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Dictionary of PLANTS

Containing Secondary Metabolites

John S. Glasby



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Dictionary of Plants Containing Secondary Metabolites

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Preface

The plant kingdom has proved to be the richest source of organic compounds, many of which have been used in medicine and perfumery since ancient times.

A voluminous literature has grown up regarding the discovery of new compounds, their occurrence, structures, biosynthesis and physiological properties. Unfortunately, this information is to be found in a plethora of scientific journals and it is far from easy for the research worker to determine which plant has been examined for its chemical content and, equally important, which classes of compound have been isolated from individual species.

This dictionary, which covers the literature up to the end of 1987, is intended to provide this information in a readily accessible form. Each plant is listed alphabetically according to genus and species. Wherever possible, the original papers have been consulted and references to these are given for each class of compound.

In a field as large as this, it is inevitable there will be some omissions and for these the author accepts full responsibility. However, it is hoped that the volume will prove useful to chemists, biochemists and botanists working in the field of organic chemistry.

J.S.Glasby

A

ABELIA

A. grandiflora.

IRIDOIDS: abelioside A, abelioside B.

Murai *et al.*, *Phytochemistry* **24**, 2329 (1985)

ABELOMOSCHUS

A. moschatus.

MONOTERPENOID: pineol.

SESSQUITERPENOID: famesol.

Kerschbaun, *Ber. Dtsch. Chem. Ges.*, **46**, 1732 (1913)

ABIES (Pinaceae)

A. alba Mill.

DITERPENOIDS: abietic acid, abietospiran.

ACID: salicylic acid.

MONOTERPENOID: bornyl acetate, camphene, limonene, phellandrene, pinene.

Steglich *et al.*, *Angew. Chem.*, **91**, 751 (1979)

A. balsamea (L.) Mill.

DITERPENOIDS: abienol, abieslactone.

MONOTERPENOID: camphene, 4,4-dimethylcyclohept-2-en-1-ol, limonene, (-)- α -phellandrene, pinene.

SESSQUITERPENOID: dehydrojuvabione, juvabione.

Uyeo *et al.*, *J. Pharm. Soc., Japan*, **84**, 453 (1964)

Balogh *et al.*, *Phytochemistry* **11**, 1481 (1972)

***A. concolor* var. *Lowiana*.**

MONOTERPENOID: camphene.

Zavarin *et al.*, *Chem. Abstr.*, 87 180724s***A. excelsa*.**

MONOTERPENOID: bornyl acetate, camphene, phellandrene, pinene.

Wallach, Guttman, *Justus Liebigs Ann. Chem.*, **357**, 79 (1907)***A. grandis* (Dougl.) Lindl.**MONOTERPENOID: bornyl acetate, camphene, 3-carene, limonene, myrcene, β -phellandrene, α -pinene, β -pinene.

SESQUITERPENOID: tricyclene.

TRITERPENOID: cyclograndisolide, epi-cyclograndisolide.

Allen *et al.*, *Tetrahedron Lett.*, 282 (1971)Zavarin *et al.*, *Chem. Abstr.*, 87 180724s***A. lasiocarpa*.**

SESQUITERPENOID: 1'(E)-dehydrojuvabione, 1'(Z)-dehydrojuvabione, 2'-dehydrojuvani-1'-ol, juvabiol, juvabione, lasiocarpenone.

Bowers *et al.*, *Science*, **154**, 1020 (1966)Manville *et al.*, *Can. J. Chem.*, **55**, 2547 (1977)***A. magnified Murray*.**

MONOTERPENOID: phellandrene, pinene.

SESQUITERPENOID: cyclosativene.

Smedman, Zavarin, *Tetrahedron Lett.*, 3833 (1968)***A. mariesii*.**

DITERPENOID: abieslactone.

TRITERPENOID: mariesic acid.

Uyeo *et al.*, *J. Pharm. Soc., Japan*, **84**, 453 (1964)Hasegawa *et al.*, *Chem. Lett.*, 1589 (1985)***A. recurvata* var. *ernestii* (Rehd.) C.T.Kuan.**MONOTERPENOID: boranyl acetate, camphene, β -caryophyllene, limonene, myrcene, α -pinene, β -pinene.Huang *et al.*, *Chem. Abstr.*, 104 3422r***A. sachalinensis*.**

SESQUITERPENOID: todomatuic acid.

Manville *et al.*, *Can. J. Chem.*, **55**, 2547 (1977)***A. sibirica*.**

DITERPENOID: abienol, abieslactone, 14,15-bisnor-8-hydroxyabd-11-en-13-acetate, isoabienol, neoabienol.

MONOTERPENOID: 3-carene, β -phellandrene, α -pinene, β -pinene.

Chirkova *et al.*, *Khim. Prir. Soedin.*, **86** (1967)
 Chirkova, Pentegova, *ibid.*, **247** (1969)

A. webbiana.

BIFLAVONE: abiesin.

Chatterjee *et al.*, *Phytochemistry* **23**, 704 (1984)

ABROMA

A. angusta.

UNCHARACTERIZED ALKALOID: abromine.

Srivastava, Basu, *Indian J. Pharm.*, **18**, 472 (1956)

ABRUS (Leguminosae)

A. cantoniensis.

TRITERPENOID: cantoniensistriol.

Chiang *et al.*, *Planta Med.*, **46**, 52 (1982)

A. precatorius L.

INDOLE ALKALOID: (+)-abrine.

PYRIDINE ALKALOID: precatorine.

UNCHARACTERIZED ALKALOIDS: abrasine, precasine.

ANTHOCYANINS: (p-coumaroylgalloyl)-glucodelphinidin, delphinidin.

STEROIDS: abricin, abrisin.

TRITERPENOIDS: abrusgenic acid, abrusgenic acid methyl ester, abruslactone.

(A) Khaleque *et al.*, *Set. Res. (Dacca)*, **3**, 203 (1966)

(An) Karawya *et al.*, *Fitoterapia*, **52**, 175 (1982)

(S) Mandava *et al.*, *Steroids*, **23**, 357 (1974)

(T) Chiang *et al.*, *Planta Med.*, **49**, 165 (1983)

ABUTA (Menispermaceae)

A. bullata.

ALKALOID: saulatine.

Hocquemiller, Fournet, *J. Nat. Prod.*, **47**, 539 (1984)

A. grandifolia (Martius) Sandwith.

ISOQUINOLINE ALKALOID: grandirubrine.
Menachery, Cava, *Heterocycles*, **14**, 943 (1980)

A. grisabachii Triana et Planchon.

BISBENZYLISOQUINOLINE ALKALOIDS: grisabine, grisabutine, macolidine, macoline.

Ahmad, Cava, *J. Org. Chem.*, **42**, 2271 (1977)
Galeffi *et al.*, *Farmaco Ed. Sci.*, **32**, 853 (1977)

A. imene.

OXODIBENZOQUINOLINE ALKALOIDS: imelutine, imenine, norrufescine.
Cava *et al.*, *Tetrahedron*, **31**, 1667 (1975)

A. panurensis.

BISBENZYLISOQUINOLINE ALKALOIDS: norpanurensine, panurensine.
Cava *et al.*, *J. Org. Chem.*, **40**, 2607 (1975)

A. rufescens.

APORPHINE ALKALOID: splendidine.
OXOBENZOQUINOLINE ALKALOIDS: imenine, imerubrine, imulutine, norrufescine, rufescine.
Cava *et al.*, *Tetrahedron*, **31**, 1667 (1975)
Skiles *et al.*, *Can. J. Chem.*, **57**, 1642 (1979)

A. velutina.

STEROID: abutasterone.
Pinheiro *et al.*, *Phytochemistry* **22**, 2320 (1983)

ABUTILON

A. pakistanicum.

ALIPHATICS: ceryl alcohol, hentriacontane.
AMINO ACIDS: aspartic acid, glutaric acid, histidine, leucine, serine, threonine.
PHENOLICS: cafféic acid, p-coumaric acid, p-hydroxybenzoic acid, vanillic acid.
STEROID: β -sitosterol.
TRITERPENOIDS: α -amyrin, β -amyrin.
Bi *et al.*, *Journal of Pharmaceuticals of University of Karachi*, **4**, 85 (1986); *Chem. Abstr.*, 105 222782g

ACACIA (Leguminosae)

A. angustissima.

AMINE ALKALOID: N-methyl- β -phenethylamine.

Camp, Norvell, *Econ. Bot.*, **20**, 274 (1966)

A. argentea.

HISTAMINE ALKALOID: cinnamoylhistamine.

Johns, Lamberton, *Aust. J. Chem.*, **20**, 555 (1967)

A. aroma.

FLAVONOIDS: apigenin, 7-hydroxyflavone, isorhamnetin, isorhamnetin 3-O-glucoside, luteolin, luteolin-7-O-glucoside, myricetin, myricetin 3-O-glucoside, myricetin-3-O-rhamnoside.

Suarez *et al.*, *An. Asoc. Quim. Argent.*, **70**, 647 (1982); *Chem. Abstr.*, 97 107039z

A. auriculiformis.

FLAVANONES: 3,4',7,8-tetrahydroxyflavanone, 4',7,8-trihydroxyflavanone.

Drewes *et al.*, *Biochem. J.*, **98**, 493 (1966)

A. coven.

FLAVONOIDS: isorhamnetin, isovitexin, luteolin, quercetin, quercetin 3-O-glucoside.

Suarez *et al.*, *An. Asoc. Quim. Argent.*, **70**, 647 (1982); *Chem. Abstr.*, 97 107039z

A. concinna DC.

GLYCOSIDE: sonuside.

SAPONINS: sonunin A, sonunin B.

(Gly) Sharma *et al.*, *Curr. Sci.*, **46**, 382 (1977)

(Sap) Sharma *et al.*, *Pharmazie*, **38**, 632 (1983)

A. concinna L.

TRITERPENOIDS: acacic acid, acacidiol, acacigenin A, acacigenin B, acaninin, machaerinic acid lactone.

Varshney *et al.*, *Ind. J. Chem.*, **14B**, 228 (1976)

Anjaneyulu *et al.*, *Phytochemistry* **18**, 463 (1979)

A. constricta.

AMINE ALKALOID: N-methyl- β -phenethylamine.

NITRILE: acacipetalin.

(A) Camp, Norvell, *Econ. Bot.*, **20**, 274 (1966)

(N) Seigler *et al.*, *Phytochemistry* **15**, 219 (1976)

A. crombei.

BENZOPYRAN: crombeone.

Brandt *et al.*, *J. Chem. Soc., Chem. Commun.*, 116 (1971)

A. cultriformis Cunn. ex G.Don.

FLAVAN: (2R,3S,4S)-3',4,7-trimethoxy-3,4-flavandiol.

Fourie *et al.*, *Phytochemistry* **13**, 2573 (1974)

A. cyanophylla.

FLAVONOIDS: isorhamnetin-3-rutinoside, myricetin 4'-methylether-3-rhamnoside, quercetin-3-rutinoside.

PHENOLICS: (+)-catechol, gallic acid, (+)-gallocatechol.

Thieme *et al.*, *Pharmazie*, **30**, 736 (1975)

A. dealbata.

GLUCOSIDE: 2',3-dihydroxy-4,4',6-trimethoxychalcone-6'-glucoside.

Imperato, *Experientia*, **38**, 67 (1982)

A. farnesiana.

FLAVONOIDS: isorhamnetin-3-rutinoside, myricetin 4'-methyl ether-3-rhamnoside, quercetin-3-rutinoside.

PHENOLICS: (+)-catechol, gallic acid, (+)-gallocatechol.

Thieme *et al.*, *Pharmazie*, **30**, 736 (1975)

A. floribunda.

ISOCOUMARIN: floribundoside.

Paris *et al.*, *C.R. Acad. Sci.*, **231**, 72 (1950)

A. furcatispina.

FLAVONOIDS: isorhamnetin 3-O-glucoside, isovitexin, isovitexin rhamnoside, luteolin, quercetin 3-O-glucoside, vitexin.

Suarez *et al.*, *An. Asoc. Quim. Argent.*, **70**, 647 (1982); *Chem. Abstr.*, 97 107039z

A. greggei.

AMINE ALKALOID: N-methyl-β-phenethylamine.

Camp, Norvell, *Econ. Bot.*, **20**, 274 (1966)

A. hebeclada.

NITRILE: acacipetalin.

Seigler *et al.*, *Phytochemistry* **15**, 219 (1976)

A. horrida.

FLAVONOIDS: isorhamnetin-3-rutinoside, myricetin 4'-methyl ether-3-rhamnoside, quercetin-3-rutinoside.

PHENOLICS: (+)-catechol, gallic acid, (+)-gallocatechol.

Thieme *et al.*, *Pharmazie*, **30**, 736 (1975)

A. jacquemonti.

DITERPENOIDS: acacia hemiacetals A and B.

Joshi *et al.*, *Tetrahedron*, **35**, 1449 (1979)

A. kempearia.

FLAVANONE: 4',7,8-trihydroxyflavanone.

Drewes *et al.*, *Biochem. J.*, **98**, 493 (1966)

A. leucophloea Willd.

SAPONIN: betulinic acid 3-O-maltoside.

DITERPENOIDS: leucophleol, leucophleoxol, leucoxol.

(Sap) Mishra *et al.*, *Indian J. Pharm. Sci.*, **47**, 154 (1985)

(T) Bansal *et al.*, *Phytochemistry*, **19**, 1979 (1980)

(T) Perales *et al.*, *Tetrahedron Lett.*, 2843 (1980)

A. longifolia.

FLAVONOIDS: isorhamnetin-3-rutinoside, myricetin 4'-methyl ether-3-rhamnoside, quercetin-3-rutinoside.

PHENOLICS: (+)-catechol, gallic acid, (+)-gallocatechol.

Thieme *et al.*, *Pharmazie*, **30**, 736 (1975)

A. mearnsii.

BENZOPYRONE:

6,13-bis(3,4-dihydroxyphenyl)-6a,7a,13a,14a-tetrahydro-6H,13H-p-dioxino-[2,3c 5,6-c']-bis-[1]-benzopyran-3,11-diol.

FLAVANS: bileucofisetinidin, 3-O-methylfisetin.

(B) Drewes *et al.*, *J. Chem. Soc., C*, 897 (1969)

(F) Drewes *et al.*, *J. Chem. Soc., Chem. Commun.*, 1246 (1968)

A. melanoxyton R.Br.

QUINONES: acamelin, 2,6-dimethoxy-1,4-benzoquinone.

Schmalle *et al.*, *Tetrahedron Lett.*, 149 (1980)

A. mellifera.

FLAVONOIDS: isorhamnetin-3-rutinoside, myricetin 4'-methyl ether-3-rhamnoside, quercetin-3-rutinoside.

PHENOLICS: (+)-catechol, gallic acid, (+)-gallocatechol.

Thieme *et al.*, *Pharmazie*, **30**, 736 (1975)

A. nilotica.

FLAVONOIDS: isorhamnetin-3-rutinoside, myricetin 4'-methyl ether-3-rhamnoside, quercetin-3-rutinoside.

PHENOLICS: (+)-catechol, gallic acid, (+)-gallocatechol.

Thieme *et al.*, *Pharmazie*, **30**, 736 (1975)

A. peuce.

FLAVANONES: fustin, fustin 3,3',4',7-tetramethyl ether, fustin 3,4',7-trimethyl ether.

Weinger *et al.*, *Justus Liebigs Ann. Chem.*, **627**, 229 (1959)

***A. polyacantha* subsp. *camphylacantha*.**

FLAVONOIDS: isorhamnetin-3-rutinoside, myricetin 4'-methyl ether-3-rhamnoside, quercetin-3-rutinoside.

PHENOLICS: (+)-catechol, gallic acid, (+)-galocatechol.

Thieme *et al.*, *Pharmazie*, **30**, 736 (1975)

***A. polystachya*.**

HISTAMINE ALKALOID: cinnamoylhistamine. Johns, Lamberton, *Aust. J. Chem.*, **20**, 555 (1967)

***A. praecox*.**

FLAVONOIDS: isorhamnetin, luteolin, luteolin 7-O-glucoside, quercetin, quercetin 3-O-galactoside, vitexin.

Suarez *et al.*, *An. Asoc. Quim. Argent.*, **70**, 647 (1982); *Chem. Abstr.*, 97 107039z

***A. retinoidae*.**

FLAVONOID: 6-C-glucosylnaringenin.

Lorente *et al.*, *Phytochemistry*, **21**, 1461 (1982)

***A. rhodoxylon*.**

FLAVANONE: 4',7,8-trihydroxyflavanone.

Clark-Lewis *et al.*, *Aust. J. Chem.*, **25**, 1943 (1972)

***A. rigida*.**

AMINE ALKALOID: N-methyl-β-phenethylamine.

Camp, Norvell, *Econ. Bot.*, **20**, 274 (1966)

***A. roemeriana*.**

AMINE ALKALOID: N-methyl-β-phenethylamine.

Camp, Norvell, *Econ. Bot.*, **20**, 274 (1966)

***A. saligna*.**

FLAVONOIDS: isorhamnetin-3-rutinoside, myricetin 4'-methyl ether-3-rhamnoside, quercetin-3-rutinoside.

PHENOLICS: (+)-catechol, gallic acid, (+)-galocatechol.

Thieme *et al.*, *Pharmazie*, **30**, 736 (1975)

***A. saxatilis*.**

FLAVANS:(2R,3S,4R)-3',4,7-trimethoxy-3,4-flavandiol, (2S,3S,4S)-3',4,7-trimethoxy-3,4-flavandiol.

DuPreeze *et al.*, *J. Chem. Soc., C*, 1800 (1970)

***A. schottii*.**

AMINE ALKALOID: N-methyl-β-phenethylamine.

Camp, Norvell, *Econ. Bot.*, **20**, 274 (1966)

A. seyal.

FLAVONOIDS: isorhamnetin-3-rutinoside, myricetin 4'-methyl ether-3-rhamnoside, quercetin-3-rutinoside.

PHENOLICS: (+)-catechol, gallic acid, (+)-gallocatechol.

Thieme *et al.*, *Pharmazie*, **30**, 736 (1975)

A. sieyberana

FLAVONOIDS: isorhamnetin-3-rutinoside, myricetin 4'-methyl ether-3-rhamnoside, quercetin-3-rutinoside.

NITRILE: acacipetalin.

PHENOLICS: (+)-catechol, gallic acid, (+)-gallocatechol.

(F, P) Thieme *et al.*, *Pharmazie*, **30**, 736 (1975)

(N) Seigler *et al.*, *Phytochemistry*, **15**, 219 (1976)

A. simplicifolia.

AMINE ALKALOIDS: N(b),N(b)-dimethyltryptamine, N-methyltryptamine.

CARBOLINE ALKALOID: 2-methyl-1,2,3,4-tetrahydro- β -carboline.

Poupat *et al.*, *Phytochemistry*, **15**, 2019 (1976)

A. spirorbis.

AMINE ALKALOIDS: N(a)-trans-cinnamloylhystidine, hordenine.

Poupat *et al.*, *Phytochemistry*, **14**, 1881 (1975)

A. taxensis.

AMINE ALKALOID: N-methyl- β -phenethylamine.

Camp, Norvell, *Econ. Bot.*, **20**, 274 (1966)

A. tortilis.

FLAVONOIDS: isorhamnetin-3-rutinoside, myricetin 4'-methyl ether-3-rhamnoside, quercetin-3-rutinoside.

PHENOLICS: (+)-catechol, gallic acid, (+)-gallocatechol.

Thieme *et al.*, *Pharmazie*, **30**, 736 (1975)

A. willardiana.

AMINO ACID: willardiine.

Gmelin, *Acta Chem. Scand.*, **15**, 1188 (1961)

ACALYPHA

A. indica.

AMIDE: acalyphamide.

Talapatra *et al.*, *Indian J. Chem.*, **20B**, 974 (1981)

ACANTHOPanax (Araliaceae)

A. chiisanensis.

SAPONIN: chiisanoside.

Hahn *et al.*, *Chem. Pharm. Bull.*, **32**, 1244 (1984)

A. trifoliatus.

NORTRITERPENOIDS:

24-nor-3 α ,11 α -dihydroxylup-20(29)-en-25-oic acid,

24-nor-11 α -hydroxy-3-oxolup-20(29)-en-28-oic acid.

Lischewski *et al.*, *Phytochemistry*, **24**, 2355 (1985)

ACANTHOPHYLLUM

A. adenophorum.

DITERPENOID GLUCOSIDES: paniculides A, B, C, I, II, III, IV and V.

SAPONINS: acanthophyllum saponin, paniculatoside A.

Amanmuradov, Tanyurcheva, *Khim. Prir. Soedin.*, 326 (1969)

A. gypsophiloides.

SAPONINS: acanthophyllosides A, B, C and D.

Putieva *et al.*, *Khim. Prir. Soedin.*, 806 (1977)

ACANTHOSPERMUM (Compositae)

A. australe.

SESQUITERPENOIDS: acanthamolide, acanthaustralide, acanthoglabrolide, acantholide, acanthospermal A, acanthospermal B, acanthospermolide.

Saleh *et al.*, *J. Chem. Soc., Perkin I*, 1090 (1980)

Bohlmann *et al.*, *Phytochemistry*, 20, 1081 (1981)

A. glabratum (DC.) Willd.

SESQUITERPENE ALKALOID: acanthamolide.

SESQUITERPENOIDS: acanthoglabrolide, acantholide, dihydroacanthospermal A, glabratolide.

Saleh *et al.*, *J. Chem. Soc., Perkin I*, 1090 (1980)

A. hispidum.

SAPONIN: acanthospermol galactosidopyranoside.

SESQUITERPENOIDS:	9-acetoxy-8-(2-methylbutanoyl)-14,15-
dihydroxyacanthospermolide,	14-oxo-9-linolenyl-8-(2-methylbutanoyl)-15-
hydroxyacanthospermolide,	14-oxo-9-linoleyl-8-(2-methylbutanoyl)-15-
hydroxyacanthospermolide,	14-oxo-8-(2-methylbutanoyl)-9,15-
dihydroxyacanthospermolide,	14-oxo-9-palmityl-8-(2-methylbutanoyl)-15-
hydroxyacanthospermolide,	14-oxo-9-stearyl-8-(2-methylbutanoyl)-15-
hydroxyacanthospermolide.	

(Sap) Nair *et al.*, *Phytochemistry*, **15**, 1776 (1976)

(T) Bohlmann *et al.*, *ibid.*, **18**, 625 (1979))

ACANTHOSPORA (Lichenes)

A. chlorophana.

LACTONE ACIDS: acaranoic acid, (-)-acarenoic acid.

Santesson, *Acta Chem. Scand.*, **21**, 1993 (1980)

ACANTHOSYRIS

A. spinescens.

ACETYLENIC: 10,16-heptadecadien-8-yneic acid.

Powell *et al.*, *Biochemistry*, **5**, 625 (1966)

ACER (Aceraceae))

A. caesium.

TRITERPENOID: acerogenin.

Narayanan *et al.*, *Curr. Sci.*, **42**, 642 (1973)

A. negundo L.

SAPONIN: saponin P.

TRITERPENOIDS: acerocin, acerotin.

Kupchan *et al.*, *J. Chem. Soc., Chem. Commun.*, 969 (1970)***A. nikoense Maxim.***

FLAVONOID: quercetin, quercuritrin.

GLYCOSIDES: aceroside I, epi-rhododendrin.

PHENOLIC: ellagic acid.

STEROIDS: campesterol, β -sitosterol, β -sitosterol glucoside, stigmasterol.TRITERPENOIDS: β -amyrin, β -amyrin acetate.Inoue *et al.*, *J. Pharm. Soc., Japan*, **98**, 41 (1978)***A. saccharum Marsh.***

FLAVONOID: quercetin.

PHENOLICS: caffeoic acid, epi-coumaric acid, ferulic acid, vanillic acid.

Thakura, *J. Exptl. Bot.*, **28**, 795 (1977); *Chem. Abstr.*, 87 197304c

ACHILLEA (Compositae)

A. ageratum L.SESQUITERPENOIDS: ageratriol, agerol, β -elemen-9 β -ol.Garanti *et al.*, *Tetrahedron Lett.*, 1397 (1972)***A. biebersteinii.***

COUMARINS: isoscopoletin, scopoletin, umbelliferone.

SESQUITERPENOIDS: bibsanthin, isororidentin.

(C) Shmatova *et al.*, *Khim. Prir. Soedin.*, 561 (1985)(T) Yusupov *et al.*, *ibid.*, 580 (1979)***A. cartilaginea.***FLAVONOID: apigenin 7-O- β -D-ethylglucuronidopyranoside.Zapesochnaya *et al.*, *Khim. Prir. Soedin.*, 814 (1976)***A. collina Becker.***MONOTERPENOIDS: caryophyllene, chamazulene, limonene, α -pinene, β -pinene, sabinene.Cernaj *et al.*, *Biologia (Bratislava)*, **38**, 865 (1983); *Chem. Abstr.*, 100 3548d***A. depressa.***

SESQUITERPENOIDS: apressin.

Tsankova *et al.*, *Phytochemistry*, **20**, 1436 (1981)

A. filipendulina.

MONOTERPENOIDS: achillene, 2-bornanol, filipendulol.

Dembitskii, Yurina, *Khim. Prir. Soedin.*, 251 (1969)

Dembitskii *et al.*, *Izv. Akad. Nauk Kaz. SSR, Ser. Khim.*, 55 (1980)

A. lanulosa.

SESQUITERPENOIDS: achillin, hydroxyachillin, hydroxyachillin acetate.

White, Winter, *Tetrahedron Lett.*, 137 (1963)

A. millefolium L.

UNCHARACTERIZED ALKALOIDS: achilleine, achilletine.

FLAVONES: artemetin, casticin, 5-hydroxy-3,6,7,4'-tetramethoxyflavone.

SESQUITERPENOID: acetylbalchanolide, achillicin, achillin, millefin, millefolide.

(A) von Planta, *Justus Liebigs Ann. Chem.*, **58**, 21 (1846)

(F) Falk *et al.*, *J. Pharm. Sci.*, **64**, 1838 (1975)

(T) White, Winter, *Tetrahedron Lett.*, 137 (1963)

(T) Cuong *et al.*, *Phytochemistry*, **18**, 331 (1979)

A. moschata Wulf.

UNCHARACTERIZED ALKALOIDS: achilleine, achilletine, moschatine.

von Planta, *Justus Liebigs Ann. Chem.*, **155**, 153 (1870)

A. nobilis.

SESQUITERPENOID: anobin.

Adekenov *et al.*, *Khim. Prir. Soedin.*, 603 (1984)

A. santolina.

HALOGENATED SESQUITERPENOID: bibsanthin.

SESQUITERPENOID: sanchillin.

Mallabaev *et al.*, *Khim. Prir. Soedin.*, 793 (1984)

A. santolinoides.

MONOTERPENOIDS: camphene, camphor, 1,8-cineole, α -pinene.

Sanz *et al.*, *J. Nat. Prod.*, **48**, 993 (1985)

A. sibirica.

SESQUITERPENOID:

4β -hydroxy- $3\alpha,6,9$ -trimethyl- $2,3,3\alpha,4,5,7,9\alpha,9\beta$ -octahydroazuleno-[4,5b]-furan- $2,7$ -dione.

Kaneko *et al.*, *Phytochemistry*, **10**, 3305 (1971)

ACHRAS

A. sapota.

TRITERPENOIDS: basic acid, protobassic acid.

Heywood *et al.*, *J. Chem. Soc.*, 1124 (1939)

King *et al.*, *ibid.*, 4469 (1956)

ACHYRANTHES (Amaranthaceae)

A. fauriei Lev. et Van.

STEROID: inokosterone.

Takemoto *et al.*, *J. Pharm. Soc., Japan*, 87, **305**, 1474 (1967)

A. rubrofusca.

STEROID: rubrosterone.

Hikino *et al.*, *Tetrahedron*, **32**, 3015 (1976)

ACHYROCLINE (Compositae))

A. satureoides var. albicans.

FLAVONES: alnustin, 7-hydroxy-3,5,8-trimethoxyflavone, 3,5,7,8-tetramethoxyflavone, 5,7,8-trimethoxyflavone.

Mesquita *et al.*, *Phytochemistry*, **25**, 1255 (1986)

A. tomentosa.

FLAVONOIDS: 3,5-dihydroxy-7,8-dimethoxyflavone, 5,7,4'-trihydroxy-8,3'-dimethoxyflavone.

STEROID: β -sitosterol.

Ferraro *et al.*, *J. Nat. Prod.*, **48**, 817 (1985)

ACNISTUS

A. arborescens L.

STEROIDS: 3-ethoxy-2,3-dihydrowithacnistin, withacnistin, withaferin A.
Lavie, Yarden, *J. Chem. Soc.*, 2925 (1962)

A. breviflorus.

STEROIDS: acnistoferin, 4-hydroxy-5,6-epoxy-1-oxowithanolide.
Nittala *et al.*, *Phytochemistry*, **20**, 2735 (1981))

A. ramiflorum.

STEROIDS: acnistins A, B, C, D, E and F.
Usubillaga *et al.*, *J. Chem. Soc., Chem. Commun.*, 884 (1984)

ACOKANTHERA (Apocynaceae)

A. friesiorum.

STEROIDS: acoflorogenin, acofriosides F, L and M, acolongiflorosides E, G, H, J and K,
acovenosides A and B.

Bally *et al.*, *Helv. Chim. Acta*, **34**, 1740 (1951)
Mohr *et al.*, *ibid.*, **37**, 403 (1954)

A. longiflora.

STEROIDS: acolongifloroside J, acovenoside A, acovenoside B.
Mohr *et al.*, *Helv. Chim. Acta*, **37**, 403 (1954)

A. lyciflora.

STEROID: acoflorogenin.
Hauschild-Rogat *et al.*, *Helv. Chim. Acta*, **50**, 2299 (1967)

A. ouabaio.

STEROID: ouabain.
Fieser *et al.*, *J. Biol. Chem.*, **114**, 705 (1936)

A. schimperi (A.DC.) Benth et Hook.

STEROIDS:acoschimperosides N, P, Q, S, T and U.
Bally *et al.*, *Helv. Chim. Acta*, **41**, 446 (1958)

A. venenata G.Don.

STEROIDS: acovenosides A, B and C.

von Euw, Reichstein, *Helv. Chim. Acta*, **33**, 485 (1950)
Mohr, Reichstein, *ibid.*, **34**, 1239 (1951)**ACONITUM (Ranunculaceae)*****A. altaicum.***

DITERPENE ALKALOIDS: aconitine, mesaconitine.

Monakhova *et al.*, *Khim. Prir. Soedin.*, 113 (1965)***A. anthora.***

DITERPENE ALKALOID: atisine.

Edwards *et al.*, *Can. J. Chem.*, **32**, 465 (1954)***A. anthoroideum L.***

DITERPENE ALKALOIDS: anthoroidine, condelfine.

Tel'nov *et al.*, *Khim. Prir. Soedin.*, 383 (1971)***A. balfourii Stapf.***

DITERPENE ALKALOIDS: aconitine, pseudaconitine.

Dunstan, Carr, *J. Chem. Soc.*, **71**, 350 (1897)***A. barbatum var. puberulum.***

DITERPENE ALKALOIDS: four aconitine alkaloids.

Yu, *Yaoxue Tongbao*, **17**, 301 (1981)***A. bullatifolium var. homostictum.***DITERPENE ALKALOIDS: bullatines A, B, C, D, E, F and G. Chu, Fang, *Hua Hsueh Hsueh Pao*, **31**, 222 (1965)***A. calliantum Koidz.***

DITERPENE ALKALOIDS: hypaconitine, ignavine, mesaconitine.

Majima, Morio, *Justus Liebigs Ann. Chem.*, **476**, **171**, 210 (1929)
Ochiai *et al.*, *J. Pharm. Soc., Japan*, **72**, 816 (1952)***A. carmichaeli.***

DITERPENE ALKALOIDS: carmichaeline, Chuan-Wu base A, Chuan-Wu base B, fuzililine, hokbusine, hokbusine B, senbusines A, B and C.

Konno *et al.*, *J. Nat. Prod.*, **45**, 128 (1982)
Hikino *et al.*, *ibid.*, **46**, 178 (1983)

***A. chasmanthum* Stapf.**

DITERPENE ALKALOIDS: chasmaconitine, chasmanthine, chasmanthinine, homochasmanine, indaconitine.

Dunstan, Andrews, *J. Chem. Soc.*, **87**, 1620 (1905)

Achmatowicz, Marion, *Can. J. Chem.*, **43**, 1093 (1965)

***A. columbianum*.**

DITERPENE ALKALOIDS: columbamine, columbianine, columbidine, 8-O-methyltalatissamine.

Pelletier *et al.*, *Heterocycles*, **23**, 331 (1984)

***A. coreanum* L.**

One aconitine alkaloid.

Monakhova *et al.*, *Khim. Prir. Soedin.*, 113 (1965)

***A. crassicaule*.**

DITERPENE ALKALOIDS: crassicaulidine, crassicaulisine.

Wang, Fang, *Yaoxue Tongbao*, **17**, 300 (1982); *Chem. Abstr.*, 97 212632k

***A. czeckanovskyi*.**

DITERPENE ALKALOIDS: hyaconitine, mesaconitine.

Zhapova *et al.*, *Khim. Prir. Soedin.*, 717 (1985)

***A. deinorrhizum* Stapf.**

DITERPENE ALKALOIDS: aconitine, pseudaconitine.

Dunstan, Carr, *J. Chem. Soc.*, **71**, 250 (1897)

A. delphinifolium

DITERPENE ALKALOIDS: 14-O-acetylbrowniine, 14-O-acetylsachaconitine, 14-O-acetyltalatissamine, browniine, condelphine, delcosine, delphinifoline, isotalatizidine.

Aiyar *et al.*, *Phytochemistry*, **25**, 973 (1986)

***A. episcopate*.**

DITERPENE ALKALOIDS: episcopalidine, episcopalidine, episcopalisinine, episcopalitine.

Wang, Fang, *Yaoxue Tongbao*, **17**, 300 (1982)

***A. excelsum* Reichb.**

DITERPENE ALKALOIDS: excelsine, excelsinine.

Tel'nov *et al.*, *Khim. Prir. Soedin.*, 129 (1973)

***A. falconeri* Stapf.**

DITERPENE ALKALOIDS: falaconitine, falconerine, falconerine 8-acetate, mithaconitine.

Pelletier *et al.*, *J. Chem. Soc., Chem. Commun.*, 12 (1977)

Desai *et al.*, *Heterocycles*, **24** 1061 (1986)

A. fauriei L.

DITERPENE ALKALOID: mesaconitine.

Majima, Tamura, *Justus Liebigs Ann. Chem.*, **545**, 1 (1940)***A. ferox.***

DITERPENE ALKALOIDS: diacetylpsuedaconitine, psuedaconitine.

Purushothaman, Chandrasekharan, *Phytochemistry*, **13**, 1975 (1974)***A. finetianum Hand-Mazz.***

DITERPENE ALKALOIDS: avadharidine, N-deacetylfinaconitine, N-deacetyllappaconitine, N-deacetylranaconitine, finaconitine, lycocitonine.

Jiang *et al.*, *Zhongcaoyao*, **13**, 5 (1982); *Chem. Abstr.*, 97 107027u***A. fischeri Reichb.***

DITERPENE ALKALOID: jesaconitine.

Makoshi, *Arch. Pharm.*, **247**, 243 (1909)***A. flavum.***

DITERPENE ALKALOID: flavaconitine.

Lui *et al.*, *Yaoxue Tongbao*, **17**, 243 (1982)***A. foresti Stapf.***

DITERPENE ALKALOIDS: 8-deacetylunaconitine, foresaconitine, foresticine, forestine, liwaconitine, ludaconitine.

Chen *et al.*, *Yunnan Zhiwu Yanjiu*, **6**, 338 (1984)***A. franchetii Fin. et Gagn.***

DITERPENE ALKALOIDS: franchetine, ludaconitine.

Chen, Song, *Huaxue Xuebao*, **41**, 843 (1983)***A. geniculatum Fletcher.***

DITERPENE ALKALOIDS: chasmanine, crassicauline I, 8-deacetylunaconitine, geniconitine, talatisamine, vilmorrianine C.

Hao *et al.*, *Zhiwu Xuebao*, **27**, 504 (1985); *Chem. Abstr.*, 104 31721f***A. gigas Lev. et Van.***

DITERPENE ALKALOID: gigactonine.

Sakai *et al.*, *J. Pharm. Soc., Japan*, **97**, 1376 (1978)***A. grossedentatum Nakai.***

DITERPENE ALKALOIDS: hypaconitine, ignavine, mesaconitine.

Majima, Tomura, *Justus Liebigs Ann. Chem.*, **545**, 1 (1940)Ochiai *et al.*, *Chem. Pharm. Bull.*, **8**, 976 (1960)***A. hakusanense Nakai.***

DITERPENE ALKALOIDS: hypaconitine, ignavine, mesaconitine.

Majima, Tomura, *Justus Liebigs Ann. Chem.*, **526**, 116 (1936)
 Ochiai et al., *Chem. Pharm. Bull.*, **8**, 976 (1960)

A. hemsleyanum Pritz.

DITERPENE ALKALOIDS: guayewanines A, B and C, yunaconitine.
 Zhang et al., *Zhiwu Xuebao*, **24**, 259 (1982)

A. heterophylloides Stapf.

DITERPENE ALKALOID: heterophylloidine.
 Pelletier et al., *Tetrahedron Lett.*, 313 (1981)

A. heterophyllum Wall.

DITERPENE ALKALOIDS: atidine, atisine, heteratisine, heterophyllidine, heterophyllisine, hetidine, hetisine.

DITERPENOID: atisenol.

- (A) Pelletier et al., *Tetrahedron Lett.*, 557 (1967)
- (A) Jacobs, Craig, *J. Biol. Chem.*, **143**, 605 (1942)
- (T) Pelletier et al., *J. Nat. Prod.*, **45**, 779 (1982)

A. ibukicense Nakai.

DITERPENE ALKALOIDS: ibukinamine, mesaconitine, ryosenamine, ryosenaminol.
 Sakai et al., *Chem. Pharm. Bull.*, **31**, 3338 (1983)

A. iliense.

DITERPENE ALKALOIDS: brownine, dehydrodelcorine, delcoridine, delcorine, dictyocarpine, eldeline, ilidine, lycocitonine.

Zhamerashvili et al., *Chem. Abstr.*, 97 107014n

A. japonicum Thunb.

DITERPENE ALKALOIDS: 11-acetylisohypognavine, aljesaconitine A, aljesaconitine B, diacetylisohypognavine, higenamine, 15-hydroxyneoline, isohypognavine, takaosamine, Yakawo Base I.

UNCHARACTERIZED ALKALOIDS: japaconitine A, japaconitine B.

Okamoto et al., *J. Pharm. Soc., Japan*, **76**, 550 (1956)

Sakai et al., *ibid.*, **99**, 647 (1979)

Bando et al., *Chem. Pharm. Bull.*, **33**, 4717 (1985)

A. japonicum var. ochiai No.21.

DITERPENE ALKALOID: Takawo Base I.

Okamoto et al., *J. Pharm. Soc., Japan*, **76**, 550 (1956)

A. jinyangense W.T.Wang.

DITERPENE ALKALOID: jynosine.

Chen, Song, *Yaoxue Xuebao*, **16**, 748 (1981)

A. kamtschaticum Nakai.

DITERPENE ALKALOIDS: hypaconitine, ignavine, mesaconitine.
Ochiai et al., Chem. Pharm. Bull., **8**, 976 (1960)

***A. karacolicum* Rapo.**

DITERPENE ALKALOIDS: acetylnapelline, acetylnapelline N-oxide, aconitine, 1-benzoylkarasamine, isoboldine, karacolidine, karacoline, karasamine, napelline N-oxide, songorine.

NAPHYLAMINE: phenyl- β -naphthylamine.

- (A) Wiesner *et al.*, *Chem. Ind.*, 173 (1957)
- (A) Yunusov *et al.*, *Khim. Prir. Soedin.*, 101 (1970)
- (A) Sultankhodzhaev *et al.*, *ibid.*, 207 (1986)
- (N) Sultankhodzhaev *et al.*, *ibid.*, 406 (1976)

***A. kirinense* Nakai.**

DITERPENE ALKALOID: one aconitine base.
Monakhova et al., Khim. Prir. Soedin., 113 (1965)

***A. kongboense*.**

DITERPENOID ALKALOID: vilmorrianine A.

Wang *et al.*, *Yaoxue Tongbao*, 17, 395 (1982); *Chem. Abstr.*, 97 195756j

***A. leucostomum*.**

DITERPENE ALKALOIDS: aksinatine, aksine, excelsine, lappaconidine, lappaconitine, mesaconitine.

- Furner *et al.*, *J. Am. Chem. Soc.*, **82**, 5182 (1960)
- Tel'nov *et al.*, *Khim. Prir. Soedin.*, 129 (1973)

***A. lucidusculum* Nakai.**

DITERPENE ALKALOIDS: ignavine, lucidusculine, pseudokobusine.
Ochiai et al., J. Pharm. Soc., Japan, **75**, 976 (1955)
Natsume, Chem. Pharm. Bull., **10**, 879 (1962)

***A. lycocotonum* L.**

DITERPENE ALKALOIDS: lycaconitine, myoctonine.
Marion, Manske, Can. J. Res., **24B**, 1 (1946)

***A. majimae* Nakai.**

DITERPENE ALKALOIDS: isohypognavine, mesaconitine.
Ochiai et al., J. Pharm. Soc., Japan, **75** 638 (1955)

***A. makchangense*.**

DITERPENE ALKALOID: mesaconitine.
Tamura, J. Am. Chem. Soc., **58**, 1059 (1936)

***A. mandschuricum*.**

DITERPENE ALKALOID: mesaconitine.

Morio, *Justus Liebigs Ann. Chem.*, **476**, 187 (1929)

A. masutum.

DITERPENE ALKALOID: one uncharacterized base.

Mura'eva, *Aktualnye Voprosy Farmatsii*, **2**, 49 (1974)

A. miyabei Nakai.

DITERPENE ALKALOIDS: isodelphine, sachaconitine.

Pelletier *et al.*, *Tetrahedron Lett.*, 4027 (1977)

A. monticola Steinb.

DITERPENE ALKALOIDS: acomonine, aconosine, norsongorine, songoramine, songorine, songorine N-oxide.

Mura'eva *et al.*, *Khim. Prir. Soedin.*, 128 (1972)

A. nagarum var. heterotrichum f. delsianum.

DITERPENE ALKALOID: nagarine.

Mody *et al.*, *Heterocycles*, 91 (1982)

A. napellus L.

DITERPENE ALKALOIDS: isonapelline, luciculine, napelline, neoline, neopelline.

Wiesner *et al.*, *Chem. Ind.*, 173 (1957)

Wiesner *et al.*, *Tetrahedron Lett.*, 17 (1960)

A. nasutum Fisch. et Rehd.

DITERPENE ALKALOID: aconosine.

AMINO PHENOL: N-methyladrenaline.

(A) Mura'eva *et al.*, *Khim. Prir. Soedin.*, 128 (1972)

(Am) Samokish *et al.*, *Chem. Abstr.*, 84 102283w

A. nemorosum Bieb.

DITERPENE ALKALOIDS: two uncharacterized bases.

Monakhova *et al.*, *Khim. Prir. Soedin.*, 113 (1965)

A. nevadense Vechtr.

DITERPENE ALKALOIDS: nevadenine, nevadensine.

Gonzalez *et al.*, *Heterocycles*, **23**, 2979 (1985)

A. orientale Mill.

DITERPENE ALKALOIDS: avadcharidine, avadcharine, lappaconitine.

Kuzuvkov, Platonova, *J. Gen. Chem. USSR*, **29**, 2782 (1959)

A. Palmatum.

DITERPENE ALKALOIDS: vakatidine, vakatisine, vakatisinine, vakognavine.

Singh, Jaswal, *Tetrahedron Lett.*, 2219 (1968)

A. paniculatum Lam.

DITERPENE ALKALOIDS: paniculatine, panicutine.

Katz *et al.*, *Helv. Chim. Acta*, **65**, 286 (1982)***A. pendulum.***

DITERPENE ALKALOID: penduline.

Kiu *et al.*, *Yaoxue Xuebao*, **18**, 39 (1983)***A. polyschistum Hand-Mazz.***

DITERPENE ALKALOIDS: polyschistines A, B and C.

Wang *et al.*, *Heterocycles*, **23**, 803 (1985).***A. ponticum.***

DITERPENE ALKALOIDS: ponaconitines A, B and C, pontaconitine.

Baytop, Tanker, *Istanbul Univ. Tip. Fak. Mecm.*, **25**, 157 (1962)Rosenthaler, *Pharm. Acta Helv.*, **17**, 194 (1942)***A. puberulum.***

DITERPENE ALKALOIDS: puberaconitidine, puberaconitine, puberanidine, puberanine.

Yu, Das, *Planta Med.*, **49**, 85 (1983)***A. ranunculaefolium.***

DITERPENE ALKALOID: ranaconitine.

Moller *et al.*, *Tetrahedron Lett.*, 2189 (1969)***A. rotundifolium Kar. et Kir.***

DITERPENE ALKALOIDS: two uncharacterized bases.

Platonova *et al.*, *J. Gen. Chem. USSR*, **28**, 3126 (1958)***A. sachalinense Fr. Schmidt (Saghalien).***

DITERPENE ALKALOIDS: jesaconitine, kobusine.

Suginome, Shimanouti, *Justus Liebigs Ann. Chem.*, **545**, 220 (1940)***A. sanyoense Nakai.***

DITERPENE ALKALOIDS: hypognavine, hypognavinol.

Pelletier *et al.*, *Tetrahedron Lett.*, 795 (1971)***A. saposhnikovii.***

DITERPENE ALKALOIDS: 14-acetyldehydrotalatisamine, 14-acetyltaalatisamine, isoboldine, talatisamine.

Sultankhudzhaev *et al.*, *Khim. Prir. Soedin.*, 265 (1982)***A. senanense Nakai.***

DITERPENE ALKALOIDS: hycaconitine, ignavine.

Ochiai *et al.*, *Chem. Pharm. Bull.*, **8**, 976 (1960)

***A. septentrionale* Koelle.**

DITERPENE ALKALOIDS: lappaconitine, septemtrionaline, septentriodine.
 Pelletier *et al.*, *Heterocycles*, **12**, 377 (1979)

***A. soongoricum* Stapf.**

DITERPENE ALKALOIDS: acetylsongoramin, acetylsongorine, acetyltaletisamine, aconine, aconitine, luciculine, nemorine, neoline, norsongorine, songoramine, songorine, talatisamine.

