the stems of *Goniothalamus laoticus***

pp 894–896

Santi Tip-pyang*, Yawistha Limpipatwattana, Suttira Khumkratok, Pongpan Siripong, Jirapast Sichaem

A new 1-azaanthraquinone, laoticuzanone A, with the potent cytotoxic activity was isolated from the stems of *Goniothalamus laoticus*.

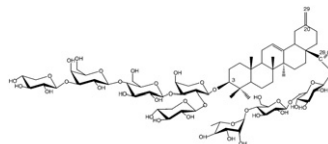


New triterpenoid saponins from *Leontice smirnowii*

pp 897–901

Nino Tabatadze, Sok-Siya Bun, Badri Tabidze, Vakhtang Mshvildadze, Genri Dekanosidze, Evelyne Ollivier, Riad Elias*

Three new triterpene saponins, leonticins I (1), J (2) and L (3) were isolated from the tubers of *L. smirnowii*.



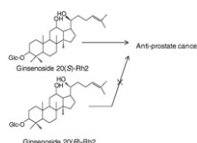
Leonticin L (3)

Stereospecificity of hydroxyl group at C-20 in antiproliferative action of ginsenoside Rh2 on prostate cancer cells

pp 902–905

Jie Liu, Kuniyoshi Shimizu*, Hongshan Yu, Chunzhi Zhang, Fengxie Jin, Ryuichiro Kondo

Only ginsenoside 20(S)-Rh2 showed proliferation inhibition on androgen-dependent and -independent prostate cancer cells. These results implied that the stereochemistry of the hydroxyl group at C-20 may play an important role in antitumor activities.

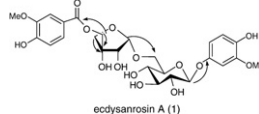


New hydroquinone diglycoside acyl esters and sesquiterpene and apocarotenoid from *Ecdysanthera rosea*

pp 906–909

Xiangdong Zhu*, Qinghua Zhang, Lingbao Kong, Fei Wang, Shide Luo

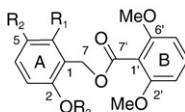
Phytochemical study on the ethanol extract of the aerial parts of *Ecdysanthera rosea* led to the isolation of three new compounds, hydroquinone diglycoside acyl esters, ecdysanrosin A (1) and sesquiterpene, 5β-hydroperoxycostic acid (2) and apocarotenoid, 2, 4, 7-trimethyl-, 4, 6, 8-tetraene-dialdehyde (3). Their structures were elucidated on the basis of extensive spectroscopic analysis.



Three new phenolic glycosides from *Curculigo orchoides* G.

pp 910–913

Ai-Xue Zuo, Yong Shen, Zhi-Yong Jiang, Xue-Mei Zhang, Jun Zhou, Jun Lü, Ji-Jun Chen*



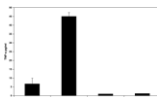
	R ₁	R ₂	R ₃
1 curculigoside F	OH	H	Glc
2 curculigoside G	H	H	Glc
3 curculigoside H	H	OH	Glc1→6Glc

Role for toll-like receptor 4 in TNF-alpha secretion by murine macrophages in response to polysaccharide Krestin, a *Trametes versicolor* mushroom extract

pp 914–919

Lisa A. Price*, Cynthia A. Wenner, Daniel T. Sloper, Joel W. Slaton, Jeffrey P. Novack

TLR4 blocking antibody inhibits PSK-induced TNF-alpha secretion by mouse splenocytes. Splenocytes were harvested from healthy C57Bl/6 mice and treated with media (control), PSK (125 µg/mL), PSK (125 µg/mL) after pretreatment with TLR4 blocking antibody, or pretreated with TLR4 blocking antibody alone. Supernatants were collected and frozen at -80 °C until time of assay for TNF concentration by ELISA. Results represent mean TNF concentration detected in supernatants from triplicate cultures.

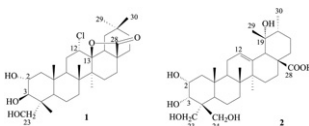


Two new triterpenoids from the roots of *Actinidia chinensis*

pp 920–924

Yi-Xin Xu, Zhao-Bao Xiang, Yong-Sheng Jin*, Yang Shen, Hai-Sheng Chen*

Two new triterpenoids (**1**, **2**), together with one flavonoid glycoside and thirteen known triterpenoids were isolated from the root of *Actinidia chinensis* Planch (Actinidiaceae). The structures of the new constituents were elucidated as 12 α -chloro-2 α , 3 β , 13 β , 23-tetrahydroxyolean-28-oic acid-13-lactone (**1**), 2 α , 3 α , 19 α , 23, 24-pentahydroxyurs-12-en-28-oic acid (**2**). And two known triterpenoids showed positive cytotoxic activity against LOVO and HepG2 cell lines.