Yunusov *et al.*, *Khim. Prir. Soedin.*, 101 (1970)

Wiesner *et al.*, *Tetrahedron Lett.*, 867 (1971)

***A. spicatum* Stapf.**

DITERPENE ALKALOID: bikhaconitine.

Tsuda, Marion, *Can. J. Chem.*, **41**, 3055 (1963)

***A. stapfianum* Hand-Mazz. var. *pubipea* Weng.**

DITERPENE ALKALOID: dolaconine.

Lui, Chen, *Huaxue Xuebao*, **39**, 808 (1981)

***A. stoeckianum* Reichb.**

DITERPENE ALKALOID: napelline.

Schultz, Berger, *Arch. Pharm.*, **262**, 553 (1924)

***A. subcuneatum* Nakai.**

DITERPENE ALKALOIDS: 14-acetyldecosine, 14-benzoylneoline, deoxyjesaconitine, gomando bases A, B and C, ignavine, jesaconitine, karakoline, neoline, penduline, tokoro bases A, B, C and D.

Bando *et al.*, *Heterocycles*, **16**, 1723 (1981)

Wada *et al.*, *Chem. Pharm. Bull.*, **33**, 3658 (1985)

***A. talassicum* M. Pop.**

DITERPENE ALKALOIDS: acetyltaletisamine, condelfine, isotalatisidine, talatisamine, talatisidine, talatisine.

Khaimova *et al.*, *Bulgarskoi Akademie Nauk*, **20**, 3 (1967)

Khaimova *et al.*, *ibid.*, **20**, 193 (1967)

Pelletier *et al.*, *J. Am. Chem. Soc.*, **89**, 4146 (1967)

Khaimova *et al.*, *Tetrahedron*, **27**, 819 (1971)

***A. tortuosum* Willd.**

DITERPENE ALKALOIDS: hypaconitine, ignavine, mesaconitine.

Ochiai *et al.*, *Chem. Pharm. Bull.*, **8**, 976 (1971)

***A. tranzschelii* Steinb.**

DITERPENE ALKALOIDS: isotalatisamine, talatisamine.

Tel'nov *et al.*, *Khim. Prir. Soedin.*, 383 (1971)

A. umbrosum.

DITERPENE ALKALOID: umbrosine.

Tel'nov *et al.*, *Khim. Prir. Soedin.*, 675 (1976)

A. varigatum.

DITERPENE ALKALOID: cammaconine.

Khaimova *et al.*, *Tetrahedron*, 27, 819 (1971)

A. vilmorrianum.

DITERPENE ALKALOIDS: vilmorrianine A, vilmorrianine B.

Chu, Chu, *Yao Hsueh Hsueh Pao*, 12, 167 (1965)

A. yesoense Nakai.

DITERPENE ALKALOIDS: anisochasmaconitine, ezochasmaconitine, ezochasmanine, lucidusculine, pseudokobusine.

Takayama *et al.*, *Heterocycles*, 15, 403 (1981)

A. zeravshanicum Steinb.

DITERPENE ALKALOIDS: heteratisine, isotalatidisine, talatisamine, zaravchanidine.

Przybylska, *Can. J. Chem.*, 41, 291 (1963)

Aneja, Pelletier, *Tetrahedron Lett.*, 669 (1964)

A. zuccharini Nakai.

DITERPENE ALKALOIDS: hyaconitine, ignavine, mesaconitine.

Ochiai *et al.*, *Chem. Pharm. Bull.*, 8, 976 (1960)

ACORUS (Araceae)

A. calamus.

SESQUITERPENOIDS: acolamone, acoragermacrone, acorenol, acorenone, acoric acid, acorone, aristolene, (-)-cadala-1,4,9-triene, τ -cadinene, calacone, calacorene, calameone, calamone, (+)-calamusenone, calarene, (-) β -curcumene, β -elemene, guaiene, isoacolamone, isocaespitol, isocalamenediol, isocalamusenone, isoshyobunone, preisocalamenediol, shyobunone, epi-shyobunone.

Yamamura *et al.*, *Tetrahedron*, 27, 5419 (1971)

Iguchi *et al.*, *Tetrahedron Lett.*, 2759 (1982)

ACOSMIUM

A. panamense.

SPARTEINE ALKALOID: (-)-4-hydroxysparteine.

Balandrin, Kinghorn, *Heterocycles*, **19**, 1931 (1982)

ACREMONIUM (Polyporaceae)

A. lazulae (Fuckel) Gams.

GLYCOSIDES: virescenosides D and H.

HALOGENATED TERPENOID: ascochlorin.

NORDITERPENOID: 19-norisopimara-7,15-dien-3-one.

(G) Cagnoli-Bellavita *et al.*, *J. Chem. Soc., Perkin* **1**, 351 (1977)

(T) Tamura *et al.*, *J. Antibiotics*, **21**, 539 (1968)

ACRITOPAPPUS

A. confertus.

DITERPENOIDS: acritoconfertic acid, 8,16 16,17-bisepoxyacritoconfertic acid, 16,17-dihydroxy-7-acritoconfertenoic acid, ent-16,17-dihydroxy-7,13-labdadien-15-oic acid, ent-16,17-dihydroxy-7,13-labdadien-15-oic acid 16-acetate, ent-16,17-dihydroxy-7,13-labdadien-15-oic acid methyl ester.

SESQUITERPENOIDS: 2,7(14)-bisaboladiene-10,11-diol, 2,7(14)-bisaboladien-10-one, 10,11-epoxy-2,7(14)-bisaboladiene.

Bohlmann *et al.*, *Phytochemistry*, **19**, 2695 (1980)

Bohlmann *et al.*, *ibid.*, **22**, 2243 (1983)

A. hagei.

DITERPENOIDS: acritopappus acid, acritopappusol, 16,18-dihydroxykolavenic acid, 16,18-dihydroxykolavenic acid 16-acetate, 2,15-dihydroxykolavenic acid lactone, 16,18-dihydroxykolavenic acid methyl ester.

Bohlmann *et al.*, *Phytochemistry*, **19**, 2695 (1980)

A. prunifolius.

SESQUITERPENOIDS: 1-acipruninone, 7(11)-eudesmen-4-ol, humulen-14-ol acetate, humulen-14-ol angelate.

Bohlmann *et al.*, *Phytochemistry*, **21**, 147 (1982)

ACRONYCHIA

A. baueri Schott.

ACRIDONE ALKALOIDS: acronidine, acronycine, 1,3-dimethoxy-10-methyl-9-acridone, melicopidine, melicopine.

TERPENE ESTERS: p-geranyl cinnamic acid methyl ester, p-geranyl ferulic acid methyl ester.

TRITERPENOID: baurenol.

(A) Brown *et al.*, *Aust. J. Chem., A* **2**, 622 (1949)

(A) Lamberton, Price, *ibid.*, **6**, 66 (1953)

(T) Crow, Michael, *ibid.*, **8**, 129 (1955)

(T) Prager, Thredgold, *Aust. J. Chem.*, **19**, 451 (1966)

A. haplophylla.

FURANOQUINOLINE ALKALOIDS: acrophyllidine, acrophylline.

Lahey, McCamish, *Tetrahedron Lett.*, 1525 (1968)

A. muelleri.

TRITERPENOID: asarinin.

Beroza *et al.*, *J. Am. Chem. Soc.*, **78**, 1242 (1956)

A. vestita.

TRITERPENOID: acrovestone.

Banerji *et al.*, *Indian J. Chem.*, **11**, 693 (1973)

ACROPTILON

A. repens.

SESQUITERPENOIDS: acrotilin, acroptin, acrorepiolide.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1152 (1981)

Serkarov *et al.*, *Khim. Prir. Soedin.*, 712 (1982)

ACTEA (Ranunculaceae)

***A. racemosa* Thunb.**

GLYCOSIDE: actein.

TRITERPENOID: glycone A.

(Gly) Linde, *Arch. Pharm.*, **300**, 982 (1967)

(T) Piancatelli, *Gazz. Chim. Ital.*, **101**, 139 (1971)

***A. rubra*.**

GLYCOSIDES: protoanemonin, ranunculin.

Linde, *Arch. Pharm.*, **300**, 982 (1967)

ACTIAS

***A. silene*.**

CAROTENOID: 3-hydroxy- β,ε -caroten-3'-one.

Kayser *et al.*, *J. Comp. Physiol.*, **104** 27 (1975)

ACTINIDIA (Dilleniaceae/Actinidiaceae)

***A. chinensis*.**

BENZOPYRAN: afzelechin.

King *et al.*, *J. Chem. Soc.*, 2948 (1955)

***A. polygama* (Sieb. et Zucc.) Maxim.**

MONOTERPENOIDS: actinidiolide, actinidol, dehydroiridodial, dehydroiridodial- β -D-gentiobioside, dihydroactinidiolide, iridalo- β -D-gentiobioside, isodihydronepetalactone, metabiether, neometatabiol, neonepetalactone.

Yoshihara *et al.*, *Chem. Lett.*, 433 (1978)

Murai, Tagawa, *Planta Med.*, **37**, 234 (1979)

ACTINODAPHNE

A. hookeri.

APORPHINE ALKALOID: actinodaphnine.

Krishna, Ghose, *J. Indian Chem. Soc.*, **9**, 429 (1932)

A. longifolia.

SESQUITERPENOIDS: longifolin, sesquirosefuran.

Hayashi *et al.*, *Chem. Ind. (London)*, 572 (1972)

ADANSONIA

A. digitata.

COUMARIN: scopoletin.

STEROID: β -sitosterol.

TRITERPENOIDS: bauerenol, bauerenol acetate, betulinic acid, friedelin, lupeol, lupeol acetate, taraxerone.

Dan *et al.*, *Fitoterapia*, **57**, 445 (1986)

ADENIUM (Apocynaceae)

A. bohemianum.

STEROIDS: abobioside, abomonoside, echubioside, echujin, somalin.

Schindler, Reichstein, *Helv. Chim. Acta*, **34**, 1732 (1951)

Striebel *et al.*, *ibid.*, **38**, 1001 (1955)

A. honghel.

SAPONINS: honghelosides A, B and C.

Hunger, Reichstein, *Helv. Chim. Acta*, **33**, 76, 1993 (1950)

A. obesum (Forsk.) Roem. et Schult.

STEROID: 16-anhydro-3-acetylgitoxigenin.

Vethaviyasar, John, *Planta Med.*, **44**, 123 (1982)

A. somalense Balf.

STEROID: somalin.

Hess, Hunger, *Helv. Chim. Acta.*, **36**, 85 (1953)**ADENOCARPUS (Leguminosae)*****A. commutatus.***DIPIPERIDYL ALKALOIDS: (-)-adenocarpine, (\pm)-adenocarpine, teidine.Schopf, Kreibich, *Naturwissenschaften*, **41**, 335 (1954)Ribas *et al.*, *Ann. Pharm. Fr.*, **51B**, 55 (1955)***A. complicates Gay.***

DIPIPERIDYL ALKALOID: teidine.

PYRIDINE ALKALOID: santiaguine.

Ribas *et al.*, *Ann. Pharm. Fr.*, **51B**, 55 (1955)***A. decorticans Boiss.***

DIPIPERIDYL ALKALOIDS: decorticasine, N-depropionyldecorticasine, N-depropionyldecorticasine butyramide, N-depropionyldecorticasine isobutyramide, N-depropionyldecorticasine isovaleramide.

Clark, *J. Am. Chem. Soc.*, **54**, 3000 (1932)Landa Velon, *Acta Cient. Compostelana*, **8**, 171 (1971)***A. foliosus.***

DIPIPERIDYL ALKALOID: teidine.

Ribas *et al.*, *Ann. Pharm. Fr.*, **51B**, 55 (1955)***A. grandiflorus.***

DIPIPERIDYL ALKALOIDS: adenocarpine, (-)-adenocarpine.

Ribas *et al.*, *Ann. Pharm. Fr.*, **51B**, 55 (1955)***A. hispanicus (Lam.) DC.***

DIPIPERIDYL ALKALOID: (+)-adenocarpine.

Santos Ruiz, Llorente, *An. R. Soc. Esp. Fiz. Qhim.*, **37**, 624 (1941)***A. intermedium.***

DIPIPERIDYL ALKALOIDS: (+)-adenocarpine, santiaguine.

Dominguez *et al.*, *An. R. Soc. Esp. Fiz. Qhim.*, **52B**, 133 (1956)***A. viscosus (Willd.) Webb et Benth.***

DIPIPERIDYL ALKALOIDS: (+)-adenocarpine, teidine.

Ribas *et al.*, *Ann. Pharm. Fr.*, **51B**, 55 (1955)

ADENOCAULON

A. adhaerescens.

ACIDS: caffeic acid, caffeic acid methyl ester.

GLUCOSIDE: caffeoyle-1- β -D-glucopyranoside.

Kulesh *et al.*, Khim. Prir. Soedin., 506 (1986)

ADENOCHLAENA (Euphorbiaceae)

A. siamensis Ridl.

DITERPENOIDS: chettaphanins I and II.

Sato *et al.*, Tetrahedron Lett., 839 (1971)

ADENOSTEMMA

A. lavenia.

DITERPENOIDS: ent-11 α ,15 α -dihydroxykaur-16-en-19-oic acid, ent-11 α -hydroxy-15 α -acetoxykaur-16-en-19-oic acid.

Hufford *et al.*, Lloydia, 42, 183 (1979)

ADENOSTYLES

A. alliariae.

PYRROLIZIDINE ALKALOIDS: platiphylline, seneciphylline.

SESQUITERPENOID: adenostylone, 6-hydroxy-9-oxo-10(11)-furanoeremophilane, isoadenostylone, neoadenostylone.

(A) Yakhontova *et al.*, Khim. Prir. Soedin., 122 (1976)

(T) Harmatha *et al.*, Tetrahedron Lett., 1409 (1969)

(T) Harmatha *et al.*, Collect Czech. Chem. Commun., 34, 1779 (1969)

ADERANTHERA

A. parvonica.

ALKALOID: one uncharacterized base.
 Patel *et al.*, *Curr. Sci.*, **16**, 346 (1946)

ADHATODA

A. vasica Nees.

QUINAZOLINE ALKALOIDS: vasicine, vasicinone, vasicoline, vasicolinone.
 SESQUITERPENOID: vasicol.
 (A) Johne *et al.*, *Helv. Chim. Acta*, **54**, 826 (1971)
 (T) Dhar *et al.*, *Phytochemistry*, **20**, 319 (1981)

ADIANTUM (Polypodiaceae)

A. capillus-veneris L.

TRITERPENOIDS: adiantone, adiantoxide, epoxyfilicane, 21'-hydroxyadiantone.
 Baddeley *et al.*, *J. Chem. Soc.*, 3891 (1961)
 Berti *et al.*, *Tetrahedron*, **25**, 2939 (1969)

A. caudatum.

ALIPHATICS: 16-hentriacantanone, hentricontane.
 STEROID: β -sitosterol.
 TRITERPENOIDS: adiantone, isoadiantone.
 Singh *et al.*, *Indian J. Pharm.*, **37**, 64 (1975)

A. monochlamys.

TRITERPENOIDS: adianene, adien-5-ene ozonide, ferna-7,9(11)-diene, fern-7-ene, fern-8-ene, 3-filicene, 21-hydroxyadiantone, ketohakonanol, neohopa-11,13(18)-diene, neohopane, neohopene, oxohakonanol.

Ageta *et al.*, *J. Chem. Soc., Chem. Commun.*, 1105 (1968)
 Ageta *et al.*, *Tetrahedron Lett.*, 899 (1978)

A. pedatum.

TRITERPENOIDS: adipedatol, ferna-7,9(11)-diene, filicenal, isofernene, neohop-11,13(18)-diene, neohopene.

Ageta, Iwata, *Tetrahedron Lett.*, 6069 (1966)

Agela et al., *J. Chem. Soc., Chem. Commun.*, 1105 (1968)

A. sulphureum.

FLAVONOIDS: galangen, isalpinin.

Wollenweber, *Phytochemistry*, **15**, 2013 (1976)

A. venestum Don.

TRITERPENOID: 21-hydroxydiantone.

Zaman et al., *Tetrahedron Lett.*, 3943 (1966)

ADINA (Rubiaceae)

A. cordifolia Roxb.

CARBOLINE ALKALOIDS: adifoline, cordifoline, 10-deoxyadifoline, deoxycordifoline.

CHROMONES: 5,7-dihydroxy-2-methylchromone, 5,7-dihydroxy-2-methylchromone 7-O- β -D-glucoside, 5,7-dihydroxy-2-methylchromone 7-O-pentosyl- β -D-glucoside.

FLAVONOIDS: chrysin, 7,4'-di-O-methyl-6-methylflavonone, gossypetin, kaempferol, naringenin 5-O-neohesperidoside.

(A) Cross et al., *J. Chem. Soc.*, 2714 (1961)

(A) Brown, Row, *J. Chem. Soc., Chem. Commun.*, 453 (1967)

(C) Brown et al., *J. Chem. Soc., Perkin I*, 1776 (1975)

(F) Srivastava et al., *Indian J. Chem.*, **22B**, 1064 (1983)

A. rubescens Hemsl.

CARBOLINE ALKALOIDS: adirubine, anhydroadirubine, deoxicordifoline lactam, deoxycordifoline lactam methyl ester, macrolidine, 5-oxostrictosidine, rubescine.

GLUCALKALOID: rubenine.

CHROMONES: noreugenin, noreugenin 7- β -D-glucoside.

(A) Brown, Fraser, *Tetrahedron Lett.*, 841 (1973)

(C) Brown et al., *J. Chem. Soc., Perkin I*, 1776 (1975)

A. rubrostipulata K. Schumann.

SPIROINDOLONE ALKALOID: rubranidine.

Denis, Bull. Acad. R. Belg., Liege, (v), **23**, 174 (1937)

ADLUMIA

***A. cirrhosa* Rap.**

OXOPROTOBERBERINE ALKALOID: α -allocryptopine.

Manske, Miller, *Can. J. Res.*, **18B**, 288 (1940)

***A. fungosa* Green.**

ISOQUINOLINE ALKALOIDS: adlumidine, adlumine.

OXOQUINAZOLIDINE ALKALOID: protopine.

Schlotterbeck, *Am. Chem. J.*, **24**, 249 (1900)

ADONIS (Ranunculaceae)

***A. aleppica* Boiss.**

STEROIDS: convallatoxol, convallotoxin, 3-epi-periplogenin, periplorhamnosin, strophanthidin, strophanthidin diginoside.

Junior *et al.*, *Dtsch. Apoth. Ztg.*, **125**, 1945 (1985); *Chem. Abstr.*, 104 17632w

***A. amurensis* (L.) Regel et Redde.**

STEROIDS: adonilide, adonitoxin, fukujusone, fukujusonorone, linoleon.

Shimizu *et al.*, *Lloydia*, **41**, 1 (1978)

***A. annua*.**

CAROTENOID: 3-hydroxyechitenone.

Egger, *Phytochemistry*, **4**, 609 (1965)

***A. chrysocathus* Hook f. ex Thoms, ex Hook.**

STEROID: adonilidic acid.

Aitova *et al.*, *Khim. Prir. Soedin.*, 847 (1971)

***A. mongolica* Sim.**

STEROIDS: adonitoxin, corchoside A, erysimoside, glucoolitoriside, K-strophanthoside, K-strophanthoside- β .

Thieme *et al.*, *Pharmazie*, **31**, 565 (1976)

***A. tienschanicus*.**

COUMARINS: cymarin, scololetin, umbelliferone.

STEROIDS: strophanin- β , strophanthidin.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 287 (1977)

***A. vernalis* L.**

AMINES: choline, cimarine.

SAPONINS: adonitoxigenin 3-[O- α -L-(2'-O-acetyl)-rhamnosido]- β -D-glucoside, adonitoxigenin 3-[O- α -L-(3'-O-acetyl)-rhamnosido]- β -D-glucoside, adonitoxigenin 3-O- α -L-rhamnosido- β -D-glucoside, strophantidin digitaloside.

STEROIDS: acetylodonitoxin, 3-acetylstrophadogenin, adonitoxin, adonitoxol, linoleon, 3-epi-periplogenin, strophadogenin, k-strophantidin, vernadigin.

(Am) Polkova *et al.*, *Chem. Ind.*, 1766 (1963)

(Sap) Winkler *et al.*, *Planta Med.*, 68 (1986)

(S) Wichtl, Junior, *Phytochemistry*, **19**, 2193 (1980)

A. wolgensis.

SAPONINS: adonitoxin, k-strophanthoside.

Yatsyuk, Komissarenko, *Khim. Prir. Soedin.*, 672 (1976)

ADOXA

A. moschatellina.

IRIDOID: adoxide.

Jensen *et al.*, *Biochem. Syst. Ecol.*, **7**, 103 (1979)

AECHMEA

A. glomerata.

ANTHOCYANINS: cyanidin, delphinidin, poenidin.

FLAVONOIDS: apigenin, luteolin, quercetin, tricin.

Asktakala *et al.*, *J. Am. Soc. Hortic. Sci.*, **100**, 546 (1975); *Chem. Abstr.*, 84 56511u

AEGICERAS

A. corniculatum.

TRITERPENOID: primulagenin A.

Margot, Reichstein, *Pharm. Acta Helv.*, **17**, 113 (1942)

A. major.

TRITERPENOIDS: aegecerin, aegiceradienol, aegiceradiol, aegigerin.

Barton, Brooks, *J. Chem. Soc.*, 257 (1951)
 Rao *et al.*, *Tetrahedron*, **20**, 973 (1964)

AEGILOPS

A. kotschyi.

DITERPENOID: abscisic acid.
Wurzburger et al., Phytochemistry, **15**, 225 (1976)

A. ovata.

BENZOPYRONE: aeginicin.
Cooper et al., Isr. J. Chem., **16**, 12 (1977)

AEGINETIA

A. indica L.

POLYENES: polyene D, polyene E, polyene F.
 SESQUITERPENE BENZOFURANONES: aeginetic acid, aeginetin, aeginetolide.
 (P) Dighe *et al.*, *Indian J. Chem.*, **15B**, 550 (1977)
 (T) Dighe *et al.*, *ibid.*, **12**, 413 (1974)
 (T) Eschenmoser *et al.*, *Helv. Chim. Acta*, **65**, 353 (1982)

AEGLE (Rutaceae)

A. marmelos Correa.

AMIDE ALKALOIDS: aegeline, marmeline.
 FURANOQUINOLINE ALKALOID: α -fagarine.
 MONOTERPENE COUMARIN: (+)-marmin.
 (A) Chatterjee, Bose, *J. Indian Chem. Soc.*, **29**, 425 (1952)
 (A) Sharma *et al.*, *Phytochemistry*, **20**, 2606 (1981)
 (T) Chatterjee, Bhattacharyya, *J. Chem. Soc.*, 1922 (1959)

AEGLOPSIS (Rutaceae)

A. chevalieri Swing.

PYRIDINE ALKALOID: halfordinol-3,3-dimethylallyl ether.

Dreyer, *J. Org. Chem.*, **33**, 3658 (1968)

AEGOPORDON

A. berariooides.

STEROIDS: sitosterol 3-O-glucoside, taraxasterol.

SESQUITERPENOID: 15-chloro-14-hydroxy-4,15-dihydroxycynaropicrin.

TRITERPENOID: lupeol.

Izaddoost *et al.*, *Fitoterapia*, **56**, 275 (1985)

AESCHRION

A. crenata Vell.

CARBOLINE ALKALOIDS: crenatidine, crenatine, isoparaine, paraine.

(A) Sanchez, Comin, *Phytochemistry*, **10**, 2155 (1971)

(T) Vitagliano, Comin, *ibid.*, **11**, 807 (1972)

AESCHYNOMENE (Leguminosae)

A. indica.

FLAVONOID: reynoutrin.

Morita *et al.*, *Chem. Abstr.*, 88 148947b

AESCULUS (Hippocastanaceae)

A. hippocastanum L.

ACIDS: linoleic acid, palmitic acid, stearic acid.

FLAVONES: 3,5-dihydroxy-3',4',7-trimethoxyflavone, myricetin 3',4',7-trimethyl ether.

QUINONE: plastoquinone 8.

SAPONINS: aescin, aesculin.

STEROID: phytosterol.

TRITERPENOIDS: barringtogenol, escigenin.

(Ac, Sap, S) Wulff, Tschesche, *Tetrahedron*, **25**, 415 (1969)

(F) Wollenweber *et al.*, *Tetrahedron Lett.*, 1601 (1970)

(Q) Whistance *et al.*, *Phytochemistry*, **9**, 737 (1970)

(T) Tschesche *et al.*, *Justus Liebigs Ann. Chem.*, **669**, 171 (1963)

A. indica.

SAPONIN: aesculuside A.

Singh *et al.*, *Planta Med.*, 409 (1986)

A. parviflora.

AMINO ACID: cis- α -amino-2-carboxycyclopropane acetic acid.

Fowden *et al.*, *Phytochemistry*, **8**, 437 (1969)

A. punduana.

ALIPHATIC: hemitracontanol.

TRITERPENOIDS: β -amyrin, barringtogenol C, barringtogenol C 21-tiglate, protoescigenin.

Prakash, Nigam, *J. Indian Chem. Soc.*, **60**, 806 (1983)

A. turbinata Blume.

SAPONIN: japoescin.

TRITERPENOID: 16-deoxybarringtogenol C.

(Sap) Matsukawa, *Chem. Zentralbl.*, II, 1719 (1935)

(T) Yosioka *et al.*, *Tetrahedron Lett.*, 2577 (1967)

AFRAMOMUM (Zingiberaceae)

A. danielii.

DITERPENOID:(E)-8 α ,17-epoxylab-12-ene-15,16-dial.

Kimbu *et al.*, *J. Chem. Soc., Perkin I*, 1303 (1979)

A. giganteum.

PHENOLICS: dehydrozingiberone, emodin, syringaldehyde, syringic acid,

de Bernardi *et al.*, *Phytochemistry*, **15**, 1785 (1976)

AFZELIA

A. bella.

AMINO ACIDS: trans-4-carboxy-L-proline, trans-4-hydroxy-L-proline.

Welter *et al.*, *Phytochemistry*, **17**, 131 (1978)

AGANOSMA

A. caryophyllata.

FLAVONOIDS: hyperin, isoquercetin, quercetin, quercetin 3-O-arabinoside, rutin.

PHENOLICS: ferulic acid, vanillic acid.

STEROID: β -sitosterol.

TRITERPENOID: ursolic acid.

Sekhar *et al.*, *Fitoterapia*, **56**, 174 (1985)

AGAPANTHUS (Amaryllidaceae)

A. africanus L.

STEROIDS: agapanthagenin, 7-dehydroagapanthagenin, 8(14)-dehydroagapanthagenin, 9(11)-dehydroagapanthagenin, 27-hydroxyruscogenin, 7-spirostene-2,3,5-triol.

Gonzalez *et al.*, *Phytochemistry*, **14**, 2259 (1975)

AGARICUS (Basidiomycetae)

A. amethystina.

STEROID: 22-dihydroergosterol.

Endo *et al.*, *Chem. Abstr.*, 71499q

A. bisporus.

HYDRAZIDE: agaritine.

Daniels *et al.*, *J. Org. Chem.*, **23**, 3229 (1962)

A. campestris.

AMIDE: (S)-agaridoxin.

Szent-Gyorgyi, *J. Org. Chem.*, **41**, 1603 (1976)

A. nebularis Batsch.

PURINE ALKALOID: nebularine.

Szent-Gyorgyi, *J. Org. Chem.*, **41**, 1603 (1976)

A. placomyces.

STEROID: ergosterol.

Endo *et al.*, *Tokyo Gakugei Daigaku Kiyo*, **27**, 124 (1975); *Chem. Abstr.*, 71499q

A. silvaticus.

NITRO COMPOUNDS: β -nitraminoalanine, N-nitroethylenediamine.

Chilton *et al.*, *Phytochemistry*, **14**, 2291 (1975)

A. xanthoderma.

PIGMENTS: agaricon, xanthodermin.

Hilbig *et al.*, *Angew. Chem.*, **97**, 1063 (1985)

AGASTACHYS (Proteaceae)

A. odorata R.Br.

ALKALOID: one uncharacterized base.

Bick *et al.*, *Aust. J. Chem.*, **32**, 2071 (1979)

AGATHIS (Araucariaceae)

A. australis.

DITERPENOIDS: agathalic acid, agatharesinol, agathic acid, agathic acid 19-methyl ester, araucarenolone, araucarol, araucarolone, araucarone, cis-communic acid, (-)-kaurene, isokaurene, isopimara-7,15-dien-3 β -ol, sclarene.

Enzell, Thomas, *Tetrahedron Lett.*, 2795 (1966)

Carman, Marty, *Aust J. Chem.*, **21**, 1923 (1968)

A. lanceolata.

NORDITERPENOID: noranticopalic acid.

Dokhac *et al.*, *Phytochemistry*, **18**, 1839 (1979)

A. microstachya.

DITERPENOIDS: agathic acid, agathic acid methyl ester.

Ruzicka, Hosking, *Helv. Chim. Acta.*, **13**, 1402 (1930)

A. robusta.

DITERPENOIDS: agathalic acid, trans-communic acid, 13β -hydroxylabda-7,14-dien-19-oic acid, 13β -hydroxylabda-8,14-dien-19-oic acid, 13β -hydroxylabda-8(17),14-dien-19-oic acid.

FLAVONE: robustaflavone.

(F) Lin *et al.*, *Phytochemistry*, **13**, 1617 (1974)

(T) Carman *et al.*, *Aust. J. Chem.*, **26**, 209 (1973)

AGATHOSMA

A. puberula.

COUMARIN: puberulin.

Bohlmann *et al.*, *Chem. Ber.*, **108**, 2955 (1975)

AGAURIA

A. salicifolia.

TRITERPENOID: agaurilol.

Dussy, Sosa, *Bull. Soc. Chim. Biol.*, **33**, 1672 (1951)

AGAVE (Agavaceae)

A. americana L.

SAPONINS: agavesaponins C, C', D, E and H, agavosides A, B and C.

STEROID: hecogenin.

DITERPENOID: piscidic acid.

(S) Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

(Sap) Kintya *et al.*, *Khim. Prir. Soedin.*, 751 (1975)

(T) Nordal *et al.*, *Acta Chem. Scand.*, **20**, 1431 (1966)

A. asperriima Jacobi.

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. atrovirens Otto.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. attenuate Baker.

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. bracteosa Wats.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. cantata Roxb.

SAPONINS: cantalanins A and B, cantalasaponin-2, cantalasaponin-4.

Pant *et al.*, *Phytochemistry*, **25**, 1491 (1986)

A. chisoensis.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. crassipina Trel.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. crysantha Peebles.

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. deserti Engelm.

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. endlichiana Trel.

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. expansa.

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. ferox Wats.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***A. fourcroydes* Baker.**

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***A. funkiana* Koch-Bouche.**

STEROID: smilagenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***A. gracilipes* Trel.**

STEROIDS: gitogenin, hecogenin, rockogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **69**, 2167 (1947)***A. havardiana* Trel.**

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***A. heterocantha* Zucc.**

STEROID: smilagenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***A. huachucensis* Baker.**

SAPONIN: agavosaponin.

STEROIDS: agavogenin, gitogenin, manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **69**, 2167 (1947)***A. lechiquilla* Torr.**

STEROIDS: gitogenin, ruzgenin, smilagenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **69**, 2167 (1947)***A. lehmannii*.**

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***A. lophantha*.**

STEROIDS: manogenin, smilagenin, tigogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***A. melliflua* Trel.**STEROID: β -sitosterol.Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***A. mescal* Koch.**

STEROID: gitogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***A. mirabilis* Trel.**

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. mitraeformis Trel.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. murpheyi Gibson.

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. palmaris Trel.

STEROID: β -sitosterol.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. palmeri Engelm.

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. parassanas Trel.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. parviflora Torr.

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. quoitefera Trel.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. roezliana Baker.

STEROIDS: mexogenin, neomexogenin, neosamogenin, sarsasapogenin.

Marker, Lopez, *J. Am. Chem. Soc.*, **69**, 2373, 2383 (1947)

A. salmiana Otto.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. scabra.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. shawii Engelm.

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

A. sisalana Perrine.

STEROIDS: barbourigenin, hainangenin, hecogenin, tigogenin.

Blunden *et al.*, *J. Nat. Prod.*, **49**, 687 (1986)***A. striata Zucc.***

STEROIDS: manogenin, neomanogenin.

Marker, Lopez, *J. Am. Chem. Soc.*, **69**, 2375 (1947)***A. stricta subsp. glauca.***

STEROID: gitogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***A. stricta subsp. nana.***

STEROID: gitogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***A. stricta subsp. purpurea.***

STEROID: tigogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***A. stricta subsp.***

ROSEA, STEROID: gitogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***A. toumeyana Trel.***

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **69**, 2167, 2375 *et seq.* (1947)***A. utahensis Trel.***

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)**AGENATUM*****A. conyzoides.***

BENZOPYRAN: conyzorigin.

Adesogan *et al.*, *J. Chem. Soc., Chem. Commun.*, 152 (1978)**AGERATINA (Compositae/Eupatorieae)**

A. aschenbornia.

CHROMENE: cepatoriochromene.

SESQUITERPENOID: ageroborniol.

Bohlmann, Fiedler, *Phytochemistry*, **17**, 566 (1978)

A. adenophora.

SESQUITERPENOID: 7,11 -dehydro-12-hydroxy-8-oxoageraphone.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1432 (1981)

A. dendroides.

CHROMENES: 6-[l-(isobutyryloxy)ethyl]-7-methoxy-2,2dimethylchromene, 7-methoxy-2,2-dimethyl-6-[1-(2-methacrylacyloxy)ethyl]-chromene.

DITERPENOIDS: epi-9-angeloyloxy-10,11-dehydrobrickelliol, dendrodinic acid, hebeclinolide, 7-hydroxy-7-hydro-6-dehydro-3,4(Z)- α -farnesene.

Bohlmann, Grenz, *Chem. Ber.*, **110**, 1321 (1977)

A. espinosera (Gray) King et Rob.

MONOTERPENOID: 10-acetoxy-8,9-epoxy-6-methoxythymol isobutyrate, 7-acetoxythymohydroquinone dimethyl ether, 6-hydroxythymohydroquinone dimethyl ether, 7-hydroxythymohydroquinone dimethyl ether.

Bohlmann *et al.*, *Chem. Ber.*, **110**, 301 (1977)

A. exertovenosa (Klatt) King et Rob.

CHROMENES: 6-[l-(isobutyryloxy)ethyl]-7-methoxy-2,2dimethylchromene, 7-methoxy-2,2-dimethyl-6-[1-(2-methylacrylacyloxy)ethyl]-chromene.

DITERPENOIDS: epi-9-angeloyloxy-10,11-dehydrobrickelliol, dendrodinic acid, hebeclinolide, 7-hydroxy-7-hydro-6-dehydro-3,4(Z)- α -farnesene.

Bohlmann, Grenz, *Chem. Ber.*, **110**, 1321 (1977)

A. glabrata.

MONOTERPENOID: 10-acetoxy-8,9-epoxy-6-methoxythymol isobutyrate, 10-benzoyloxy-8,9-epoxy-6-hydroxythymol isobutyrate, 10-benzoyloxy-8,9-epoxy-6-methoxythymol isobutyrate, 10-benzoyloxy-8,9-epoxythymol isobutyrate, 10-cinnamoyloxy-8,9-epoxy-6 β -hydroxythymol isobutyrate, 10-isobutyryloxy-8,9-dehydrothymol isobutyrate, isocostic acid, 10-(2-methylbutyryloxy)-8,9-dehydrothymol isobutyrate, 3-oxoisocostic acid.

Bohlmann *et al.*, *Chem. Ber.*, **110**, 301 (1977)

A. petiolare.

MONOTERPENOID: 10-acetoxy-8,9-epoxy-6-methoxythymol isobutyrate.

SESQUITERPENOID: 3-acetoxy-4,7(11)-muuroladien-8-one, 2-acetoxy-3,4,6,11-tetrahydrocadinan-7-one, petiolarde.

Bohlmann *et al.*, *Chem. Ber.*, **110**, 301 (1977)

A. pichinchensis.

CHROMENES: 6-[1-(isobutyryloxy)ethyl]-7-methoxy-2,2-dimethylchromene, 7-methoxy-2,2-dimethyl-6-[1-(2-methacryloyloxy)ethyl]-chromene.

DITERPENOIDS: epi-9-angeloyloxy-10,11-dehydrobrickelliol, dendroidinic acid, hebeclinolide, 7-hydroxy-7-hydro-6-dehydro-3,4(Z)- α -farnesene.

Bohlmann, Grenz., *Chem. Ber.*, **110**, 1321 (1977)

A. riparia (Regel) King et Rob.

CHROMENES: ageratiparin, 13-feruloyloxyeupatoriochromene, 13-feruloyloxyvanillochromene, 13-hydroxyacetovanillochromene, 6-(1-hydroxyethyl)-eupatoriochromene B, 6-hydroxyeupatoriochromene B, 13-hydroxymethylripariochromene, 13-hydroxyripariochromene.

Banerjee *et al.*, *Phytochemistry*, **24**, 2688 (1985)

A. scorodinoides.

CHROMENE: acetovanillochromene.

Bohlmann *et al.*, *Chem. Ber.*, **110**, 301 (1977)

A. tomentella.

FLAVONOIDS: 6-methoxyapigenin, 6-methoxylutein, 6-methoxylutein 7,3'-dimethyl ether, 6-methoxylutein 7,4'-dimethyl ether, 6-methoxylutein 3'-methyl ether, 6-methoxylutein 7,3',4'-trimethyl ether.

Fang *et al.*, *J. Nat Prod.*, **49**, 737 (1986)

AGERATUM (Compositae)

A. conyzoides.

CHROMENES: ageratochromene, demethoxyageratochromene.

Pham Truong Thi Tho *et al.*, *Tap Chi Hoat Dong Khoa Hoc*, **14**, 29 (1976); *Chem. Abstr.*, 86 2364w

A. fastigiatum.

SESQUITERPENOID: fastigiolide.

Bohlmann *et al.*, *Phytochemistry*, **22**, 983 (1983)

A. houstonianum.

BENZOFURAN: ageratone.

Anthonsen *et al.*, *Acta Chem. Scand.*, **24**, 721 (1970)

A. mexicanum Sims.

FLAVONOIDS: kaempferol, kaempferol 3,7-diglucoside, kaempferol 3-(O-rhamnosylglucoside), quercetin, quercetin 3,7-diglucoside, quercetin 3-(O-rhamnosylglucoside).

Mionskowski *et al.*, *Pol. Pharm.*, **32**, 633 (1975); *Chem. Abstr.*, 85 189221s

AGLAIA (Meliaceae)

A. odorata Lour.

AMIDE ALKALOIDS: odorine, odorinol.

TRITERPENOIDS: aglaiol, aglaiondiol, (24R)-aglaitriol, (24Z)-aglaitriol.

(A) Shiengthong *et al.*, *Tetrahedron Lett.*, 2249 (1979)

(T) Shiengthong *et al.*, *Tetrahedron.*, **30**, 2211 (1974)

A. roxburghiana.

TRITERPENOIDS: roxburghiadiols A and B.

Purushothaman *et al.*, *Indian Drugs*, **23**, 260 (1986); *Chem. Abstr.*, 105 75902r

AGONIS

A. abnormis.

SESQUITERPENOID: α -humulene.

Chapman, *J. Chem. Soc.*, 785 (1928)

AGRANTHUS

A. pungens.

SESQUITERPENOID: agriantholide.

Bohlmann *et al.*, *Phytochemistry*, **19**, 1873 (1980)

AGRIMONIA (Rosaceae)

A. pilosa.

ISOCOUMARIN: agrimonolide.

Yamato *et al.*, *J. Pharm. Soc., Japan*, **76**, 1086 (1958)

AGROSTEMMA (Caryophyllaceae)

A. githago L.

SAPONINS: githagenin, githagin, githagoside.

Wedekind, Schicke, Z. Physiol. Chem., **190**, 1 (1930)

AILANTHUS (Simaroubaceae)

A. altissima (Mill.) Swingle.

CARBOLINE ALKALOIDS: canthin-6-one, 1-hydroxycanthin-6-one, 1-(2'-hydroxyethyl)-4-methoxy- β -carboline, methoxycanthin-6-one, methoxycanthin-6-one-3-N-oxide.

COUMARIN: scopoletin.

STEROID: β -sitosterol.

DITERPENOIDS: shinjulactones A, B, C, D, E, F, G, H, I, J and K.

(A) Varga *et al.*, Fitoterapia, **52**, 183 (1981)

(C, S) Szendrei *et al.*, Herba Hung., **16**, 15 (1977); Chem. Abstr., 88 166719h

(T) Naora *et al.*, Bull Chem. Soc., Japan, **56**, 3694 (1983)

(T) Furuno *et al.*, ibid., **57**, 2484 (1984)

A. excelsa.

CARBOLINE ALKALOID: 8-hydroxycanthin-6-one.

UNCHARACTERIZED ALKALOID: malanthine.

DITERPENOIDS: 13,18-dehydroexcelsin, 13,18-dehydroglaucarubol 15-isovalerate, excelsin.

TRITERPENOID:(3S,24S,25-trihydroxytirucall-7-ene.

(A) Cordell *et al.*, Lloydia, **41**, 166 (1978)

(T) Khan *et al.*, Phytochemistry, **19**, 2484 (1980)

A. glandulosa.

DITERPENOID: amarylade.

Stocklin *et al.*, Tetrahedron Lett., 2399 (1970)

A. malabarica DC.

TRITERPENOIDS: ailanthol, epoxymalabaricol, malabaricanediol, malabaricol.

Joshi *et al.*, Tetrahedron Lett., 1273 (1985)

AINSLEAEA

A. aciflora.

SESQUITERPENOID: taraxinic acid.

Jiu, *J. Pharm. Soc., Japan*, **102**, 911 (1982)

AJANIA

A. fastigiata.

FLAVONOID: apigenin 6,8-diglucopyranoside.

SESQUITERPENOIDS: ajadin, ajafin, ajanin, ajaphyllin, chlorfastin, isochrysartemin B, rupicolin B, rupicolin B oxide.

(F) Chumbalov *et al.*, *Khim. Prir. Soedin.*, 661 (1976)

(T) Yusupov *et al.*, *ibid.*, 579 (1979)

(T) Yusupov *et al.*, *ibid.*, 390 (1983)

A. fruticulosa.

FLAVONOIDS: artemiselin, axillarin, 5,3',4'-trihydroxy-3,6,7-trimethoxyflavone.

Belenovskaya *et al.*, *Khim. Prir. Soedin.*, 575 (1977)

AJUGA (Labiatae)

A. chamaepitys.

DITERPENOID: ajugapitin.

Hernandez *et al.*, *Phytochemistry*, **21**, 2909 (1982)

A. decumbens Thunb.

STEROID: ajugalactone.

Imai *et al.*, *Japanese Patent*, **08**, 640 (1973)

A. incisa.

STEROIDS: ajugasterones A, B and C.

Imai *et al.*, *J. Chem. Soc., Chem. Commun.*, **82**, 546 (1969)

A. iva.

STEROIDS: ivains I, II, III and IV.

Camps *et al.*, *Chem. Lett.*, 1053 (1982)***A. nipponensis.***

POLYSACCHARIDE: ajugose.

DITERPENOIDS: ajugamarin, dihydroajugamarin.

(Sacc) Herissey *et al.*, *C.R. Acad. Sci.*, **259**, 824 (1954)(T) Shimomura *et al.*, *Chem. Pharm. Bull.*, **31**, 2192 (1983)***A. remota.***

DITERPENOIDS: 6-acetoxyajugarin II, ajugarins I, II, III, IV and V.

Kubo *et al.*, *J. Chem. Soc., Chem. Commun.*, 618 (1982)Kubo *et al.*, *Chem. Lett.*, 223 (1983)***A. reptans.***

IRIDOID: ajugol, ajugoside, harpagide, harpagide acetate.

STEROIDS: ajugalactone, ajugasterone, β -ecdysone, 29-norcyasterone, 29-norsengosterone, polypodine B.

DITERPENOIDS: ajugareptansin, ajugareptansone A, ajugareptansone B, reptioside.

(I, T) Camps *et al.*, *Chem. Lett.*, 1093 (1981)(S) Camps *et al.*, *ibid.*, 1313 (1982)***A. spectabilis Nakai.***

IRIDOID: jaranidoside.

Chung *et al.*, *Saenjak Hakhoe Chi*, **11**, 15 (1980)***A. turkestanica.***

STEROIDS: ajugalactone, cyasterone, ecdysterone, turkesterone.

Usmanov *et al.*, *Khim. Prir. Soedin.*, 710 (1977)

AKANIA

A. lucens.

TRITERPENOID: betulonic acid.

Robinson *et al.*, *Phytochemistry*, **9**, 907 (1970)

AKEBIA (Lardizabalaceae)

A. lagerocemora.

TRITERPENOID: 3-O-acetyloleanolic acid.

Braga *et al.*, An. Acad. Bras. Cienc., **39**, 249 (1967)

A. quinata (Houtt.) Decne.

SAPONINS: akeboasides St-a, St-b, St-c, St-d, St-e, St-f, St-g1, St-g2, St-h, St-j, St-k and St-r.

NORTRITERPENOID: norarjunolic acid.

TRITERPENOID: 3-O-acetyloleanolic acid.

(Sap) Fujita *et al.*, J. Pharm. Soc., Japan, **94**, 194 (1974)

(T) Higuchi *et al.*, Chem. Pharm. Bull., **24**, 1314 (1978)

A. trifoliata.

ANTHOCYANINS: chrysanthemin, cyanidin 3-p-coumarylxylosylglucoside, cyanidin 3-xylosylglucoside.

TRITERPENOID: 3-O-acetyloleanolic acid.

(An) Ishikura *et al.*, Phytochemistry, **15**, 442 (1976)

(T) Braga *et al.*, An. Acad. Bras. Cienc., **39**, 249 (1967)

ALAFIA

A. multiflora.

PYRROLIZIDINE ALKALOID: alafine.

Paris *et al.*, Ann. Pharm. Fr., **29**, 57 (1971)

ALANGIUM (Alangiaceae)

A. chinense.

PYRIDINE ALKALOID: anabasine.

Guo *et al.*, Yaoxue Tongbao, **17**, 390 (1982); Chem. Abstr., 97 195755h

A. chinense var. pauciflorum.

PYRIDINE ALKALOID: anabasine.

Guo *et al.*, *Yaoxue Tongbao*, **17**, 390 (1982); *Chem. Abstr.*, 97 195755h

A. lamarckii Thw.

BENZOQUINOLIZIDINE ALKALOIDS: alancine, alangicine, alangide, alangimarcinine, demethylcephaeline, demethylpsychotrine, demethyltubulosine, isotuberosine, marckiine.

PROTOBERBERINE ALKALOID: bharatamine.

QUINOLINE ALKALOID: ankorine.

UNCHARACTERIZED ALKALOIDS: alangine, alangine A, alangine B.

UNCHARACTERIZED ALKALOIDS: lamarchinine, marckidine.

STEROID: 24R-stigmasta-5,22,25-trien-3 β -ol.

TRITERPENOIDS: alangidiol, isoalangidiol.

(A) Pakrashi *et al.*, *Experientia*, 1081 (1970)

(A) Chattopadhyay *et al.*, *Heterocycles*, **22**, 1965 (1984)

(S) Pakrashi, Achari, *Tetrahedron Lett.*, 365 (1971)

(T) Pakrashi, Ali, *ibid.*, 2143 (1967)

(T) Kapil *et al.*, *J. Chem. Soc., Chem. Commun.*, 904 (1971)

A. salviifolium.

PYRIDINE ALKALOID: anabasine.

Guo *et al.*, *Yaoxue Tongbao*, **17**, 390 (1982); *Chem. Abstr.*, 97 195755h

A. villosum.

NORTriterpenoids: deoxyemmolactone, isodeoxyemmolactone.

Burbage, Jewers, *J. Chem. Soc., D*, 814 (1970)

ALATUS

A. striatus.

SESQUITERPENOID: alatol

Sugiura *et al.*, *Tetrahedron*, **35**, 3465 (1982)

ALBATRELLUS (Basidiomycetae)

A. ovinus.

POLYPRENIOIDS: grifolin, neogrifolin, scutigerol, E,E-5-methyl-2-(3,7,11-trimethyl-2,6,10-dodecatrienyl)-1,3-dimethoxybenzene, E,E-5-methyl-4-(3,7,11-trimethyl-2,6,10-

dodecatrienyl)-1,3-dimethoxybenzene, E,E-5-methyl-2-(3,7,11-trimethyl-2,6,10-dodecatrienyl)-1-hydroxy-3-methoxybenzene.

Besl *et al.*, *Chem. Ber.*, **110**, 3770 (1977)
Vrkoc *et al.*, *Phytochemistry*, **16**, 1409 (1977)

A. subrubescens.

POLYPRENOIDS: neogrifolin, scutigeral.

Besl *et al.*, *Chem. Ber.*, **110**, 3770 (1977)

ALBIZIA (ALBIZZIA) (Leguminosae)

A. amara.

PHENOLICS: melacacidin, (-)-2,3-cis-3,4-cis-3-O-methylmelacacidin, 3'-O-methylmelanoxetin.

Deshpande *et al.*, *Indian J. Chem.*, **15B**, 201 (1977)

A. anthelmintica.

SAPONINS: deglucomusennin, musennin.

TRITERPENOID: acacic acid.

(Sap) Tschesche, Kammerer, *Justus Liebigs Ann. Chem.*, **724**, 183 (1969)

(T) Varshney, Shamsuddin, *Tetrahedron Lett.*, 2055 (1964)

A. julibrissin (Willd.) Durazz.

STEROID: albaside.

TRITERPENOID: acacic acid.

(S) Sergienko *et al.*, *Khim. Prir. Soedin.*, 708 (1977)

(T) Varshney, Shamsuddin, *Tetrahedron Lett.*, 2055 (1964)

A. lanata.

Four flavonoid glycosides.

Zadorozhnii *et al.*, *Khim. Farm. Zh.*, **20**, 855 (1986); *Chem. Abstr.*, 107 151179u

A. lebbek.

FLAVONOID: vicenin II.

PHENOLICS: melacacidin,

(-)-2,3-cis-3,4-cis-3-O-methylmelacacidin, melanoxetin, 3'-O-methylmelanoxetin.

SAPONIN: lebbekanin A.

TRITERPENOIDS: acacic acid, albigenic acid, albigenin.

(F) Morita *et al.*, *Chem. Abstr.*, 88 148947b

(P) Deshpande *et al.*, *Indian J. Chem.*, **15B**, 201 (1977)

(Sap) Varshney *et al.*, *ibid.*, **11**, 1094 (1973)

(T) Barua, Raman, *Tetrahedron*, **18**, 155 (1962)

(T) Varshney, Shamsuddin, *Tetrahedron Lett.*, 2055 (1964)

A. procera.

ISOFLAVONES: biochanin A, daidzein, formononetin, genistein.

SAPONIN: proceranin A.

TRITERPENOID: proceragenin A.

(I) Deshpande *et al.*, *Indian J. Chem.*, **15B**, 201 (1977)

(S, T) Varshney *et al.*, *Arch. Pharm.*, **305**, 280 (1972)

ALCHORNEA (Euphorbiaceae)

A. cordifolia.

ACID: (+)-cis-14,15-epoxy-cis-11-eicosenoic acid.

Kleinan *et al.*, *Lipids*, **12**, 610 (1977)

A. floribunda.

IMIDAZOLE ALKALOID: alchorneinone.

IMIDAZOPYRIMIDINE ALKALOIDS: alchorneine, isoalchorneine.

Khuong-Huu-Laine *et al.*, *Tetrahedron*, **28**, 5207 (1972)

A. hirtella Benth.

IMIDAZOPYRIMIDINE ALKALOID: isoalchorneine.

Khuong-Huu-Laine *et al.*, *Tetrahedron*, **28**, 5207 (1972)

A. javanensis (Bl.) Muell.-Arg.

IMIDAZOPYRIMIDINE ALKALOIDS: alchornidine, alchornine.

Hart *et al.*, *J. Chem. Soc., Chem. Commun.*, 1484 (1969)

ALEANTARA

A. ekmaniana.

SESQUITERPENOID: epi-ilicic acid.

Bohlmann *et al.*, *Phytochemistry*, **21**, 456 (1982)

ALECTORIA (Usneaceae)

A. fremontii.

STEROID: fremontol.

Solberg, *Acta Chem. Scand.*, **29B**, 145 (1975)***A. nigricans.***

ACID: alectorionic acid.

Solberg, *Z. Naturforsch.*, **22B**, 777 (1967)***A. ochroleuca (Hoffm.) Massal.***

ACID: barbatic acid.

Robertson *et al.*, *J. Chem. Soc.*, 1675 (1932)

ALEURIA (Ascomycetae)

A. aurantica.

CAROTENOID: aleuriaxanthin.

Kjosen, Liaaen-Jensen, *Acta Chem. Scand.*, **27**, 2495 (1973)

ALEURITES

A. fordii Hemsl.

DITERPENOIDS: 13-acetyl-16-hydroxyphorbol, 16-hydroxyphorbol, 12-O-palmitoyl-4-deoxy-16-hydroxylumiphorbol-13-acetate, 12-O-palmitoyl-4-deoxy-16-hydroxyphorbol-13-acetate, 12-O-palmitoyl-16-hydroxyphorbol-13-acetate, 1-O-palmitoyl-4,16-dihydroxyphorbol-13-acetate.

STEROIDS: campesterol, β -sitosterol, stigmasterol.(T) Okuda *et al.*, *Chem. Pharm. Bull.*, **22**, 971 (1974)(T) Hiroto, Kushimizu, *Agr. Biol. Chem.*, **43**, 2523 (1979)(S) Okuda *et al.*, *Phytochemistry*, **14**, 2513 (1975)***A. montana.***

DITERPENOIDS: 13-acetyl-16-hydroxyphorbol, aleuritolic acid.

Misra, Khastgir, *J. Indian Chem. Soc.*, **46**, 1063 (1969)

ALHAGI

A. kirghisorum.

FLAVONOIDS: isorhamnetin 3- β -D-galactopyranoside, isorhamnetin 3-O-galactopyranosyl-6-rhamnopyranoside, isorhamnetin 3- β -D-glucopyranoside, isorhamnetin 3- β -D-glucopyranoside-2- β -D-glucofuranoside, isorhamnetin 3- α -L-rhamnofuranoside-6- β -D-glucopyranoside.

Burasheva *et al.*, *Khim. Prir. Soedin.*, 280 (1977)

ALISMA (Alismataceae)

A. plantago-aquatica L.

SESQUITERPENOIDS: alismol, alismoxide.

Oshima *et al.*, *Phytochemistry*, 22, 183 (1983)

A. plantago-aquatica var. orientalis.

TRITERPENOIDS: acetylalisol A, acetylalisol B, alisol A, epi-alisol A, alisol B, alisol C, alisol C 23-acetate.

Myrata *et al.*, *Tetrahedron Lett.*, 103 (1968)

A. rhizoma.

TRITERPENOIDS: alisol C, alisol C 23-acetate.

Murata *et al.*, *Chem. Pharm. Bull.*, 18, 1347, 1369 (1970)

ALKANNA

A. hirsutissima.

PIGMENT: arnebin VII.

Dhar *et al.*, *Indian J. Chem.*, 11, 528 (1973)

A. orientalis.

FLAVONES: kaempferol, kaempferol-3,6-dimethylether, kaempferol 3-glucoside, kaempferol 7-glucoside, kaempferol 3-rutinoside, quercetin, quercetin 3-glucoside, quercetin 3-rutinoside.

Mansour *et al.*, *J. Nat. Prod.*, **49**, 355 (1981)

ALLAMANDA (Apocynaceae)

A. cathartica L.

SESQUITERPENOIDS: allamandicin, allamandin, allamdin.

Kupchan *et al.*, *J. Org. Chem.*, **39**, 2477 (1974)

A. nerifolia

IRIDOID: protoplumericin.

Yamauchi *et al.*, *Chem. Pharm. Bull.*, **29**, 3051 (1981)

ALLANBLACKIA (Guttiferae/Clusiidae)

A. floribunda Oliv.

XANTHONES: 4',5'-dihydro-1,6,7-trihydroxy-4',4',5'-trimethylfuranoxanthone, 1,5-dihydroxyxanthone, 1,7-dihydroxyxanthone, 1,3,7-trihydroxy-2-(1,1,-dimethylprop-2-enyl)-xanthone, 1,3,7-trihydroxy-2-(3-methylbut-2-enyl)-xanthone.

Bandaranayake *et al.*, *Phytochemistry*, **14**, 265, 1878 (1975)

ALLAUDIOPSIS

A. marnieriana

FLAVONOID: 5,7,3'-trihydroxy-6,8-di-C-methyl-4',5'-dimethoxyflavanone.

Rabesa *et al.*, *Phytochemistry*, **22**, 2092 (1983)

ALLIUM (Liliaceae)

A. albanum

STEROID: tigogenin.

Ismailov *et al.*, *Khim. Prir. Soedin.*, 550 (1976)

A. cepa.

AMINO ACIDS: τ -L-glutamyl-S-(2-carboxypropyl)-cysteinglycine, τ -glutamylisoleucine, τ -glutamyl-S-methylcysteine, τ -glutamylvaline, τ -leucine, τ -methionine, τ -phenylalanine.

SAPONINS: alliofuroside A, alliospiroside A.

(Am) Virtanen *et al.*, *Z. Physiol. Chem.*, **322**, 8 (1960)

(Sap) Kracets *et al.*, *Khim. Prir. Soedin.*, 188 (1986)

A. cepa var. agrogatum.

SULPHIDES: dimethyltrisulphide, d-(1-propyl)-disulphide, methylpropenyldisulphide, methylpropenyltrisulphide, methylpropyltrisulphide.

Jiang *et al.*, *Chem. Abstr.*, 105 206275p

A. erubescens.

STEROIDS: eruboside A, eruboside B.

Chincharadze *et al.*, *Khim. Prir. Soedin.*, 509 (1979)

A. giganteum.

STEROIDS: aginoside, gantogenin, neoagigenin, neoascigenin.

Kel'ginbaev *et al.*, *Khim. Prir. Soedin.*, 480 (1976)

A. karatavense.

STEROIDS: karavatigenin A, karavatigenin B, karavatigenin B 3-O- β -D-glucopyranoside, karavatosides A, B, C, D and E.

Kristulas *et al.*, *Khim. Prir. Soedin.*, 530 (1974)

Vollerner *et al.*, *ibid.*, 69 (1984)

A. narcissiflorum.

STEROIDS: alliumosides A, B, C, D and E.

Krokhmalyuk, Kintya, *Khim. Prir. Soedin.*, 184 (1976)

A. nerinifolium Bak.

SULPHIDES: dimethyltrisulphide, di-(1-propyl)-disulphide, methylpropenyldisulphide, methylpropenyltrisulphide, methylpropyltrisulphide.

Jiang *et al.*, *Chem. Abstr.*, 105 206275p

A. rubellum.

STEROID: tigogenin.

Ismailov *et al.*, *Khim. Prir. Soedin.*, 550 (1976)

A. sativum.

AMINO ACIDS: τ -glutamyl-S-allylcysteine, τ -glutamyl-S-(2-carboxy-1-propyl)-cysteinglycine.

STEROIDS: alliin, allicin.

(Am) Matikkala *et al.*, *Acta Chem. Scand.*, **16**, 261 (1962)

(S) Cavallito *et al.*, *J. Am. Chem. Soc.*, **66**, 1950 (1944)

A. schoenoprasum.

ALIPHATICS: dotriacanol, octacosanol, triacontanol.

AMINO ACID: τ -glutamyl-S-allylcysteine.

(Al) Isono *et al.*, *J. Pharm. Soc., Japan*, **96**, 86 (1976)

(Am) Matikkala *et al.*, *Acta Chem. Scand.*, **16**, 2461 (1962)

A. turcomanicum.

SAPONINS: turosides A, B and C, turoside C 6-O-benzoate.

STEROIDS: alliogenin, neoagigenin, neoagigenin 6-O-benzoate, neoagigenone, neoalliogenin, neoascigenin 6-O-benzoate, yuccagenin.

(Sap) Pirtskhaleva *et al.*, *Khim. Prir. Soedin.*, 514 (1979)

(S) Pirtskhaleva *et al.*, *ibid.*, 534 (1977)

ALMEIDEA

A. guyanensis.

FURANOQUINOLINE ALKALOID: almeine.

Moulis *et al.*, *Phytochemistry*, **22**, 2095 (1983)

ALNUS (Betulaceae)

A. glutinosa (L.) Gaertn.

STEROIDS: brassinolide, castasterone.

TRITERPENOID: alnusenone, taraxerol, taraxerone.

(S) Plattner *et al.*, *J. Nat. Prod.*, **49**, 540 (1986)

(T) Chapon, David, *Bull. Soc. Chim.*, 333 (1953)

A. hirsuta.

PHENOLICS: hannokinin, hannokinol.

Nomura *et al.*, *Phytochemistry*, **20**, 1097 (1981)

A. incana (L.) Moench.

TRITERPENOID: alnincanone, taraxerol, taraxerone.

Ryabinin *et al.*, *J. Gen. Chem. USSR*, **32**, 2056 (1962)

A. pendula.

FLAVONE: alnustinol.

TRITERPENOID: 12-deoxyalnustic acid.

(F) Asakawa *et al.*, *Bull. Chem. Soc., Japan*, **44**, 2761 (1971)

(T) Suga *et al.*, *Phytochemistry*, **25**, 1243 (1986)

A. serrulatoides (Ait.) Willd.

TRITERPENOIDS: alnuselide, alnuseric acid, alnuserol, alnuserrudiolone, alnuserrutriol, (20S,24R)-20,24-epoxy-11 α -hydroxydammaran-3-one acetate, (20S,24R)-20,24-epoxy-11 α -hydroxy-24-methyldammaran-3-one.

Hirata *et al.*, *Chem. Lett.*, 711 (1977)

Hirata *et al.*, *Bull. Chem. Soc., Japan*, **55**, 369 (1982)

A. sieboldiana.

FLAVONE: strobopinin.

HEPTANOIDS: yashabushidiol A, yashabushidiol B, yashabushiketodiol A, yashibushiketodiol B, yashabushitriol.

TRITERPENOID: alnustic acid.

(F) Asakawa *et al.*, *Bull. Chem. Soc., Japan*, **44**, 2761 (1971)

(H) Hashimoto *et al.*, *Chem. Pharm. Bull.*, **34**, 1846 (1986)

(T) Suga *et al.*, *Bull. Chem. Soc., Japan*, **52**, 1698 (1979)

ALOE (Liliaceae)

A. arborescens.

CAROTENOIDS: β -carotene, cryptoxanthin, lutein, violaxanthin, β -zeaxanthin.

Kudritskaya *et al.*, *Khim. Prir. Soedin.*, 573 (1985)

A. barbadensis.

ACID: aloetic acid.

Hoffenberg *et al.*, *Seifen Oele Fette Wachse*, **105**, 499 (1979)

A. saponaria.

ANTHRACENES: aloesaponols I, II, III and IV, aloesaponol IV 8-O- β -D-glucoside.

ANTHRAQUINONES: asphodalin, deoxyerytholaccin, 3,6,8-trihydroxy-1-methylantraquinone 2-carboxylic acid methyl ester.

PHENOLIC GLYCOSIDES: aloenin, aloesaponol I 6-O- β -glucopyranoside, aloesaponol II 6-O- β -glucopyranoside, aloesaponol III 8-O- β -glucopyranoside, aloesin, isoeleutheroside 5-O- β -D-glucopyranoside.

SAPONINS: aloesaponarin I, aloesaponarin II.

(Anthracenes) Yagi *et al.*, *Chem. Pharm. Bull.*, **25**, 1771 (1977)

(An) Makino *et al.*, *ibid.*, **26**, 1111 (1978)

(P) Yagi *et al.*, *Chem. Pharm. Bull.*, **25**, 1771 (1977)

(Sap) Cameron *et al.*, *J. Chem. Soc., Chem. Commun.*, 688 (1978)

ALPHITONIA

***A. excelsa* Boiss.**

TRITERPENOIDS: alphitexolide, alphitolic acid, betulinic acid, ceanothic acid.

Branch *et al.*, *Aust. J. Chem.*, **25**, 2209 (1972)

***A. petriei* Braid et White.**

TRITERPENOIDS: alphitolic acid, alphitonin, betulinic acid, ceanothic acid, lupeol.

Branch *et al.*, *Aust. J. Chem.*, **25**, 2209 (1972)

***A. whitei* Braid.**

TRITERPENOIDS: alphitolic acid, betulinic acid, ceanothic acid.

Branch *et al.*, *Aust. J. Chem.*, **25**, 2209 (1972)

ALPINIA (Zingiberaceae)

***A. flabellata*.**

TESPENOID: aflabene.

Mori *et al.*, *Tetrahedron Lett.*, 2297 (1978)

***A. japonica* (Thunb.) Miq.**

SESQUITERPENOIDS: α -agarofuran, alpinenone, alpiniol, alpinolide, alpinolide peroxide, dihydroagarofuran, 9,10-eremophilene-11-ol, β -eudesmol, 10-epi- τ -eudesmol, furopelargone A, furopelargone B, hanalpinol, hanalpinone, hanamyl, 9-hydroxyalpinolide, 4 α -hydroxydihydroagarofuran, 3 α ,4 α -oxidoagarofuran, 3 β ,4 β -oxidoagarofuran, pogostol.

Itokawa *et al.*, *Chem. Abstr.*, 105 75863d

***A. officinarum* L.**

FLAVONE: 3,5,7-trihydroxyflavone.

Kimura *et al.*, *J. Pharm. Soc., Japan*, **55**, 229 (1935)

***A. speciosa*.**

BISNORDITERPENOID: 15,16-bisnor-8(17),11-labdadien-13-one.

Itokawa *et al.*, *Chem. Pharm. Bull.*, **28**, 3452 (1980)

ALSEODAPHNE (Lauraceae)

A. semicarpifolia Nees.

APORPHINE ALKALOID: srilankine.

Smolnycki *et al.*, *Tetrahedron Lett.*, 4617 (1978)

ALSOPHILA

A. spinulosa.

FLAVONOID: hegaflavone A, hegaflavone B.

Wada *et al.*, *Chem. Pharm. Bull.*, **33**, 4182 (1985)

ALSTONIA (Apocynaceae)

A. boonei de Wild.

MONOTERPENOID: boonein.

Marini-Bettolo *et al.*, *Tetrahedron*, **39**, 323 (1983)

A. boulinaensis.

ESTER ALKALOIDS: 10-hydroxylanciferine, 10-methoxylanciferine.

Lewin *et al.*, *J. Indian Chem. Soc.*, **55**, 1096 (1978)

A. congensis.

CARBAZOLE ALKALOID: echitamidine.

CARBOLINE ALKALOIDS: 3,4,5-O-trimethoxycinnamoylvincamajine, 3,4,5-O-trimethoxyquebrachidine.

PYRROLINOINDOLE ALKALOID: echitamine.

UNCHARACTERIZED ALKALOIDS: porphyrine, porphyrosine.

Goodson *et al.*, *J. Chem. Soc.*, 2628 (1932)

Birch *et al.*, *Proc. Chem. Soc. (London)*, 62 (1961)

A. constricta F.Muell.

CARBOLINE ALKALOIDS: alstonidine, alstonilidine, alstoniline, alstonine, 3,4,5-O-trimethoxybenzoylquebrachidine, 3,4,5-trimethoxycinnamoylvincamajine.

Hawkins, Elderfield, *J. Org. Chem.*, **7**, 573 (1942)
 Crow *et al.*, *Aust. J. Chem.*, **23**, 2489 (1970)

A. deplanchei.

DIMERIC CARBOLINE ALKALOIDS: pleiocorine, pleiocalrine.
 Das *et al.*, *J. Org. Chem.*, **42**, 2785 (1977)

A. lanceolifera.

CARBOLINE ALKALOID: 10,11-dimethoxy-1-methyldeacetylpicraline-3',4',4'-trimethoxybenzoate.

Peitfrere-Auvray *et al.*, *Phytochemistry*, **20**, 1987 (1981)

A. legouxiae.

CARBOLINE ALKALOID: N(a)-demethylquaternine.
 Lewin *et al.*, *Ann. Pharm. Fr.*, **39**, 273 (1981)

A. lenormandii var. lenormandii.

CARBAZOLE ALKALOIDS: akuammiline, 10,11-dimethoxy-1-methyldeacetylpicraline benzoate, 10,11 -dimethoxy-1 -methyldeacetylpicraline 3',4',5'-trimethoxybenzoate, 10,11-dimethoxy-1-methylpicraline, lochnericine, 11-methoxyakuammicine, 11-methoxycompactinervine, 12-methoxycompactinervine, picraline.

Legseir *et al.*, *Phytochemistry*, **25**, 1735 (1986)

A. lenormandii var. minutifolia.

CARBAZOLE ALKALOIDS: akuammiline, 10,11 -dimethoxy-1 -methyldeacetylpicraline benzoate, 10,11-dimethoxy-1 -methyldeacetylpicraline 3',4',5'-trimethoxybenzoate, 10,11-dimethoxy-1-methylpicraline, lochnericine, 11-methoxyakuammicine, 11-methoxycompactinervine, 12-methoxycompactinervine, picraline.

Legseir *et al.*, *Phytochemistry*, **25**, 1735 (1986)

***A. macrophylla* Wall.**

CARBOLINE ALKALOIDS: alstophylline, O-benzoylvincamajine, macroalhine, picralstonine.

DIMERIC CARBOLINE ALKALOIDS: macralstonidine, macralstonine, macrocarmamine, villalstonine.

Kishi *et al.*, *Helv. Chim. Acta*, **48**, 1349 (1965)

Mayerl, Hesse, *ibid.*, **61**, 337 (1978)

A. muelleriana.

CARBOLINE ALKALOIDS: alstonerine, alstonisine.

DIMERIC CARBOLINE ALKALOID: alstonisidine.

Elderfield, Am, *Scientist*, **48**, 193 (1960)

Cook *et al.*, *J. Chem. Soc., D*, 1306 (1969)

A. odontophora.

DIMERIC CARBOLINE ALKALOID: N(1')-demethylpleiocorine.
 Vercauteren *et al.*, *Phytochemistry*, **18**, 1729 (1979)

***A. plumosa var. communis* Boiteau f. *glabra* Boiteau.**

DIMERIC CARBOLINE ALKALOID: plumocraline.

Massiot *et al.*, *C.R. Acad. Sci.*, **292**, 191 (1981)

A. quaternata.

CARBOLINE ALKALOIDS: quaternatine, quaternidine, quaternine, quaternoxine.

PROTOBERBERINE ALKALOID: 11-methoxy-epi-3 α -yohimbine.

Mamatos-Kalamaras *et al.*, *Phytochemistry*, **14**, 1489 (1975)

A. scholaris R.Br.

CARBAZOLE ALKALOID: scholarine.

CARBOLINE ALKALOIDS: echitamidine, picralinal, picrinine.

INDOLE ALKALOID: nareline.

GLUCOALKALOID: venoterpine glucoside.

UNCHARACTERIZED ALKALOID: ditamine.

Hesse, *Justus Liebigs Ann. Chem.*, **176**, 326 (1875)

Morita *et al.*, *Helv. Chim. Acta*, **60**, 1419 (1977)

A. somersetensis F.M.Bailey.

DIMERIC CARBOLINE ALKALOIDS: macralstonidine, villalstonine.

Sharp, *J. Chem. Soc.*, 1227 (1934)

A. spectabilis R.Br.

UNCHARACTERIZED ALKALOIDS: alstonamine, ditamine.

Hesse, *Justus Liebigs Ann. Chem.*, **176**, 326 (1875)

Hesse, *Ber. Dtsch. Chem. Ges.*, **11**, 1546 (1878)

A. venenata R.Br.

CARBOLINE ALKALOIDS: venenatine, 16-epi-venenatine, veneserpine, venoxidine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: 5,20-dioxokopsane, echitoserpine, echitovenaldine, echitovenidine, echitoveniline, echitovenine, (-)-11-methoxyechitovenicine, (-)-11 -methoxyechitovenidine, minovincinine.

PROTOBERBERINE ALKALOIDS: alstovenine, isovenatine, 16-epi-venenatine.

Chatterjee, Ray, *J. Indian Chem. Soc.*, **41**, 638 (1964)

Chatterjee *et al.*, *Phytochemistry*, **20**, 1981 (1981)

A. villosa.

DIMERIC CARBOLINE ALKALOID: villalstonine.

Sharp, *J. Chem. Soc.*, 1227 (1934)

A. yunnanensis.

CARBOLINE ALKALOIDS: 17-acetylsarpagine, corynanthine, deacetylpicraline, deacetylpicraline 3,4,5-trimethoxybenzoate, normacusine B, perakine, picrinine,

pseudoakuammigine, sarpagine, 16-epi-sarpagine, tetrahydroalstonine, vallosimine, vinorine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: lochnerinine, 11-methoxy-19-hydroxytabersonine, 3-Ox-11-methoxytabersonine.

ESTER: methyl-3,4,5-trimethoxycinnamate.

Chen *et al.*, *Yaoxue Xuebao*, **20**, 906 (1985); *Chem. Abstr.*, 105 3520s

ALTERNARIA (Polyporaceae)

A. kikuchiana.

STEROIDS: ergosterol, lanosterol, 24-methylene-24,25-dihydrolanosterol.

Starratt *et al.*, *Phytochemistry*, **15**, 2002 (1976)

A. porri.

PIGMENT: 1,2,8-trihydroxy-6-methoxy-3-methylanthraquinone.

Stoessl *et al.*, *Can. J. Chem.*, **47**, 767 (1969)

A. solani.

PIGMENT: 1,2,8-trihydroxy-6-methoxy-3-methylanthraquinone.

Stoessl *et al.*, *Can. J. Chem.*, **47**, 767 (1969)

A. tenuis.

TOXINS: altenariol, altenuic acids I, II and III, altenuisin, altenuosol, altertenuol.

Piero *et al.*, *Biochem. Biophys. Acta*, **230**, 170 (1971)

Roselt *et al.*, *Biochem. J.*, **67**, 390 (1957)

A. zinniae.

SESQUITERPENOID: zinniol.

White, Starratt, *Can. J. Bot.*, **45**, 2087 (1967)

ALTHAEA (Malvaceae)

A. nudiflora.

PHENOLICS: p-coumaric acid, guaiacolic acid, syringic acid.

Geronikaki *et al.*, *Khim. Prir. Soedin.*, 685 (1976)

A. officinalis var. 'Rusalka'.

ACIDS: chlorogenic acid, p-coumaric acid, ferulic acid, p-hydroxybenzoic acid, vanillic acid.

TROPANE ALKALOID: scopoline.

Koleva *et al.*, *Farmatsiya (Sofia)*, **36**, 15 (1986); *Chem. Abstr.*, 105 94531k

A. rosea.

PHENOLICS: p-coumaric acid, guaiacolic acid, syringic acid.

Geronikaki *et al.*, *Khim. Prir. Soedin.*, 685 (1976)

ALUIS

A. balsamea.

SESQUITERPENOID: canadene.

Shaw, *J. Am. Chem. Soc.*, **73**, 2859 (1951)

ALYSSUM (Cruciferae)

A. minimum.

FLAVONES: kaempferol 4'-methyl ether-5-glucoside-7-glucuronide, quercetin 3',4'-dimethyl ether-7-glucuronide, quercetin 4'-methyl ether-7-glucuronide.

Afsharypuor, Lockwood, *J. Nat. Prod.*, **49**, 844 (1986)

ALYXIA

A. lucida.

COUMARINS: coumarin, 3-hydroxycoumarin, 5-hydroxycoumarin, 8-hydroxycoumarin, scopoletin.

Sadavongvivad *et al.*, *Phytochemistry*, **16**, 1451 (1977)

AMANITA

A. bisporigera.

AMOTOXIN: amanin. Uncharacterized amotoxins and phallotoxins.

Yocum *et al.*, *Lloydia*, **40**, 178 (1977)

A. citrina.

INDOLE ALKALOID: bufotenine.

Fiussello, Romano, *Allionia*, **25**, 77 (1982); *Chem. Abstr.*, 100 48598m

A. mappa.

INDOLE ALKALOID: bufotenine.

Wieland *et al.*, *Justus Liebigs Ann. Chem.*, **513**, 10 (1934)

A. muscaria (L. ex Fr.) Hooker.

CARBOLINE ALKALOID: 1,2,3,4-tetrahydro-1-methyl-β-carboline-3-carboxylic acid.

OXOVANADIUM COMPLEX: amavadine.

(A) Matsumoto *et al.*, *Helv Chim. Acta*, **52**, 716 (1969)

(V) Bemsky *et al.*, *Chem. Abstr.*, 105 222722n

A. pantherina (DC.) Fr.

ISOXAZOLE: pantherine.

Konda *et al.*, *Chem. Pharm. Bull.*, **33**, 1083 (1985)

A. phalloides (Bull.) Quel.

TOXINS: amanin, α-amanitin, β-amanitin, amanullinic acid, antamanide, phallacidin, phallacin, phallicin, phallisin, phalloidin, phalloin.

Faulstich *et al.*, *Justus Liebigs Ann. Chem.*, 2324 (1976)

Yocum *et al.*, *Biochemistry*, **17**, 3786, 3790 (1978)

A. verna.

AMOTOXIN: amanin. Uncharacterized amotoxins and phallotoxins.

Yocum *et al.*, *Lloydia*, **40**, 178 (1977)

A. virgineoides. Bas.

AMINO ACID: cyclopropylalanine.

Ohto *et al.*, *Chem. Lett.*, 511 (1986)

A. virosa.

TOXINS: amanin, phallacidin, phalloidin.

Malak, *Planta Med.*, **29**, 80 (1976)

Yocum *et al.*, *Lloydia*, **40**, 178 (1977)

AMARANTHUS (Amarantaceae)

A. albus.

FLAVONOID: rutin.

Bech *et al.*, *Farm. Zh. (Kiev)*, 90 (1977); *Chem. Abstr.*, 87 197309h

A. flavus.

FLAVONOID: rutin.

Bech *et al.*, *Farm. Zh. (Kiev)*, 90 (1977); *Chem. Abstr.*, 87 197309h

A. retroflexus L.

ALCOHOLS: cis-3-hexen-1-ol, trans-3-hexen-1-ol.

Flath *et al.*, *J. Agric. Food Chem.*, 32, 92 (1984)

A. spinosus.

FLAVONOID: rutin.

SAPONINS: β -D-glucopyranosyl- β -D-glucopyranosyl- β -D-glucopyranosyloleanolic acid.

(F) Bech *et al.*, *Farm. Zh. (Kiev)*, 90 (1977); *Chem. Abstr.*, 87 197309h

(Sap) Banerji, *Indian J. Chem.*, 17B, 180 (1978)

A. viridis.

STEROID: amasterol.

Roy *et al.*, *Phytochemistry*, 21, 2417 (1982)

AMARORIA (Simaroubaceae)

A. soulameoides A.Gray.

CARBOLINE ALKALOIDS: amarordine, amarorine.

Clark *et al.*, *J. Chem. Soc., Perkin I*, 1614 (1980)

AMARYLLIS (Amaryllidaceae)

A. bella-donna L.

AZAPHENANTHRENE ALKALOIDS: anhydrolycorine, anhydrolycorinone,
bellamarine, lycorine.

Haensel, Thöber, *Arch. Pharm.*, **315**, 767 (1982)

***A. parkeri* Worsley.**

AMINE ALKALOID: parkamine.

AZAPHENANTHRENE ALKALOID: parkacine.

Boit, Doeppke, *Naturwissenschaften*, **46**, 228 (1959)

Doeppke, *ibid.*, **50**, 645 (1963)

***A. vittata*.**

NORBELLADINE ALKALOID: ryllistine.

Ghosal, Razdan, *J. Chem. Res. Synop.*, 412 (1984)

AMBERBOA

***A. lippi*.**

SESQUITERPENOID: amberboin.

Gonzalez *et al.*, *An. Real Soc. Espan. Fiz. Chim.*, **63B**, 956 (1967)

AMBROSIA (Compositae)

***A. ambrosioides*.**

SESQUITERPENOID: damsinic acid.

Doskotch, Hufford, *J. Pharm. Sci.*, **58**, 186 (1969)

***A. artemisiifolia*.**

SESQUITERPENOIDS: 8-acetoxy-3-oxopseudoguaian-6,12-olide, ambrosic acid, artemidifolin, 4-hydroxy-3-oxopseudoguaian-6,12-olide.

Inayama *et al.*, *Chem. Pharm. Bull.*, **22**, 1435 (1974)

***A. canescens*.**

SESQUITERPENOID: canambrin.

Romo, Rodriguez-Hahn, *Phytochemistry*, **9**, 1611 (1970)

***A. chamissonis*.**

SESQUITERPENOID: chamissonin.

Geissman *et al.*, *J. Org. Chem.*, **31**, 2269 (1966)

A. confertiflora.

SESQUITERPENOIDS: chihuahuin, confertiflorin, confertin, dihydrotamaulipin A, α -epoxysantamarin, tamaulipins A and B.

Renold *et al.*, *J. Org. Chem.*, **35**, 4264 (1970)

Yoshioka *et al.*, *Phytochemistry*, **9**, 823 (1970)

A. cordifolia.

SESQUITERPENOID: cordilin.

Herz *et al.*, *Phytochemistry*, **12**, 1415 (1973)

A. cumanensis.

SESQUITERPENOIDS: altamisin, cumambrins A, B and C, 11-hydroxyguaien, isoguaiene.

Bohlmann *et al.*, *Phytochemistry*, **16**, 575 (1977)

Borges *et al.*, *Tetrahedron Lett.*, 1513 (1978)

A. deltoides.

SESQUITERPENOIDS: damsins, psilosachyn C.

Abu-Shady *et al.*, *J. Am. Pharm. Assoc.*, **42**, 387 (1953)

Miller *et al.*, *Tetrahedron Lett.*, 3397 (1965)

A. dumosa.

NORSESQUITERPENOID: dumosin.

SESQUITERPENOID: ambrosiol.

Mabry *et al.*, *J. Org. Chem.*, 31, 681 (1966)

Seaman, Mabry, *Rev. Latinoam. Quim.*, **10**, 85 (1979)

A. elatior L.

SESQUITERPENOIDS: 6 α -hydroxy-4(5)-ene-9 β -O-anisate, 1 β -hydroxyeudesma-4,11(13)-dien-12-oic acid.

Ahmoto *et al.*, *Chem. Pharm. Bull.*, **35**, 2272 (1987)

A. grayi.

FLAVONE: 4',5,7-trihydroxy-3,6,8-trimethoxyflavone.

Herz *et al.*, *Tetrahedron*, **31**, 1577 (1975)

A. hispida.

FLAVONE: hispidulin.

SESQUITERPENOID: damsins.

(F) Doherty *et al.*, *J. Chem. Soc.*, 5577 (1963)

(T) Abu-Shady, Soine, *J. Am. Pharm. Assoc.*, **42**, 387 (1953)

A. ilicifolia.

SESQUITERPENOID: costic acid, ilicic acid.

Herz *et al.*, *J. Org. Chem.*, **31**, 1632 (1966)

A. maritima.

SESQUITERPENOIDS: ambrosin, damsin.

Abu-Shady, Soine, *J. Am. Pharm. Assoc.*, **42**, 387 (1953)

Suchy *et al.*, *Collect. Czech. Chem. Commun.*, **28**, 2257 (1963)

A. muricata.

SESQUITERPENOID: muricatin.

Gonzalez *et al.*, *An. Quim.*, **69**, 1333 (1973)

A. peruviana.

SESQUITERPENOIDS: peruvin, peruvinin.

Joseph-Nathan, Romo, *Tetrahedron*, **22**, 1723 (1966)

Romo *et al.*, *ibid.*, **23**, 529 (1967)

A. polystachya.

SESQUITERPENOIDS: granilin, ivaspensin.

Vichnewski *et al.*, *Phytochemistry*, **15**, 1531 (1976)

A. psilostachya.

SESQUITERPENOIDS: ambrosin, ambrosiol, 3-hydroxydamsin, isabelin, psilostachyins A, B and C.

Abu-Shady, Soine, *J. Am. Pharm. Assoc.*, **42**, 387 (1953)

Miller, Mabry, *J. Org. Chem.*, **32**, 2929 (1967)

A. tenuifolia.

SESQUITERPENOID: confertin.

Yoshioka, Mabry, *Tetrahedron*, **25**, 4767 (1969)

AMELLUS

A. strigosus.

MONOTERPENOIDS: (2E,8Z)-2,8-decadien-4,6-dynoic acid, (2E,8Z)-2,8-decadien-4,6-dynoic acid methyl ester.

Bohlmann *et al.*, *Chem. Ber.*, **100**, 611 (1967)

AMIANTHUM (Liliaceae)

***A. muscaetoxicum* Gray.**

UNCHARACTERIZED ALKALOID: amianthine.

Meuss, *J. Am. Chem. Soc.*, **75**, 2772 (1933)

AMMI (Umbelliferae)

A. majus L.

COUMARINS: angenomalin, majurin, marmesin.

Abu-Mustafa *et al.*, *Tetrahedron Lett.*, 1657 (1971)

A. visnaga.

NORSESQUITERPENOID: kellactone.

Spath *et al.*, *Can. J. Chem.*, **31**, 715 (1953)

AMMOCHARIS

A. coranica (Ker.Gawl.) Herb.

BENZOISOQUINOLINE ALKALOID: (+)-epi-buphanisine.

UNCHARACTERIZED ALKALOID: coranicine.

Hauth, Stauffacher, *Helv. Chim. Acta*, **45**, 1305 (1962)

AMMODENDRON (Leguminosae)

A. argenteum O.Kutz.

BISPiperidine ALKALOID: ammodendrine.

BIS-SPARTEINE ALKALOIDS: argentine.

LUPANINE ALKALOID: (-)-lupanine.

SPARTEINE ALKALOIDS: argentamine, N-methylcytisine, pachycaprine.

UNCHARACTERIZED ALKALOID: argentinamine.

Ngok *et al.*, *Khim. Prir. Soedin.*, 111 (1970)

A. conollyi Bge.

BISPiperidine ALKALOIDS: ammodendrine, isoammodendrine.

SPARTEINE ALKALOIDS: anagyrine, pachycarpine, (+)-sparteine.

UNCHARACTERIZED ALKALOID: connolline.

Proskurnina, Merlis, *J. Gen. Chem. USSR*, **19**, 1396 (1949)

Ngok *et al.*, *Khim. Prir. Soedin.*, 111 (1970)

AMMOTHAMNUS (Leguminosae)

***A. lehmanni* Bge.**

MATRINE ALKALOIDS: matrine N-oxide, sophocarpine.

SPARTEINE ALKALOIDS: ammoothamnine, pachycarpine.

CHALCONE: ammoothamnidin.

FLAVONOIDS: luteolin, quercetin.

(C,F) Sattikulov *et al.*, *Uzb. Khim. Zh.*, 11 (1983); *Chem. Abstr.*, 100 82724j

(T) Sadykov, Proskurnina, *J. Gen. Chem. USSR*, **13**, 314 (1943)

(T) Kushmuradov *et al.*, *Khim. Prir. Soedin.*, 377 (1975)

***A. songoricus* (Schrenk) Lipsky.**

MATRINE ALKALOIDS: matrine N-oxide, sophocarpine.

Orekhov, Proskurnina, *Ber. Dtsch. Chem. Ges.*, **67**, 77 (1934)

AMOMUM (Zingiberaceae)

***A. medium*.**

INDENES: 1H-indene-2,3-dihydro-4-carboxaldehyde, 1H-indene-2,3-dihydro-5-carboxaldehyde.

MONOTERPENOIDS: 1,8-cineole, p-cymene, limonene, myrcene, α -phellandrene, α -pinene, β -pinene.

Takido *et al.*, *Phytochemistry*, **17**, 327 (1978)

***A. melegueta*.**

PHENOLIC: shogaoal.

Connelly *et al.*, *Aust J. Chem.*, **23**, 369 (1970)

AMOORA

***A. rohituka* (*Aphanamixis polystachys*).**

PIPERIDINE ALKALOID: rohitutine.

LIMONOID: amoorinine.

(A) Harmon *et al.*, *Tetrahedron Lett.*, 721 (1979)

(T) Angihotri *et al.*, *Planta Med.*, **53**, 298 (1987)

AMORPHA (Leguminosae)

A. canescens.

BENZOPYRAN: amorpholone.

Piatak *et al.*, *Phytochemistry*, 14, 1391 (1975)

A. fruticosa L.

BENZOPYRAN: amorphigenin.

FLAVONOIDS: amorolin, amorisin, amoritin.

GLYCOSIDES: amorphin, amorphol.

ISOCOUMARINS: amoradicin, amoradin, amoradinin.

SESTERTERPENOIDS: 5,7-dihydroxy-6-geranylflavan-4-one, muurolene.

ROTENOID: 6,12-dehydro- α -toxicarol.

(B, Gly) Kasymov *et al.*, *Khim. Prir. Soedin.*, 464 (1974)

(F) Rozsa *et al.*, *Heterocycles*, 19, 1793 (1982)

(I) Rozsa *et al.*, *Phytochemistry*, 23, 1818 (1984)

(R) Reisch *et al.*, *Arch. Pharm.*, 509, 152 (1976)

(R) Reisch *et al.*, *Phytochemistry*, 15, 234 (1976)

AMPELOCERA

A. ruizii.

PYRIDINE ALKALOID: 1-methyl-5-carbomethoxy- α -pyridone.

Burnell *et al.*, *Lloydia*, 38, 444 (1975)

AMPHICOME (Bignoniaceae)

A. emodi.

IRIDOID: amphicoside.

Kapoor *et al.*, *Tetrahedron Lett.*, 2839 (1971)

AMPHIDINIUM (Gymnodiniaceae)

A. carteri.

STEROID: amphisterol.

Withers *et al.*, *Phytochemistry*, **18**, 899 (1979)**AMSINKIA (Boraginaceae)*****A. hispida (Ruiz et Pav.) Johnst.***

PYRROLIZIDINE ALKALOIDS: intermedine, lycopsamine.

Culvenor, Smith, *Aust J. Chem.*, **19**, 1955 (1966)***A. intermedia Fisch et Mey.***

PYRROLIZIDINE ALKALOIDS: echiumine, intermedine, lycopsamine, sincamidine.

Culvenor, Smith, *Aust J. Chem.*, **19**, 1955 (1966)***A. lycopoides Lehm.***

PYRROLIZIDINE ALKALOIDS: intermedine, lycopsamine.

Culvenor, Smith, *Aust J. Chem.*, **19**, 1955 (1966)**AMSONIA (Apocynaceae)*****A. angustifolia.***

CARBOLINE ALKALOIDS: antirrhine methochloride, (+)-eburamanine, (+)-eburnamonine, (-)-eburnamonine, isoeburnamine.

IMIDAZOLIDINOCARBAZOLE ALKALOID: tabersonine.

STEROID: β -sitosterol, β -sitosterol β -D-glucoside.TRITERPENOID: β -amyrin.(A) Bartlett *et al.*, *C.R. Acad. Sci.*, **249**, 1259 (1959)(A) Sakai *et al.*, *J. Pharm. Soc., Japan*, **93**, 483 (1973)S(S, T) Tomczyk *et al.*, *Herba Pol.*, **23**, 25 (1977); *Chem. Abstr.*, 88 71497v***A. elliptica.***

IMIDAZOLIDINOCARBAZOLE ALKALOID: 3-oxotabersonine, tabersonine N(b)-oxide.

UNCHARACTERIZED ALKALOID: amsonine.

Aimi *et al.*, *Chem. Pharm. Bull.*, **26**, 1182 (1978)***A. illustris.***

CARBOLINE ALKALOIDS: (-)-eburmonine, (+)-eburnamenine, (+)-eburnamonine, isoeburnamine.

IMIDAZOLIDINOCARBAZOLE ALKALOID: tabersonine.

Bartlett *et al.*, *C.R. Acad. Sci.*, **249**, 1259 (1959)

Janot *et al.*, *Bull. Soc. Chim. Fr.*, 707 (1954)

***A. tabernaemontana* Walt. (*A. salicifolia* Pichon).**

CARBOLINE ALKALOIDS: (+)-eburnamine, (-)-ebuniamonine, isoeburnamine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: (+)-1,2-dihydroaspidospermidine, pseudotabersonine, tabersonine, (+)-vincadine.

INDOLE ALKALOIDS: (+)-6,7-dehydrovincadine, 6,7-dehydro-epi-vincadine, (\pm)-vincadine, (-)-vincadine, epi-vincadine.