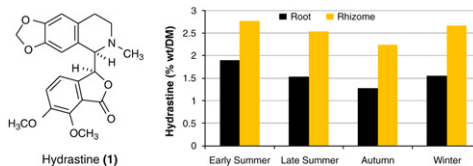


Seasonal variation of biomass and bioactive alkaloid content of goldenseal, *Hydrastis canadensis*

pp 925–928

James A. Douglas, John M. Follett, Graeme A. Parmenter, Catherine E. Sansom, Nigel B. Perry*, Ray A. Littler

Berberine contents of goldenseal (roots plus rhizomes) did not vary significantly and were >3.4% in all samples. Hydrastine contents were higher in early summer than in autumn.

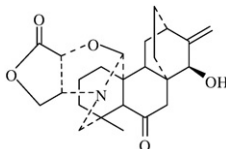


Chemical constituents from *Delphinium chrysotrichum* and their biological activity

pp 929–931

Yang-Qing He*, Zhan-Ying Ma, Xiao-Mei Wei, Bao-Zhong Du, Zhan-Xin Jing, Bing-Hua Yao, Li-Ming Gao*

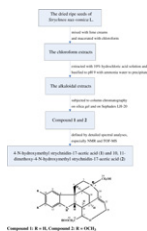
A new diterpene alkaloid, delphatisine C with significant cytotoxic activities against the A549 cell line with IC₅₀ of 2.36 µM, was isolated from aerial parts of *Delphinium chrysotrichum*.



Two new bisindole alkaloids from the seeds of *Strychnos nux-vomica*

pp 932–936

Guang-Ming Yang, Xia Tu, Liang-Jing Liu, Yang Pan*

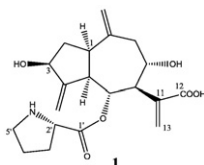


One new sesquiterpene from *Saussurea laniceps*

pp 937–939

Hong-Bing Wang, Jian-Ping Zuo, Guo-Wei Qin*

Lanicepomine A, a new guaiane-type sesquiterpene (**1**) was isolated from *Saussurea laniceps*. Its structure was elucidated by spectroscopic data analysis. It was found that compound **1** showed significant inhibition for proliferation of murine T cells *in vitro*.

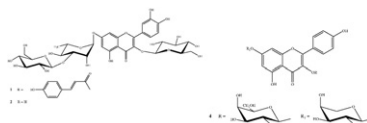


New flavonol glycosides from *Aconitum burnatii* Gáyer and *Aconitum variegatum* L.

pp 940–947

Sara Vitalini, Alessandra Braca*, Daniele Passarella, Gelsomina Fico

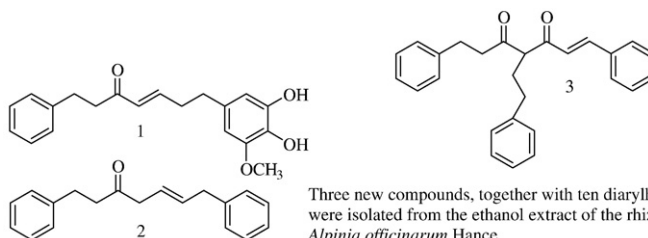
From *Aconitum burnatii* Gáyer and *A. variegatum* L. three new flavonol glycosides, quercetin 3-O-β-D-glucopyranoside-7-O-(6-E-p-coumaroyl)-β-D-glucopyranosyl-(1→3)-α-L-rhamnopyranoside (**1**), quercetin 3-O-β-D-glucopyranoside-7-O-β-D-glucopyranosyl-(1→3)-α-L-rhamnopyranoside (**2**), kaempferol 3-O-β-D-galactopyranoside-7-O-α-L-arabinopyranoside (**4**), and three known compounds were isolated. Their antioxidant potential was tested.



Three new antibacterial active diarylheptanoids from *Alpinia officinarum*

pp 948–952

Bei-Bei Zhang, Yuan Dai, Zhi-Xin Liao*, Li-Sheng Ding

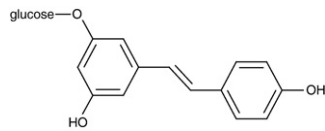


Effects of polydatin on attenuating ventricular remodeling in isoproterenol-induced mouse and pressure-overload rat models

pp 953–960

Jian Ping Gao, Chang Xun Chen*, Wei Liang Gu, Qi Wu, Ying Wang, Jian Lü

Polydatin (3,4',5-trihydroxystibene-3-β-mono-D-glucoside), is a natural compound isolated from traditional Chinese herb *Polygonum cuspidatum* sieb. et zucc, presents the effects on attenuating ventricular remodeling in mice and rats in the report.



* Corresponding author

Cited in: Beilstein Database, BIOSIS/Biological Abstracts, CAB Abstracts, Cambridge Scientific Abstracts, Chemical Abstracts Service, CINAHL Elsevier BIOBASE/Current Advances in Biological Sciences, EMBASE/Excerpta Medica, EMBiology PUBMED/MEDLINE/Index Medicus, Natural Products Update/RSC, International Pharmaceutical Abstracts, Science Citation Index Expanded. Also covered in the abstract and citation database Scopus®. Full text available on ScienceDirect®



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