Bycroft *et al.*, *Helv. Chim. Acta*, **47**, 1147 (1964)

Zsadon *et al.*, *Chem. Ind.*, **5**, 229 (1973)

Zsadon *et al.*, *Acta Chem. Acad. Sci. Hung.*, **96**, 167 (1978)

AMYRIS

A. balsandera.

COUMARIN: balsamiferone.

STEROID: balsoxin.

Burke *et al.*, *Phytochemistry*, **18**, 1073 (1979)

A. elemifera DC.

COUMARINS: bergapten, 5-hydroxy-7-(3,3-dimethylallyl)-coumarin, marmesin, psoralen, scopoletin, subarenol, ulopterol.

Laguna, *Rev. Cubana Farm.*, **19**, S. (1985); *Chem. Abstr.*, 104 48745q

A. madrensis.

COUMARIN: dehydrogeyerin.

Dominguez *et al.*, *Phytochemistry*, **5**, 1096 (1977)

A. simplicifolia.

COUMARIN: 3-(3,3-dimethylallyl)-xanthyletin.

Cordova *et al.*, *Phytochemistry*, **13**, 758 (1974)

ANABASIS (Chenopodiaceae)

A. aphylla L.

PYRIDINE ALKALOIDS: anabasamine, anabasine.

SPARTEINE ALKALOIDS: (+)-aphyllidine, aphylline, aphylline methyl ether, oxoaphyllidine, oxoaphylline.

Orekhov, Men'shikov, *Ber. Dtsch. Chem. Ges.*, **65**, 234 (1932)

Tsuda, Marion, *Can. J. Chem.*, **42**, 764 (1964)

A. jaxartica (Bge.) Benth.

AMINE ALKALOID: N-methyl-4-oxo- α -phenethylamine.

UNCHARACTERIZED ALKALOIDS: jaksartine, jaksartinine.

Platonova *et al.*, *J. Gen. Chem. USSR*, **28**, 3128 (1958)

A. salsa (SAM) Benth.

PIPERIDINE ALKALOID: 2,6-dimethylpiperidine.

Kuzuvkov, Men'shikov, *J. Gen. Chem. USSR*, **20**, 15, 24 (1950)

ANACYCLUS (Compositae)

A. pyrethrum DC.

AMIDE: 2,4-decadienoic acid N-isobutylamide.

Burden *et al.*, *J. Chem. Soc., C*, 2477 (1969)

A. radiatus.

SESQUITERPENOID: mariolin.

Collado *et al.*, *Phytochemistry*, **24**, 2447 (1985)

ANACYSTIS (Chroccoccaceae)

A. nidulans.

CAROTENOIDS: caloxanthin, β,β -carotene-2,3,3'-triol, nostoxanthin.

Stransky, Hager, *Arch. Mikrobiol.*, **71**, 132–164 (1970)

Smallidge, Quackenbush, *Phytochemistry*, **12**, 2481 (1973)

ANADENANTHERA

A. peregrina (L.) Speg.

CARBOLINE ALKALOIDS: 1,2,3,4-tetrahydro-6-methoxy-2,9-dimethyl- β -carboline, 1,2,3,4-tetrahydro-6-methoxy-2-methyl- β -carboline. Filho *et al.*, *Phytochemistry*, **14**, 821 (1975)

ANAGALLIS (Primulaceae)

A. arvensis L.

TRITERPENE GLUCOSIDES: arvenins I and II.

Yamada *et al.*, *Tetrahedron Lett.*, 2099 (1977)

ANAGRAPHIS

A. echiooides.

FLAVONE: echiodinin.

Govindachari *et al.*, *Tetrahedron*, **21**, 2633 (1965)

ANAGYRIS (Leguminosae/Papilionaceae)

A. foetida L.

SPARTEINE ALKALOIDS: anagyrine, cytisine, (+)-sparteine.

Gerrard, *Pharm. J.*, **17**, 109, 227 (1886)

Ing, *J. Chem. Soc.*, 2195 (1931)

ANAMIRTA

A. coccus.

PROTOBERBERINE ALKALOID: 8-oxotetrahydropalmatine.

BITTER PRINCIPLE: picrotoxin.

(A) Verpoorte *et al.*, *Lloydia*, **44**, 221 (1981)

(B) Clark, *J. Am. Chem. Soc.*, **57**, 1111 (1935)

A. paniculata Colebr.

UNCHARACTERIZED ALKALOIDS: menispermin, paramenispermine.
Pelletier, Courbe, *Justus Liebigs Ann. Chem.*, **10**, 198 (1834)

ANANAS (Bromeliaceae)

A. comosus (Stickm.) Merrill.

AMINE ALKALOID: 5-hydroxytryptamine.
STEROIDS: ergosterol peroxide, stigmast-5-ene-3 β ,7 α -diol.
(A) Regula, *Acta Bot. Croat.*, **36**, 83 (1977); *Chem. Abstr.*, 88 186093c
(S) Pakrashi *et al.*, *Indian J. Chem.*, **13**, 755 (1975)

A. comosus var. cayense.

TRITERPENOID: ananasic acid.
Takata, Scheuer, *Tetrahedron*, **32**, 1077 (1976)

ANAPHALIS

A. adnata DC.

PYRONE: 4'-hydroxydehydrokawain.
Talapatra *et al.*, *Indian J. Chem.*, **14B**, 300 (1976)

A. contorta Hooker.

FLAVONOIDS: tiliroside, tiliroside acetate.
Lin, *J. Chin. Chem. Soc.*, **22**, 383 (1975); *Chem. Abstr.*, 84 147653h

A. subumbellata Clarke.

AMIDE: (-)-anabellamide.
STEROID: β -sitosterol β -D-glucoside.
Talapatra *et al.*, *Chem. Abstr.*, 97 159472e

ANAPTYCHIA (Phyciaceae)

A. heterochroa.

TRITERPENOID: zeorin.

Paterno, *Gazzetta*, **6**, 113, 129, 130 (1876)

A. hypoglaucia.

TRITERPENOID: zeorin.

Huneck, *Chem. Ber.*, **94**, 614 (1961)

A. obscurata.

PIGMENTS: 2-chloro-1,3,8-trihydroxy-6-methylanthraquinone, flavoobscurin A, flavoobscurin B.

Fox *et al.*, *Tetrahedron Lett.*, 919 (1969)

A. speciosa.

TRITERPENOID: zeorin.

Huneck, *Chem. Ber.*, **94**, 614 (1961)

ANASTREPTA

A. orcadensis.

SESQUITERPENOID: anastreptene.

DITERPENOID: anadensin.

Andersen *et al.*, *Tetrahedron*, **33**, 617 (1977)

Huneck *et al.*, *Tetrahedron Lett.*, 3787 (1983)

ANCHUSA (Boraginaceae)

A. officinalis L.

UNCHARACTERIZED ALKALOIDS: consolicine, consolidine, cynoglossine,

SAPONINS: anchusosides 1, 1a, 2, 3, 4, 5, 7 and 7a, querciloside A.

(A) Greiner, *Arch. Pharm.*, **238**, 505 (1900)

(S) Romussi *et al.*, *ibid.*, **319**, 549 (1986)

ANCISTROCLADUS

A. congolensis.

ISOQUINOLINE ALKALOIDS: ancistrocongine, ancistrocongolensine, ancistroealaelsine.

Foucher *et al.*, *Plant Med. Phytother.*, **9**, 87 (1975)

A. ealaensis.

ISOQUINOLINE ALKALOIDS: ancistrocladonine, ancistroealaelsine.

Foucher *et al.*, *Phytochemistry*, **13**, 1253 (1974)

A. hamatus.

ISOQUINOLINE ALKALOID: hamatine.

Govindachari *et al.*, *Indian J. Chem.*, **13**, 641 (1975)

A. heyneanus Wall.

ISOQUINOLINE ALKALOIDS: ancistrocladine, ancistrocladinine, ancistrocladisine.

Govindachari *et al.*, *Indian J. Chem.*, **10**, 1117 (1972)

ANDIRA

A. inermis.

AMINE ALKALOID: geoffroyine.

SESQUITERPENOID: demethypteroecarpin.

(A) Goldschmeidt, *Monatsh. Chem.*, **33**, 1379 (1912)

(T) Harper *et al.*, *J. Chem. Soc., Chem. Commun.*, 310 (1965)

A. retusa.

AMINE ALKALOID: geoffroyine.

Goldschmeidt, *Monatsh. Chem.*, **33**, 1379 (1912)

ANDRACHNE (Euphorbiaceae)

A. rotundifolia SAM.

UNCHARACTERIZED ALKALOID: andrachnine.

Vil'yams *et al.*, *Khim. Prir. Soedin.*, 257 (1966)

ANDROCYMBIUM (Wurmbaeoideae)

***A. burkei* Baker.**

COLCHICINE ALKALOID: colchicine.

Pijewska et al., *Collect. Czech. Chem. Commun.*, **32**, 158 (1967)***A. capense* (L.) Krause.**COLCHICINE ALKALOIDS: colchicine, β -lumicolchicine, τ -lumicolchicine.Pijewska et al., *Collect. Czech. Chem. Commun.*, **32**, 158 (1967)***A. eucomoides* (Jacq.) Willd.**

COLCHICINE ALKALOIDS: colchicine, 2-demethylcolchicine, N-formyl-N-deacetylcolchicine.

Pijewska et al., *Collect. Czech. Chem. Commun.*, **32**, 158 (1967)***A. longipes* Bak.**

COLCHICINE ALKALOIDS: colchicine, 2-demethylcolchicine.

Pijewska et al., *Collect. Czech. Chem. Commun.*, **32**, 158 (1967)***A. melanthioides*.**

ISOQUINOLINE ALKALOID: melanthioidine.

Santavy, Reichstein, *Helv. Chim. Acta.*, **33**, 1606 (1050)***A. melanthioides* var. *stricta* Baker.**

BISBENZYLISOQUINOLINE ALKALOID: melanthioidine.

COLCHICINE ALKALOIDS: androcymbine, colchicine, cornigerine, demecolcine, 2-demethylcolchicine, 3-demethylcolchicine, 2-demethyldelecolcine, 3-demethyldemecolcine, N-formyl-N-deacetylcolchicine, β -lumicolchicine, τ -lumicolchicine, β -lumicornigerine, O-methylandrocymbine.Potesilova et al., *Planta Med.*, 344 (1985)

ANDROGRAPHIS (Acanthaceae)

***A. echiooides* Nees.**

FLAVONOIDs: echinoidin, echinoidinin.

Balmain, Connolly, *J. Chem. Soc., Perkin I*, 1247 (1973)***A. paniculata* Nees.**

DITERPENOIDS: andrographiside, andrographolide, 14-deoxyandrographolide, 14-deoxy-11,12-didehydroandrographolide, 14-deoxy-11-oxoandrographolide, neoandrographolide.

Gorter, *Recl. Trav. Chim. Pays-Bas*, **30**, 151 (1911)Balmain, Connolly, *J. Chem. Soc., Perkin I*, 1247 (1973)Hu et al., *Zhongcaoyao*, **12**, 531 (1981)

A. wightiana Arn. ex Nees.

FLAVONES: echioidinin, wightin, wightonolide.

Dutta *et al.*, Indian J. Chem., **7**, 110 (1969)**ANDROMEDA (Ericaceae)*****A. polifolia L.***

IRIDOID: andromedoside.

Chung *et al.*, Arch. Pharm., **313**, 702 (1980)**ANDROPOGON (Gramineae)*****A. jwarancusa.***

MONOTERPENE: (-)-4-carene.

Simonsen, J. Chem. Soc., **121**, 2792 (1922)***A. schoenanthus.***

MONOTERPENOID: geraniol.

Forster, Cardwell, J. Chem. Soc., 103, 1342 (1913)

ANDROSACE (Primulaceae)***A. saxifragifolia.***

SAPONINS: saxifragifolin A, saxifragifolin B.

TRITERPENOID: androsacenol.

(Sap) Walther *et al.*, J. Chem. Soc., Perkin I, 1527 (1986)(T) Pal *et al.*, Phytochemistry, **23**, 1475 (1984)***A. septemtrionalis.***

SAPONINS: androseptosides A, B, C, C1, D, D1 and F.

Pirozhkova, Kintya, Khim. Prir. Soedin., 658 (1982)

ANDROSTACHYS

A. johnsonii Prain.

DITERPENOID: ent-3 α -hydroxybeyer-15(16)-ene-2,12-dione.

Pegel *et al.*, *J. Chem. Soc., Chem. Commun.*, 1346 (1971)

ANDRYALA (Compositae)

A. canariensis.

STEROID: taraxasterol.

Dietrich, Jeger, *Helv. Chim. Acta*, **33**, 715 (1950)

A. pinnatifida.

SESQUITERPENOID: 8 α -hydroxydehydrozaluzanin C.

Bohlmann *et al.*, *Phytochemistry*, **21**, 2029 (1982)

ANEMIA (Schizaeaceae)

A. hirsuta.

One norditerpenoid.

Zanno *et al.*, *Naturwissenschaften*, **59**, 512 (1972)

A. phyllitidis L. Sw.

NORDITERPENOIDS: antheridiogenin-An.

Nakanishi *et al.*, *J. Am. Chem. Soc.*, **93**, 5579 (1971)

ANEMONE (Ranunculaceae)

A. chinensis.

SAPONIN: anemosapogenin.

Chou, Chu, *Hua Hsueh Hsueh Pao*, 126 (1962)

A. narcissiflora.

SAPONINS: narcissifloridine, narcissiflorine, narcissiflorinine.
 Masood *et al.*, *Phytochemistry*, **20**, 1675 (1981)

A. nemorosa L.

SAPONINS: obtusilobin, obtusilobinin.
 Masood *et al.*, *Phytochemistry*, **18**, 1539 (1979)

A. obtusiloba.

SAPONINS: obtusilobin, obtusilobinin.
 Masood *et al.*, *Phytochemistry*, **18**, 1539 (1979)

A. pratensis.

ANTIBIOTIC: anemonin.
 Bekurts, *Arch. Pharm.*, **230**, 182 (1892)

A. pulsatilla.

ANTIBIOTIC: anemonin.
 Bekurts, *Arch. Pharm.*, **230**, 182 (1892)

A. raddeana Regel.

SAPONINS: raddeanins A, B, C and D.
 Wu, Chu, *Huaxue Xuebao*, **43**, 82 (1985)

ANETHUM (Apiaceae)

A. graveolens L.

COUMARIN: 6,7-dihydro-8,8-dimethyl-2H,8H-benzo-[1,2-b:5,4-']dipyran-2,6-dione.
 XANTHONE: dillanoside.
 (C) Aplin *et al.*, *J. Chem. Soc., C*, 2593 (1967)
 (X) Kozawu *et al.*, *Chem. Pharm. Bull.*, **24**, 220 (1976)

A. sowa Roxb.

ALDEHYDE: dillapional.
 PHTHALIDES: butylphthalide, Z-ligustilide, neocnidilide, senkyunolide.
 (Al) Tomar *et al.*, *Indian J. Chem., 20B*, 723 (1981)
 (Ph) Gijbels *et al.*, *Sci. Pharm.*, **50**, 158 (1982)

ANEURA (Hepaticae)

A. pinguis (L.) Dum.

SESQUITERPENOID: pinguisone.

Benesova *et al.*, Collect. Czech. Chem. Commun., **34**, 1810 (1969)

ANGELICA (Umbelliferae)

A. apaensis.

FURANOCOUMARIN: apaensin.

Snu *et al.*, Yunnan Zhiwu Yanjiu, **3**, 279 (1981)

A. archangelica.

BENZOPYRONE: angelicain.

COUMARINS: bergapten, 8-hydroxy-5-methoxysoralen, imperatorin, isoimperatorin, isopimpinellin, umbelliprenin.

MONOTERPENOID: trans-1(7),5-p-menthadien-2-yl acetate, 2-nitro-1,5-p-menthadiene, cis-6-nitro-1(7),2-p-menthadiene, trans-6-nitro-1(7),2-p-menthadiene.

SESQUITERPENOID: cis- α -copaen-8-ol.

TRITERPENOIDS: α -amyrin, lupeol acetate.

(B) Kozawa *et al.*, Chem. Pharm. Bull., **31**, 64 (1983)

(C) Patra *et al.*, Indian J. Chem., **14B**, 816 (1976)

(T) Escher *et al.*, Helv. Chim. Acta., **62**, 2061 (1979)

A. archangelica subsp. littoralis.

COUMARIN: archangelicin.

Nielsen *et al.*, Acta Chem. Scand., **18**, 932 (1964)

A. dahurica.

COUMARINS: biacangelicin, imperatorin, isoimperatorin, oxypeucedanin, oxypeucedanin hydrate.

Shlyin'ko *et al.*, Khim. Prir. Soedin., 280 (1977)

A. decursiva.

COUMARINS: andelin, decursidin, decursin.

SESQUITERPENOID: (S)-angelinol.

(C) Sano *et al.*, Chem. Pharm. Bull., **23**, 20 (1975)

(T) Hata *et al.*, J. Pharm. Soc., Japan, **89**, 549 (1962)

A. glabra.

BENZOPYRAN: phellopterin.

COUMARINS: byakangelicin, byakangelicol.

(B) Chatterjee *et al.*, *Arch. Pharm.*, **295**, 248 (1962)

(C) Kawanami *et al.*, *Chem. Pharm. Bull.*, **22**, 1227 (1974)

A. glauca.

SESQUITERPENOIDS: isoimperatorin, prangolarin.

Kapoor *et al.*, *Phytochemistry*, **11**, 475 (1972)

A. keiskei Koidz.

CHALCONES: xanthoangelol, xanthoangenol.

Kozawa *et al.*, *J. Pharm. Soc., Japan*, **98**, 210 (1978)

A. komarovii.

COUMARINS: biacangelicin, imperatorin, phellopterin, umbelliprenin.

Zorin *et al.*, *Khim. Prir. Soedin.*, 644 (1983)

A. longeradiata.

COUMARIN: angeladin.

Hata *et al.*, *Chem. Pharm. Bull.*, **21**, 518 (1977)

A. mori.

SESQUITERPENOID: isosamidin.

Hata *et al.*, *Chem. Pharm. Bull.*, **22**, 957 (1978)

A. pubescens Maxim.

COUMARINS: angelols A, B, C, D, E, F, G and H.

Baba *et al.*, *Chem. Pharm. Bull.*, **30**, 2025 (1986)

A. putrescens.

COUMARIN: angelol.

Hata *et al.*, *Tetrahedron Lett.*, 4557 (1965)

A. sachalinensis.

COUMARIN: sachalinin.

Nikonov *et al.*, *Khim. Prir. Soedin.*, 623 (1970)

A. silvestris L.

SESQUITERPENOIDS: angelic acid, bisabolangelone, phellandrene.

Novotny *et al.*, *Tetrahedron Lett.*, 3541 (1966)

A. totaomae.

COUMARINS: anomalin, biakyangelicin.

Zorin *et al.*, *Khim. Prir. Soedin.*, 644 (1983)

***A. ursina* Maxim.**

BENZOPYRAN: pteryxin.

COUMARINS: bergapten, coumurrayin, 8-geranoxypsoralen, glabralactone, glabralactone hydrate, heraclenin, heraclenol, imperatorin, tert-O-methylheraclenol, osthole, xanthotoxin.

TRITERPENOIDS: ursinin, ursonic acid.

(B) Bohlmann *et al.*, *Tetrahedron Lett.*, 3947 (1968)(C) Baba *et al.*, *J. Pharm. Soc., Japan*, **103**, 1091 (1983)(T) Nikonorov *et al.*, *Khim. Prir. Soedin.*, **421** (1970)**ANGELONIA*****A. grandiflora*.**FLAVONE: 3',5,7-trihydroxy-3,4'-dimethoxyflavone. Kupchan *et al.*, *Phytochemistry*, **10**, 664 (1971)**ANGOPHORA*****A. subvalentina*.**

TRITERPENOID: 24-methylcycloartenol.

Ohta, Shimizu, *Chem. Pharm. Bull.*, **6**, 325 (1958)**ANHALONIUM*****A. fissuratum*.**

AMINE ALKALOID: hordenine.

Spath, *Ber. Dtsch. Chem. Ges.*, **75**, 1558 (1942)***A. lewinii* Hennings.**

AMINE ALKALOIDS: N-acetylmescaline, mescaline, N-methylmescaline.

ISOQUINOLINE ALKALOIDS: anhalamine, anhalidine, anhalinine, anhalonidine, anhalonine, mescalotam, O-methyl-(+)-anhalonidine, peyoglutam, 1,2,3,4-tetrahydro-6,7,8-trimethoxy-1-methylisoquinoline.

Kapadia, Fales, *J. Pharm. Sci.*, **57**, 2017 (1968)Kapadia *et al.*, *J. Chem. Soc., Chem. Commun.*, 1688 (1968)

A. williamsii.

AMINE ALKALOID: mescaline.

ISOQUINOLINE ALKALOID: pellotine.

Heffter, *Ber. Dtsch. Chem. Ges.*, **27**, 2975 (1894)

ANIBA (Lauraceae)

A. burchellii.

NEOLIGNAN: burchellin.

Lima *et al.*, *Phytochemistry*, **11**, 2031 (1972)***A. coco.***

PYRIDINE ALKALOID: anibine.

More *et al.*, *J. Am. Chem. Soc.*, **79**, 4507 (1957)***A. duckei.***

PYRIDINE ALKALOID: duckein.

Correa, Gottlieb, *Phytochemistry*, **14**, 271 (1975)***A. gardneri.***

DIMERIC PYRONE: ret-(1R,6S,7S,8S)-5-methoxy-7-phenyl-8-[6-(4-methoxy-2-pyronyl]-1-(E)-styryl-2-oxabicyclo[4.2.0]octa-4-en-3-one.

Mascarenhas *et al.*, *Phytochemistry*, **16**, 801 (1977)***A. gigantifolia.***

PYRAN: 5,6,7,8-tetrahydroyangonin.

Achenbach *et al.*, *Chem. Ber.*, **104**, 2688 (1971)***A. guianensis.***

SESQUITERPENOID: guianin.

Buchi *et al.*, *J. Am. Chem. Soc.*, **99**, 8073 (1977)***A. lancifolia.***

PHENOLIC: 4-hydroxy-5-allylveratrole.

Gottlieb *et al.*, *Phytochemistry*, **11**, 1861 (1972)***A. mas.***

PYRONES: 6-(3',4'-methylenedioxyphenyl)-4-methoxy-2-pyrone, 6-(3',4'-methylenedioxystyryl)-4-methoxy-2-pyrone.

De Diaz *et al.*, *Acta Amazonica*, **7**, 41 (1971); *Chem. Abstr.*, 88 3067e***A. roseodora.***

SESTERTERPENOID: (-)-rubranin.

De Allelenia *et al.*, *Phytochemistry*, **17**, 517 (1978)

A. santalodora.

CARBOLINE ALKALOID: cecelin.

Aguiar *et al.*, *Phytochemistry*, **19**, 1859 (1980)

ANIGOZANTHOS (Haemodoraceae)

A. rufus. Labill.

PIGMENTS: anigorubone, anigozanthin, dihydroxyanigorubone, hydroxyanigorubone.

Cooke, Thomas, *Aust. J. Chem.*, **28**, 1053 (1975)

ANISOCYCLEA (Menispermaceae)

A. grandiflora H.Bn.

BISBENZYLISOQUINOLINE ALKALOIDS: 12-demethyltrilobine, 12-O'-demethyltrilobine, (-)-epi-stephanine.

Schittler, Weber, *Helv. Chim. Acta*, **55**, 2061 (1972)

ANISODORIS

A. nobilis.

PURINE ALKALOID: doridosine.

Kim *et al.*, *Lloydia*, **44**, 206 (1981)

ANISODUS (Solanaceae)

A. luridus Link et Otto.

BISPYRROLE ALKALOID: cuskhygrine.

TROPANE ALKALOID: hyoscyamine.

Tuppy, Faltaous, *Monatsh. Chem.*, **91**, 167 (1960)
 Bremner, Cannon, *Aust. J. Chem.*, **21**, 1369 (1968)

ANISOMELES (Labiatae)

A. evindica.

DITERPENOID: ovatodiolide.

Ho Dac An *et al.*, *Bull. Soc. Chim. Fr.*, 1192 (1963)

A. indica O.Kuntze.

ACIDS: arachic acid, behenic acid, cerotic acid, heneicosanoic acid, lignoceric acid, palmitic acid, pentacosanoic acid, stearic acid, tricosanoic acid.

DITERPENOID: isoovatodiolide.

STEROIDS: β -sitosterol, stigmasterol.

(Ac) Chen *et al.*, *Chem. Abstr.*, 86 2376b

(S) Chen *et al.*, *Chem. Abstr.*, 84 102343r

(T) Manchand, Blount, *J. Org. Chem.*, **42**, 3824 (1977)

A. malabarica.

DITERPENOIDS: 2-acetoxymalabaric acid, anisomelic acid, anisomelol, anisomemyl acetate, malabaric acid, ovatodiolide.

Devi *et al.*, *Indian J. Chem.*, **16B**, 441 (1978)

Purushothaman *et al.*, *ibid.*, **13**, 1357 (1975)

A. ovata R.Br.

FLAVONOIDS: anisofolin A, anisofolin B, 5,6-dimethoxy-7,3',4'-trihydroxyflavone.

DITERPENOID: ovatodiolide.

(F) Rao *et al.*, *Phytochemistry*, **22**, 1522 (1983)

(T) Purushothaman *et al.*, *Indian J. Chem.*, **13**, 1357 (1975)

ANISOTES

A. sessiliflorus C.B.Cl.

QUINAZOLINE ALKALOIDS: aniflorine, anisessine, anisotine, deoxyaniflorine.

Arndt *et al.*, *Tetrahedron*, **23**, 3521 (1967)

ANISUM (Umbelliferae)

***A. vulgare* Gaertn.**

SESQUITERPENOID: τ -himalchalene.

Tabacci *et al.*, *Helv. Chim. Acta*, **57**, 849 (1974)

ANNONA (Annonaceae)

***A. bullata*.**

SESQUITERPENOID: bullatatriol.

Kutschabsky *et al.*, *Phytochemistry*, **24**, 2724 (1985)

***A. cherimolia*.**

APORPHINE ALKALOIDS: anonaine, liriodenine, michelalbine, (+)-reticuline.

Cassels, *Rev. Latinoam. Quim.*, **8**, 133 (1977)

***A. coriacea*.**

DITERPENOIDS: annonalide, 3,20-epoxy-3 α -hydroxy-13-hydroxyacetyl-13-methyl-7-podocarpen-19,6-olide.

Ferrari *et al.*, *Phytochemistry*, **10**, 3267 (1972)

Mussini *et al.*, *J. Chem. Soc., Perkin I*, 2551 (1973)

***A. crassiflora* Mart.**

APORPHINE ALKALOIDS: anonaine, asimilobine.

BENZYLISOQUINOLINE ALKALOID: (+)-reticuline.

OXAOPORPHINE ALKALOID: liriodenine.

Hocquemiller *et al.*, *Plant Med. Phytother.*, **16**, 4 (1982)

***A. montana*.**

CARBOLINE ALKALOIDS: annomontine, methoxyannomontine.

Lebouef *et al.*, *Plant Med. Phytother.*, **16**, 169 (1982)

***A. muricata* L.**

ISOQUINOLINE ALKALOIDS: anomuricine, anomurine, muricine, muricinine.

Lebouef *et al.*, *Planta Med.*, **42**, 37 (1981)

***A. reticulata*.**

BENZYLISOQUINOLINE ALKALOID: (+)-reticuline.

DIFURAN: 14-hydroxy-25-deoxyrollinicin.

(A) Stermitz *et al.*, *Tetrahedron Lett.*, 1601 (1967)

(F) Else, Waterman, *J. Nat. Prod.*, **49**, 684 (1986)

A. squamosa.

SESQUITERPENOIDS: α -caryophyllene, β -caryophyllene.

DITERPENOIDS: 17-acetoxy-19-kauranal, 17-hydroxykauran-19-al, kaur-16-en-19-al, kaur-16-en-19-ol acetate.

Ramage, Simonsen, *J. Chem. Soc.*, 1208 (1938)

Bohlmann, Rao, *Chem. Ber.*, **106**, 841 (1973)

ANODENDRON (Apocynaceae)

A. affine Druce.

PYRROLIZIDINE ALKALOIDS: alloanodendrine, anodendrine.

STEROIDS: affinogenins D-I, D-II, D-III, D-IV and D-V, affinosides A, B, C, D, E, F, G, La, Lb, Lc, Ld and Le.

(A) Sasaki, Hirata, *Tetrahedron Lett.*, 4065 (1969)

(S) Abe *et al.*, *Chem. Pharm. Bull.*, **30**, 1183 (1982)

(S) Abe *et al.*, *ibid.*, **33**, 3662 (1985)

A. paniculatum (Roxb.) A.DC.

STEROIDS: anodendrosides A, B, C, D, E-1, E-2, F and G.

Polonia *et al.*, *Helv. Chim. Acta*, **53**, 1253 (1970)

ANOGEISSUS

A. latifolia.

BENZOPYRAN: 3,3',4-tri-O-methylflavellagic acid.

Deshpande *et al.*, *Indian J. Chem.*, **14B**, 641 (1976)

ANOPTERUS

A. glandulosus Labill.

ESTER ALKALOID: anopterine.

Denne *et al.*, *Tetrahedron Lett.*, 2727 (1972)

A. macleayanus F.Muell.

ESTER ALKALOIDS: anopterine, hydroxyanopterine.

Denne *et al.*, *Tetrahedron Lett.*, 2727 (1972)
 Hart *et al.*, *Aust J. Chem.*, **29**, 1319 (1976)

ANTHELIA (MUSCI)

A. julacea (L.) Dum.

DITERPENOID: (-)-16-hydroxykaurane, 16 β -kauran-16 α -ol.
 Huneck, Vevle, *Z. Naturforsch.*, **25B**, 277 (1970)

A. juratzkana (Limpr.) Trev.

DITERPENOID: (-)-16-hydroxykaurane.
 Huneck, Vevle, *Z. Naturforsch.*, **25B**, 277 (1970)

ANTHEMIS (COMPOSITAE/ANTHEMIDEAE)

A. austriaca.

SESQUITERPENOID: 8-acetoxy-4-oxonerolidol.
 Bohlmann *et al.*, *Chem. Ber.*, **107**, 1074 (1974)

A. cotula.

One sesquiterpenoid.
 Bohlmann *et al.*, *Tetrahedron Lett.*, 2417 (1966)

A. fuscata Brot.

ISOCOUMARIN: artemidin.
 Bohlmann *et al.*, *Chem. Ber.*, **103**, 2856 (1970)

A. montana.

MONOTERPENOID: dehydronesterol isovalerate.
 Bohlmann, Kapteyn, *Tetrahedron Lett.*, 2065 (1973)

A. nobilis.

BENZOPYRAN: apiiin.
 MONOTERPENOID: 4-isopropenylbenzaldehyde.
 SESQUITERPENOIDS: 3-dehydronobilin, 1,10-epoxynobilin, hydroxynobilin, nobilin, epi-nobilin.
 TRITERPENOID: taraxasterol.
 (B) Holalkar *et al.*, *Can. J. Chem.*, **43**, 2085 (1965)
 (T) Holub, Samek, *Collect. Czech. Chem. Commun.*, **42**, 1053 (1977)

(T) Thomas *et al.*, *Helv. Chim. Acta*, **64**, 2393 (1981)

ANTHOCEPHALUS

A. cadamba.

CARBOLINE ALKALOIDS: cadambine, cadamine, 3α -dihydrocadambine, 3β -dihydrocadambine, isodihydrocadambine.

SAPONINS: anthocephalus saponins A, B, C and D.

TRITERPENOID: cadambagenic acid.

(A) Brown *et al.*, *Tetrahedron Lett.*, 1629 (1976)

(Sap) Banerji *et al.*, *J. Indian Chem. Soc.*, **55**, 275 (1978)

(T) Sahu *et al.*, *Indian J. Chem.*, **12**, 284 (1974)

ANTHOCERIS (Solanaceae)

A. albicans.

TROPANE ALKALOID: 3α -n-butyryloxytropane.

Evans, Ramsey, *Phytochemistry*, **20**, 497 (1981)

A. genistoides.

TROPANE ALKALOID: aponorhyoscine.

Evans, Ramsey, *Phytochem.*, **20**, 497 (1981)

A. littorea.

TROPANE ALKALOID: littorine.

Cannon *et al.*, *Aust J. Chem.*, **22**, 221 (1969)

ANTHOCLEISTA

A. ambesiaca.

MONOTERPENOID: erythrocentaurine, sweroside.

Capelle, *Phytochemistry*, **12**, 1191 (1973)

A. djalonensis.

PHTHALIDE: djalonensin.

XANTHONE: lichexanthone.

(Ph) Okorie, *Phytochemistry*, **15**, 1799 (1976)

(X) Rubei *et al.*, *Phytochemistry*, **15**, 1093 (1976)

A. grandiflora.

IRIDOID: grandifloroside.

Chapelle, *Phytochemistry*, **15**, 1305 (1976)

A. procera.

PYRIDINE ALKALOID: gentianine.

Govindachari *et al.*, *J. Chem. Soc.*, **551**, 2725 (1957)

A. vogelii.

AMIDE: fagaramide Iridoids secologanic acid, sweroside, vogeloside.

XANTHONES: decussatin, fagaramide.

(Am) Goodson, *Biochem. J.*, **15**, 123 (1921)

(I) Chapelle, *Planta Med.*, **29**, 268 (1976)

(X) Okorie, *Phytochemistry*, **15**, 1799 (1976)

ANTHOSPERMA

A. moschatum Labill.

OXONORAPORPHINE ALKALOID: antherospermidine.

Bick *et al.*, *Aust. J. Chem.*, **9**, 111 (1956)

ANTHOSTOMA

A. avocetta.

SESQUITERPENOID: avocettin.

Arigoni, *Pure Appl Chem.*, **41**, 219 (1975)

ANTHOTROCHE

A. myoporoides.

TROPANE ALKALOID: aponoratropine.

Evans, Ramsey, *Phytochemistry*, **20**, 497 (1981)

A. pannosa.

TROPANE ALKALOID: (-)-hyoscyamine.

Ladenberg, *Justus Liebigs Ann. Chem.*, **206**, 282 (1880)

A. walcottii.

TROPANE ALKALOID: aponoratropine.

Evans, Ramsey, *Phytochemistry*, **20** 497 (1981)

ANTHRISCUS

A. sylvestris Hoffm.

ACID: (Z)-2-angeloyloxymethyl-2-butenoic acid.

DITERPENOIDS: anthricin, anthricinol methyl ether.

Kozawa *et al.*, *Chem. Pharm. Bull.*, **30**, 2885 (1982)

ANTHYLLIS(Papilionaceae/Fabaceae)

A. montana.

ANTHOCYANINS: cyanadin 3-galactoside, delphinidin 3-galactoside, poenidin 3-galactoside.

Sterk *et al.*, *Acta Bol. Neerl.*, **26**, 349 (1977); *Chem. Abstr.*, 87 197258r

A. onobrychoides.

FLAVONES: isorhamnetin 3-O- β -D-galactopyranoside, kaempferol 3-O- β -D-galactopyranoside, quercetin 3-O- β -D-galactopyranoside, rhamnazin 3-O-galactoside, rhamnazin 3-O-galactoside-4'-O-glucoside, rhamnetin 3-O- β -D-galactopyranoside-3',4'-di-O- β -D-glucopyranoside, rhamnocitrin 3-O- β -D-galactopyranoside.

Barbera *et al.*, *Phytochemistry*, **25**, 2361 (1986)

A. vulneraria.

FLAVONE: fisetin.

PHYTOALEXINS: demethylvestitol, isovestitol.

(F) Gornet *et al.*, *Phytochemistry*, **11**, 2313 (1972)

(P) Ingham, *Phytochemistry*, **16** 1279 (1977)

A. vulneraria L.

ANTHOCYANINS: cyanidin 3-galactoside, delphinidin 3-galactoside, paeonidin 3-galactoside.

Sterk *et al.*, *Acta Bologica Neerlandica*, **26**, 349 (1977); *Chem. Abstr.*, 87 197258r

ANTIARIS (Moraceae)

A. toxicaria (Pers.) Lesch.

STEROIDS: antiarigenin, α -antiarin, β -antiarin, antiogenin, strophalloside.

Tschesche, Haupt, *Ber. Dtsch. Chem. Ges.*, **69**, 1377 (1936)

Juslen *et al.*, *Helv. Chim. Acta*, **45**, 2285 (1962)

ANTIDESMA

A. bunias.

TRITERPENOID: dammar-20,24-dien-3 β -ol.

Hui, Sung, *Aust. J. Chem.*, **21**, 2137 (1968)

A. menasu.

TRITERPENOID: antidesmanol.

Rizvi *et al.*, *Experientia*, **36**, 146 (1980)

A. pentandrum.

TRITERPENOID: lupeolactone.

Kikuchi *et al.*, *Chem. Lett.*, 603 (1983)

ANTIRHEA (Rubiaceae)

A. putaminosa (F.Muell.) Bail.

CARBOLINE ALKALOID: antirhine.

Johns *et al.*, *Aust. J. Chem.*, **20**, 1463 (1967)

ANTIRRHINUM (Scrophulariaceae)

A. hispanicum.

NAPHTHYRIDINE ALKALOID: 4-methyl-2,6-naphthyridine.

Brooker, Harkness, *Planta Med.*, **26**, 305 (1974)

A. majus.

NAPHYRIDINE ALKALOID: 4-methyl-2,6-naphthyridine.

AMINO ACIDS: alanine, aspartic acid, cystine, glutamic acid, glutamine, glycine, hydroxyproline, isoleucine, lysine, proline, serine, threonine, tryptophan, tyramine, valine.

BENZOFURAN: aureusidin.

GLUCOSIDE: aureusin.

IRIDOID: 5-O- β -glucosylantirrhinoside.

(A) Harkness, *Phytochemistry*, **10**, 2849 (1971)

(Am) Pande *et al.*, *Planta Med.*, **30**, 317 (1976)

(B, G) Geissman *et al.*, *J. Am. Chem. Soc.*, **72**, 5725 (1950)

(I) Guiso, Scarpati, *Gazz. Chim. Ital.*, **99**, 800 (1969)

A. molles.

NAPHTHYRIDINE ALKALOID: 4-methyl-2,6-naphthyridine.

Brooker, Harkness, *Planta Med.*, **26**, 305 (1974)

A. mollisum.

NAPHYRIDINE ALKALOID: 4-methyl-2,6-naphthyridine.

Brooker, Harkness, *Planta Med.*, **26**, 305 (1974)

A. orontium.

NAPHTHYRIDINE ALKALOID: 4-methyl-2,6-naphthyridine.

Harkiss, *Planta Med.*, **20**, 108 (1971)

A. orontium L. var. calycinum (Lam.).

IRIDOID: calycinoside.

Bianco *et al.*, *Gazz. Chim. Ital.*, **109**, 561 (1979)

A. tortuosum.

IRIDOID: antirrhide 5-O- β -glucosylantirrhinoside.

Scarpati, Guiso, *Gazz. Chim. Ital.*, **99**, 807 (1969)

ANTITOXICUM

A. funebre (Boiss Kotschy) Pobed.

PHENANTHROINDOLIZIDINE ALKALOID: antofine.

Platonova *et al.*, *J. Gen. Chem. USSR*, **28**, 3131 (1958)

A. scandens.

FLAVONOIDS: kaempferol, quercetin, quercetin 3- β -D-glucosido-7- α -L-rhamnoside.

PHENOLICS: caffeic acid, chlorogenic acid, ferulic acid, sinapic acid.

Fursa *et al.*, *Khim. Prir. Soedin.*, 416 (1977)

ANVILLEA

A. garcini.

SESQUITERPENOIDS: 9 β -hydroxy-1 β ,10 α -epoxyparthenolide,
hydroxyparthenolide, 9 β -hydroxyparthenolide.

Rustaiyan *et al.*, *Phytochemistry*, **25**, 1229 (1986)

AOTUS (Leguminosae/Podalyriace)

A. subglauca Blackley et McKee.

INDOLE ALKALOID: (S)(4)-N(b)-dimethyltryptophan methyl ester.

Johns *et al.*, *Aust. J. Chem.*, **24**, 439 (1971)

APHANAMIXIS

A. grandiflora.

LIMONOIDS: amoorastatin, amoorastatone, hydroxyamoorastatin.

Polonsky *et al.*, *Experientia*, **35**, 987 (1979)

A. polystachya.

LIMONOIDS: aphanamixin, aphanamixinin, aphanamixol, polystachin, rohikutin.

Chandrasekharan *et al.*, *Sci. Cult.*, 363 (1968)

Mulholland *et al.*, *J. Chem. Res. Synop.*, 294 (1979)

APHANIZOMENON (Cyanophyceae)

A. flos-aquae.

CAROTENOIDS: aphanicin, aphanin, aphanizophyll.

UNCHARACTERIZED CAROTENOID: flavazin.

Tischer *et al.*, *Z. Physiol. Chem.*, **251**, 109 (1938)

APHELANDRA (Acanthaceae)

A. squarrosa Nees.

MACROCYCLIC ALKALOID: aphelandrine.

Daetwyler *et al.*, *Helv. Chim. Acta.*, **61**, 2646 (1978)

APHLOIA

A. madagascariensis.

XANTHONE: aphloiol.

Adjangba *et al.*, *Bull. Soc. Chim. Fr.*, 376 (1964)

APIOS (Leguminosae)

A. tuberosa Moench. (A. americana Medic).

BENZOPYRAN: apiocarpin.

Ingham *et al.*, *Phytochemistry*, **21**, 1409 (1982)

APIUM (Umbelliferae)

A. graveolens.

BENZOPYRAN: apiumetin.

COUMARIN: rutaretin.

Garg *et al.*, *Phytochemistry*, **17**, 2135 (1978)

APLOPAPPUS

A. heterophyllus.

BENZOFURAN: toxol.

STEROIDS: androstan-3 β ,16 α ,17 α -triol, stigmasta-8(14),22-3 β -ol.

(B) Zalkow *et al.*, *Tetrahedron Lett.*, 2873 (1972)

(S) Zalkow *et al.*, *ibid.*, 217 (1964)

APOCYNUM

A. lancifolium.

FLAVONOIDS: neoisorutin, quercetin.

STEROIDS: cimarin, k-strophanthidin- β .

Murzagaliev *et al.*, *Chem. Abstr.*, 86 185911q

APTOSIMUM (Scrophulariaceae)

A. spinescens Thunb.

FURANS: aptosimol, aptosimone (+)-piperitol, (+)-sesamin, (+)-spinescin.

Brieskorn *et al.*, *Tetrahedron Lett.*, 2221 (1976)

APULEIA

A. leiocarpa.

FLAVONES: apuleidin, apuleisin, apuleitrin, 5-O-demethylapulein, oxyanin A, oxyanin B.

Braz, Filho, *Phytochemistry*, **10**, 2433 (1971)

AQUILLARIA

A. agallocha.

BENZOPYRAN: agarotetrol.

SESQUITERPENOIDS: α -agarofuran, β -agarofuran, agarol, agarospirol, β -dihydroagarofuran, 3,4-dihydroxydihydroagarofuran, 4-hydroxydihydroagarofuran, norketoagarofuran.

(B) Yoshii *et al.*, *Tetrahedron Lett.*, 3921 (1978)

(T) Jain, Bhattacharyya, *ibid.*, 13 (1959)

(T) Varma *et al.*, *Tetrahedron*, **21**, 115 (1965)

A. malacacensis Wrod.

SESQUITERPENOIDS: jinkoh-eremol, jinkohol.

Nakanishi *et al.*, *J. Chem. Soc., Perkin I*, 601 (1983)

A. sinensis (Lour.) Gilg.

SESQUITERPENOIDS: baimuxinol, dehydrobaimuxinol.

Yang *et al.*, *Yaoxue Xuebao*, **21**, 576 (1986); *Chem. Abstr.*, 105 187604b

A. suensis.

SESQUITERPENOIDS: baimuxinal, baimuxinic acid.

Yang, Chen, *Yaoxue Xuebao*, **2**, 329 (1954)

AQUILEGIA (Ranunculaceae)

A. atrata.

BENZOFURANS: aquilegiolide, epi-aquilegiolide.

Guerriero *et al.*, *Phytochemistry*, **23**, 2394 (1984)

A. karelini (Baker) O. et B. Fedtsch.

QUATERNARY ALKALOID: magnoflorine iodide.

Nakano, *Chem. Pharm. Bull.*, **2**, 329 (1954)

A. olympica.

PROTOBERBERINE ALKALOID: berberine.

QUATERNARY ALKALOID: magnoflorine.

Efimova *et al.*, *Aktual Vopr. Farm.*, **2**, 34 (1974); *Chem. Abstr.*, 84 147617z

ARACHIOIDES

A. standsii.

DITERPENOIDS: dryocassol methyl ether, ryomenin.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **27**, 2874 (1979)

ARACHIS (Leguminosae)

A. hypogaea L.

ACIDS: behenic acid, lignoceric acid, myristic acid, palmitic acid, stearic acid.

UNCHARACTERIZED ALKALOID: arachine.

CHROMENE: 5,7-dihydroxychromone Flavonoids chrysoeriol daucosterin, esculetin, isoquercitrin, luteolin, pratensein, quercetin, rutin.

PHENOLICS: caffeoic acid, p-coumaric acid, ferulic acid, p-hydroxybenzoic acid, phloretic acid, protocatechuic acid, α -resorcylic acid, salixylic acid, vanillic acid.

STEROID: β -sitosterol.

(A) Mooser, *Landwirtsch. Vers. Stn.*, **60**, 321 (1904)

(F, P, S) Matsuura *et al.*, *J. Pharm. Soc., Japan*, **103**, 997 (1983)

ARACHNIODES

A. standishii.

PYRROLIDINE ALKALOID: 3,4-dihydroxy-2-hydroxymethylpyrrolidine.

Furukawa *et al.*, *Phytochemistry*, **24**, 593 (1985)

ARALIA (Araliaceae)

A. cordata.

DITERPENOIDS: grandifloric acid, 7α -hydroxy-(-)-pimara-8(14),15-dien-19-oic acid, 7β -hydroxy-(-)-pimara-8(14),15-dien-19-oic acid 7-oxo-(-)-pimara-8(14),15-dien-19-oic acid, (-)-pimara-8(14),15-dien-19-al, (-)-pimara-8(14),15-dien-19-oic acid.

Yahara *et al.*, *Chem. Pharm. Bull.*, **22**, 1639 (1974)

A. japonica.

TRITERPENOID: oleanolic acid.

Van der Haar, *Recl. Trav. Chim. Pays-Bas*, **46**, 775, 793 (1927)

A. mandschurica Rupr. et Maxim.

SAPONINS: aralosides A, B and C, oleanosides A, B, C, D, E, F, G, H and I.

Elyakov *et al.*, *Izv. Akad. Nauk SSSR, Otd. Khim. Nauk*, 1605 (1962)

Lutomski *et al.*, *Herba Pol.*, **23**, 183 (1977); *Chem. Abstr.*, 88 148979p

A. schmidtii.

SAPONIN: araloside A.

Kochetkov *et al.*, *J. Gen. Chem. USSR*, **31**, 658 (1961)

ARALIDIUM

A. pinnatifidum.

IRIDOID: aralidioside.

Jensen *et al.*, *Phytochemistry*, **19**, 2685 (1980)

ARALIOPSIS

A. soyauxii.

FURANOQUINOLINE ALKALOIDS: flindersamine, maculine, (+)-platydesmine, (-)-ribalinine, skimmianine.

QUINOLONE ALKALOID: araliopsisine.

Vaquette *et al.*, *Phytochemistry*, **15**, 743 (1976)

A. tabouensis.

FUROQUINOLINE ALKALOIDS: halfordinine, isoplatydesmine, skimmianine.

INDOLOQUINAZOLINE ALKALOIDS: evodiamine, rhetsinine.
 QUATERNARY ALKALOID: N-methylplatydesminium.
 Fish *et al.*, *Planta Med.*, **29**, 318 (1976)

ARALIORHAMNUS

A. vaginatus Perrier.

PEPTIDE ALKALOIDS: aralionine, aralionine B, hysodricanine A, mauritine H, scutianine F.

Tschesche *et al.*, *Phytochemistry*, **16**, 1025 (1977)

ARARIBA

A. rubra.

CARBOLINE ALKALOID: barman.

UNCHARACTERIZED ALKALOID: aribine.

Rieth, Wohler, *Justus Liebigs Ann. Chem.*, **120**, 247 (1861)

Spath *et al.*, *Monatsh. Chem.*, **41**, 401 (1920)

ARAUCARIA (Araucariaceae)

A. angustifolia.

DITERPENOIDS: 7,13-abietadien-18-al, 7,13-abietadien-18-oic acid, 13 α -acetoxy-8(17),13-labdadien-19-al, 15-acetoxy-8E,13-labdadien-19-al, 15-acetoxy-8(17),13-labdadien-19-oic acid, 19-acetoxy-8(E),13-labdadien-15-oic acid methyl ester, 13 β -hydroxylabda-8,14-dien-19-oic acid methyl ester, 13 β -hydroxylabda-8(17),14-dien-19-oic acid methyl ester, 15-hydroxylabda-8(17),13-dien-19-oic acid methyl ester, labda-8(17)E,13-dien-15,19-dioic acid dimethyl ester, labda-8,13-dien-15,19-diol, labda-8,14-dien-13 α ,19-diol, labda-8(17),14-dien-13 α ,19-diol, 8(17),12,14-labdatrien-19-oic acid methyl ester.

Ruzicka *et al.*, *Helv. Chim. Acta*, **24**, 504 (1941)

Caputo *et al.*, *Gazz. Chim. Ital.*, **105**, 639 (1975)

A. araucaria (Mol.) K.Koch.

DITERPENOIDS: (-)-atisirene, (-)-trachylobane.

Kapadi *et al.*, *Tetrahedron Lett.*, 2729 (1965)

A. *bidwillii*.

DITERPENOIDS: ent-4(18),13-clerodien-15-oic acid, ent-labda-8,13-dien-15-ol, ent-labda-8,13-dien-15-ol-15-acetate.

Caputo *et al.*, *Phytochemistry*, **15**, 1401 (1976)

A. *cooki*.

DITERPENOIDS: abietinal, 13β -hydroxylabda-8,14-dien-19-al, 13β -hydroxylabda-8(20),14-dien-19-al, 15-hydroxylabda-8,13-dien-19-al, 19-hydroxylabda-8,13-dien-15-oic acid, labda-8,14-diene-13 α ,19-diol.

Caputo *et al.*, *Phytochemistry*, **13**, 471 (1974)

A. *cunninghamii*.

DITERPENOIDS: 15-hydroxylabda-8(20),13-dien-19-oic acid, labda-8,13-diene-15,19-diacetate, labda-8,13-diene-15,19-diol 15-acetate.

FLAVONES: amentoflavone, amentoflavone 4",7-dimethyl ether.

(F) Beckmann *et al.*, *Phytochemistry*, **10**, 2465 (1971)

(T) Caputo *et al.*, *Gazz. Chim. Ital.*, **13**, 475 (1974)

A. *excelsa*.

DITERPENOIDS: 7,13-abietadien-18-ol, 19-acetoxy-7,13-abietadiene, 13-acetoxy-8(17),14-labdadien-19-oic acid methyl ester, 19-norlabda-8(17),14-diene-4,13-diol.

Chirkova *et al.*, *Izv. Sib. Otd. Akad. Nauk SSSR*, **2**, 99 (1966)

Caputo *et al.*, *Gazz. Chim. Ital.*, **104**, 491 (1974)

A. *hunsteinii*.

DITERPENOIDS: ent-4(18),13-clerodien-15-ol, 8,15-labd-13-enediol.

Caputo, Mangoni, *Phytochemistry*, **13**, 467 (1974)

A. *imbricata*.

DITERPENOIDS: acetoxyimbricatolic acid, methyl

13-acetoxylabda-8(17),14-dien-19-oate, 15-acetoxylabd-8(17)-en-19-al, 15-acetoxylabd-8(20)-en-19-al, acetoxyimbricatolic acid, 16-acetoxylabd-8(17)-ene, methyl 15-acetoxylabd-8(17)-en-19-oate, 3β -hydroxylabd-8(20)-en-15-al, 15-hydroxylabd-8(17)-en-19-al, 15-hydroxylabd-8(20)-en-19-al, 15-hydroxylabd-8(17)-ene, methyl 15-hydroxylabd-8(17)-en-19-oate, methylabd-8(17)-en-15-oate, 3β -hydroxylabd-8(20)-en-15-oic acid, imbricatadiol, imbricatolal, imbricatolic acid, labd-8(17)-ene-15,19-diol, labd-8(20)-ene-3 β ,15-diol.

Bruns, Weissman, *Tetrahedron Lett.*, 1901 (1966)

Caputo *et al.*, *Gazz. Chim. Ital.*, **106**, 1119 (1976)

ARBUTUS (Ericaceae)

A. andrachne L.

TRITERPENOID: ursolic acid.

Hassan *et al.*, *Khim. Prir. Soedin.*, 119 (1975)

A. unedo L.

ALCOHOL: dotriacontanol.

IRIDOID: unedide, unedoside.

(Al) Gascard, *C.R. Acad. Sci.*, **159**, 258 (1914)

(I) Davini *et al.*, *Phytochemistry*, **20**, 1583 (1981)

ARCHANGELICIA (Menispermaceae)

A. flava L. Merr.

BISBENZYLISOQUINOLINE ALKALOIDS: homoaromoline, limacine.

PROTOBERBERINE ALKALOIDS: berberine, columbamine, dehydrocorydaline, hydroxyberberine, jatrorrhizine, palmatine, pycnarrhine, thalifendine.

UNCHARACTERIZED ALKALOID: shobakunine.

Verpoorte *et al.*, *J. Nat. Prod.*, **45**, 582 (1982)

A. tschimganica.

COUMARINS: biacangelicin, biacangelicol, osthole, phellapterin, umbelliprenin, xanthotoxol.

Saidkhodzhaev *et al.*, *Khim. Prir. Soedin.*, 96 (1976)

ARCTEGUIETIA

A. pseudoarborea.

DITERPENOID: 13-labd-7-en-2 α ,15-diol.

Bohlmann *et al.*, *Justus Liebigs Ann. Chem.*, 2127 (1983)

ARCTIUM (Compositae)

A. lappa L.

SESQLIGNANS: arctigenin, arctigenin 4- β -D-glucopyranoside, arctin, lappaol C, lappaol D, lappaol E, matairesinol, sesquilignan AL-D, sesquilignan AL-F.

SESQUITERPENOID: dehydrofukinone.

(S1) Takaoka *et al.*, *Bull. Chem. Soc., Japan*, **50**, 2821 (1977)

(S1) Ichihara *et al.*, *Agr. Biol. Chem.*, **41**, 1813 (1977)

(T) Naya *et al.*, *Chem. Lett.*, 235 (1972)

A. minus.

SESQUITERPENOID: arctiopicrin.

Suchy *et al.*, *Croat. Chem. Acta*, **29**, 247 (1953)

A. tomentosum.

SESQUITERPENOID: arctiopicrin.

Suchy *et al.*, *Collect. Czech. Chem. Commun.*, **24**, 1542 (1959)

ARCTODIAPTONUS

A. salinus.

CAROTENOID: crustaxanthin.

Bodea *et al.*, *Omajiu Taluca Ripan.*, 153 (1966)

ARCTOSTAPHYLOS (Ericaceae)

A. uva-ursi (L.) Spreng.

STEROID: β -sitosterol.

TRITERPENOIDS: α -amyrin, betulinic acid, lupeol, oleanolic acid, taraxerol, ursolic acid, uvaol.

Huzii, Osumi, *J. Pharm. Soc., Japan*, **59**, 176 (1939)

Kawai *et al.*, *Chem. Abstr.*, 88 34499b

ARCTOTIS (Ericaceae/Compositae)

A. grandis.

SESQUITERPENOIDS: 12-acetoxysesquisabinene, acetylbarin, 8 β -angeloyloxy-senoxyris-4-en-3-one, tabarin.

Bohlmann *et al.*, *Phytochemistry*, **17**, 1666, 1669 (1978)

Gonzalez *et al.*, *ibid.*, **22**, 1509 (1983)

A. revoluta.

SESQUITERPENOIDS: 4 β ,14-dihydro-3-dehydrozaluzanin C, 11-hydroxyguaiene, isoguaiene, 4 β ,14,11 α ,13-tetrahydro-3-dehydrozaluzanin C, 4 β ,14,11 β ,13-tetrahydro-3-dehydrozaluzanin C.

NORDITERPENOID: gynurone.

DITERPENOIDS: ent-15-hydroxykaurene, ent-15 α -hydroxykaurene, ent-kauran-15-one.

Bohlmann *et al.*, *Phytochemistry*, **16**, 575 (1977)

ARDISIA (Myrsinaceae)

A. cornudentata.

QUINONE: coraudentanone.

Tian *et al.*, *Phytochemistry*, **26**, 2361 (1987)

A. quinquegona.

PHENOLIC: 4-acetoxy-2-(2-acetoxypentadecyl)-methoxyphenol.

QUINOL: ardisianol.

QUINONES: ardisianone, 2-(2-acetoxypentadecyl)-6-methoxy-1,4-benzoquinone, Kusami *et al.*, *Bull. Chem. Soc., Japan*, **51**, 943 (1978)

A. sieboldii.

QUINONES: ardisiaquinones A, B and C, (Z)-ardisiaquinone A.

Natori *et al.*, *Tetrahedron Lett.*, **1387**, 3107 (1968)

A. solanacea.

TRITERPENOIDS: α -amyrin, β -amyrin, baueranol.

Ahmad *et al.*, *Planta Med.*, **32**, 162 (1977)

ARECA (Arecaceae)

A. catechu.

PIPERIDINE ALKALOIDS: guvacine, guvacoline, isoguvacine.

PYRIDINE ALKALOIDS: arecaidine, arecoldine, arecoline.

Winterstein, Weinhagen, *Z. Physiol. Chem.*, **85**, 372 (1913)

von Euler *et al.*, *Helv. Chim. Acta*, **27**, 382 (1944)

ARENICOLA

A. marina.

PIGMENT: arenichromene.

Duijn *et al.*, *Recl. Trav. Chim. Pays-Bas*, **71**, 585, 595 (1952)

ARGEMONE (Papaveraceae)

A. albiflora Hornem.

QUATERNARY ALKALOID: (-)- β -scoulerine methohydroxide.

Haisova *et al.*, *Collect. Czech. Chem. Commun.*, **38**, 3312 (1973)

A. gracilenta Greene.

PAVINANE ALKALOIDS: (-)-argemonine methohydroxide, (-)-argemonine N-oxide, (-)-isonorargemonine, munitagine, platycerin.

Stermitz, McMurtry, *J. Org. Chem.*, **34**, 555 (1969)

A. hispida.

PAVINANE ALKALOID: norargemonine.

Soine, Gisvold, *J. Am. Pharm. Assoc.*, **33**, 185 (1944)

A. mexicana L.

ACID: argemonic acid.

PAVINANE ALKALOID: (-)-argemonine.

PROTOBERBERINE ALKALOIDS: α -allocryptopine. berberine protopine Flavone isorhamnetin 3- β -D-glucoside.

(A) Manske, Miller, *Can. J. Res.*, **18B** 288 (1940)

(A) Martell *et al.*, *J. Am. Chem. Soc.*, **85**, 1022 (1963)

(Acid) Gunstone *et al.*, *Chem. Phys. Lipids*, **20**, 331 (1977)

(F) Rahman, *J. Org. Chem.*, **27**, 153 (1962)

A. munita Dur. et Hilg.

PAVINANE ALKALOIDS: 2,9-dimethoxypavinane, munitagine.

Coomes *et al.*, *J. Org. Chem.*, **38**, 2701 (1973)

A. munita Dur. et Hilg. subsp. rotunda (Rydb.) G.W.Ownb.

OXOPROTOBERBERINE ALKALOID: muramine.

PAVINANE ALKALOID: munitagine.

TROPANE ALKALOID: 2,9-dimethoxy-3-hydroxytropane.

Coomes *et al.*, *J. Org. Chem.*, **38**, 3701 (1973)

A. platyceras Link et Otto.

PAVINANE ALKALOID: platycerine.

QUATERNARY ALKALOIDS: argemonine methohydroxide, (-)- α -canadine methohydroxide, cyclanoline methohydroxide, magnoflorine, platycerine methohydroxide, (-)- α -stylopine methohydroxide.

Slavík, Slavíková, *Collect. Czech. Chem. Commun.*, **41**, 285 (1976)

A. polyanthemos.

QUATERNARY ALKALOIDS: argemonine methohydroxide, (-)- α -canadine methohydroxide, cyclanoline methohydroxide, magnoflorine, platycerine methohydroxide, (-)- α -stylopine methohydroxide.

Slavík, Slavíková, *Collect. Czech. Chem. Commun.*, **41**, 285 (1976)

A. subfusiformia var. subfusiformis.

ALKALOIDS: berberine, chelerylline, protopine, sanguinarine.

Bandoni *et al.*, *Phytochemistry*, **14**, 1785 (1975)

A. subfusiformis var. subinermis.

ALKALOIDS: berberine, chelerylline, protopine, sanguinarine.

Bandoni *et al.*, *Phytochemistry*, **14**, 1785 (1975)

ARGYLIA (Bignoniaceae)

A. radiata.

IRIDOID: argylioside, catalpol, 7-deoxy-8-epi-loganic acid.

Bianco *et al.*, *Phytochemistry*, **25**, 946 (1986)

Bianco *et al.*, *Planta Med.*, **55** (1986)

ARGYREIA

A. speciosa.

TRITERPENOIDS: epi-friedelinol, epi-friedelinol acetate.

Sahu, Chakravarti, *Phytochemistry*, **10**, 1949 (1971)

ARIOCARPUS (Cactaceae)

A. fissuratus K.Schum. var. fissuratus.

AMINE ALKALOID: N-methyl-3,4-dimethoxy- β -phenethylamine.

Norquist, McLaughlin, *J. Pharm. Sci.*, **59**, 1840 (1970)

A. kotschoubeyanus.

AMINE ALKALOID: N-methyltyramine.

Keller *et al.*, *J. Pharm. Sci.*, **62**, 408 (1973)

A. retusa.

AMINE ALKALOIDS: N-methyl-3,4-dimethoxy- β -phenethylamine, N-methyl-4-methoxy- β -phenethylamine.

Norquist, McLaughlin, *J. Pharm. Sci.*, **59**, 1840 (1970)

Horemann *et al.*, *ibid.*, **61**, 41 (1972)

A. scapharostrus.

AMINE ALKALOIDS: N,N-dimethyl-3,4-dimethoxy- β -phenethylamine, hordenine, N-methyl-3,4-dimethoxyphenethylamine, N-methyltyramine.

Bruhn, *Phytochemistry*, **14**, 2509 (1975)

ARISAEMA

A. tortuosum.

STEROIDS: campesterol, cholesterol, β -sitosterol, stigmasterol.

Miglani *et al.*, *Ind. J. Pharm.*, **40**, 24 (1978)

ARISTEGUIETIA

A. pseudoarborea.

DITERPENOID: 13-labd-7-en-2 α ,15-diol.

Bohlmann *et al.*, *Justus Liebigs Ann. Chem.*, 2126 (1983)

ARISTIDA (Graminaeae)

A. contorta.

AMINO ACIDS: alanine, glutamic acid, leucine, proline.

Ghiglione *et al.*, *C.R. Acad. Sci.*, **281D**, 451 (1975)

A. ramosa.

AMINO ACIDS: alanine, glutamic acid, leucine, proline.

Ghiglione *et al.*, *C.R. Acad. Sci.*, **281D**, 451 (1975)

A. rhiniochloa.

AMINO ACIDS: alanine, glutamic acid, leucine, proline.

Ghiglione *et al.*, *C.R. Acad. Sci.*, **281D**, 451 (1975)

ARISTOLOCHIA (Aristolochiaceae)

A. argentina Gris.

ALKALOIDS: aristolochine 1-dimethylamino-3-hydroxy-4-methoxyphenanthrene.

LACTONE: argentilactone.

(A) Castille *et al.*, *J. Pharm. Belg.*, **4**, 569 (1922)

(A) Crohare *et al.*, *Phytochemistry*, **13**, 1957 (1974)

(L) Priestap *et al.*, *ibid.*, **16**, 1579 (1977)

A. clematis L.

ALKALOID: aristolochine.

Castille *et al.*, *J. Pharm. Belg.*, **4**, 569 (1922)

A. debilis.

ALKALOID: aristolochine.

SESQUITERPENOIDS: 1(10)-aristolen-15-al, aristolone, 1(10)-aristolone, debilone, 3-oxoishwarane.

(A) Rosenmund, Reichstein, *Pharm. Acta Helv.*, **18**, 243 (1943)

(T) Ruecker *et al.*, *Phytochemistry*, **23**, 1647 (1984)

A. indica L.

ALKALOID: aristolochine.

SESQUITERPENOIDS: ishwarane, ishwarol, ishwarone, ristolochene, (12S)-7,12-secoishwaran-12-ol, 5 β H,7 β ,10 α -selina-4(14),11-diene.

(A) Castille *et al.*, *J. Pharm. Belg.*, **4**, 569 (1922)

(T) Pakrashi *et al.*, *J. Org. Chem.*, **45**, 4765 (1980)

A. maurorum.

PHENANTHRENE: aristolochic acid.

Kery *et al.*, *Fitoterapia*, **52**, 210 (1981)

A. mollissima Hance.

PHENANTHRENE: aristolochic acid.

STEROID: β -sitosterol.

SESQUITERPENOIDS: aristolactone, mollislactone.

Liu *et al.*, *Yaoxue Xuebao*, **18**, 684 (1983)

A. moupinensis Franch.

AMIDE ALKALOID: moupinamide.

Xu, Sun, *Yaoxue Xuebao*, **19**, 48 (1984)

A. peduncularis.

SPIROINDOLONE ALKALOID: aristolarine.

Kyburz *et al.*, *Helv. Chim. Acta*, **67**, 804 (1984)

A. reticulata.

SESQUITERPENOID: aristolactone.

Stenlake, Williams, *J. Chem. Soc.*, 2114 (1955)

A. rotunda L.

ALKALOID: aristolochine.

Rosenmund, Reichstein, *Pharm. Acta Helv.*, **18**, 243 (1943)

A. silpho.

ALKALOID: aristolochine.

Rosenmund, Reichstein, *Pharm. Acta Helv.*, **18**, 243 (1943)

A. taliscana.

PHENANTHRENE ALKALOID: taliscanine.

LIGNAN: dehydrodiiisoeugenol.

- (A) Maldonado *et al.*, *Ciencia (Mexico)*, **24**, 237 (1966)
 (L) Ionescu *et al.*, *Pharm. Sci.*, **66**, 1489 (1977)

A. tuberosa.

APORPHINE ALKALOIDS: tuberosinone, tuberosinone N- β -D-glucoside.
Zhu et al., Heterocycles., 345 (1982)

ARISTOTELIA (Elaeocarpaceae)

A. chilensis (Mol.) Stuntz.

CARBAZOLE ALKALOID: aristotelinine.
 INDOLE ALKALOID: aristonine.
 SPIROINDOLE ALKALOID: aristone.
Bittner et al., J. Chem. Soc., Chem. Commun., 79 (1978)

A. fruticosa.

INDOLE ALKALOID: isopeduncularine.
Bick et al., Tetrahedron, **41**, 3127 (1985)

A. peduncularis (Labill.) Hook f.

CARBAZOLE ALKALOIDS: aristoserratine, aristoserratone.
 INDOLE ALKALOIDS: hobartine, isopeduncularine, peduncularine.
Hai et al., Helv. Chim. Acta., **63**, 2130 (1980)
Kyburz et al., ibid., **67**, 804 (1984)

A. serrata (J.R. et G.Forst) W.R.B.Oliver.

CARBAZOLE ALKALOIDS: aristomakine, aristoserratine, aristoserratone, aristoteline, aristotelinone, serratone, serratoline.
 INDOLE ALKALOIDS: isopeduncularine, makomakine, makonine.
Bick et al., Tetrahedron Lett., 545 (1980)
Hai et al., Helv. Chim. Acta., **63**, 2130 (1980)
Bick et al., Heterocycles, **20**, 667 (1983)

ARMILLARIA (Tricholomataceae)

A. mellea.

SESQUITERPENOIDS: armillarin, melledonal, melledonol, melleolide.
Donnelly et al., Tetrahedron Lett., 5343 (1985)

ARNEBIA (Boraginaceae)

A. decumbens.

BENZOQUINONES: shikonin, shikonin acetate, shikonin isovalerate.

NAPHTHOQUINONE: 5,8-dihydroxy-2-(4-methylpent-3-enyl)-1,4-naphthoquinone.

STEROID: stigmasterol.

Afzal *et al.*, *Agr. Biol. Chem.*, **50**, 759, 1651 (1986)

A. euchroma.

SESQUITERPENOID: arnebinone.

Yao *et al.*, *Tetrahedron Lett.*, 3247 (1983)

A. nobilis.

NAPHTHOQUINONES: 2-(acetoxyl-4-hydroxy-4-methylpentyl)-5,8-dihydroxy-1,4-naphthoquinone, 5,8-dihydroxy-2-(4-hydroxy-4-methylpentyl)-1,4-naphthalenedione.

PIGMENTS: araebins I, II, III, IV, V, VI and VII.

(N) Bhakuni *et al.*, *Phytochemistry*, **10**, 1909 (1971)

(P) Dhar *et al.*, *Indian J. Chem.*, **11**, 528 (1973)

ARNICA (Compositae)

A. amplexicaulis.

Three terpenoids.

Bohlmann, Zdero, *Tetrahedron Lett.*, 2827 (1972)

A. chamissonis.

MONOTERPENOID: thymol isobutyrate.

Rinn, *Planta Med.*, **18**, 147 (1970)

*A. chamissonis subsp. *genuina* Maguire.*

SESQUITERPENOID: chamissonolide.

Willuhn *et al.*, *Tetrahedron*, **37**, 773 (1981)

A. foliosa.

SESQUITERPENOIDS: arnifolin, carabrone.

Evstratova *et al.*, *Khim. Prir. Soedin.*, 270 (1971)

A. longifolia.

SESQUITERPENOIDS: carabrone, helenalin, xantholongin.

Guenter, Hermann, *Planta Med.*, **37**, 325 (1979)

A. montana L.

SESQUITERPENOIDS: arnicolides A, B, C, D and E, arnifolin, helenalin methacrylate.

TRITERPENOID: faradiol.

Zimmermann, *Helv. Chim. Acta.*, **26**, 642 (1943)

Poplawski *et al.*, *Collect. Czech. Chem. Commun.*, **36** 2189 (1971)

Hermann *et al.*, *Planta Med.*, **34**, 299 (1978)

ARTABOTRYS (Annonaceae)

A. suaveolens Blume.

APORPHINE ALKALOIDS: artabotrine, artabotrinine, isocorydine, suaveoline.

Maranon, *Philipp. J. Sci.*, **38**, 259 (1928)

A. uncinatus.

SESQUITERPENOID: yinghaosu A.

Liang *et al.*, *Hua Hsueh Hsueh Pao*, **37**, 215 (1979)

A. venustus.

CATECHOL ALKALOID: artavenustine.

Cave *et al.*, *J. Nat. Prod.*, **49**, 602 (1986)

ARTEMISIA (Compositae/Anthemideae)

A. abrotanum L.

UNCHARACTERIZED ALKALOID: abrotine.

Giacosa, *Merck's Jahresblatt*, 1356 (1883)

A. absinthium L.

LIGNAN: lirioresinol A.

NORSESQUITERPENOIDS: 3,6-dihydrochamazulene, 5,6-dihydrochamazulene.

DITERPENOID: absinth in.

SESQUITERPENOIDS: anabsin, anabsinin, artabsin, artabsinolides A, B, C and D, artemolin-a, artemolin-b, 2,3-diepi-artabsinolide C, hydroxypelenolide, ketopelenolide, ketopelenolide a, ketopelenolide b.

(L) Briggs *et al.*, *J. Chem. Soc., C*, 3042 (1968)

(T) Beauhaire *et al.*, *J. Chem. Soc., Perkin I*, 861 (1982)

A. annua L.

ALIPHATIC: octacosanol.

FLAVONOID: 3,5-dihydroxy-6,7,3',4'-tetramethoxyflavone.

STEROIDS: β -sitosterol, stigmasterol.

SESQUITERPENOIDS: arteannuin A, arteannuin B, artemisic acid, artemisilactone, artemisinic acid, quinghao acid, quinghaosu I, II, III and IV.

(Al, F, S) Tu *et al.*, *Zhongyao Tongbao*, **10**, 419 (1985); *Chem. Abstr.*, 104 31868b

(T) Tu *et al.*, *Planta Med.*, **44**, 143 (1982)

(T) Zhu *et al.*, *Huaxue Xuebao*, **42**, 937 (1984)

A. arborescens.

SESQUITERPENOID: arborescin.

Meisels, Weizmann, *J. Am. Chem. Soc.*, **75**, 3865 (1953)

A. arbuscula.

SESQUITERPENOIDS: arbusculins A, B, C, D and E, badgerin, tatridin A, tatridin B.

Irwin, Geissman, *Phytochemistry*, **8**, 2411 (1969)

Shafizadeh, Bhadane, *ibid.*, **12**, 857 (1973)

A. argentea.

SESQUITERPENOIDS: argentiolide A, argentiolide B.

El-Emary, Bohlmann, *Phytochemistry*, **19**, 845 (1980)

A. ashurbajevii.

SESQUITERPENOIDS: canin, chrysartemin B, granilin, hanphyllin.

Sakirov *et al.*, *Khim. Prir. Soedin.*, 573 (1985)

A. austriaca.

SESQUITERPENOIDS: austricin, dehydroaustricin.

Rybalko, *J. Gen. Chem. USSR*, **33**, 2734 (1963)

A. balchanorum.

SESQUITERPENOIDS: balchanin, balchanolide, costunolide, hydroxybalchanolide, isobalchanolide.

Suchý *et al.*, *Collect. Czech. Chem. Commun.*, **27**, 2925 (1962)

A. barrelled.

SESQUITERPENOID: barrelin.

Villar *et al.*, *Phytochemistry*, **22**, 777 (1983)

A. biglovii.

SESQUITERPENOID: arbigozin.

Herz, Santhaman, *J. Org. Chem.*, **30**, 4340 (1965)

A. campestris.

CHROMENE: artemesinol.

De Pascual Teresa *et al.*, *Phytochemistry*, **22**, 2587 (1983)

A. cana Pursh.

SESQUITERPENOIDS: artecanin, canin, viscidulin A.

Shafizadeh, Bhadane, *J. Org. Chem.*, **37**, 3168 (1972)***A. cana Pursh. subsp. cana.***

SESQUITERPENOID: deacetylmatricarin.

Lee *et al.*, *Phytochemistry*, **8**, 1515 (1969)***A. canariensis.***

SESQUITERPENOID: tabarin.

Gonzalez *et al.*, *An. Quim.*, **69**, 667 (1973)***A. capillaris.***

ACETYLENICS: capillanol, norcapillene.

ISOCOUMARIN: capillarin.

PHENOLICS: capillartemisin A, capillartemisin B.

SESQUITERPENOID: capillarisin.

(Ac) Miyazawa *et al.*, *Phytochemistry*, **14**, 1874 (1975)(I) Bohlmann *et al.*, *Chem. Ber.*, **95**, 602 (1962)(P) Kitagawa *et al.*, *Chem. Pharm. Bull.*, **31**, 352 (1983)(T) Komiya *et al.*, *ibid.*, **23**, 1387 (1975)***A. carruthii.***

SESQUITERPENOIDS: 11,13-dihydroludartin, ludartin.

Bohlmann *et al.*, *Phytochemistry*, **20**, 2375 (1981)***A. caucasica.***

SESQUITERPENOID: grossmizin.

Konovalova *et al.*, *Khim. Prir. Soedin.*, 741 (1971)***A. chasarica.***SESQUITERPENOIDS: α -santonin, tauremisin.Serkerov *et al.*, *Khim. Prir. Soedin.*, 657 (1975)***A. cina.***

SESQUITERPENOID: artemisin.

Cory, *J. Am. Chem. Soc.*, **77**, 1044 (1955)***A. compacta.***

COUMARINS: dihydrocoumarin, p-santonin, scopoletin, umbelliferone.

Usynina *et al.*, *Khim. Prir. Soedin.*, 809 (1976)***A. confertiflora.***

SESQUITERPENOID: deacetylconfertiflorin.

Romo *et al.*, *Can. J. Chem.*, **46**, 1535 (1968)

***A. cretacea* Fiori.**

SESQUITERPENOID: taurin.

Callieri *et al.*, *Acta Cryst., C* **39**, 1115 (1983)***A. cylindrica* var. *koenigii*.**

TRITERPENOID: fernenol.

Kundu *et al.*, *Aust. J. Chem.*, **21**, 1931 (1968)***A. cylindrica* var. *media*.**

TRITERPENOID: fernenol.

Kundu *et al.*, *Aust. J. Chem.*, **21**, 1931 (1968)***A. douglasiana*.**

SESQUITERPENOIDS: arglanin, arteglasins A and B.

Lee *et al.*, *Phytochemistry*, **10**, 405 (1971)***A. dracunculus*.**

ISOCOUMARINS: (E)-artemidin, (Z)-artemidin, artemidinol, capillarin.

SESQUITERPENOID: spathulenol.

(I) Bohlmann *et al.*, *Chem. Ber.*, **103**, 2856 (1970)(I) Mallabaev *et al.*, *Khim. Prir. Soedin.*, 811 (1976)(T) Bowyer, Jefferies, *Chem. Ind.*, 1245 (1963)***A. fasciculata*.**PHENOLIC: α -santonin.Aleskerova *et al.*, *Chem. Abstr.*, 107 4301z***A. feddei* Lev. et Van.**

MONOTERPENOIDS: yomogi alcohol, yomogi alcohol A, yomogiaartenin.

SESQUITERPENOID: meridianone.

Matsueda *et al.*, *J. Pharm. Soc., Japan*, **100**, 615 (1980)***A. filifolia*.**

MONOTERPENOIDS: filifolide A, filifolide B, (+)-filifolone, 4,5-seco-3,5-longibornanedione, 3,4-seco-4-longibornen-3-al.

SESQUITERPENOID: 3-longipinanone.

Torrance *et al.*, *J. Org. Chem.*, **39**, 1068 (1973)Bohlmann *et al.*, *Phytochemistry*, **22**, 503 (1983)***A. finita*.**

SESQUITERPENOID: finitin.

Kitagawa *et al.*, *Rep. Inst. Sci. Res. Manchukuo*, **6**, 124 (1942)***A. fragrans*.**

SESQUITERPENOIDS: alhanol, artapshin, fragranol, fragranol acetate, fragranol isobutyrate, fragranol isopropionate, fragranol methyl ester, fragranol sec-butyratate, jeiranbatanolide, shonachalin.

Serkerov *et al.*, *Khim. Prir. Soedin.*, 787 (1985)

A. fragrans var. erivanica.

SESQUITERPENOID: erivanin.

Evstratova *et al.*, *Khim. Prir. Soedin.*, 239 (1969)

A. franserioides.

SESQUITERPENOID: artefransin.

Lee, Geissman, *Phytochemistry*, **10**, 205 (1971)

A. frigida.

SESQUITERPENOID: hydroxyachillin.

White, Winter, *Tetrahedron Lett.*, 137 (1963)

A. glabella.

SESQUITERPENOID: arglabin.

Adekenov *et al.*, *Khim. Prir. Soedin.*, 655 (1982)

A. glutinosa.

ACETOPHENONES: dehydroespeletone, glutinosol.

FLAVONOIDS: dihydroquercetin 7,3'-dimethyl ether, naringenin, palmatin, rhamnetin, 5,3',4'-trihydroxy-7-methylflavanone.

Gonzalez *et al.*, *Phytochemistry*, **22**, 1515 (1983)

A. granatensis.

SESQUITERPENOIDS: 1 -hydroxy-6 β ,7 α , 11 β -H-eudesm-4-en-6,12-olide, 1-keto-6 α ,7 β ,11 β -eudesmen-6,12-olide, tauramisin.

Gonzalez *et al.*, *An. Quim.*, **70**, 231 (1974)

A. hanseniana var. phyllostachus.

SESQUITERPENOIDS: arsubin, artemin, isoerivanin, tauremisin, taurin.

Serkerov *et al.*, *Khim. Prir. Soedin.*, 665 (1976)

A. herba.

SESQUITERPENOIDS: 3 β ,8 α -dmydroxy-4(15),9-germacradien-12,6-olide, 3 β ,8 α -dihydroxy-6 α H,7H,11 β H-germacran-5(14),9(11)-dien-12-olide, 3 β ,8 α -dihydroxy-6 α H,7H,11 β H-germacran-5(14),9(11)-dien-3-oxolide.

Gordon *et al.*, *J. Nat. Prod.*, **44**, 432 (1981)

A. herba alba.

SESQUITERPENOIDS: herbolides A, B, C, D, E and F.

Segal *et al.*, *Phytochemistry*, **23**, 2954 (1984)

***A. herba alba* subsp. *valentina*.**

SESQUITERPENOID: torrentin.

Gomis *et al.*, *Phytochemistry*, **18**, 1523 (1979)***A. inculta*.**

SESQUITERPENOID: arteincultone.

Khafagy *et al.*, *Phytochemistry*, **22**, 1821 (1983)***A. ireyniana*.**

COUMARIN: scopoletin.

Konovalova *et al.*, *Khim. Prir. Soedin.*, 97 (1976)***A. japonica*.**

COUMARIN: scopoletin.

Konovalova *et al.*, *Khim. Prir. Soedin.*, 97 (1976)***A. klotzchiana*.**

FLAVONE: 3,5-dihydroxy-6,7,8-trimethoxyflavone.

SESQUITERPENOIDS: chrysartemin A, deacetylmatricarin.

(F) Dominguez *et al.*, *Phytochemistry*, **14**, 2511 (1975)(T) Romo *et al.*, *Phytochemistry*, **9**, 1615 (1970)***A. koidzumi*ii.**

SESQUITERPENOID: koidzumiol.

Bohlmann, Zdero, *Phytochemistry*, **19**, 149 (1980)***A. lactiflora*.**

SESQUITERPENOID: lactiflorenol.

Zeng *et al.*, *Zhongcaoyao*, **13**, 259 (1982)***A. leucodes*.**

LACTONE: artein.

SESQUITERPENOIDS: anhydroaustricin, artelin, austricin.

(L) Mallabaev *et al.*, *Khim. Prir. Soedin.*, 46 (1986)(T) Saitbaeva *et al.*, *ibid.*, 115 (1986)***A. longiloba*.**

SESQUITERPENOID: longilobol.

Shafizadeh, Bhadane, *Tetrahedron Lett.*, 2171 (1973)***A. ludoviciana*.**

SESQUITERPENOIDS: (1R,3R)-chrysanthemol, ludalbin, ludovicins A, B and C.

Lee, Geissman, *Phytochemistry*, **9** 403 (1970)Alexander, Epstein, *J. Org. Chem.*, **40**, 2576 (1975)***A. maritima L.***

SESQUITERPENOIDS: artemin, artemisin, davanone, 1β -hydroxy- $6\beta,7\alpha,11\beta$ H-selen-4-en-6,12-olide.

Gonzalez *et al.*, *Phytochemistry*, **16**, 1836 (1977)

Gonzalez *et al.*, *J. Chem. Soc., Perkin I*, 1243 (1978)G

A. maritima subsp. gallica.

SESQUITERPENOID: maritimin.

Gonzalez *et al.*, *Phytochemistry*, **20**, 2367 (1981)

A. maritima subsp. maritima.

SESQUITERPENOID: hydroxydavanone.

Jork, Nachtrab, *Arch. Pharm.*, **312**, 923 (1979)

A. mesatlantica.

FLAVONOID: 5,4'-dihydroxy-6,7,3'5'-tetramethoxyflavone.

Bouzid *et al.*, *Phytochemistry*, **21**, 803 (1982)

A. messerschmidiana Bess.

ACIDS: caprylic acid, isovaleric acid.

Stefanov, Popov, *Izv. Khim.*, **8**, 518 (1975); *Chem. Abstr.*, 84 176718p

A. mexicana.

SESQUITERPENOIDS: 8α -acetoxyarmexifolin, armefolin, armexifolin, artemorin, chrysartemin A, estafietin.

Mata *et al.*, *Phytochemistry*, **23**, 1665 (1984)

A. mexicana subsp. angustifolia.

SESQUITERPENOIDS: 8α -acetoxyarmexifolin, armefolin, armexifolin, armexin, artimexifolin, α -epoxyludalbin.

Romo de Vivar *et al.*, *Rev. Latinoam. Quim.*, **8**, 127 (1977)

Mata *et al.*, *Phytochemistry*, **23**, 1665 (1984)

A. minus.

SESQUITERPENOID: arctiopicrin.

Suchy *et al.*, *Collect. Czech. Chem. Commun.*, **24**, 1542 (1959)

A. molinieu.

SESQUITERPENOID: 7,8-dehydrobisabolol oxide A acetate.

Bohlmann, Zdero, *Chem. Ber.*, **108**, 2153 (1975)

A. monogyna.

SESQUITERPENOID: mibulactone.

Kariyone *et al.*, *J. Pharm. Soc., Japan*, **69**, 310 (1949)

A. monosperma.

ACETOPHENONE: artemispermol.

Bohlmann, Ehlers, *Phytochemistry*, **16**, 1450 (1977)

A. nachitschevanica.

PHENOLIC: α -santonin.

Aleskerova *et al.*, *Chem. Abstr.*, 107 4301z

A. nilegarica.

AMINO ACIDS: arginine, glutamic acid, glycine, isoleucine, leucine, threonine.

Saxena *et al.*, *Acta Cientifica Indica Chemica*, **11**, 179 (1985); *Chem. Abstr.*, 107 151193u

A. ochroleuca.

COUMARIN SESQUITERPENOIDS: drimanchone, secodrial, secodriol.

Gregor *et al.*, *Phytochemistry*, **22**, 1997 (1983)

A. pallens.

PYRONE: 2-(2-methyl-2-vinyltetrahydrofuran-5-yl)-2,6,6-trimethyldihydropyr-3-one.

SESQUITERPENOIDS: artemone, davana ether, davanafuran, davanone, isodavanone.

(P) Thomas, *Helv. Chim. Acta*, **57**, 2081 (1964)

(T) Thomas, Pilton, *ibid.*, **54**, 1890 (1971)

(T) Thomas, Dubini, *ibid.*, **57**, 2066 (1974)

A. pauciflora.

SESQUITERPENOID: artepaulin.

Adekenov *et al.*, *Khim. Prir. Soedin.*, 238 (1983)

A. pontica.

COUMARIN SESQUITERPENOID: 7-o-(3-hydroxydrimen-11-yl)-isofraxidin.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 644 (1974)

A. princeps Pamp.

SESQUITERPENOIDS: τ -humulene, yomogin.

Geissman, *J. Org. Chem.*, **31**, 2523 (1966)

Yano, Nishijima, *Phytochemistry*, **13**, 1207 (1974)

A. pygmaea.

SESQUITERPENOID: pygmol.

Irwin, Geissman, *Phytochemistry*, **12**, 849 (1973)

A. rothrockii.

FLAVONE: chrysoplenol D.

SESQUITERPENOIDS: rothin A, rothin B.

(F) Ghisalberti *et al.*, *Aust. J. Chem.*, **20**, 1049 (1967)

(T) Irwin *et al.*, *Phytochemistry*, **10**, 637 (1971)

A. santolina.

SESQUITERPENOIDS: arsanin, arsantin, artesin.

Moiseeva *et al.*, *Khim. Prir. Soedin.*, 167 (1973)***A. santolinifolia.***FLAVONOIDS: kaempferol, kaempferol 3- β -D-glucopyranosyl-6- β -L-rhamnopyranoside, luteolin, quercetin, rutin, scopolin.Chumbalev, Fadeeva, *Prikl. Teor. Khim.*, **5**, 71 (1974); *Chem. Abstr.*, 85 119568m***A. schmidtiana.***

THIOPHENE: schmidtiol.

Jakupovic *et al.*, *Phytochemistry*, **25**, 1663 (1986)***A. sieversiana.***

SESQUITERPENOIDS: sieversin, sieversinin.

Nazarenko, Leont'eva, *Khim. Prir. Soedin.*, 399 (1966)***A. silvatica.***

COUMARIN: herniarin.

Konovalova *et al.*, *Khim. Prir. Soedin.*, 97 (1976)***A. tolonifera.***

COUMARIN: herniarin.

Konovalova *et al.*, *Khim. Prir. Soedin.*, 97 (1976)***A. spicagera.***PHENOLICS: α -santonin, p-santonin.Aleskerova *et al.*, *Chem. Abstr.*, 107 4301z***A. sublessingiana.***

SESQUITERPENOID: arsubin.

Tarasov *et al.*, *Khim. Prir. Soedin.*, 745 (1971)***A. taurica.***

FLAVONOID: axillaroside.

SESQUITERPENOID: taurin.

(F) Oganesyan *et al.*, *Khim. Prir. Soedin.*, 599 (1976)(T) Kochatova *et al.*, *Khim. Prir. Soedin.*, 205 (1968)***A. tilesii.***

SESQUITERPENOID: matricarin.

Cekan *et al.*, *Collect Czech. Chem. Common.*, **24**, 1554 (1959)***A. transiliensis.***

FLAVONES: 3',4',5,7-tetrahydroxy-3-methoxyflavone, transilin, transilitin.

Chumbalov *et al.*, *Khim. Prir. Soedin.*, **236**, 439 (1969)

A. tridentata.

MONOTERPENOIDS: artemeseole, 1,2-epoxy-2,5-dimethyl-3-vinyl-4-hexene, santolinic acid, santolinic acid methyl ester, santolinosides A, B, B' and C, 1,6,6-trimethyl-4-ethenyl-exo-2-oxabicyclo-[3.1.0]-hexane.

COUMARIN SESQUITERPENOID: tripartol.

SESSQUITERPENOID: artevasin.

Gregor *et al.*, *Phytochemistry*, **22**, 1997 (1983)

A. tridentata rothrockii.

MONOTERPENOID: rothrockene.

Epstein *et al.*, *J. Org. Chem.*, **47**, 175 (1982)

A. tridentata var. tridentata.

MONOTERPENOID: methyl santalinate.

Shaw *et al.*, *J. Chem. Soc., Chem. Common.*, 590 (1975)

A. tripartita.

SESSQUITERPENOID: colartin.

Irwin, Geissman, *Phytochemistry*, **8**, 2411 (1969)

A. tripartita subsp. rupicola.

SESSQUITERPENOID: novanin.

Irwin, Geissman, *Phytochemistry*, **12**, 875 (1973)

A. umbelliformis Lam.

SESSQUITERPENOID: 5-desoxy-5-hydroperoxytelekin, 5-desoxy-5-hydroperoxy-5-epi-telekin, umbellifolide.

Appendino *et al.*, *J. Chem. Soc., Perkin I*, 2705 (1983)

A. vachanica.

UNCHARACTERIZED TERPENOID: vachanic acid.

Ketchakova *et al.*, *Khim. Prir. Soedin.*, 306 (1965)

A. verlatorum.

SESSQUITERPENOID: anhydroverlatorin, artemorin, verlatorin.

Geissman, *Phytochemistry*, **9**, 2377 (1970)

A. vestita.

SESSQUITERPENOID: aromadendrine.

Dolejs *et al.*, *Collect. Czech. Chem. Common.*, **25**, 1483 (1960)

A. viscidula.

SESSQUITERPENOID: viscidulins A, B and C.

Shafizadeh, Bhadane, *J. Org. Chem.*, **37**, 3168 (1972)

A. vulgaris.

MONOTERPENOID: vulgarole.

SESQUITERPENOIDS: spathulenol, vulgarin.

TRITERPENOIDS: α -amyrin, α -amryin acetate, fernenol.

Nishimoto *et al.*, *Tetrahedron*, **24**, 735 (1968)

Nano *et al.*, *Planta Med.*, **30**, 211 (1976)

ARTHONIA

A. impolita.

ACID: arthonioic acid.

Fehlhaber *et al.*, *Z. Naturforsch.*, **25**, 49 (1970)

ARTHRAXON

A. hispidus.

BENZOPYRAN: (-)-arthraxin.

Kaneta *et al.*, *Bull. Chem. Soc., Japan*, **42**, 2084 (1969)

ARTHROPHYTUM

A. leptocladium M.Pop. (Hammada leptoclada).

AMINE ALKALOID: N-methyl- β -phenethylamine.

CARBOLINE ALKALOIDS: leptocladine,

N-methyltetrahydro- β -carboline,

2-methyltetrahydro- β -carboline.

INDOLE ALKALOID: diptericine.

Yurushevskii, *J. Gen. Chem. USSR.*, **9** 545 (1939)

ARTOCARPUS

A. chpalasha.

BENZOPYRAN: chaplashin.

TRITERPENOID: isocycloartenol.

(B) Rao *et al.*, *Indian J. Chem.*, **10**, 905, 989 (1972)

(T) Mahato *et al.*, *Phytochemistry*, **10**, 1351 (1971)

A. heterophyllus.

FLAVONES: artoflavanone 2',4',5,7-tetrahydroxyflavone.

Dayal *et al.*, *Indian J. Chem.*, **12**, 895 (1974)

A. integrifolia.

DIOXOCIN: (+)-cyanomaclurin.

PIGMENT.: cycloartocarpin.

STEROID: artostenone.

(D) Appel *et al.*, *J. Chem. Soc.*, 752 (1935)

(P) Dave *et al.*, *Tetrahedron Lett.*, 9 (1962)

(S) Nath, *Z. Physiol. Chem.*, **247**, 9 (1937)

A. pithecogallus C.Y.Wu.

FLAVONOID: morin, morin calcium chelate.

Mu *et al.*, *Dhiwu Xuebao*, **24**, 147 (1982); *Chem. Abstr.*, 97 107043w

ARUM (Araceae)

A. maculatum L.

CYANO COMPOUNDS: isotriglochinin, triglochinin.

PRENOL: betulaprenol.

(Cy) Nahrstadt *et al.*, *Phytochemistry*, **14**, 1870 (1975)

(P) Wellburn *et al.*, *Nature*, **212**, 1364 (1966)

ARUNCUS (Rosaceae)

A. dioicus.

ACIDS: caffeic acid, ferulic acid.

GLUCOSIDE: caffeooyl-1- β -D-glucoside.

Kulesh *et al.*, *Khim. Prir. Soedin.*, 506 (1986)

ARUNDO (Gramineae)

A. caspicus.

TRITERPENOID: arundoin.

Eglinton *et al.*, *Tetrahedron Lett.*, 2323 (1964)

A. conspicua.

TRITERPENOID: arundoin.

Ohmoto *et al.*, *J. Chem. Soc., Chem. Commun.*, 601 (1969)

A. donax L.

BISINDOLE ALKALOID: 3,3'-bis(mdolylmethyl)-dimethylammonium hydroxide.

INDOLE ALKALOIDS: donaxarine, donaxiridine, gramine.

Ubaidullaev *et al.*, *Khim. Prir. Soedin.*, 553 (1976)

ASA

A. foetida.

COUMARIN SESQUITERPENOIDS: farnisiferols A, B and C.

Caglioti *et al.*, *Helv. Chim. Acta*, **41**, 2278 (1958)

ASAEMIA

A. axillaris.

Two terpenoids.

Bohlmann, Zdero, *Chem. Ber.*, **107**, 1071 (1974)

ASANTHUS

A. solidaginifolia.

11 flavonoids.

Yu *et al.*, *J. Nat. Prod.*, **49**, 553 (1986)

A. thyrsiflora.

FLAVONES: 6-methoxyluteolin, quercetin, quercetin 3-O- β -D-galactoside, quercetin 3-O- β -D-rhamnogalactoside.
 Yu *et al.*, *J. Nat. Prod.*, **49**, 553 (1986)

ASARUM (Aristolochiaceae)

A. caulescens.

FURANONE: (+)-aiofuranone.
 SESQUITERPENOIDS: cauleslactone, caulesyl acetate, caulolactone A, caulolactone B, dihydrofuranocaulesone, furanocaulescones A, B and C, germacrone-4,5-epoxide, 4-hydroxy- β -bulnesene, selina-3,7(11)-dien-8-one, selina-4(14),7(11)-dien-8-one.
 Endo *et al.*, *Chem. Pharm. Bull.*, **27**, 275 (1979)

A. europeum L.

ACID: aconitic acid.
 UNCHARACTERIZED ALKALOID: asarine.
 MONOTERPENOIDS: bornyl acetate, methyleugenol.
 SESQUITERPENOID: furopelargone A.
 (Acid) Krogh, *Acta Chem. Scand.*, **23**, 2923 (1969)
 (A) Abdul'menev, *Farmatsiya*, **8**, 39 (1954)
 (T) Jork, Biering, *Arch. Pharm.*, **312**, 681 (1979)

A. taitonense.

KETONE: asatone.
 Chen *et al.*, *Tetrahedron Lett.*, 1607 (1972)

ASCARINA

A. lucida.

FLAVONOIDS: isoorientin, isovitexin, kaempferol, kaempferol 3-O-diglucoside, kaempferol 3-O-glucoside, orientin, quercetin, quercetin 3-O-diglucoside, quercetin 3-O-glucoside, vitexin.

Soltis *et al.*, *J. Nat. Prod.*, **45**, 415 (1982)

ASCHINEA

A. chrysantha.

ANTHRAQUINONE: funiculosin.

Howard *et al.*, *Biochem. J.*, **44**, 227 (1949)

ASCLEPIAS (Asclepiadaceae)

A. albicans.

SAPONIN: 3-O-glucopyranosyl- β -D-glucopyranoside.

Koike *et al.*, *Chem. Pharm. Bull.*, **28**, 401 (1980)

A. cornuti.

TRITERPENOID: β -amyrin.

Hormann, Firzlaff, *Arch. Pharm.*, **268**, 64 (1930)

A. curassavica.

SAPONIN: asclepin.

STEROID: calotropin.

(Sap) Singh *et al.*, *Phytochemistry*, **11**, 757 (1972)

(S) Kupchan *et al.*, *Science*, **146**, 1685 (1964)

A. eriocarpa.

STEROIDS: eriocarpin, labriformidin, labriformin.

Sieber *et al.*, *Phytochemistry*, **17**, 967 (1978)

A. fruticosa R.Br.

STEROIDS: afroside, 3'-epi-afroside, 3'-epi-afroside 3'-acetate,

asclepin, calactin, 19-deoxyuscharin, 3'-didehydroafroside,

gomphoside, 3-epi-gomphoside, 3-epi-gomphoside

3'-acetate, 4' β -hydroxygomphoside, uscharidin, uscharin.

Cheung *et al.*, *J. Chem. Soc., Perkin I*, 2827 (1983)

A. humistrata.

TERPENOID: humistratin.

Nishio *et al.*, *J. Org. Chem.*, **47**, 2154 (1982)

A. labriformis.

STEROIDS: eriocarpin, labriformidin, labriformin.
 Sieber *et al.*, *Phytochemistry*, **17**, 967 (1978)

A. syriaca L.

PYRIDINE ALKALOID: nicotine.
 STEROIDS: syriobioside, syriogenin.
 TRITERPENOID: β -amyrin.
 (A) Marion, *Can. J. Res.*, **23B**, 165 (1945)
 (S) Rashkas, Abubakirov, *Khim. Prir. Soedin.*, 615 (1974)
 (T) Mendive, *J. Org. Chem.*, **5**, 235 (1940)

A. tuberosa.

COUMARINS: isorhamnetin, kaempferol, quercetin, rutin.
 PHENOLICS: caffeic acid, chlorogenic acid.
 STEROID: β -sitosterol.
 TRITERPENOIDS: α -amyrin, β -amyrin, friedelin, lupeol.
 Pagani, *Boll. Chim. Farm.*, **114**, 450 (1975); *Chem. Abstr.*, 84 56478p

ASCOCHYTA

A. viciae.

ANTIBIOTICS: ascochlorin, ascofuranone.
 Tamura *et al.*, *J. Antibiotics*, **21**, 539 (1968)

ASER

A. umbellatus.

SESQUITERPENOID: 4(15),7,(11)8-selinatriene.
 Bohlmann *et al.*, *Phytochemistry*, **19**, 435 (1980)

ASIMINA (Rosaceae/Annonaceae)

A. triloba Dun.

APORPHINE ALKALOIDS: anolobine, asimilobine.
 GENIN: asimicin.

- (A) Tomita, Kozuka, *J. Pharm. Soc., Japan*, **85**, 77 (1965)
 (G) Rupprecht *et al.*, *Heterocycles*, **24**, 1197 (1986)

ASPALATHUS

A. linearis.

GLUCOSIDE: aspalathin.
Koeppen et al., Biochem. J., **99**, 604 (1966)

ASPARAGOPSIS (Bonnemaisoniaceae/Rhodophyceae)

A. armata.

STEROID: cholesta-5,25-diene-3 β ,24-diol.
Morisaki et al., Chem. Pharm. Bull., **24**, 3214 (1976)

ASPARAGUS (Liliaceae)

A. broussonetii Facq.

STEROIDS: penogenin, 25S-ruscogenin, sarsasapogenin.
Panova et al., Probl. Farm., **11**, 54 (1983); *Chem. Abstr.*, 100 20435g

A. cochin-chinensis.

AMINO ACIDS: alanine, arginine, asparagine, aspartic acid, citrulline, glutamic acid, glycine, histidine, isoleucine, leucine, lycine, methionine, phenylalanine, proline, serine, threonine, tyrosine, valine.

Tomoda et al., Chem. Abstr., 85 30677y

A. officinalis L.

CAROTENOIDS: α -carotene, β -carotene, τ -carotene, lutein, zeaxanthin.
 SAPONINS: asparagosides A, B, C, D, E, F, G, H and I., asparasaponins I and II.
 (C) Meliksetyan *et al.*, *Izv. S.-KH. Nauk*, **19**, 68 (1976); *Chem. Abstr.*, 86 117589r
 (Sap) Kintya *et al.*, *Khim. Prir. Soedin.*, **400**, 762 (1976)
 (Sap) Goryanu, Kintya, *ibid.*, 810 (1977)

A. sprengeri.

STEROIDAL GLYCOSIDES: sprengerinin A, B, C and D.
D.Sharma *et al.*, *Phytochemistry*, **22**, 2259 (1983)

A. tenuifolium Lam.

STEROIDS: sarsasaponin, β -sitosterol, 25 β -spirostan-3,5-diene, yamogenin.
Panova *et al.*, *Farmatsiya (Sofia)*, **25**, 39 (1975)

A. umbellatus Link.

STEROID: hispidogenin.
Maiti, Mukherjee, *Chem. Ind.*, 1653 (1965)

ASPHODELINE

A. globifera.

FLAVONOIDS: acacetin, apigenin, apigenin 7-O-glucoside, asphodalin, chrysoeriol, chrysophanol, esculetin, luteolin, 6-methoxyluteolin, microcarpin, scutellarein.
STEROID: β -sitosterol.
SESQUITERPENOIDS:
1 β -acetoxyeudesman-4(15),7(11)-dien-2 α ,12-olide,
1 β -acetoxy-8 β -hydroxyeudesman-4(15),7(11)-dien-2 α ,12-olide.
Ulubelen *et al.*, *Phytochemistry*, **24**, 2923 (1985)

ASPHODELUS (Liliaceae)

A. albus.

STEROIDS: campesterol, fucosterol, β -sitosterol, stigmasterol.
TRITERPENOID: β -amyrin.
Abdel-Gawad *et al.*, *Fitoterapia*, **47**, 111 (1976)

A. microcarpus.

ANTHRAQUINONE: asphodelin.
Makino *et al.*, *Chem. Pharm. Bull.*, **36**, 1111 (1978)

A. tenuifolius.

AMINO ACIDS: alanine, glycine, serine, valine.
Saxema *et al.*, *J. Inst. Chem. Calcutta*, **48**, 18 (1976); *Chem. Abstr.*, 85 14773r

ASPICILIA (Lecanoraceae)

***A. calcarea (L.) Korb.* (*Lecanora calcarea (L.) Sommerf.*)**

MACROCYCLIC ALKALOID: aspicilin.

Huneck *et al.*, *Tetrahedron*, **29**, 3687 (1973)

***A. gibbosa (Ach.) Korb.* (*Lecanora gibbosa (Ach.) Nyl.*)**

MACROCYCLIC ALKALOID: aspicilin.

Huneck *et al.*, *Tetrahedron*, **29**, 3687 (1973)

ASPIDOSPERMA (Apocynaceae)

A. album (Vahl.) R.Bent.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: N-acetyl-N-depropionylaspidoalbine, aspidoalbine, N-propionyl-N-deacetylaspidolimidine.

Ferrari *et al.*, *Can. J. Chem.*, **42**, 2705 (1964)

A. auriculatum Mfg.

CARBOLINE ALKALOIDS: dihydrocorynantheol, reserpinine.

Gilbert *et al.*, *Tetrahedron*, **21**, 1141 (1965)

A. australe Mull Agrov.

CARBAZOLE ALKALOID: (\pm)-gutambuine.

Schmitz *et al.*, *Helv. Chim. Acta*, **40**, 1189 (1957)

A. campus-belus.

CARBAZOLE ALKALOID: olivaccine.

Garcia *et al.*, *Phytochemistry*, **15**, 1093 (1976)

A. carapanauba Pichon.

SPIROINDOLONE ALKALOID: carapanaubine.

Gilbert *et al.*, *J. Am. Chem. Soc.*, **85**, 1523 (1963)

A. chakense var. spegazzini.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: spegazzine, spegazzinidine.

Djerassi *et al.*, *Experientia*, **18**, 113 (1962)

A. compactinervium Kuhl.

CARBAZOLE ALKALOIDS: N-acetyl-11-hydroxy-aspidospermatine, 1-acetyl-16-methylaspidospermidine, compactinervine.

Gilbert *et al.*, *Tetrahedron*, **21**, 1141 (1965)

A. cuspa.

CARBAZOLE ALKALOID: burnamine.

SPIROINDOLE ALKALOID: aspidodasycarpine.

Burnell, Medina, *Phytochemistry*, **7**, 2045 (1968)

A. cylindrocarpon.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: N-acetylcytindrocarpinol, N-acetyl-17-demethoxycylindrocarpine, N-benzoyl-17-demethyl-20-oxocylindrocarpine, cylindrocarpine, cylindrocarkinidine, cylindrocarpine, demethoxycylindrocarpinidine, N-formylcylindrocarpinol, 20-hydroxycylindrocarpine.

Djerassi *et al.*, *Tetrahedron*, **16**, 212 (1961)

Milborrow, Djerassi, *J. Chem. Soc., C*, 417 (1969)

A. dasycarpon A.DC.

CARBAZOLE ALKALOIDS: dehydro-de-N-methyluleine, des-N-methyluleine.

CARBOLINE ALKALOIDS: akuammidine, polyneuridine, polyneuridine aldehyde.

INDOLE ALKALOIDS: (+)-apparicine, (-)-apparicine, aspidodasycarpine, dasycarpidol, dasycarpidone, de-N-methyldasycarpidone.

Gilbert *et al.*, *Tetrahedron*, **21**, 1141 (1965)

Joule *et al.*, *ibid.*, **21**, 1717 (1965)

A. desmanthum.

IMIDAZOLIDINOCARBAZOLE ALKALOID: aspidoalbine.

Garcia *et al.*, *Phytochemistry*, **15**, 1093 (1976)

A. discolor A.DC.

CARBOLINE ALKALOIDS: 19,20-dehydro-10-methoxy-dihydrocorynantheol, dihydrocorynantheol, isoreserpiline, isoreserpiline pseudoindoxyl, 10-methoxydihydrocorynantheol, 11-methoxydihydrocorynantheol.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: demethoxyaspidospermine, demethylaspidospermine.

Gilbert *et al.*, *Tetrahedron*, **21**, 1141 (1965)

A. dispermum Fr. Allen.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: N-acetyl-11-hydroxyaspidospermidine, aspidodispermine, compactinervine, deoxyaspido-dispermine.

Ikeda, Djerassi, *Tetrahedron Lett.*, 5837 (1968)

A. duckei Hub.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: kopsanol, epi-kopsanol, epi-kopsanol-10-lactam, kopsanone.

Filho *et al.*, *J. Chem. Soc., C*, 1260 (1966)

A. eburneum Fr. All.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: demethoxy aspilospermine, demethylaspidospermine.

INDOLE ALKALOID: (-)-apparicine.

Witkop, Patrick, *J. Am. Chem. Soc.*, **76**, 5603 (1954)

Ferreira *et al.*, *Experientia*, **19**, 585 (1963)

A. exaltum Monachino.

CARBOLINE ALKALOID: harman-3-carboxylic acid.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: 17-methyl-21-oxoaspidoalbione, 21-oxoaspidoalbione.

Sanchez *et al.*, *An. Acad. Bras. Cienc.*, **43**, 603 (1971)

A. excelsum.

PROTOBERBERINE ALKALOIDS: O-acetyllyohimbine, excelsine, excelsinine.

Burnell, Medina, *Can. J. Chem.*, **45**, 725 (1967)

A. fendleri Woodson.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: fendleridine, fendlerine, fendlispermine.

Medina *et al.*, *Rev. Latinoam. Quim.*, **4**, 73 (1973)

A. formosanum.

IMIDAZOLIDINOCARBAZOLE ALKALOID: (-)-aspidocarpine.

CARBAZOLE ALKALOIDS: 1,13-dihydro-13-hydroxyuleine, uleine, epi-uleine.

CAROTENOID: lichexanthone.

Garcia *et al.*, *Phytochemistry*, **15**, 1093 (1976)

A. gilberti.

One uncharacterized alkaloid.

Miranda *et al.*, *Chem. Ber.*, **113**, 3245 (1980)

A. gomezianum A.DC.

INDOLE ALKALOID: (-)-apparicine.

Gilbert *et al.*, *Tetrahedron*, **21**, 1141 (1965)

A. limae Woodson.

CARBOLINE ALKALOIDS: N-acetyl-11-hydroxyaspidospermidine, compactinervine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: aspidolimidine, aspidolimine, limaspermine, limatine, limatinine, limopodine, 3'-methoxylimapodine, 3'-methoxylimaspermine, 11-methoxylimatine, 11-methoxylimatinine.

Limar, Schmid, *Helv. Chim. Acta*, **50**, 89 (1967)

A. macrocarpon Mart.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: kopsanol, epi-kopsanol, kopsanone.

Filho *et al.*, *J. Chem. Soc., C*, 1260 (1966)

A. marcgravianum Woodson.

CARBOLINE ALKALOID: dihydrocorynantheol.

IMIDAZOLIDINOCARBAZOLE ALKALOID: demethoxy aspidospermine. 46
alkaloids.

Gilbert *et al.*, *Tetrahedron*, **21**, 1141 (1965)

Robert *et al.*, *J. Nat. Prod.*, **46**, 694 (1983)

***A. megalocarpon* Muell. Arg.**

IMIDAZOLIDINOCARBAZOLE ALKALOID: aspidocarpine.

McLean *et al.*, *Can. J. Chem.*, **38**, 1547 (1960)

***A. melanocalyx* Muell. Arg.**

IMIDAZOLIDINOCARBAZOLE ALKALOID: 18,18'-bis(O-demethylaspidocarpine).

Miranda, Gilbert, *Experientia*, **25**, 575 (1969)

***A. multiflorum* A.DC.**

CARBOLINE ALKALOIDS: N-acetyl-11-hydroxyaspidospermidine, compactinervine.

INDOLE ALKALOID: (-)-apparicine.

Gilbert *et al.*, *Tetrahedron*, **21**, 1141 (1965)

***A. neblinine* Monachino.**

IMIDAZOLIDINOCARBAZOLE ALKALOID: neblinine.

Brown, Djerassi, *J. Am. Chem. Soc.*, **86**, 2451 (1964)

***A. nigricans* Handro.**

CARBAZOLE ALKALOIDS: N-acetyl-11-hydroxyaspidospermidine, compactinervine, olivacine N-oxide.

Gilbert *et al.*, *Tetrahedron*, **21**, 1141 (1965)

***A. oblongum* A.DC.**

CARBOLINE ALKALOID: 19,20-dehydro-10-methoxydihydrocorynantheol. 35
alkaloids.

Spiteller, Spiteller-Friedmann, *Monatsh. Chem.*, **93**, 795 (1962)

Robert *et al.*, *J. Nat. Prod.*, **46**, 708 (1983)

***A. obscurinervum* Azembuja.**

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: dihydroobscurinervidine,
dihydroobscurinervine, obscurinervidine, obscurinervine.

Brown, Djerassi, *J. Am. Chem. Soc.*, **86**, 2451 (1964)

***A. olivaceum* Muell. Arg.**

CARBOLINE ALKALOIDS: N-acetyl-11-hydroxyaspidospermidine, compactinervine.

INDOLE ALKALOID: (-)-apparicine.

Gilbert *et al.*, *Tetrahedron*, **21**, 1141 (1965)

***A. peroba*.**

CARBOLINE ALKALOID: macusine B.

INDOLINE ALKALOID: alkaloid Q.

Quaisuddin, *Bangladesh J. Sci. Ind. Res.*, **15**, 35 (1980)

***A. polyneuron* Muell. Arg.**

CARBOLINE ALKALOIDS: polyneuridine, tombozine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: deacetylaspidospermine, palosine.

Paladini *et al.*, *An. Assoc. Quim. Argent.*, **50**, 352 (1962)

***A. populifolium* A.DC.**

CARBAZOLE ALKALOID: 14,19-dihydro-11-methoxycondylocarpine.

CARBOLINE ALKALOIDS: N-acetyl-11-hydroxyaspidospermidine, compactinervine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: N-formyl-16,17-dimethoxyaspidofractinine, N-fonnlyl-17-methoxyaspidofractine, 17-methoxyaspidofractine, 17-methoxyaspidofractinine.

Gilbert *et al.*, *Tetrahedron*, **21**, 1141 (1965)

***A. pyrifolium*.**

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: aspidofiline, (+)-aspidospermine, 6-demethoxypyridoline, pyrifoline.

Craviero *et al.*, *Phytochemistry*, **22**, 1526 (1983)

***A. quebracho* Schlecht.**

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: deacetylaspidospermine, (-)-quebrachamine.

UNCHARACTERIZED ALKALOID: hypoquebrachine.

Ewins, *J. Chem. Soc.*, 105, 2738 (1914)

***A. quebracho bianco* Schlecht.**

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: aspidospermine, (+)-12-dehydroaspidospermidine.

Mill, Nyburg, *J. Chem. Soc.*, 1458 (1960)

***A. quebracho bianco* Schlecht f.*pendulae* Speg.**

CARBAZOLE ALKALOID: aspidospermatine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: aspidospermidine, aspidospermine.

UNCHARACTERIZED ALKALOIDS: aspidosamine, aspidospermicine.

Floriani, *Rev. Cent. Estud. Farm. Bioquim.*, **25**, 373, 423 (1935)

***A. quirandy* Hassler.**

IMIDAZOLIDINOCARBAZOLE ALKALOID: aspidospermine.

UNCHARACTERIZED ALKALOIDS: aspidosamine, haslerine.

Floriani, *Rev. Cent. Estud. Farm. Bioquim.*, **25**, 373, 423 (1935)

***A. refractum* Mart.**

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: aspidofractine, aspidofractinine, refractidine, refractine.

Djerassi *et al.*, *Helv. Chim. Acta*, **46**, 742 (1963)

A. rhombeinsignatum.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: limaspermidine, 15,16,17-trimethoxy-21-oxoaspidoalbione.

Medina, Di Geneva, *Planta Med.*, **37**, 165 (1967)

Medina, Geneva, *ibid.*, **37**, 165 (1979)

A. rigidum.

CARBOLINE ALKALOID: deacetylpicraline.

Arndt *et al.*, *Phytochemistry*, **6**, 1653 (1967)

A. spegazzini.

CARBOLINE ALKALOID: spegatrine.

Orazi *et al.*, *Can. J. Chem.*, **44**, 1523 (1966)

A. spruceanum Benth.

CARBOLINE ALKALOIDS: N-acetyl-11-hydroxyspermidine, compactinervine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: N-acetyl-N-depropionylaspidoalbione, aspidoalbione.

Ferrari *et al.*, *Can. J. Chem.*, **41**, 1531 (1963)

Gilbert *et al.*, *Tetrahedron*, **21**, 1141 (1965)

A. subincanum Mart.

CARBOLINE ALKALOIDS: N-acetyl-11-hydroxyaspidospermidine, compactinervine.

CARBAZOLE ALKALOIDS: 2-epi-dasycarpone, ellipticine methonitrate, N-methyltetrahydro- ellipticine, subincanine.

Gaskell, Joule, *Chem. Ind.*, **90**, 2699 (1968)

A. ulei Mfg.

CARBAZOLE ALKALOIDS: N-methyltetrahydroellipticine, uleine.

Burnell, Casa, *Can. J. Chem.*, **45**, 89 (1967)

A. vargasii.

CARBOLINE ALKALOIDS: 9-methoxyolivaccine, N-methyltetrahydroellipticine.

Burnell, Casa, *Can. J. Chem.*, **45**, 89 (1967)

A. verbascifolium.

IMIDAZOLIDINOCARBAZOLE ALKALOID: N-formylkopsanol.

Braekman *et al.*, *Bull. Soc. Chim. Belg.*, **78**, 63 (1969)

A. No. RDJ 119070.

CARBOLINE ALKALOID: 10-methoxydihydrocorynantheol.

Dastour *et al.*, *Helv. Chim. Acta*, **50**, 213 (1967)

ASPILIA (Compositae)

***A. kotschyi* (Sch. Bip.).**

TRITERPENOIDS: echinocytic acid, oleanolic acid.

Kapundu, *Bull. Soc. R. Sci. Liege*, **54**, 129 (1985)

***A. pluriseta*.**

DITERPENOIDS: 15 β -angeloyloxy-ent-kaurenic acid, 15 β -angeloyloxy-16,17-epoxy-ent-kaurenic acid, (-)-laur-16-en-19-oic acid.

Lwande *et al.*, *Fitoterapia*, **56**, 126 (1985)

ASPLENIUM (Polypodiaceae/Aspleniaceae)

***A. bulbiferum*.**

FLAVONOID: kaempferol 3,7-dirhamnoside.

Imperato, *Chem. Ind. (London)*, 566 (1987)

***A. laciniatum*.**

ACID: stearic acid.

ALIPHATIC: octatriacontane.

BENZOQUINONE: phthiocol.

NAPHTHOQUINONES: 3,3'-bis(2-methyl-1,4-naphthoquinone), 2-methyl-1,4-naphthoquinone.

STEROIDS: β -sitosterol, β -sitosterol D-O-glucoside.

Gupta *et al.*, *Curr. Sci.*, **45**, 44 (1976)

Gupta *et al.*, *Indian J. Chem.*, **15B**, 394 (1977)

***A. montanum* Willd.**

XANTHONES: isomangiferin, mangiferin.

Smith, Harborne, *Phytochemistry*, **10**, 2117 (1971)

***A. viride*.**

FLAVONE: 3',4',5,7-tetrahydroxy-3-methoxyflavone.

Voirin *et al.*, *Phytochemistry*, **13**, 275 (1974)

ASTASIA (Euglenaceae/Euglenophyceae)

A. longa.

STEROID: 24-methylpollinasterol.

Rohmer, Brandt, *Eur. J. Biochem.*, **36**, 446 (1973)

ASTER (Compositae)

A. bakeranus.

One monoterpenoid.

Tsankova *et al.*, *Phytochemistry*, **22**, 1285 (1983)

A. salignus.

PHENOLICS: caffeic acid, chlorogenic acid, hydroxycinnamic acid, isochlorogenic acid a, isochlorogenic acid b, isochlorogenic acid c, neochlorogenic acid.

Sergeeva *et al.*, *Khim. Prir. Soedin.*, 655 (1975)

A. schreberi.

ACETYLENICS: 1,7,9,13 -heptadecatetraen-11-yne, 1,7,9,13-heptadecatetraen-11-yn-3-ol, 2,7,9,13-heptadecatetraen-11-yn-1-ol, 4,8,10,16-heptadecatetraen-6-yn-3-ol, 8,10,14,16-heptadecatetraen-6-yn-3-one.

MONOTERPENOIDS: deca-2,6-dien-4-yneic acid, deca-2,6-dien-4-yneic acid methyl ester.

Bohlmann, Zdero, *Chem. Ber.*, **102**, 1037 (1969)

A. tataricus.

TRITERPENOIDS: shionone.

Nakoaki, *J. Pharm. Soc., Japan*, **49**, 1169 (1928)

ASTERACANTHA (Asteracanthaceae)

A. longifolia (Hygrophila spinosa). One uncharacterized alkaloid.

STEROID: stigmasterol.

TRITERPENOIDS: betulin, lupeol.

(A) Basu, Lal, *Q.J. Pharmacol.*, **20**, 38 (1947)
 (S, T) Gupta *et al.*, *J. Nat. Prod.*, **46**, 938 (1983)

ASTERIAS

A. amurensis.

STEROIDS: amuresterol, cholestan-3 β ,6 α ,15 α ,24-tetraol.
 Kobayashi, Mitsuhashi, *Tetrahedron*, **30**, 2147 (1974)

A. rubens.

CAROTENOID: 7',8'-tetrahydroastaxanthin.
 Cheesman *et al.*, *Biol. Rev.*, **42**, 131 (1967)

ASTERICUS (Compositae)

A. aquaticus L.

SESQUITERPENOID: asteriscanolide.
 San Feliciano *et al.*, *Tetrahedron Lett.*, 2369 (1985)

ASTILBE

A. rivularis.

COUMARIN: bergenin.
 TRITERPENOIDS: acetyl- β -peltoboykinolic acid, astilbic acid, peltoboykinolic acid.
 Sastry *et al.*, *Indian J. Chem.*, **15B**, 494 (1977)

A. thunbergii.

TRITERPENOID: astilbic acid.
 Takahashi *et al.*, *Chem. Pharm. Bull.*, **20**, 2106 (1972)

ASTRAGALUS (Papilionaceae)

***A. alexandrinus* Boiss.**

SAPONIN: furostene glycoside.

Khafagy *et al.*, *J. Pharm. Sci.*, **20**, 7 (1979)

***A. angustifolius* Lam.**

FLAVONOIDS: isorhamnetin 3- α -L-arabinoside, isorhamnetin 3- α -L-arabinoside- α -L-rhamnoside, isorhamnetin 3- β -D-glucoside, kaempferol 3- α -L-arabinoside, nicotiflorin.

TRITERPENOID: 20S,24R-silversigenin epoxylanost-9(11)-ene-3 β ,6 α ,16 α ,25-tetraol.

Panova *et al.*, *Farmatsiya*, **33**, 23 (1983)

***A. brachycarpus*.**

COUMARINS: scopoletin, umbelliferone.

FLAVONOIDS: hyperin, quercetin.

Alaniya *et al.*, *Khim. Prir. Soedin.*, 813 (1976)

***A. caucasicus*.**

FLAVONOL: ascaside.

Alaniya *et al.*, *Khim. Prir. Soedin.*, 351 (1975)

***A. centralpinus*.**

FLAVONOIDS: 3,5-dihydroxyflavone, 5,4'-dimethoxy-7-hydroxyflavan-7-ol, isorhamnetin 3-O-glucobioside, isorhamnetin 3-O-glucorhamnoside, isorhamnetin 3-O-glucoside, isorhamnetin 7-O-rhamnoside, 3,5,7,3'-tetramethoxy-4'-hydroxyflavone, 5,7,4'-trihydroxy-3,3'-dimethoxyflavone.

Pashkov, Marichkova, *Probl. Farm.*, **11**, 36 (1983); *Chem. Abstr.*, 100 3517t

***A. cieer*.**

FLAVONOIDS: isorhamnetin glycoside, kaempferol glycoside, quercetin glycoside.

Alaniya *et al.*, *Khim. Prir. Soedin.*, 528 (1983)

***A. dasyanthus*.**

SAPOGENIN: dasyanthogenin.

Evstratova *et al.*, *Khim. Prir. Soedin.*, 102 (1981)

***A. dipelta*.**

FLAVONOIDS: astragalin, populnin, rodinin, trifolin.

Luk'yanichkov *et al.*, *Khim. Prir. Soedin.*, 453 (1987)

***A. galegiformis*.**

SAPONINS: cyclogaleginosides A and B, TRITERPENOID: cyclogalegenin.

(Sap) Aleniya *et al.*, *Khim. Prir. Soedin.*, 477 (1984)
 (T) Aleniya *et al.*, *ibid.*, 332 (1983)

A. glycyphyllos L.

STEROIDS: campesterol, sitosterol, soyasapogenol B, stigmasterol.
 Elenga *et al.*, *Pharmazie*, 41, 300 (1986)

A. membranaceus.

SAPONINS: astragalosides I, II, III, IV, V, VI and VII.
 TRITERPENOID: astramembrangenin.
 (Sap) Cao *et al.*, *Huaxue Xuebao*, 41, 1137 (1983)
 (T) Kitagawa *et al.*, *Chem. Pharm. Bull.*, 31, 716 (1983)

A. orbiculatus.

STEROID: cycloorbigenin.
 Agzamova *et al.*, *Khim. Prir. Soedin.*, 455 (1986)

A. pamirensis.

TRITERPENOIDS: cyclosiversigenin, cyclosiversigenin, 3-O- β -D-xylopyranoside.
 Agzamova *et al.*, *Khim. Prir. Soedin.*, 117 (1986)

A. pterocephalus.

SAPONINS: cyclosiversiosides E and F.
 STEROIDS: β -sitosterol, β -sitosterol- β -D-glucopyranoside.
 TRITERPENOID: siversigenin.
 Agzamova *et al.*, *Khim. Prir. Soedin.*, 117 (1986)

A. sieversianus.

SAPONINS: cyclosiverosides A, B, C, D, E, F, G and H.
 Svechnikova *et al.*, *Khim. Prir. Soedin.*, 312, 460 (1983)

A. sinicus.

FLAVONE: astragalin.
 Takagi *et al.*, *J. Pharm. Soc., Japan.*, 97, 1369 (1977)

A. taschkendicus.

SAPONINS: askendosides A, B, C and D.
 TRITERPENOID: cycloasgenins A and B.
 (Sap) Israev *et al.*, *Khim. Prir. Soedin.*, 173, 587 (1983)
 (T) Israev *et al.*, *ibid.*, 572 (1981)

A. tibetanus Benth ex Bge. (A. laxmanii Bge.).

UNCHARACTERIZED ALKALOID: smirnovine.
 Ryabinin *et al.*, *Dokl. Akad. Nauk SSSR*, 61, 317 (1948)

A. trigonus.

TRITERPENOID:6-oxocycloartan-3 β ,16 β -di-O-glucopyranoside.
 El-Sabakhy, Waterman, *Planta Med.*, 350 (1985)

ASTRANTIA (Umbelliferae/Saniculoidae)

A. major.

LIMONIODS: isoorientin, kaempferol, quercetin.

TRITERPENOID: astrantiagenin.

(L) Hiller *et al.*, *Pharmazie*, **30**, 809 (1975)

(T) Weitke *et al.*, *ibid.*, **33**, 541 (1978)

ASTROCASIA (Euphorbiaceae)

A. phyllantoides.

BISPIPERIDINE ALKALOIDS: astrocasine, astrophylline.

Lloyd, *Tetrahedron Lett.*, **1761**, 4537 (1965)

ATALANTIA (Rutaceae)

A. ceylanica.

BISCARBAZOLE ALKALOIDS: atalantine, ataline.

Fraser, Lewis, *J. Chem. Soc., Chem. Commun.*, 615 (1973)

A. macrophylla.

CARBAZOLE ALKALOID: atalaphyllidine.

Busa, *Experientia*, **31**, 1387 (1975)

A. monophylla Correa.

ACRIDONE ALKALOIDS: N-methylbicycloatalaphylline, N-methyl-1,5-dihydroxy-2,3-dimethoxyacridin-9-one.

CARBAZOLE ALKALOIDS: atalaphylline, atalaphylline 3,5-dimethyl ether, atalaphyllinine, N-methylatalaphylline.

LIMONIODS: atalantin, atalantolide, cyclo-epi-atalantin, dehydroatalantin.

(A) Govindachari *et al.*, *Tetrahedron*, **26**, 2906 (1970)

(A) Kulkarni, Sabata, *Phytochemistry*, **20**, 867 (1981)

(T) Dreyer *et al.*, *Tetrahedron*, **32**, 2367 (1976)

A. racemosa W. et A.

COUMARIN: racemol.

Purushothaman *et al.*, *Indian Drugs*, **23**, 487 (1986); *Chem. Abstr.*, 105 168851p

ATHAMANTHA (Umbelliferae)

A. oreoselinum.

COUMARIN: athamantin.

Halpern *et al.*, *Helv. Chim. Acta*, **40**, 758 (1957)

ATHANASIA (Compositae)

A. dentata L.

Four furane sesquiterpenoids.

Bohlmann, Grenz, *Chem. Ber.*, **108**, 357 (1975)

A. dimorpha DC.

Three furane sesquiterpenoids.

Bohlmann, Grenz, *Chem. Ber.*, **108**, 357 (1975)

A. dregeana.

SESQUITERPENOIDS: athanadregolide, athanagrandione.

Bohlmann *et al.*, *Phytochemistry*, **18**, 995 (1979)

A. linifolia Harv.

Four furane sesquiterpenoids.

Bohlmann, Grenz, *Chem. Ber.*, **108**, 357 (1975)

A. punctata Berg.

Three furane sesquiterpenoids.

Bohlmann, Grenz, *Chem. Ber.*, **108**, 357 (1975)

ATHEROSPERMA (Monimiaceae/Atherospermataceae)

A. moschatum Labill.

BISBENZYLISOQUINOLINE ALKALOIDS: atherospermoline, berbamine, isotetrandrine.

OXONORAPORPHINE ALKALOIDS: atheroline, atherospermidine, moschatoline.
UNCHARACTERIZED ALKALOID: atherospermine.

Zeyer, *Vjschr. Prakt. Pharm.*, **10**, 504 (1861)

Bick, Douglas, *Aust. J. Chem.*, **20**, 1403 (1967)

ATHRIXIA

A. angustissima.

SESQUITERPENOIDS: 10-isobutyryloxyathrixol epoxide, 7,10-diisobutyryloxyathrixol epoxide.

Bohlmann, Zdero, *Phytochemistry*, **16**, 1773 (1977)

A. elata.

DITERPENOID: secoathritic acid.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1806 (1982)

A. fontana.

DITERPENOIDS: 10-acetoxyathrixol epoxide, 4-carbomethoxyathrixanone.

Bohlmann, Zdero, *Phytochemistry*, **16**, 1773 (1977)

A. phylicoides.

DITERPENOIDS: 4-carbomethoxyathrixanone, 16,17-dihydro-16,17-epoxyathrixianone, 4-formylathrixanone, 4-hydroxymethylathrixianone, 4-methoxyathrixanone.

Bohlmann, Zdero, *Phytochemistry*, **16**, 1773 (1977)

ATHROTAXIS (Taxodiaceae)

A. selaginoides Don.

TRITERPENOIDS: athrotaxin, cubenol.

Talvitre *et al.*, *Finn. Chem. Lett.*, 93 (1979)

ATHYRIUM

A. mesosorum.

XANTHONES: 3-methoxy-1,6,7-trihydroxyxanthone, 6-methoxy-1,3,7-trihydroxyxanthone.

Owen *et al.*, *J. Chem. Soc., Perkin I*, 1018 (1974)

ATLAS

A. cedar.

SESQUITERPENOIDS: (E)-10,11-dihydroatlantone, (Z)-dihydroatlantone.

Irie *et al.*, *Chem. Pharm. Bull.*, **23**, 1892 (1975)

ATRACTYLIS (ATRACTYLODES) (Compositae)

A. gummifera.

NORDITERPENOIDS: atracyligenin, 2-O-methylatracyligenin. Piozzi *et al.*, *Gazz. Chim. Ital.*, **99** 373 (1969)

A. japonica.

SESQUITERPENOIDS: 3β -acetoxyatractylon, (+)-atractylon, 3β -hydroxyatractylon, selina-4(14),7(11)-dien-8-one.

Nishikawa *et al.*, *J. Pharm. Soc., Japan*, **96**, 1089 (1976)

A. lancea.

SESQUITERPENOIDS: 3β -acetoxyatractylon, hinesol, 3β -hydroxyatractylon.

Nishikawa *et al.*, *J. Pharm. Soc., Japan*, **96**, 1089 (1976)

A. lancea De Candolle var. chinensis Kitamura.

ACETYLENICS: acetylatractylobinol, atractylobinol.

Nishikawa *et al.*, *J. Pharm. Soc., Japan*, **96**, 1322 (1976)

A. lancea var. simplicifolia.

SESQUITERPENOIDS: acetylatractylobinol, atractylinodinol, atractylobin.

Nishikawa *et al.*, *J. Pharm. Soc., Japan*, **96**, 1089 (1976)

A. ovata.

SESQUITERPENOIDS: 3 β -acetylatractylon, atractylon, 3 β -hydroxyatractylon.
 Nishikawa *et al.*, *J. Pharm. Soc., Japan*, **96**, 1089 (1976)

A. simplicifolia.

SESQUITERPENOID: 3 β -acetoxylatractylon.
 Nishikawa *et al.*, *J. Pharm. Soc., Japan*, **96** 1089 (1976)

ATRAPHAXIS

A. frutescens.

FLAVONOIDS: kaempferol 3- β -D-glucopyranoside, myricetin 3- β -D-glucopyranoside, quercetin 3- β -D-glucopyranoside.

Chumbalev *et al.*, *Khim. Prir. Soedin.*, 424 (1975)

A. purifolia.

FLAVONOIDS: 7-O-methylgossypetin 8- β -O-glucopyranoside, 7-O-methylgossypetin 3-O- α -L-rhamnopyranoside, 7-O-methylgossypetin

3-O- α -L-rhamnopyranoside-8- β -D-glucopyranoside.

Chumbalev *et al.*, *Khim. Prir. Soedin.*, 660 (1976)

ATROPA (Solanaceae)

A. bella-donna L.

TROPANE ALKALOIDS: apoatropine, atropamine, atropine, belladonnine, belladidine, (-)-hyoscyamine, scopolamine.

Hesse, *Justus Liebigs Ann. Chem.*, **361**, 87 (1891)

Gadamer, *Arch. Pharm.*, **239**, 294 (1901)

A. boetica.

TROPANE ALKALOID: (-)-hyoscyamine.

Marion, Thomas, *Can. J. Chem.*, **32**, 1116 (1954)

ATYLOSIA

A. trinerva.

ALCOHOL: atylosol.

Tripathi *et al.*, *Phytochemistry*, **17**, 2001 (1978)

AUBRIETIA

A. deltoidea L.

AMINO ACID: N- τ -glutamyltyramine.

Morris *et al.*, *Biochemistry*, **1**, 706 (1962)

AUCUBA (Cornaceae)

A. japonica Thunb.

IRIDOID: aucubin.

MONOTERPENOIDS: eucommioside

1-O- β -D-glucopyranosyl-eucommiol.

Bernini *et al.*, *Phytochemistry*, **23**, 1431 (1984)

AUSTROBAILEYA (Austrobaileyaceae)

A. maculata C.T.White.

LIGNANS: austrobailignans 1, 2, 3, 4, 5, 6 and 7.

Murphy *et al.*, *Aust J. Chem.*, **28**, 81 (1975)

A. scandens C.T.White.

LIGNANS: austrobailignans 1, 2, 3, 4, 5, 6 and 7.

Murphy *et al.*, *Aust J. Chem.*, **28**, 81 (1975)

AUSTROCEDRUS

A. chilensis.

DITERPENOID: 8,20-dihydroxy-9(11),13-abietadien-12-one.

Cairness *et al.*, *J. Nat. Prod.*, **46**, 135 (1983)

AUSTROEUPATORIUM

A. chaparensis.

DITERPENOIDS: 18-acetoxyaustrochaparol 7-acetate, austrochaparol, austrochaparol acetate, 12-desoxyaustrofolin-12-ol, 15,16-dihydroaustrofolin-15 α -ol, 15,16-dihydroaustrofolin-15 β -ol, 18-hydroxyaustrochaparol 7-acetate, 18-oxoaustrochaparol 7-acetate.

Bolhmann *et al.*, *Phytochemistry*, **19**, 111 (1980)

A. inulaefolium.

DITERPENOIDS: austrofolin, austroinulin, ent-15,16-epoxy-2 β ,3 β ,19-trihydroxy-18-nor-13(16),14-labdadiene-7,12-dione.

Bohlmann *et al.*, *Chem. Ber.*, **110**, 1034 (1977)

Oberti *et al.*, *Phytochemistry*, **23**, 2003 (1984)

AUSTROPLENEKIA

A. populnea.

Two terpenoids.

Prasad *et al.*, *Phytochemistry*, **23**, 1655 (1984)

AVENA (Gramineae)

A. saliva L.

FLAVONOIDS: isoorientin 2"-arabinoside, isoswertisin 2"-rhamnoside, isovitexin 2"-arabinoside, vitexin 2"-rhamnoside.

PIGMENT: O"-rhamnosylisoswertisin.

SAPONINS: avenacoside A, avenacoside B, 26-desglucoavenacoside A, 26-desglucoavenacoside B.

Chopin *et al.*, *Phytochemistry*, **16**, 2041 (1977)

(P) Nabeta, Kadota, *Phytochemistry*, **16**, 1112 (1977)

(Sap) Tschesche, Schmidt, *Z. Naturforsch.*, **21B**, 896 (1966)

AVICENNIA

A. officinalis L.

IRIDOID: avicennioside, 7-cinnamoyl-8-epi-loganic acid, 2'-cinnamoylmussaenosidic acid, geniposidic acid.

Koenig *et al.*, *Phytochemistry*, **26**, 423 (1987)

AYAPANA (Compositae)

A. amygdalina.

DITERPENOID: ent-3 β ,7 α -dihydroxy-8(17),13-labdadien-15-oic acid.

SESQUITERPENOID: 2,6,10-bisabolatriene.

Bohlmann *et al.*, *Phytochemistry*, **18**, 1997 (1979)

A. ecuadorensis King et Rob.

NORSESQUITERPENOIDS:

cis-3-hydroxy-2,3-dihydroeuparin-acetoxyethyl-trans-crotonate,
trans-3-hydroxy-2,3-dihydroeuparin- β -acetoxyethyl-trans-crotonate,
hydroxy-2,3-dihydroeuparin angelate.

trans-3-

Bohlmann *et al.*, *Chem. Ber.*, **110**, 1034 (1977)

AZADIRACHTA (Meliaceae).

A. indica A. Juss.

STEROID: vilasanin.

SESTERTERPENOIDS: 6-O-acetyl nimbandiol, 17-epi-azadiradione, nimbandiol, nimbinen, nimbolicinol, nimbidin, nimbolin A, nimbolin B.

ESTER TERPENOID: salannolide.

TETRANORTriterpenoids: isoazadirolide, isomargosinolide, isonimbocinolide, margodunolide, margosinolide, nimbocinolide.

TRITERPENOIDs: isonimbocinone, nimbocinome.

(S) Kraus *et al.*, *Justus Liebigs Ann. Chem.*, 181 (1981)

(T) Siddiqui *et al.*, *Tetrahedron*, **42**, 4849 (1986)

(T) Siddiqui *et al.*, *Phytochemistry*, **25**, 2183 (1986)

AZIMA (Salvadoraceae)

A. tetracantha Lam.

MACROCYCLIC ALKALOIDS: azcarpine, azimine.

Smalberger *et al.*, *Tetrahedron*, **24**, 6417 (1968)

AZORELLA (Muliniaeae)

A. trifurcata (Gaertn.) Pers.

SESQUITERPENOID: 2-cis-9-cis-pentadeca-2,9-diene-4,6-diyne-1,8-diol acetate.

Bohlmann *et al.*, *Chem. Ber.*, **104**, 1322 (1971)

AZUREOCEREUS (Cactaceae)

A. ayacuchensis.

AMINO ACID: tyramine hydrochloride.

Lee *et al.*, *Lloydia*, **38**, 366 (1975)

B

BACCHARIS (Compositae/Asteraceae)

B. articulata.

DITERPENOIDS: articulin, articulinol.

TRITERPENOID: barticulidiol.

Gianello, Giordano, *Rev. Latinoam. Quim.*, **13**, 76 (1982)

B. bigelovii.

FLAVONES: alnusin, alnusinol, 7-benzoylchrysin, 2 α ,5,7-trihydroxyflavone.

Arriaga-Giner *et al.*, *Z. Naturforsch.*, **41C**, 946 (1986)

B. concava Pers.

FLAVONOIDS: cirsimaritin, pectolinarigenin, salvigenin.

Zamorano *et al.*, *Bol. Soc. Chil. Quim.*, **32**, 101 (1987); *Chem. Abstr.*, 107 151212z

B. conferta.

COUMARINS: 2-[1-(acetoxymethyl)vinyl]-5-hydroxycoumaran, 6-acetyl-2-(1-formylvinyl)-5-hydroxycoumaran.

DITERPENOID: bacchofertin.

(C) Bohlmann, Zdero, *Chem. Ber.*, **109**, 1450 (1976)

(T) Guerro, Romo de Vivar, *Rev. Latinoam. Quim.*, **4**, 178 (1973)

B. cordifolia.

TRICHOTHECENES: isomiotoxin D, miotoxin D.

Habermehl *et al.*, *Ann. Chem.*, 633 (1985)

B. crispa. Spreng.

DITERPENOIDS: bacrispin, 1-deoxybacrispin.

Tonn *et al.*, *An. Assoc. Quim. Argentina*, **68**, 237 (1980)

B. eleagnoides.

FLAVAN: cirsimaritin.

Mesquita *et al.*, *Phytochemistry*, **25**, 1255 (1986)

B. genistelloides.

SESQUITERPENOID: palustrol.

Buchi *et al.*, *Tetrahedron Lett.*, 14 (1959)

B. halimifolia. L.

TRITERPENOID: baccharis oxide.

Anthonsen *et al.*, *Acta Chem. Scand.*, **24**, 2479 (1970)

B. heterophylla.

TRITERPENOIDS: maniladiol, oleanolic acid.

Arriaga-Giner *et al.*, *Phytochemistry*, **25**, 719 (1986)

B. incanum.

FLAVONOIDS: 5,4'-dihydroxy-3,6,7,8,3'-pentamethoxyflavone, 5,4'-dihydroxy-6,7,8,3'-tetramethoxyflavone.

DITERPENOID: bincantriol.

(F) Faini *et al.*, *J. Nat. Prod.*, **45**, 501 (1982)

(T) San Martin *et al.*, *Phytochemistry*, **25**, 264 (1985)

B. kingii.

DITERPENOID: kingidiol.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1511 (1984)

B. linearis.

ALKALOIDS: three uncharacterized bases.

Montes *et al.*, *Rev. R. Acad. Cienc. Exactas, Fis. Nat. Madrid*, **65**, 499 (1971)

B. macraei.

DITERPENOIDS: bacchasmacranone, 2α -hydroxybacchasmacranone, 2β -hydroxybacchasmacranone.

Gambaro *et al.*, *Phytochemistry*, **25**, 2175 (1986)

B. magellanica.

COUMARIN: scopoletin.

FLAVONOID: hesperidin.

Cordano *et al.*, *J. Nat. Prod.*, **45**, 6531 (1982)

B. megapotamica Spreng.

NORTRITERPENOIDS: baccharin, baccharinol, 13 macrocyclic trichothecenes.

Kupchan *et al.*, *J. Org. Chem.*, **42**, 4221 (1977)

Jarvis *et al.*, *ibid.*, **52**, 45 (1987)

B. minutiflora.

DITERPENOIDS: ent-16 β -acetyl-17-nor-19-kauranol, ent-16 β , 17-epoxykaurane.

Bohlmann *et al.*, *Phytochemistry*, **21**, 399 (1982)

B. patens.

FLAVONOIDS: gardenin D, 5,3',4'-trihydroxy-6,7,8-trimethoxyflavone, xanthomicrol.
de Silva *et al.*, *J. Nat. Prod.*, **48**, 861 (1985)

B. rhomboidulus.

TRITERPENOID: brein.

Laird *et al.*, *J. Am. Chem. Soc.*, **82**, 4198 (1960)

B. sarothrodes.

FLAVONES: 5,4'-dihydroxy-3,6,7,8-tetramethoxyflavone, 3',5,7-trihydroxy-3,4'-dimethoxyflavone, 5,7,4'-trihydroxy-3,6,8-trimethoxyflavone, 5,7,4'-trihydroxy-3,6,8-trimethoxyflavone 7-methylether.

DITERPENOIDS: hautriwaic acid, 2 β -hydroxyhautriwaic acid.

TRITERPENOID: oleanolic acid.

(F) Wollenweber *et al.*, *Z. Naturforsch.*, **41C**, 87 (1986)

(T) Arriaga-Giner *et al.*, *Phytochemistry*, **25**, 719 (1986)

B. scandens.

NORSESQUITERPENOID: bacchascandone.

DITERPENOID: bacchalineol malonate.

Bohlmann *et al.*, *Phytochemistry*, **18**, 1993 (1979)

B. sternbergiana.

DITERPENOIDS: two ent-labdanes.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1109 (1984)

B. tola.

DITERPENOIDS: ent-beyerene-18,19-diol, ent-beyerene-18-ol, 8,13-epoxy-14-labden-19-ol, neohibaenol.

San Martin *et al.*, *Phytochemistry*, **22**, 1461 (1983)

B. tricuneata.

DITERPENOIDS: bacchalineol, bacchaticuneatins A, B, C and D.

Wagner *et al.*, *J. Org. Chem.*, **43**, 3339 (1978)

Bohlmann *et al.*, *Phytochemistry*, **18**, 1993 (1979)

B. tricuneata var. tricuneata (L.f.) Pers.

DITERPENOIDS: bacchaticuneatins A, B, C and D.

Wagner *et al.*, *Tetrahedron Lett.*, 3039 (1977)

B. trimera.

FLAVONE: eupatorin.

Kupchan *et al.*, *J. Pharm. Sci.*, **54**, 929 (1965)

B. trinervis.

ACETYLENIC: 7,9,15-heptadecatriene-11,13-dynoic acid methyl ester.

DITERPENOIDS: 15-hydroxy-ent-labd-8(17)-en-19-oic acid, pinobanksin 3-acetate

(Acet) Bolhmann *et al.*, *Chem. Ber.*, **103**, 2327 (1970)
 (T) Jakupovic *et al.*, *Pharmazie*, **41**, 157 (1986)

B. tucumaensis.

DITERPENOID: 7,13-labdadiene-15,18-dioic acid.
 Tonn *et al.*, *Phytochemistry*, **21**, 2599 (1982)

B. vaccinoides.

DITERPENOID: hautriwaic acid.
 TRITERPENOIDS: maniladiol, oleanolic acid.
 Arriaga-Giner *et al.*, *Phytochemistry*, **25**, 719 (1986)

BACKHOUSIA

B. angustifolia.

MONOTERPENOID: angustione.
 Gibson *et al.*, *J. Chem. Soc.*, 1184 (1930)

BACOPA (Scrophulariaceae)

B. monniera.

TRITERPENOIDS: bacogenins A-1, A-2 and A-3.
 Chandel, Kulshreshtha, *Phytochemistry*, **16**, 141 (1977)

BAECKEA

B. crenulata.

ALCOHOL: baeckeol.
 Hems *et al.*, *J. Chem. Soc.*, 1208 (1940)

BAEOMETRA (Liliaceae/Wurmbaeoideae)

***B. columellaris* Salisb.**

UNCHARACTERIZED ALKALOID: columellarine.

Pijewska *et al.*, *Collect. Czech. Chem. Commun.*, **32**, 158 (1967)

BAERIA

***B. chrysostoma*.**

SESQUITERPENOIDS: chrysostomalide, chrysostomalide acetate, chrysostomalide isobutyrate.

Bohlmann, Zdero, *Phytochemistry*, **17**, 3022 (1978)

***B. coronaria*.**

SESQUITERPENOID: chrysostomalide isobutyrate.

Bohlmann, Zdero, *Phytochemistry*, **17**, 3022 (1978)

BAHIA

***B. oppositifolia*.**

SESQUITERPENOIDS: bahia I, bahia II, bahifolin.

Herz *et al.*, *Phytochemistry*, **11**, 371 (1972)

Nelson, Aplund, *ibid*, **22**, 2755 (1983)

***B. pringlei*.**

SESQUITERPENOIDS: bahia I, bahia II.

Romo de Vivar *et al.*, *Can. J. Chem.*, **48**, 2849 (1969)

***B. woodhousei* (Gray) Gray. (*Picradeniopsis woodhousei* (Gray) Rydb.)**

SESQUITERPENOID: woodhousin.

Herz, Bhat, *J. Org. Chem.*, **37**, 306 (1972)

BAIKIAEA (Leguminosae)

B. plurijuga.

AMINOACID: 1,2,3,6-tetrahydro-2-pyridine carboxylic acid.

King *et al.*, *J. Chem. Soc.*, 3590 (1950)

BAILEYA (Compositae)

B. multiradiata Harv. et Gray.

SULPHOXIDE: (5E)-6-methylsulphinyl-1-phenyl-5-heptene-1,3-diyne.

SESQUITERPENOIDS: baileyin, baileyolin, multigilin, multiradiatin, multistatin, pleniradin.

(Sul) Bohlmann, Zdero, *Chem. Ber.*, **109**, 1964 (1976)

(T) Dominguez *et al.*, *Planta Med.*, **30**, 356 (1977)

(T) Pettit *et al.*, *Lloydia*, **41**, 29 (1978)

B. pauciradiata Harv. et Gray.

SESQUITERPENOIDS: paucin.

Waddell, Geissman, *Tetrahedron Lett.*, 515 (1969)

B. pleniradiata Cov.

SESQUITERPENOIDS: baileyin, baileyolin, paucin, plenolin.

Waddell, Geissman, *Tetrahedron Lett.*, 515 (1969)

Herz *et al.*, *J. Org. Chem.*, **44**, 1873 (1979)

BALAMEANDA

B. chinensis.

ISOFLAVONE GLUCOSIDE: tectoridin.

Khara *et al.*, *Indian J. Chem.*, **16B**, 78 (1978)

BALANOCARPUS (Dipterocarpaceae)

B. zeylanicus (Trimen).

POLYPHENOL: balanocarpol.

Diyasena *et al.*, *J. Chem. Soc., Perkin I*, 1807 (1985)

BALANOPS

B. australiana.

TRITERPENOID: friedelinol.

Drake *et al.*, *J. Am. Chem. Soc.*, **58**, 1681 (1936)

BALDUINA (Compositae)

B. angustifolia (Pursh.) Robins.

SESQUITERPENOID: balduilin.

Herz *et al.*, *J. Am. Chem. Soc.*, **81**, 6061 (1959)

B. uniflora.

SESQUITERPENOID: balduilin.

Herz *et al.*, *J. Am. Chem. Soc.*, **81**, 6061 (1959)

BALFOURODENDRON (Rutaceae)

B. redelsamia.

FURANOQUINOLINE ALKALOID: flindersiamine.

Brown *et al.*, *Aust. J. Chem.*, **7**, 181 (1954)

B. riedelianum (Engl.) Engl.

ACRIDONE ALKALOID: evoxanthine.

FURANOQUINOLINE ALKALOIDS: balfourodine, (+)-isobalfourodine, ribalinium.

QUATERNARY ALKALOID: O(4)-methylbalfourdinium.

QUINOLONE ALKALOIDS: (+)-ribalidine, ribalinine.

Rapoport, Holden, *J. Am. Chem. Soc.*, **81**, 3738 (1959)

Jurd, Wong, *Aust. J. Chem.*, **36**, 1615 (1983)

BALIOSPERMUM

B. montanum.

PYRROLIZIDINE ALKALOID: heliospermine.

DITERPENOID: montanin.

TERPENE ESTER: baliospermin.

Ogura *et al.*, *Planta Med.*, **33**, 128 (1978)

BALLONITES

B. roxburghii Planch.

STEROIDS: balanitisins A, B, C, D, E and F.

Varshney *et al.*, *Indian J. Pharm.*, **39**, 125 (1977)

BALLOTA (Labiatae)

B. acetobulosa.

DITERPENOID: 18-hydroxyballonigrin.

Savona *et al.*, *J. Chem. Soc., Perkin I*, 1271 (1978)

B. foetida Lamk.

FLAVONOIDS: apigenin 6,8-di-C-glucoside, apigenin 7-O-glucoside.

Darbour *et al.*, *Pharmazie*, **41**, 605 (1986)

B. hispanica.

DITERPENOIDS: hispaninic acid, hispanolone, hispanonic acid methyl ester.

Lopez de Lerma *et al.*, *Tetrahedron Lett.*, 1273 (1980)

B. lanata.

DITERPENOID: 13-hydroxyballogrinolide.

Savona *et al.*, *Phytochemistry*, **17**, 2132 (1978)

B. nigra L.

DITERPENOIDS: ballonigrin, ballotenol, ballotinone.

Savona *et al.*, *J. Chem. Soc., Perkin I*, 1607 (1976)

B. rupestris.

DITERPENOIDS: ballonigrin, ballonigrinone, rupestralic acid.

Savona *et al.*, *J. Chem. Soc., Perkin I*, 322 (1977)

BALSAMITA

B. major.

SESQUITERPENOIDS: dehydroisoerivanin, isoerivanin.

Samek *et al.*, *Collect. Czech. Chem. Commun.*, **44**, 1468 (1979)

BALTIMORA

B. recta.

SESQUITERPENOIDS: encelin, haagenolide.

Herz, Kumar, *Phytochemistry*, **18**, 1743 (1979)

Ciccio *et al.*, *ibid*, **20**, 517 (1981)

BANGIA (Rhodophyceae)

B. fuscopurpurea.

CAROTENOIDS: α -carotene, β -carotene, α -cryptoxanthin,

β -cryptoxanthin, fucoxanthin, lutein, zeaxanthin.

Bjoernland *et al.*, *Phytochemistry*, **15**, 291 (1976)

BANISTERIOPSIS

B. argentea.

CARBOLINE ALKALOIDS: 5-methoxytetrahydroharman, (-)-N(6)-methyltetrahydroharman.

INDOLE ALKALOID: dimethyltryptamine-N(6)-oxide.

Ghosal, Majumber, *Phytochemistry*, **10**, 2840 (1971)

B. caapi Spruce.

CARBOLINE ALKALOIDS: harmine, tetrahydroharmine.

PHTHALIDE-PYRROLIDINE ALKALOID: dihydroshihunine.

UNCHARACTERIZED ALKALOID: telepathine.

Spath, Lederer, *Ber.*, **63**, 120 (1930)

Kawanishi *et al.*, *J. Nat. Prod.*, **45**, 637 (1982)

B. lutea.

CARBAZOLE ALKALOID: harmine.

UNCHARACTERIZED ALKALOID: telepathine.

Bayon, *Quoted by Villalba, Bolletin Laboratory Samper-Martinez, Bogota* (1927)

B. metallicolor.

CARBAZOLE ALKALOID: harmine.

UNCHARACTERIZED ALKALOID: telepathine.

Spath, Lederer, *Ber.*, **63**, 120 (1930)

BAPTISIA (Papilionaceae)

B. australis.

SPARTEINE ALKALOIDS: cytisine, (+)-sparteine.

Govindachari *et al.*, *J. Chem. Soc.*, 3839 (1957)

B. lecontei.

FLAVONOID: fustin 3-O- β -glucoside.

ISOFLAVONOID: sphaerobioside.

(F) Markham *et al.*, *Tetrahedron*, **24**, 823 (1968)

(I) Rosler *et al.*, *Chem. Ber.*, **98**, 2193 (1965)

B. minor Lehm.

PAVINANE ALKALOID: baptifoline.
 Marion, Turcotte, *J. Am. Chem. Soc.*, **70**, 3253 (1948)

B. perfoliata (L.) R.Br.
 PAVINANE ALKALOID: baptifoline.
 Bohlmann *et al.*, *Chem. Ber.*, **95**, 944 (1962)

B. sphaerocarpa.
 ISOFLAVONOID: sphaerobioside.
 Rosler *et al.*, *Chem. Ber.*, **98**, 2193 (1965)

B. tinctoria R. Br.
 SPARTEINE ALKALOIDS: cytisine, (+)-sparteine.
 Bohlmann *et al.*, *Chem. Ber.*, **95**, 944 (1962)

BARBACENIA

B. coniostigma.
 Three unnamed triterpenoids.
 Pinto *et al.*, *Anais. Acad. Bras. Cienc.*, **53**, 69 (1981)

BARBILOPHAZIA (Hepaticae)

B. attenuata (Mart.) Loeske.
 SESQUITERPENOIDS: a-barbatene, β-barbatene.
 DITERPENOIDS: barbilycopodin, 18-acetoxy-3S,4S:7S,8S-diepoxydolabellan, 10R,18-diacetoxo-3S,4S-epoxydolabell-7E-ene, 18-hydroxydolabell-7E-en-3-β-ol.
 Huneck *et al.*, *J. Chem. Soc., Perkin I*, 809 (1986)

B. barbata.
 SESQUITERPENOIDS: a-barbatene, β-barbatene.
 Andersen *et al.*, *Phytochemistry*, **12**, 2709 (1973)

B. floerkei (Web. et Mohr) Loeske.
 SESQUITERPENOIDS: a-barbatene, β-barbatene.
 DITERPENOID: barbilycopodin.
 Andersen *et al.*, *Phytochemistry*, **12**, 2709 (1973)

B. hatcheri (Evans) Loeske.

SESQUITERPENOID: hercynolactone.

Huneck *et al.*, *Tetrahedron Lett.*, 3959 (1982)

B. lycopodioides (Wallr.) Loeske.

SESQUITERPENOIDS: α -barbatene, β -barbatene, hercynolactone.

DITERPENOIDS: 18-acetoxy-3S,4S:7S,8S-diepoxydolabellane, barbilycopodin, 10R,18-diacetox-3S,4S-epoxydolabell-7E-ene, 18-hydroxydolabell-7-en-3-one.

Huneck *et al.*, *J. Chem. Soc., Perkin I*, 809 (1986)

BARLERIA (Acanthaceae)

B. prionitis L.

IRIDOIDS: acetylbarlerin, barlerin.

Taneja, Tiwari, *Tetrahedron Lett.*, 1995 (1975)

BAROSMA (Rutaceae)

B. betulina Bartl.

MONOTERPENOIDS:p-menthane-8-thiol-1-one,

2-epi-p-menthane-thiol-1-one.

Lamparsky, Schudel, *Tetrahedron Lett.*, 3323 (1971)

B. crenulata (L.) Hook.

MONOTERPENOIDS:p-menthane-8-thiol-1-one,

2-epi-p-menthane-thiol-1-one.

Lamparsky, Schudel, *Tetrahedron Lett.*, 3323 (1971)

B. serratifolia Willd.

MONOTERPENOIDS: p-menthane-8-thiol-1-one,

2-epi-p-menthane-8-thiol-1-one.

Lamparsky, Schudel, *Tetrahedron Lett.*, 3323 (1971)

BARRACENIA

B. bicolor.

TRITERPENOIDS: 3 β ,20(R)-dihydroxydammar-24-ene, 20(R)-hydroxydammar-24-en-3-one, 3 β ,20(R)-dihydroxydammar-24-ene.

Baker *et al.*, *Phytochemistry*, **15**, 795 (1976)

BARRINGTONIA (Lecythidaceae)

B. acutangula.

TRITERPENOIDS: acutangulic acid, barrigenic acid, barrigenols A, B, C, D and E, barrinic acid, tanginol, tangulic acid.

Barua *et al.*, *J. Am. Pharm. Ass.*, **40**, 937 (1961)

Narayan *et al.*, *Curr. Sci.*, **45**, 518 (1976)

B. asiatica.

TRITERPENOID: A1-barrigenol.

Nozoe, *J. Chem. Soc., Japan*, **56**, 689 (1935)

B. racemosa.

TRITERPENOID: R1-barrigenol.

Lin *et al.*, *J. Chin. Chem. Soc.*, **4**, 77 (1957)

B. speciosa Forst.

TRITERPENOIDS: anhydrobartogenic acid, bartogenic acid, 19-epi-bartogenic acid.

Rao *et al.*, *Indian J. Chem.*, **25B**, 113 (1986)

BARTLETTINA

B. karwinskiana.

SESQUITERPENOIDS: 3 β -acetoxy-11 β ,13-epoxy- α -epi-tulipinolide, 11 β ,13-dihydroxy- α -epi-tulipinolide, 11 β ,13-epoxy-8 β -acetoxy- α -cyclocostunolide, 11 β ,13-epoxy- α -tulipinoide.

Gao *et al.*, *Phytochemistry*, **25**, 1231 (1986)

BARTSIA (Scrophulariaceae)

B. trixago.

IRIDOID: bartsioside.

Bianco *et al.*, *Gazz. Chim. Ital.*, **106**, 725 (1976)

BASSIA (Chenopodiaceae)

B. butyracea.

TRITERPENOID: basic acid.

Van der Hass, *Recl. Trav. Chim. Pays-Bas*, **48**, 1155 *et seq.* (1929)

B. latifolia.

TRITERPENOID: basic acid.

Van der Hass, *Recl. Trav. Chim. Pays-Bas*, **48**, 1155 *et seq.* (1929)

B. longifolia.

TRITERPENOID: basic acid.

Van der Hass, *Recl. Trav. Chim. Pays-Bas*, **48**, 1155 *et seq.* (1929)

B. parkeri.

TRITERPENOID: basic acid.

Van der Hass, *Recl. Trav. Chim. Pays-Bas*, **48**, 1155 *et seq.* (1929)

BATHIORHAMNUS

B. cryptophorus.

PIPERIDINE ALKALOIDS: O-acetylcryptophorinine, cryptophorinine.

Bruneton *et al.*, *Plant Med. Phytother.*, **9**, 21 (1975)

BAUHINIA (Leguminosae)

B. candicans.

AMINE ALKALOIDS: choline, trigonelline.

FLAVONOIDS: kaempferol 3-O- β -rutinoside, kaempferol 3-O- β -rutinoside-7-O- α -rhamnopyranoside.

STEROIDS: campesterol, cholesterol, β -sitosterol, β -sitosterol 3-glucoside, stigmasta-3,5-dien-7-one, stigmasterol.

Iribarren *et al.*, *J. Nat. Prod.*, **46**, 750 (1983)

B. purpurea.

FLAVONOIDS: apigenin, apigenin 7-O-glucoside, quercetin, quercitrin, rutin.

Abd-el-Wahab *et al.*, *Herba Hung.*, **26**, 27 (1987); *Chem. Abstr.*, 107 151201v

B. racemosa Lamk.

PHENOLIC: racemosol.

Anjaneyulu *et al.*, *Tetrahedron*, **42**, 2417 (1986)

B. vahlii L.

FLAVONOIDS: agathoflavone, agathaflavone dimethyl ether, agathoflavone methyl ether, quercetin, quercetin 3-O- β -glucoside.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

TRITERPENOID: betulinic acid.

Sultana *et al.*, *J. Indian Chem. Soc.*, **62**, 337 (1985)

B. variegata var. candida.

FLAVONOIDS: apigenin, apigenin 7-O-glucoside, quercetin, quercitrin, rutin.

Abd-el-Wahab *et al.*, *Herba Hung.*, **26**, 27 (1987); *Chem. Abstr.*, 107 151201v

BAURELLA

B. simplicifolia.

Two uncharacterized alkaloids.

Tillequin *et al.*, *Lloydia*, **43**, 498 (1980)

B. simplicifolia* subsp. *neo-scotia.

ACRIDONE ALKALOIDS: 1,3-dimethoxyacridan-9-one, 1,2,3,4-tetramethoxyacridan-9-one.

Tillequin *et al.*, *Lloydia*, **43**, 498 (1980)

BAZZANIA (Hepaticae)

B. angustifolia.

SESQUITERPENOIDS: (+)-bazzanene, isobazzanene.

Wu, Liu, *Tetrahedron*, **39**, 2657 (1983)***B. pompeana.***SESQUITERPENOIDS: (+)-bazzanene, bazzanenol, (R)-(-)-cuparane, δ -cuparenol.Matsui *et al.*, *Phytochemistry*, **14**, 1037 (1975)***B. tridens.***

SESQUITERPENOID: tridensenone.

Toyota *et al.*, *Phytochemistry*, **20**, 2359 (1981)***B. trilobata (L.) Gray.***SESQUITERPENOIDS: α -bazzanene, β -bazzanene, 11-drimanol.Andersen *et al.*, *Phytochemistry*, **12**, 1818 (1973)

BEAUMONTIA

B. grandiflora Wallich.

STEROIDS: beaumontoside, beauwalloside, wallichoside.

Krasso *et al.*, *Helv. Chim. Acta*, **46**, 1691 (1963)

BEDFORDIA

B. salicina.DIMERIC SESQUITERPENOIDS: $9\beta,9'\alpha$ -bis-dihydroligularenolide, $9\beta,9'\beta$ -bis-dihydroligularenolide.SESQUITERPENOIDS: 1,9-dihydro-8-methoxyligularenone, $3\beta,4\beta$ -dimethyl- 7β -(1-carbomethoxyethyl)-9,10-dehydrodecal-8-one, 4-hydroxybedfordic acid, isobedfordiaterpenalcohol, 4-oxobedfordic acid methyl ester.DITERPENOIDS: bedfordiaterpenalcohol, 3α -hydroxy-ent-kaurenic acid methyl ester.Bohlmann, Ngo Le Van, *Phytochemistry*, **17**, 1173 (1978)

BEESIA (Ranunculaceae)

B. calthaefolia.

TERPENOIDS: beesioside I, beesioside II.

Sakurai *et al.*, *Chem. Pharm. Bull.*, **34**, 582 (1986)

BEFARIA

B. glutinosa.

FLAVONOIDS: kaempferol, quercetin, quercetin 3-O- α -L-rhamnoside.

TRITERPENOIDS: betulin, lupeol.

Torrenagra *et al.*, *Rev. Latinoam. Quim.*, **16**, 102 (1985)

BEGONIA (Begoniaceae)

B. tuberhybrida.

DITERPENOID: hexanocucurbitacin D.

Doskotch *et al.*, *Lloydia*, **32**, 115 (1969)

BEILSCHMEIDIA

B. elliptica White et Francis.

APORPHINE ALKALOID: laurelliptine.

Clezy *et al.*, *Experientia*, 19, (1963)

B. podogarica Kostermans.

APORPHINE ALKALOIDS: 2-hydroxy-1,9,10-trimethoxyaporphine, 10-hydroxy-1,2,9-trimethoxyaporphine, 2-hydroxy-1,9,10-trimethoxynoraporphine.

Johns *et al.*, *Aust. J. Chem.*, **23**, 363 (1970)

BEJARANOA

B. semistriata.

SESQUITERPENOIDS: α -hydroxybejaranolide, β -hydroxybejaranolide.

DITERPENOIDS: 17,20-dihydroxygeranylnerol, semistriatin methyl ether.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1639 (1981)

BELAMEANDA

B. chinensis.

FLAVONOID: irigenin.

Hu *et al.*, *Zhongyao Tongbao*, **7**, 29 (1982); *Chem. Abstr.*, 97 107032s

BELLARDIA (Scrophulariaceae)

B. montana.

AMINE ALKALOIDS: bellendine, tri-(α -methylene- τ -butyrolactonyl)amine.

Ralph *et al.*, *Phytochemistry*, **25**, 972 (1986)

B. trixago (L. All.) var *flaviflora* (Boiss.) Maire.

DITERPENOIDS: isotrixagol, isotrixagoyl oxide, trixagodiols A, B and C, trixagoene, trixagotriol.

de Pascual Teresa *et al.*, *Tetrahedron*, **38**, 1837 (1982)

B. trixago (L. All.) var *versicolor* (Willd.) P.Coutinho.

DITERPENOIDS: isotrixagol, isotrixagoyl oxide, trixagodiols A, B and C, trixagoen trixagotriol

de Pascual Teresa *et al.*, *Tetrahedron*, **38**, 1837 (1982)

BELLIUM

B. bellidoides.

SESQUITERPENOID: matricariol 3-methylcrotonyl ester.

Bohlmann *et al.*, *Chem. Ber.*, **105**, 1919 (1972)

BERBERIS (Berberidaceae)

B. actinacantha.

AMINE ALKALOIDS: chloenamines A and B, chloenine.

BISBENZYLISOQUINOLINE ALKALOIDS: berbitine, dihydroxytaxilamine.

Shamma *et al.*, *J. Chem. Soc., Chem. Commun.*, 799 (1983)

Rahimazadeh, *Planta Med.*, 339 (1986)

B. amurensis Rupr. var. japonica (Regel) Rehd.

BISBENZYLISOQUINOLINE ALKALOID: berbamunine.

Kametani *et al.*, *J. Pharm. Soc., Japan*, **88**, 1163 (1968)

B. aristata DC.

BISBENZYLISOQUINOLINE ALKALOID: taxilamine.

PROTOBERBERINE ALKALOID: karachine.

Blasko *et al.*, *J. Am. Chem. Soc.*, **104**, 2039 (1982)

B. baluchistanica Ahrendt.

BISBENZYLISOQUINOLINE ALKALOIDS: pakistanamine, pakistanine.

BENZYLISOQUINOLINE ALKALOIDS: dihydrosecoquettamine, quettamine, secoquettamine, gandharamine, obaberine, oxyacanthine.

ISOQUINOLINE-BENZYLOQUINOLINE ALKALOIDS: baluchistanamine, baluchistine.

Miana *et al.*, *Experientia*, **35**, 1137 (1979)

Zarga *et al.*, *Heterocycles*, **18**, 63 (1982)

B. brandisiana.

APORPHINE ALKALOID: isoboldine.

BENZYLISOQUINOLINE ALKALOID: (+)-reticuline.

BISBENZYLISOQUINOLINE ALKALOIDS: (+)-berbamine, (+)-berbamine 2'- β -N-oxide, (+)-isotetrandrine.

ISOQUINOLINE ALKALOID: thalifoline.

PROTOBERBERINE ALKALOIDS: berberine, palmatine.

Hussain *et al.*, *J. Nat. Prod.*, **49**, 538 (1986)

B. buxifolia Lam.

AMINE ALKALOIDS: chloenamine, chloenamine A, chloenamine B, chloenine.

BISBENZYLISOQUINOLINE ALKALOIDS: calafatamine, calafatine, calafatine 2- α -N-oxide, calafatine 2- β -N-oxide, curacutine, (-)-osornine, (-)-talcamine.

Fejardo *et al.*, *Heterocycles*, **15**, 1137 (1981)

Leet *et al.*, *J. Chem. Soc., Perkin I*, 65 (1984)

B. calliobotrys Aitch. ex Bienert.

BISBENZYLISOQUINOLINE ALKALOID: khyberine.

Hussain *et al.*, *Tetrahedron Lett.*, 4573 (1980)

B. chilensis.

BISBENZYLISOQUINOLINE ALKALOIDS: 7-O-demethylisothalicerine, isothalicerine.

Torres *et al.*, *Gazz. Chim. Ital.*, **109**, 567 (1979)

B. cristata DC.

PROTOBERBERINE ALKALOID: karachine.

Blasko *et al.*, *J. Am. Chem. Soc.*, **104**, 2039 (1982)

B. Darwinii Hook.

BENZYLISOQUINOLINE ALKALOID: santiagonamine.

ISOQUINOLINE ALKALOID: (\pm)-nuevamine.

PROTOBERBERINE ALKALOID: berberine.

Awe, *Arch. Pharm.*, **284**, 352 (1951)

Valencia *et al.*, *Tetrahedron Lett.*, 599 (1984)

B. empetrifolia Lam.

ISOQUINOLINE ALKALOIDS: (\pm)-chilenine, coyhaiquinine, natalimine, puntarenine.

PROTOBERBERINE ALKALOID: berberine.

Fajardo *et al.*, *Bol. Soc. Chil Quim.*, **30**, 51 (1985)

B. floribunda G.Don.

PROTOBERBERINE ALKALOID: (-)-corypalmine.

Manske, *Can. J. Res.*, **20B**, 57 (1942)

B. gagnepainii.

FLAVONOIDS: hyperoside, isorhamnetin galactoside, luteolin, quercteroside, rutoside.

Dauguet *et al.*, *Plant Med. Phytother.*, **16**, 16 (1982)

B. glauca DC.

PROTOBERBERINE ALKALOID: berberine.

Awe, *Arch. Pharm.*, **284**, 352 (1951)

B. hakeoides.

BISBENZYLISOQUINOLINE ALKALOIDS: (+)- pakastonamine, (+)-patagonine, valdiberine, (+)-valdivianine.

Urzua *et al.*, *Rev. Latinoam. Quim.*, **16**, 66 (1985)

B. heterobotris.

PROTOBERBERINE ALKALOID: berberine.

Awe, *Arch. Pharm.*, **284**, 352 (1951)

***B. heteropoda* Schrenk.**

BISBENZYLISOQUINOLINE ALKALOIDS: berbamine, oxyacanthine.
PROTOBERBERINE ALKALOIDS: berberine, columbianine, jatrorrhizine, palmatine.

Awe, *Arch. Pharm.*, **284**, 352 (1951)

Kondo, Tomita, *ibid.*, **268**, 549 (1930)

***B. himaloica*.**

PROTOBERBERINE ALKALOID: corypalmine.
Manske, *Can. J. Res.*, **20B**, 57 (1942)

***B. iliensis* M. Pop.**

BISBENZYLISOQUINOLINE ALKALOIDS: berbamine, oxyacanthine.
PROTOBERBERINE ALKALOIDS: berberine, jatrorrhizine.
Tomita, *Pharm. Bull., Japan*, **1**, 101 (1953)

***B. insignis* Hook.**

PROTOBERBERINE ALKALOID: umbellatine.
Orekhov, *J. Am. Pharm. Ass.*, **30**, 247 (1941)

***B. japonica*.**

BISBENZYLISOQUINOLINE ALKALOID: isotetrandrine.
PROTOBERBERINE ALKALOID: columbianine.
Chatterjee, Banerji, *J. Indian Chem. Soc.*, **30**, 705 (1953)
Bick *et al.*, *Aust. J. Chem.*, **9**, 111 (1956)

***B. lambertii*.**

PROTOBERBERINE ALKALOID: columbianine.
UNCHARACTERIZED ALKALOIDS: berlambine, lambertine.
Chatterjee, Banerji, *J. Indian Chem. Soc.*, **30**, 705 (1953)

***B. laurina* Billb.**

BISBENZYLISOQUINOLINE ALKALOIDS: belarine, espinidine, espinine.
UNCHARACTERIZED ALKALOID: lambertine.
Falco *et al.*, *J. Chem. Soc., Chem. Commun.*, 1056 (1971)

***B. lyceum* Royle.**

UNCHARACTERIZED ALKALOIDS: berbenine, berbericine, berbericinine.
Ikram *et al.*, *Pakistan J. Sci. Ind. Res.*, **9**, 343 (1966)

***B. maximowiczii*.**

PROTOBERBERINE ALKALOID: jatrorrhizine.
Tomita, Tani, *J. Pharm. Soc., Japan*, **61**, 83 (1941)

***B. nervosa*.**

PROTOBERBERINE ALKALOID: berberine.

Monkovic, Spenser, *Can. J. Chem.*, **43**, 2017 (1965)

B. obenga.

BISBENZYLISOQUINOLINE ALKALOID: 2'-N-methylberbamine.

Karimova *et al.*, *Khim. Prir. Soedin.*, 80 (1977)

B. orthobotrys (Bienert ex Aitch.) Schneid.

BISBENZYLISOQUINOLINE ALKALOIDS: chitraline, 1-O-methylpakistanine.

Hussain *et al.*, *J. Nat. Prod.*, **44**, 274 (1981)

B. ottowensis L.

PROTOBERBERINE ALKALOIDS: berberine, hydroxyberberine, palmatine.

Yusufbekov *et al.*, *Dokl. Akad. Nauk Tadzh. SSR*, **28**, 712 (1985); *Chem. Abstr.*, 105 3564j

B. pseudanubalata.

BISBENZYLISOQUINOLINE ALKALOIDS: O-methyloxyacanthine, oxyacanthine.

PROTOBERBERINE ALKALOIDS: berberine, palmatine.

STEROIDS: β -sitosterol, β -sitosterol β -D-glucoside.

Pant *et al.*, *Fitoterapia*, **57**, 427 (1986)

B. tachamoskyana.

BISBENZYLISOQUINOLINE ALKALOID: obamegine.

Tomita, Kubo, *J. Pharm. Soc., Japan*, **79**, 317 (1959)

B. thunbergii DC.

BISBENZYLISOQUINOLINE ALKALOID: berbamine.

Bick *et al.*, *Aust. J. Chem.*, **9**, 111 (1956)

B. thunbergii DC. var. Maximowiczii.

PROTOBERBERINE ALKALOIDS: columbianine, jatrorrhizine.

UNCHARACTERIZED ALKALOID: shobakunine.

Orekhov *et al.*, *Arch. Pharm.*, **271**, 323 (1933)

Tomita, Tani, *J. Pharm. Soc., Japan*, **61**, 83 (1941)

B. umbellate Wall

PROTOBERBERINE ALKALOID: umbellatine.

Orekhov, *J. Am. Pharm. Ass.*, **20**, 247 (1941)

B. valdiviana Phil.

BISBENZYLISOQUINOLINE ALKALOID: (+)-temuconine.

Guinaudeau *et al.*, *Heterocycles*, **19**, 1009 (1982)

B. vulgaris L.

BISBENZYLISOQUINOLINE ALKALOIDS: berbamine, oxyacanthine.

PROTOBERBERINE ALKALOIDS: berberine, columbianine, jatrorrhizine, palmatine.

UNCHARACTERIZED ALKALOID: bervulsine.

Cava *et al.*, *Lloydia*, **28**, 73 (1965)

***B. zabeliana* Schneid.**

DIMERIC ALKALOID: chiraline.

Hussain *et al.*, *Tetrahedron Lett.*, 4573 (1980)

BERKHEYA (Compositae/Arctotideae)

***B. angustifolia* (Houtt.) Merrill.**

ACETYLENICS: cis-1-methylthio-1,4-di-(2-thienyl)-1-buten-3-yn, trans-1-methylthio-1,4-di-(2-thienyl)-1-buten-3-yn, 2-(3-[5-oxo-1-propenyl]-2-thienyl)-2-propynylidene)-3-thietanol, 2-(3-[5-oxo-1-propenyl]-2-thienyl)-2-propynylidene)-3-thietanone.

Bohlmann, Suwita, *Chem. Ber.*, **108**, 515 (1975)

***B. carduoides* (Less.) Hutch ex Fourc.**

ACETYLENICS: cis-1-methylthio-1,4-di(2-thienyl)-1-buten-3-yn, trans-1-methylthio-1,4-di(2-thienyl)-1-buten-3-yn, 2-(3-[5-oxo-1-propenyl]-2-thienyl)-2-propynylidene)-3-thietanol, 2-(3-[5-oxo-1-propenyl]-2-thienyl)-2-propynylidene)-3-thietanone.

Bohlmann, Suwita, *Chem. Ber.*, **108**, 515 (1975)

***B. radula*.**

SESQUITERPENOID: berkheyaradulene

Bohlmann *et al.*, *Chem. Ber.*, **110**, 3777 (1977)

BERLANDIERA (Compositae)

***B. pumila*.**

SESQUITERPENOIDS: 3,4-epoxypumilin, pumilin.

Fischer *et al.*, *J. Heterocycl. Chem.*, **19**, 181 (1982)

***B. subacaulis* (Nutt.) Nutt.**

SESQUITERPENOIDS: berlandin, subacaulin.

Herz *et al.*, *J. Org. Chem.*, **37**, 2532 (1973)

***B. tescana*.**

SESQUITERPENOIDS: 3,4-epoxypumilin, pumilin.

Fischer *et al.*, *J. Heterocycl. Chem.*, **19**, 181 (1982)

BERSAMA (Melianthaceae)

***B. abyssinica* Fresen.**

STEROIDS: abyssinin, bersaldegenin 3-acetate, bersaldegenin 1,3,5-orthoacetate, bersamagenin, berschillogenin, 3-epi-berschillogenin, hellibrigenin 3-acetate, hellibrigenin 3,5-diacetate, 16 α -hydroxybersaldegenin 3-acetate, 16 α -hydroxybersaldegenin 1,3,5-orthoacetate, 1-hydroxybersamagenin 1,3,5-orthoacetate, scilliglaucosidin.

Kupchan *et al.*, *J. Org. Chem.*, **36**, 2611 (1971)

Kubo, Matsumoto, *Tetrahedron Lett.*, 4601 (1984)

BERTYA

***B. cupressoidea*.**

DITERPENOID: bertyadionol.

Ghisalberti *et al.*, *Tetrahedron Lett.*, 4599 (1970)

B. sp. nova.

DITERPENOID: bertydionol.

Ghisalberti *et al.*, *Tetrahedron Lett.*, 4599 (1970)

BESHORNERIA

***B. yuccoides*.**

SAPONINS: beschomui, beshornoside.

Kintya *et al.*, *Phytochemistry*, **21**, 1447 (1982)

BETA

B. vulgaris.

PIGMENTS: betanin, neobetanin.

Lard *et al.*, *Phytochemistry*, **24** 2383 (1985)

BETONICA (Labiatae)

B. macrantha.

IRIDOIDS: harpagide, harpagide acetate.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 109 (1976)

B. nivea.

IRIDOIDS: harpagide, harpagide acetate.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 109 (1976)

B. occidentalis.

IRIDOIDS: harpagide, harpagide acetate.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 109 (1976)

B. officinalis L. (Stachys betonica Benth.).

QUATERNARY ALKALOID: stachydine.

IRIDOIDS: harpagide, harpagide acetate.

(A) Kung, *Z. Physiol. Chem.*, **85**, 217 (1913)

(I) Komissarenko *et al.*, *Khim. Prir. Soedin.*, 109 (1976)

B. wiesen.

QUATERNARY ALKALOID: stachydine.

Kung, Trier, *Z. Physiol. Chem.*, **85**, 209 (1913)

BETULA (Betulaceae)

B. alba.

GLYCOSIDE: roseoside.

MONOTERPENOIDs: betalbusides A and B.

TRITERPENOID: betulin.

(G) Ciper *et al.*, *Phytochemistry*, **15**, 1990 (1976)

(T) Tschesche *et al.*, *Chem. Ber.*, **110**, 3111 (1977)

B. costata Trautv.

TRITERPENOIDs: betulafolientetraol oxide, betulafolientriol I, dammar-24-ene-3 α ,17 α ,20-triol.

Reichardt *et al.*, *J. Org. Chem.*, **46**, 4576 (1981)

B. ermanni Cham.

TRITERPENOIDs: 20,24-epoxydammarane-3 β ,6 α ,25-triol, 20,24-epoxydammarane-3 β ,6 α ,25-triol 6-acetate.

Malinovskaya *et al.*, *Khim. Prir. Soedin.*, 587 (1978)

B. lenta L.

SESQUITERPENOIDs: α -betulenol, β -betulenol.

Triebs, *Ber.*, **69**, 41 (1936)

B. mandschurica.

TRITERPENOID: 20,24-dihydroxydammar-25-en-3-one.

Malinovskaya *et al.*, *Khim. Prir. Soedin.*, 346 (1980)

B. nigra.

FLAVONOIDS: apigenin, apigenin 7,4'-dimethyl ether, cirsimaretin, combretol, exmanin, 5-hydroxy-3,3',4',5',7-pentamethoxyflavone, isokaempferide, isorhamnetin, kaempferol 3,7,4'-trimethyl ether, luteolin, pachypodol, quercetin 3,7,3',4'-tetramethyl ether, rhamnocitrin, rutin, salvigenin, 3',4',5,7-tetrahydroxy-3-methoxyflavone.

Chumbalov *et al.*, *Khim. Prir. Soedin.*, **236**, 439 (1969)

Wollenweber, *Phytochemistry*, **16**, 295 (1977)

B. platyphylla Sukatchev.

GLUCOSIDE: hannokinin glucoside.

TRITERPENOIDs: betulafolienpentaol, betulafolientetraols A and B, betulafolientriol, betulafolientriol oxide, betulin, 3-epi-ocotillol II.

(G) Nomura *et al.*, *Phytochemistry*, **20**, 1097 (1981)

(T) Han, Song, *ibid*, **16**, 1075 (1977)

B. platyphylla Sukatchev. var. japonica.

TRITERPENOIDs: betulafolientriol, dammar-24-ene-12 β ,20-(S)-diol-3-one, hydroxyhopanone.

Nagai *et al.*, *Tetrahedron Lett.*, 4239 (1968)

B. pubescens Ehrh.

SESQUITERPENOID: 14-hydroxycaryophyllen-4,5-oxide.

Pokhilo *et al.*, *Khim. Prir. Soedin.*, 598 (1984)

B. utilis.

TRITERPENOIDS: 3-O-acetyloleanolic acid, karachic acid.
 Khan, Atta-ur-Rahman, *Phytochemistry*, **14**, 789 (1975)

B. verrucosa Ehrh. (B. pendula Roth.).

STEROIDS: citrostadienol, (Z)-sitosterol, α -sitosterol.
 PRENOLS: betulaprenols 6, 7, 8, 9, 10, 11, 12 and 13.
 TRITERPENOIDS: lupane- 3β ,20-diol, lupane- 3β ,20,28-triol.
 (P) Wellburn *et al.*, *Nature*, **212**, 1364 (1966)
 (S) Bates *et al.*, *Tetrahedron Lett.*, 6163 (1968)
 (T) Lindgren, Svahn, *Acta Chem. Scand.*, **20**, 1720 (1966)

BEYERIA (Euphorbiaceae)

B. brevifolia Muell.-Arg.

DITERPENOID: (15S)-15,16-dihydroxy-3,4-seco-enantio-pimara-4(18),7dien-3-oic acid.
 Chow, Jefferies, *Aust. J. Chem.*, **21**, 2529 (1968)

B. brevifolia Muell.-Arg. var. brevifolia Airy Shaw.

TRITERPENOID: lup-20(29)-ene- 3β ,16 α ,18-triol.
 Errington *et al.*, *Aust J. Chem.*, **29**, 1809 (1976)

B. calycina.

DITERPENOID: ent-18-hydroxy-3,4-secobeyer-15-ene-3,17-dioic acid.
 Ghisalberti *et al.*, *Phytochemistry*, **17**, 1961 (1978)

B. leschenaultii (DC) Bail.

DITERPENOIDS: 6β -acetoxy-17-hydroxybeyer-15-en-3-one, 19-acetyl-3-oxo-16-kauran-17-oic acid, beyerol, (-)- 12β ,17-dihydroxy- 16α -kauran-18-oic acid, 17-hydroxy-3,4-secobeyera-4(18),15-dien-3-oic acid, 16α -kaurane-17,19-diol, 16α -kaurane- 3α ,17,19-triol, (-)-kaur-16-ene- 3β ,18-diol.
 TRITERPENOID: lup-2-ene- 3β ,16 α -diol.
 Baddeley *et al.*, *Tetrahedron*, **20**, 1983 (1964)
 Baddeley *et al.*, *Aust. J. Chem.*, **17**, 578 (1974)

B. leschenaultii var. drummondii.

DITERPENOID: beyerol 17-cinnamate.
 Jefferies *et al.*, *Aust. J. Chem.*, **15**, 521 (1962)

B. sp. nova.

DITERPENOIDS: (-)- 16α ,17-dihydroxy- 16α -kauran-19-oic acid, 8α ,13-oxidoepu-14-en-18-oic acid, 8β ,13-oxidoepu-14-en-18-oic acid.

Jefferies *et al.*, *Aust. J. Chem.*, **18**, 1441 (1965)

BIDENS (Compositae)

B. aurea (Ait.) Sherff.

ESTER: 1'-(2-acetoxy-2-methylpropionoyloxy)-eugenol isobutyrate. Four unnamed polyenes.

Bohlmann, Zdero, *Chem. Ber.*, **108**, 440 (1975)

BIFURCARIA (Phaeophyceae/Cystosieraceae)

B. bifurcata Ross.

PHENOLIC ANTIBIOTICS: difucol hexaacetate, diphlorehol pentaacetate, heptafuhalol octadecaacetate, pentafuhalol tridecaacetate, tetrafuhalol undecaacetate, trifucol nonaacetate, trifuhalol octaacetate.

DITERPENOIDS: eleganediol, epoxyeleganolone, 12-(S)-hydroxygeranylgeraniol.

(P) Glombitzka *et al.*, *Phytochemistry*, **15**, 1279 (1976)

(T) Baird *et al.*, *Tetrahedron Lett.*, 1849 (1980)

B. galapagensis (Piccone et Gruiov.) Womersley.

DITERPENOID: bifurcarenone.

Sun *et al.*, *Tetrahedron Lett.*, 3123 (1980)

BILLBERGIA (Bromeliaceae)

B. vittata.

ANTHOCYANINS: cyanidin, delphinidin, poenidin.

FLAVONOIDS: apigenin, luteolin, scutellarein, scutellarein- β -D-glucoside, quercetin, tricin.

Ashtakala *et al.*, *J. Proc. Am. Hort. Soc.*, **100**, 546 (1975); *Chem. Abstr.*, 84 56511u

BINAPSIS

B. arvense.

FLAVONE: isorhamnetin 3- β -D-glucoside.

Rahman *et al.*, *J. Org. Chem.*, **27**, 153 (1962)

BIOTA

B. orientalis.

SESQUITERPENOIDS: α -biotol, cuparene, α -cuparenol, β -cuparenol, curcumenether, α -isobiotol, isocuparenol.

Tomita *et al.*, *Tetrahedron Lett.*, 843 (1968)

BISHOFIA

B. javanica.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelin, friedelinol, epi-friedelinol.

Chen *et al.*, *Zhongcaoyao*, **28**, 250 (1987); *Chem. Abstr.*, 107 172507q

BIXA (Bixaceae)

B. orellana L.

NORSESTERPENOID: bixin.

Karrer, Jucker, *Carotenoids, Basle*, (1976)

BLAINVILLEA

B. latifolia.

One germacranoide.

Rojarkar *et al.*, *J. Chem. Res. Synop.*, 272 (1986)

BLECHNUM (Blechnaceae)

B. japonicum.

STEROID: shidasterone.

Hikino *et al.*, *Chem. Pharm. Bull.*, **23**, 1458 (1975)

B. minus Ettingh.

STEROID: 2-deoxyecdysone.

Chong *et al.*, *J. Chem. Soc., Chem. Commun.*, 1217 (1970)

B. nipponicum.

STEROID: shidasterone.

Imai *et al.*, *J. Chem. Soc., Chem. Commun.*, 352 (1970)

B. procerum.

ANTHOCYANIN: 4',5,7-trihydroxyflavilium.

Crowden *et al.*, *Phytochemistry*, **13**, 1947 (1974)

BLEEKERIA

B. vitiensis.

CARBOLINE ALKALOID: bleekerine.

Sainsbury, Webb, *Phytochemistry*, **11**, 2337 (1972)

BLEPHARIS

B. sindica.

FLAVONOIDS: apigenin, blepharin, prunine-6"-O-coumarate, terniflorin.

STEROID: β -sitosterol.

TRITERPENOID: oleanolic acid.

Ahmad *et al.*, *J. Chem. Soc., Pak.*, **6**, 217 (1984); *Chem. Abstr.*, 103 3663z

BLIGHIA (Sapindaceae)

B. sapida Koenig.

AMINIOACIDS: trans- α -amino-2-carboxycyclopropane acetic acid, glycylglycylglycine.

TRITERPENOID: hederagenin.

(Am) Fowden *et al.*, *Phytochemistry*, **8**, 437, (1969)

(Am) Fowden *et al.*, *ibid.*, **8**, 1043 (1969)

(T) Row *et al.*, *Indian J. Chem.*, **9**, 385 (1971)

BLUMEA

B. amplexens var. arenaria.

ACID: dihydrosterculic acid.

ACETYLENIC THIOPHENE: amplexol.

SESQUITERPENOID: fewrutinin.

TRITERPENOID: taraxeryl acetate.

Pathak *et al.*, *Planta Med.*, **53**, 103 (1987)

B. membranacea.

DITERPENOID: 5-hydroxy-p-cymene-2-oxybornylene.

Bokadia *et al.*, *Acta Cient. Indica*, **2**, 239 (1976)

B. mollis.

MONOTERPENOID: chrysanthenone.

Geda *et al.*, *Perfume Flavor*, **7**, 27 (1982)

BOCCONIA (Papaveraceae)

B. arborea.

OXOPROTOBERBERINE ALKALOIDS: α -allocryptopine, protopine N-oxide.

PHENANTHROISOQUINOLINE ALKALOIDS: chelerythrine, dihydrosanguinarine, 11-O-methylidihydrochelerythrine.

Manske, *Can. J. Res.*, **116**, 153 (1938)

MacLean *et al.*, *Can. J. Chem.*, **47**, 1951 (1969)

B. cordata Willd.

OXOPROTOBERBERINE ALKALOIDS: α -allocryptopine, protopine N-oxide.

PHENANTHROISOQUINOLINE ALKALOIDS: bocconine, bocconoline.

PROTOBERBERINE ALKALOID: dehydrocheilanthifoline.

UNCHARACTERIZED ALKALOID: heleritine.

Tani, Takao. *J. Pharm. Soc., Japan*, **82**, 755 (1962)

Iwasu *et al.*, *Phytochemistry*, **22**, 627 (1983)

B. frutescens L.

OXOPROTOBERBERINE ALKALOIDS: α -allocryptopine, β -allocryptopine.

PHENANTHROISOQUINOLINE ALKALOID: chelerythrine.

Jowett, Pyman, *J. Chem. Soc.*, **103**, 291 (1913)

B. macrocarpa Maxim.

OXOPROTOBERBERINE ALKALOIDS: α -allocryptopine, cryptopine, protopine.

PHENANTHROISOQUINOLINE ALKALOID: sanguinarine.

Spath, Kuffner, *Ber.*, **64**, 1123 (1931)

Spath, Kuffner, *ibid.*, **64**, 2034, (1931)

BOEHMERIA (Urticaceae)

B. cylindrica.

PHENANTHROINDOLIZIDINE ALKALOID: cryptopleurine. Three uncharacterized bases.

Hart *et al.*, *Aust. J. Chem.*, **22**, 1805 (1969)

B. holosericea.

ACIDS: caffeoic acid, linoleic acid, palmitic acid, stearic acid.

FLAVONOIDS: astragalin, hyperin, kaempferol 3-rutinoside, rutin.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

Takemoto *et al.*, *Phytochemistry*, **14**, 2534 (1975)

B. platyphylla.

ACETOPHENONE ALKALOID: 3,4-dimethoxy-2-(2-piperidyl)-acetophenone.

Hart *et al.*, *Aust. J. Chem.*, **21**, 1397 (1968)

B. tricuspis.

ACIDS: caffeoic acid, linoleic acid, palmitic acid, stearic acid.

FLAVONOIDS: astragalin, hyperin, kaempferol 3-rutinoside, rutin.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

Takemoto *et al.*, *Phytochemistry*, **14**, 2534 (1975)

BOENNINGHAUSENA

B. albiflora.

COUMARINS: bhubaneswin, 3-(1,1-dimethylallyl)-xanthyletin, (E)-7-hydroxy-6-(3-hydroxy-3-methyl-1-butenyl)-2H-1-benzopyran-2-one,

(Z)-7-hydroxy-6-(3-hydroxy-3-methyl-1-butenyl)-2H-1-benzopyran-2-one, micropubscin.

Basa *et al.*, *Heterocycles*, **22**, 333 (1984)

BOERHAAVIA (Nyctagineae)

B. diffusa L.

ALKALOID: punarnavine.

Basu, Sharma, *Q. J. Pharmacol.*, **20**, 41 (1947)

BOESENBERGIA

B. pandurata.

BENZOPYRANS: boesenbergin A, boesenbergin B.

FLAVONE: 5,7-dimethoxyflavone.

(B) Mahidol *et al.*, *Aust. J. Chem.*, **37**, 1739 (1984)

(C) Jaipetch *et al.*, *Phytochemistry*, **22**, 625 (1983)

BOHADSCHIA.

B. argus.

TRITERPENOIDS: holost-9(11)-ene-3 β ,17 α -diol, holost-9(11)-en-3 β -ol.

Stonik *et al.*, *Khim. Prir. Soedin.*, 790 (1982)

B. graeffei.

SAPONIN: echinoside A.

Takeda Chem. Ind Ltd, *Japanese Patent*, 212200 1980

BOLBITIS

B. subcordata.

STEROIDS: ecdysterone, ponasterone A.

Hikino *et al.*, *Planta Med.*, **31**, 71 (1977)

BOLBOSTEMMA (Cucurbitaceae)

B. paniculatum.

SAPONIN: tubeimoside.

Kasai *et al.*, *Chem. Pharm. Bull.*, **34**, 3974 (1986)

BOLDEA

B. fragrans. Gray. (*B. chilensis* Juss.).

APORPHINE ALKALOID: boldine.

Merck, *Jahresb.*, **36**, 110 (1922)

BOLETUS

B. bovinus L. ex Fr.

QUINONE: bovinone.

Beaumont *et al.*, *J. Chem. Soc., C*, 2393 (1969)

B. calopus Fr.

PHENOLIC: xercomic acid.

Edwards *et al.*, *J. Chem. Soc.*, 2582 (1971)

B. erythropus (Fr. ex Fr.) Secr.

PHENOLIC: xercomic acid.

Edwards *et al.*, *J. Chem. Soc.*, 2582 (1971)

BOLUSANTHUS

B. speciosus.

QUINOLIZINE ALKALOIDS: 5,6-dehydrolupanine, 6 β -hydroxylupanine.

SPARTEINE ALKALOIDS: 11 α -allylcytisine, cytisine, 13-hydroxyanagyrine, N-methylcytisine.

ISOFLAVONOIDS: biochanin A, bolusanthin, genistein, 3'-O-methylpratensein, orobol.

(A) Asres *et al.*, *Phytochemistry*, **25**, 1449 (1986)

(I) Asres *et al.*, *Z. Naturforsch.*, **40C**, 617 (1985)

BOMBAX (Bombaceae)

B. malabaricum DC.

QUINONE: bombaxquinone.

Seshadri *et al.*, *Curr. Sci.*, **40**, 630 (1971)

B. munguba Mart.

ESTERS: 1,3-dipalmitoyl-2-linoleoylglycerol, 1,3-dipalmitoyl-2-oleoylglycerol, 1,3-dipalmitoyl-2-sterculoylglycerol.

Schuch *et al.*, *J. Am. Oil Chem. Soc.*, **63**, 778 (1986); *Chem. Abstr.*, 105 39417c

BONAFOUSIA

B. tetrastachya (Humboti Bompland et Kunth.) Markgraf.

BIS-CARBOLINE ALKALOIDS: bonafousine, isobonafousine.

BIS-HOMOCARBOLINE ALKALOID: bis-(hydroxy-11 -coronaridinyl)-12.

Danak *et al.*, *Bull. Soc. Chim. Fr.*, 490 (1980)

BONANNIA (Umbelliferae)

B. graeca (L.) Halacsy.

DITERPENOID: bonandiol.

Bruno *et al.*, *Tetrahedron Lett.*, 4287 (1984)

BONNEMAISONIA (Rhodophyceae)

B. hamifera.

CAROTENOIDS: α -carotene, β -carotene, α -cryptoxanthin, β -cryptoxanthin, lutein, zeaxanthin.

Bjoernland *et al.*, *Phytochemistry*, **15**, 291 (1976)

BOOPHONE (Amaryllidaceae)

B. disticha (L.F.) Herb. (*Haemanthus toxicaria* Hab.).

BENZOISOQUINOLINE ALKALOIDS: 3-acetylnerbowdine, buphanamine, buphanisine, buphanitine.

UNCHARACTERIZED ALKALOIDS: buphanine, nerbowdine.

Tutin, *J. Chem. Soc.*, **99**, 1240 (1911)

Renz *et al.*, *Helv. Chim. Acta*, **38**, 1209 (1955)

***B. fischerii* Baker.**

BENZOISOQUINOLINE ALKALOIDS: buphanamine, buphanidrine, buphanisine.

UNCHARACTERIZED ALKALOID: buphanine.

Renz *et al.*, *Helv. Chim. Acta*, **38**, 1209 (1955)**BORONIA (Rutaceae)*****B. ternata* Endl.**

QUINOLONE ALKALOID: 1-acetoxymethyl-2-propyl-4-quinolone.

Duffield, Jefferies, *Aust. J. Chem.*, **16**, 292 (1963)**BORREIRA (Rubiaceae)*****B. capitata*.**

INDOLE ALKALOIDS: borrecapine, borrecozine, borreline, dehydroborrecapine.

Jossang *et al.*, *Planta Med.*, **43**, 301 (1981)**BOSCHNAKIA*****B. rossica* Hult.**

PYRIDINE ALKALOIDS: boschniakine, boschnilactone, boschniaside.

Sakan *et al.*, *Tetrahedron*, **23**, 4635 (1967)Nurai *et al.*, *Planta Med.*, **46**, 45 (1982)**BOSISTOA (Rutaceae)*****B. euodiformis* F.Muell.**

BENZOPYRANS: franklinene, franklinol.

TRITERPENOID: bosistoin.

Croft *et al.*, *Aust. J. Chem.*, **28**, 2019 (1975)

BOSWELLIA

B. carteri.

DITERPENOIDS: incensole, incensole oxide, (S)-1-isopropyl-4,8,12-trimethylcyclotetradeca-3E,7E,11E-trien-1-ol.

TRITERPENOIDS: acetyl- β -boswellic acid, 4,23-dihydroroburic acid, 11-keto- α -boswellic acid.

Savoir *et al.*, *Bull. Soc. Chim. Belg.*, **76**, 368 (1967)

Pardhy, Bhattacharyya, *Indian J. Chem.*, **16A**, 176 (1978)

B. serrata.

TRITERPENOIDS: 3 β -acetoxytirucalla-8,24-dien-21-oic acid, 3-ketotirucalla-8,24-dien-21-oic acid.

Pardhey, Bhattacharyya, *Indian J. Chem.*, **16B**, 174 (1978)

Klein, Obermann, *Tetrahedron Lett.*, 349 (1978)

B. serrate.

DITERPENOID: serratol.

Pardhy, Bhattacharyya, *Indian J. Chem.*, **16B**, 171 (1978)

BOTHRIOCHELOA

B. intermedia.

SESQUITERPENOIDS: acorenone B, intermedeol, neointermedeol.

McClure *et al.*, *J. Chem. Soc., Chem. Commun.*, 1135 (1968)

BOTHRIOCLINE

B. laxa.

SESQUITERPENOIDS: bothrioclinin, 7-hydroxybothrioclinin.

Bohlmann, Zdero, *Phytochemistry*, **16**, 1261 (1977)

BOTRYOCOCCUS (Chlorophyceae)

B. braunii.

CAROTENOID: botryococcene.

Maxwell *et al.*, *Phytochemistry*, **7**, 2157 (1968).

BOUCERIA

B. aucheriana.

STEROID: boucerin.

Nikaido *et al.*, *Chem. Pharm. Bull.*, **15**, 725 (1967)

BOURRERIA

B. verticillata.

ISOQUINOLINE ALKALOID: emetine.

Orazi, *Rev. Fac. Cienc. Quim.*, **19**, 17 (1946)

BOUVARDIA (Rubiaceae)

B. ternifolia. Schlecht.

PEPTIDES: bouvardin, bouvardin 6-methyl ether, deoxybouvardin.

Jolad *et al.*, *J. Am. Chem. Soc.*, **99**, 8040 (1977)

BOWDICHIA

B. nitida.

ISOFLAVONE: calycosin.

QUINONE: bowdichione.

Brown et al., Justus Liebigs Ann. Chem., 1295(1974)

B. virginiooides.

DITERPENOID: alcornol.

Harwich, Dunnenberger, Arch. Pharm., 278, 341 (1900)

BOWEIA

B. volubilis Harvey.

STEROIDS: bovogenins A, B, C, D and E, bovosides A, B, C and D.

Katz, Helv. Chim. Acta., 33, 1420 (1950)

BRACHIARIA

B. ruziziensis Germain et Evrard.

ACIDS: p-coumaric acid, ferulic acid, vanilllic acid.

Renard et al., Chem. Abstr., 86 103117y

BRACHYLAENA (Compositae)

B. hutchinsii Hutch.

SESQUITERPENOIDS: brachylaenones A and B.

Brooks, Campbell, J. Chem. Soc., Chem. Common., 630 (1969)

B. transvaalensis.

SESQUITERPENOIDS: brachylaenolide, dehydrobrachylaenolide. Bohlmann *et al.*, *Phytochemistry*, **21**, 647 (1982)

BRACHYMERIS

B. montana.

SESQUITERPENOID: brachymerolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1989 (1982)

BRACKENRIDGEA.

B. zanguebarica.

PHENOLIC: brackenin

Drewes *et al.*, *Phytochemistry*, **22**, 2823 (1983)

BRANDEGEA (Cucurbitaceae)

B. bigelovii Cogn.

TRITERPENOIDS: cucurbitacin O, cucurbitacin P, cucurbitacin Q.

Kupchan *et al.*, *J. Org. Chem.*, **35**, 2891 (1970)

BRASILIA

B. serjana.

ACID: serjanic acid.

Savoir *et al.*, *Tetrahedron Lett.*, 2129 (1969)

B. sickii.

SESQUITERPENOIDS: 15-acetylbrasilic acid methyl ester, eight unnamed sesquiterpenoids.

Bohlmann *et al.*, *Phytochemistry*, **22**, 1213 (1983)

BRASSICA (Brassicaceae)

B. campestris L.

STEROIDS: brassinolide, campesterol, castasterone.

Fernholz, MacPhillemey, *J. Chem. Soc.*, **63**, 1155 (1941)

Fernholz, MacPhillemey, *ibid.*, **63**, 1157 (1941)

Abe *et al.*, *Agric. Biol. Chem.*, **46**, 2609 (1982)

B. campestris L. subsp. pekinensis.

PHYTOALEXINS: brassinin, methoxybrassinin.

Takasugi *et al.*, *J. Chem. Soc., Chem. Common.*, 1077 (1986)

B. juncea.

STEROID: 24-methylene-25-methylcholesterol.

Matsumoto *et al.*, *Phytochemistry*, **22**, 2619 (1983)

B. napus L.

FLAVONE: brassicoside.

ISOTHIOCYANATES: allylisothiocyanate, butenylisothiocyanate, pentenylisothiocyanate.

STEROIDS: $4\alpha,14\alpha,24$ -trimethyl- 5α -cholesta-8,25-dien- 3β -ol, $4\alpha,1,24$ -trimethyl- $9\alpha,19$ -cyclocholest-24-en- 3β -ol.

(F) Kuhn, *Chem. Ber.*, **81**, 363 (1948)

(I) Georgieva *et al.*, *Dokl. Bulg. Akad. Nauk*, **39**, 127 (1986)

(S) Itoh *et al.*, *Phytochemistry*, **16**, 1448 (1977)

B. napus L. var. oleifera.

FLAVONE: isorhamnetin 3β -D-glucoside.

Rahman *et al.*, *J. Org. Chem.*, **27**, 153 (1962)

B. nigra (L.) Koch.

ISOTHIOCYANATES: allylisothiocyanate, sinigrin.

Georgieva *et al.*, *Dokl. Bulg. Akad. Nauk*, **39**, 127 (1986)

B. oleracea L.

ACID: ascorbalamic acid.

ANTHOCYANINS: cyanidin 3-p-coumaryl-5-glucoside, cyanidin 3-(di-p-coumaryl)-5-glucoside, cyanidin 3-(disinapyl)-5-glucoside, cyanidin 3-(diferulyl)-5-glucoside, cyanidin 3-malonyl-5-glucoside, cyanidin 3-sianapyl-5-glucoside, cyanidin 3-sophoroside-5-glucoside.

(Ac) Couchman *et al.*, *Phytochemistry*, **12**, 707 (1973)

(An) Hrazdina *et al.*, *ibid.*, **16**, 297 (1977)

B. rapa L.

STEROIDS: brassicasterol, campesterol, 4 α ,7 α ,24-trimethyl-5 α -cholesta-8,24-dien-3 β -ol.
 Itoh *et al.*, *Phytochemistry*, **16**, 1448 (1977)

BREDEMEYERA

B. floribunda.

TRITERPENOID: bredemolic acid.
 UNCHARACTERIZED TERPENOID: tenuifolic acid.
 Tschesche, Gupta, *Chem. Ber.*, **93**, 1903 (1960)

BRENANIA

B. brieyi.

SAPONINS: oleanolic acid 3-O- β -D-galactoside, oleanolic acid 3-O- β -D-glucoside,
 oleanolic acid 3-O- β 9-glycuronoside.

Menu *et al.*, *Ann. Pharm. Fr.*, **34**, 427 (1976)

BREYNIA

B. officinalis (L.) Hemsl.

SAPONIN: breynin A.
 Sesaki *et al.*, *Tetrahedron Lett.*, 2439 (1973)

BRICKELLIA (Eupatoriaceae)

B. diffusa.

SESQUITERPENOID: 2-angeloylbrickellidifusic acid.
 Bohlmann *et al.*, *Phytochemistry*, **21**, 691 (1982)

B. eupatoreides.

DITERPENOIDS: 17-acetoxy-3 α -angeloyloxy-12-cleistanthen-11-one, 17-acetoxy-15,16-epoxy-12-cleistanthen-11-one, 17-acetoxy-14 β -hydroxy-12-cleistanthen-11-one, 3 α -angeloyloxy-12-cleistanthen-11-one, 8,9:15,16-diepoxy-11-oxo-12-cleistanthen-17-al, 15,16-epoxy-12-cleistanthen-11-one, 15,16-epoxy-12-cleistanthen-11-one 17-acetate, 15,16-epoxy-12-cleistanthen-11-one 17-aldehyde.

Bohlmann *et al.*, *Phytochemistry*, **21**, 181 (1982)

B. guatamaliensis.

SESQUITERPENOID: 3,7,11-trimethyl-1,4,6,10-dodecatetraen-3,8-diol.

Bohlmann *et al.*, *Tetrahedron Lett.*, 5109 (1969)

B. laciniata.

SESQUITERPENOID: 4,5-dehydronegerolidol.

Bohlmann *et al.*, *Phytochemistry*, **17**, 763 (1978)

B. paniculata.

DITERPENOID: angeloyloxy-2 α -hydroxycativic acid.

Gomez *et al.*, *Phytochemistry*, **22**, 1292 (1983)

B. scaparia.

FLAVONOIDS: 5,7-dihydroxy-3',4',6-trimethoxyflavone, 5-hydroxy-6,7,3',4'-tetramethoxyflavone, kaempferol 6,7-dimethyl ether, 6-methoxykaempferol 3-O- β -D-glucoside, quercetin 6-methyl ether, 5,7,3',4'-tetrahydroxy-3,6-dimethoxyflavone, 5,7,4'-trihydroxy-3,6-dimethoxyflavone, 5,7,3'-trihydroxy-3,6,4'-trimethoxyflavone.

Li *et al.*, *J. Nat. Prod.*, **49**, 732 (1986)

B. veronicaefolia.

BENZOFURAN: 7-acetyl-2,3-dihydro-2-isopropenyl-3,6-benzofurandiol.

SESQUITERPENOID: 9-angeloyloxy-10,11-epoxy-3,7,11-trimethyl-1,4,6-dodecatrien-3-ol. Diterpenoid 3-oxocativic acid.

Bohlmann *et al.*, *Chem. Ber.*, **109**, 1436 (1976)

BROCCHIA

B. cinerea.

COUMARIN TERPENOID: acetylpetachol B, petachol B.

Greyer *et al.*, *Phytochemistry*, **24**, 85 (1985)

BROMELIA (Bromeliaceae)

B. pinguin.

DITERPENOID: 7,8-dihydroxy-15-pimaren-3-one.

Raffauf *et al.*, *J. Org. Chem.*, **46**, 1094 (1981)

BROSIMUM

B. rubescens.

COUMARIN: xanthyletin.

Dasgupta *et al.*, *J. Chem. Soc., C*, 33 (1969)

BROUSSONETIA (Moraceae)

B. kazinoki Sieb.

ISOPRENOIDS: kazinol J, kazinol L, kazinol M, kazinol N, kazinol P.

Kato *et al.*, *Heterocycles*, **24**, 2141 (1986)

Kato *et al.*, *Chem. Pharm. Bull.*, **34**, 2448 (1986)

B. papyrifera (L.) Vent.

FLAVONOID: 4',7-dihydroxyflavan, 7-hydroxy-4'-methoxyflavan, kazinol A, kazinol B.

PHENOLICS: broussonins A, B, C, D, E and F, 4'-O-methyldavidioside.

(F) Coxon *et al.*, *Phytochemistry*, **19**, 889 (1980)

(F) Ikuta *et al.*, *Heterocycles*, **23**, 2835 (1985)

(P) Alves de Lima *et al.*, *ibid.*, **14**, 1831 (1975)

B. zeylandica.

BISQUINOLINE ALKALOID: broussonetine.

Gunatilaka *et al.*, *Phytochemistry*, **23**, 929 (1984)

BRUCEA (Simaroubaceae)

B. amarissima.

QUASSINOIDS: bruceins D, E and F.

Polonsky *et al.*, *C.R. Acad. Sci.*, **267C**, 1346 (1968)

B. antidysenterica.

CARBOLINE ALKALOIDS: canthin-6-one, 1,11-dime thoxycanthin-6-one, 11-hydroxyanthin-6-one.

QUASSINOIDS: bruceanols A and B, bruceantarín, bruceantin, bruceantinol, dehydrobruceantarín, dehydrobruceantin, dehydrobruceantol, dehydrobrucein B, isobruecin B.

(A) Fukamiya *et al.*, *J. Nat. Prod.*, **49**, 428 (1986)

(T) Lin *et al.*, *Shenyang Yaoxueyuan Xuebao*, **3**, 192 (1986); *Chem. Abstr.*, 105 222753y

B. sumatrana Roxb.

QUASSINOID: brusatol.

Sim *et al.*, *J. Org. Chem.*, **33**, 429 (1968)

BRUGUIERA (Rhizophoraceae)

B. cytindrica.

DITHIOLANE: 4 β -hydroxy-1,2-dithiolane.

Kato *et al.*, *Phytochemistry*, **15**, 220 (1976)

B. exaristata Ding Hou.

TROPANE ALKALOIDS: tropine benzoate, tropine butyrate, tropine isobutyrate, tropine-1,2-dithiolane-3-carboxylic acid, tropine isoalerverate, tropine propionate.

Loder, Russell, *Aust. J. Chem.*, **22**, 1271 (1969)

B. gymnorhiza (L.) Lam.

No alkaloids present.

Loder, Russell, *Aust. J. Chem.*, **22**, 1271 (1969)

B. parviflora (Roxb.) W. et A. ex Graff.

No alkaloids present.

Loder, Russell, *Aust. J. Chem.*, **22**, 1271 (1969)

B. sexangula (Lour.) Poir.

TROPANE ALKALOIDS: tropine benzoate, tropine butyrate, tropine isobutyrate.
 Loder, Russell, *Aust. J. Chem.*, **22**, 1271 (1969)

BRUNSDONNA

B. tubergenii.

UNCHARACTERIZED ALKALOID: coruscine.
 Boit, Ehmke, *Chem. Ber.*, **90**, 369 (1957)

BRUNSVIGIA (Amaryllidaceae)

B. cooperi.

ISOQUINOLINE ALKALOIDS: brunsvigine, nerbowdine.
 Inubushi *et al.*, *J. Org. Chem.*, **25**, 2157 (1960)
 Hauth, Stauffacher, *Helv. Chim. Acta*, **46**, 810 (1963)

B. rosea (Amaryllis belladonna).

BENZOISOQUINOLINE ALKALOIDS: amaryllisine, ambelline.
 Burlingham *et al.*, *J. Am. Chem. Soc.*, **96**, 4976 (1964)

BRYONIA (Cucurbitaceae)

B. alba.

TRITERPENOIDS: cucurbitacin B, cucurbitacin D, cucurbitacin E, cucurbitacin I, cucurbitacin J, cucurbitacin K, cucurbitacin L, dihydrocucurbitacin B, dihydrocucurbitacin E, iso-23,24-dihydrocucurbitacin D, tetrahydrocucurbitacin I.

Pohlmann, *Phytochemistry*, **14**, 1587 (1975)
 Panosyen *et al.*, *Bioorg. Khim.*, **5**, 721 (1979)

B. dioica (Jacq.) Tutin.

TRITERPENOIDS: 25-o-acetyl bryomaride, bryodulcosigenin, bryogenin, bryomaride, bryonolic acid, bryonic acid, bryosigenin, brusulcoside, cucurbitacin B, cucurbitacin D, cucurbitacin E, cucurbitacin I, cucurbitacin J, cucurbitacin K, cucurbitacin L,

cucurbitacin S, dihydrocucurbitacin B, dihydrocucurbitacin E, elaterinide, 3-hydroxymultiflora-7,9(11)-dien-29-oic acid, elaterinide, tetrahydrocucurbitacin I.

Hylands, Salama, *Phytochemistry*, **15**, 559 (1976)

Ripperger *et al.*, *Tetrahedron*, **32**, 1567 (1976)

BRYOPHYLLUM (Crassulaceae)

B. daigremontana.

GIBBERELLIN: gibberellin A-20,

Zeervaert, *Planta Med.*, **114**, 285 (1973)

B. tubiflorum.

SAPONIN: bryotoxin,

Capon *et al.*, *J. Chem. Res. Synop.*, 333 (1985)

BRYOPSIS (Bryopsidaceae/Chlorophyceae)

B. corticulans.

CAROTENOID: ε -carotene,

Manchand *et al.*, *J. Chem. Soc.*, 2019 (1965)

BUCHENOVIA

B. capitata.

FLAVONE ALKALOIDS: capitavine, 2,3-dihydro-4'-hydroxycapitavine.

Ahond *et al.*, *Bull. Soc. Chim. Fr.*, 41 (1984)

B. macrophylla Eichl.

FLAVONE ALKALOIDS: N-bisdemethylbuchenavianine, buchenavianine, O-demethylbuchenavianine, N-demethylbuchenavianine, N-demethylcapitavine, capitavine, 2,3-dihydrocapitacine.

Ahond *et al.*, *Bull. Soc. Chim. Fr.*, 41 (1984)

BUCKLEYA (Santalaceae)

***B. lanceolata* Miq.**

ACIDS: cis-ferulic acid, trans-ferulic acid.

ESTER: stearyl-O-acetyl-trans-ferulate.

STEROID: β -sitosterol 3- β -D-glucoside.

Sashida *et al.*, *J. Pharm. Soc., Japan*, **97**, 695 (1977)

BUCSERA

***B. graveolens* var. *villosula*.**

TRITERPENOID: 2,3-olean-12-ene-2,3,28-trioic acid.

Ruzicka *et al.*, *Helv. Chim. Acta*, **21**, 1371 (1928)

BUDDLEJA (Buddlejaceae/Loganiaceae)

***B. davidii* Franch.**

SESQUITERPENOIDS: buddledins A, B, C, D and E.

Yoshida *et al.*, *Chem. Pharm. Bull.*, **26**, 2543 (1978)

***B. gloriosa*.**

IRIDOID: catalpol.

Inouye *et al.*, *Chem. Pharm. Bull.*, **19**, 1438 (1971)

***B. madagascariensis*.**

STEROIDS: β -sitosterol, stigmasterol.

TRITERPENOIDS: α -amyrin, β -amyrin, 11-keto- β -amyrin.

Kapoor *et al.*, *Fitoterapia*, **32**, 235 (1982)

***B. variabilis*.**

IRIDOID: catalpol.

Inouye *et al.*, *Chem. Pharm. Bull.*, **19**, 1435 (1971)

BUELLIA (Lichenes)

***B. canescens* (Dicks.) De Not. Phenolic**

canescolide

Sala *et al.*, *J. Chem. Soc., Chem. Commun.*, 1041 (1978)

BULBOCAPNUS

***B. cavus* Bernh.**

APORPHINE ALKALOID: bulbocapnine.

Kikkawa *et al.*, *J. Pharm. Soc., Japan*, **79**, 1245 (1959)

BULBOCODIUM

***B. vernum*.**

SPIROAPORPHINE ALKALOID: bulbocodine.

Reichstein *et al.*, *Planta Med.*, **16**, 357 (1968)

BULBOPHYLLUM (Orchidaceae)

***B. leopardium*. Phenolic**

bulbophyllanthrin

Majumder *et al.*, *Phytochemistry*, **24**, 2083 (1985)

BULNESIA

B. sarmienti.

SESQUITERPENOIDS: α -bulnesene, β -bulnesene, bulnesol, α -guaiene, τ -guaiene, guaioside, guaioxole, guanoxide, α -patchoulene.

Takeda *et al.*, *Chem. Ind. (London)*, 1715 (1962)

BUPLEURUM (Umbelliferae)

B. chinensis DC.

SAPONIN: 3-O-[α -L-arabinopyranosyl- β -D-glucopyranosyl]-oleanolic acid β -D-glucopyranosyl ester.

Seto *et al.*, *Agric. Biol. Chem.*, **50**, 939 (1986)

B. falcatum L.

COUMARIN: (-)-anomalin.

TRITERPENOIDS: saikogenins A, B, C, D, E, F and G.

SAPONINS: longispinogenin, saikosaponins a, b-1, b-2, b-3, b-4, c, d, e, A, B, C and D, saikoside Ia, saikoside Ib.

Banerji *et al.*, *Indian J. Chem.*, **15B**, 293 (1977)

B. fruticosum L.

MONOTERPENOID: (+)-phellandrene.

Wallach *et al.*, *Justus Liebigs Ann. Chem.*, **240**, 1 (1905)

B. kummelingense.

SAPONINS: 2"-O-acetylsaikosaponin A, 3"-O-acetylsaikosaponin A, 4"-O-acetylsaikosaponin A, 2"-acetylsaikosaponin D, 16-epi-chikusaikoside I.

Seto *et al.*, *Agric. Biol. Chem.*, **50**, 943 (1986)

B. longeradiatum Turez.

SAPONINS: chikuakoside A, chikuakoside B.

Kimata *et al.*, *Chem. Pharm. Bull.*, **30**, 4373 (1982)

B. ranunculoides.

SESQUITERPENOIDS: 2-cis-9-cis-pentadec-2,9-diene-4,6-diyn-1-al, cis-pentadeca-2,9-diene-4,6-diyn-1-ol, trans-pentadeca-1,8,10-triene-4,6-diyn-1-al. Bohlmann *et al.*, *Chem. Ber.*, **104**, 1322, 2030 (1971)

B. rotundifolium L.

FLAVONOIDS: isorhamnetin, isorhamnetin 3-glucoside, isorhamnetin 3-rutinoside, quercetin, quercetin 3-glucoside, rutin.

SAPONINS: rotundoside E, rotundoside F, Triterpenoids rotundiogenins A, B, C, D, E and F.

(F) Baeva *et al.*, *Khim. Prir. Soedin.*, 648 (1983)

(Sap, T) Kobayashi *et al.*, *Chem. Pharm. Bull.*, 29, 2222 (1981) (Sap, T) Kobayashi *et al.*, *ibid.*, 2230 (1981)

BUPHTHALMUM (Compositae/Inuleae)

B. salicifolium L.

THIOPHEN: 5-methyl-5'-(but-3-en-1-yl)-bithenyl, 5-hydroxymethyl-5'-(but-3-en-1-yl)-2,2'-bithienyl.

Bohlmann, Berger, *Chem. Ber.*, **98**, 883 (1965)

BURASIA

B. madagascariensis.

PROTOBERBERINE ALKALOID: burasaine.

Resplandy, *Mem. Inst. Scient Madagascar*, **10D**, 37 (1961)

BURCHARDIA

B. multiflora.

FLAVONOID: luteol

PHENOLICS: benzole acid, salicylic acid.

Potesilova *et al.*, *Phytochemistry*, **26**, 1031 (1987)

BURSERA (Burseraceae)

B. arida (Rose) Standl.

TRITERPENOID: benulin.

Ionescu *et al.*, *J. Org. Chem.*, **42**, 1627 (1977)

B. fagaroides.

BENZOPYRAN: 5'-demethoxy- α -peltatin A methyl ether.

Bianchi *et al.*, *Tetrahedron Lett.*, 2759 (1969)

B. graveolens.

NORTRITERPENOID: 2,3-seco-12-oleanene-2,3,28-trioic acid.

Crowley *et al.*, *J. Chem. Soc.*, 4254 (1964)

B. graveolens var. villulosa.

BENZOFURAN: (+)-2,4,5,6,7,7-hexahydro-7-hydroxy-3,6-dimethylbenzofuran.

Crowley *et al.*, *J. Chem. Soc.*, 4254 (1964)

B. morelensis.

NEOLIGNANS: deoxypodophyllotoxin, morelensin.

Jolad *et al.*, *J. Pharm. Sci.*, **66**, 892 (1977)

BUTEA

B. monosperma.

ALKALOID: monospermine.

ANTHRAQUINONE: 3,6,8-trihydroxy-1-methylanthraquinone 2-carboxylic acid.

(A) Mehta, Bokadia, *Chem. Ind. (London)*, 98 (1981)

(An) Gadgil *et al.*, *Tetrahedron Lett.*, 2223 (1968)

BUXUS (Buxaceae)

B. arborescens Mill.

STEROIDAL ALKALOIDS: buxbarbarine, O-tigloylcyclovirobuxeine A.

Mokry, Voticky, *Chem. Zvesti*, **38**, 101 (1984)

***B. balearica* (L.) Willd.**

STEROIDAL ALKALOIDS: baleabuxine, baleabuxoxazine, N-benzoylbaleabuxadiene F, N-benzoylbaleabuxidine, N-3-benzoylcyclobuxidine F, buxamine E, buxaminol E, buxamideine K, buxidine F, cyclobuxidine F, cycloprotobuxine A, cycloprotobuxine D, cyclomicrophylline B, N-isobutyrylbaleabuxadienine F, N-isobutyrylbaleabuxaline F, N-isobutyrylcyclobuxidine F, N-isobutyrylcyclobuxidine H, N-isobutyrylcyclobuxine F.

Khuong-Huu-Laine *et al.*, *Tetrahedron*, **22**, 3321 (1966)

Kurakina *et al.*, *Khim. Prir. Soedin.*, 231 (1970)

***B. hyrcana*.**

STEROIDAL ALKALOID: buxtauine.

Aliev *et al.*, *Khim. Prir. Soedin.*, 409 (1974)

***B. koreana* Nakai.**

STEROIDAL ALKALOIDS: cyclokoreanines A and B.

Nakano *et al.*, *J. Chem. Soc., C*, 1805 (1968)

***B. madagascarica*.**

STEROIDAL ALKALOIDS: buxamine A, buxitriene C, cycloprotobuxine F, 16-deoxybuxidienine C.

Khuong-Huu-Laine *et al.*, *C.R. Acad. Sci., 273C*, 558 (1971)

***B. malayana* Ridl.**

STEROIDAL ALKALOIDS: cyclovirobuxeine A, cyclovirobuxeine B, cyclovirobuxeine D, O-vanillylcyclovirobuxeine B.

Nakano *et al.*, *J. Chem. Soc., C*, 1412 (1966)

Khuong-Huu-Laine *et al.*, *Ann. Pharm. Fr.*, **28**, 211 (1970)

***B. microphylla* Sieb. et Zucc.**

STEROIDAL ALKALOIDS: cyclobuxomicreine, cyclobuxophylline, cyclobuxophyllinine, cyclobuxosuffrine, cyclobuxoviridine, cyclobuxoxazine, cyclomicrobuxeine, cyclomicrobuxine, cyclomicrobuxinin, cyclomicrophyllidine A, cyclomicrophyllines A, B and C, cyclomicsine, cycloprotobuxine C, cyclosuffrobuxine, cyclosuffrobuxin, dihydrocyclomicrophyllidine A, dihydrocyclomicrophylline A, dihydrocyclomicrophylline F.

Nakano, Terao, *J. Chem. Soc.*, 4512 (1965)

***B. microphylla* Sieb. et Zucc. var. *suffruticosa* Mak.**

STEROIDAL ALKALOIDS: cyclobuxine D, cyclobuxomicreine, cyclobuxophylline, cyclobuxosuffrine, cyclobuxoviridine, cyclobuxoxazine, cyclomicrobuxeine, cyclomicrobuxine, cyclomicrobuxinin, cyclomicrophyllidine A, cyclomicrophyllines A, B and C, cyclomicsine, cyclomikuranine, cycloprotobuxine C, cyclosuffrobuxine, cyclosuffrobuxin, dihydrocyclomicrophyllidine A, dihydrocyclomicrophylline A, dihydrocyclomicrophylline F.

Nakano, Terao, *Tetrahedron Lett.*, 1034 (1964)
 Nakano, Terao, *ibid.*, 1045 (1964)
 Nakano *et al.*, *J. Chem. Soc., C*, 1412 (1966)

B. microphylla Sieb. et Zucc. var. suffruticosa Mak. f. major.

STEROIDAL ALKALOID: cyclomikuramine.
 Nakano, Terao, *J. Chem. Soc., C*, 1412 (1966)
 Nakano, Terao, *ibid.*, 1805 (1966)

B. pilosula C.K. Schm. Linn.

STEROIDAL ALKALOIDS: 30-acetoxy-N-benzoylbuxidienine, N-benzoyl-16-acetylcyclobuxidine, buxpapamine, buxpapine, harappamine, karachicine, moenjodaramine, papilamine, papilicine, papilinine.

Atta-ur-Rahman *et al.*, *J. Chem. Soc., Perkin I*, 919 (1986)
 Atta-ur-Rahmen *et al.*, *Planta Med.*, **53**, 75 (1987)

B. rolfei.

STEROIDAL ALKALOIDS: cyclobuxoxazine A, cyclomethoxazine B.
 Khuong-Huu-Laine *et al.*, *Bull. Soc. Chim. Fr.*, 1216 (1966)

B. sempervirens L.

STEROIDAL ALKALOIDS: N-benzoyl-O-acetylbumodienine E, N-benzoylbuxodienine E, buxaline C, buxaltine, buxamine E, buxaminol E, buxandrine, buxanine, buxarine, buxatine, buxazidine B, buxazine, buxene, buxenine G, buxenone, buixeridine, buxidine, buxiramine, buxocyclamine A, buxpsiine, cyclobuxamine, cyclobuxine, cyclobuxine B, cyclobuxine D, cyclomicrobuxinine, cyclomicrosine, cycloprotobuxine C, cycloprotobuxine D, cyclovirobuxine A, cyclovirobuxine B, cyclovirobuxines A, B, C and F, deoxycyclobuxoxazine A, N-methylbuxene, norbuxamine, pseudocyclobuxine D.

Kupchan, Ohta, *J. Org. Chem.*, **31**, 608 (1966)
 Khodzhaeva *et al.*, *Khim. Prir. Soedin.*, 718 (985) (985)

B. sempervirens L. var. argentea Hort ex Stand.

STEROIDAL ALKALOID: cyclobuxargentine C.
 Kuchkova *et al.*, *Chem. Zvesti*, **30**, 174 (1976)

B. sempervirens L. var. bullatus.

STEROIDAL ALKALOIDS: buxaminol B, cyclobullatine A.
 Bauerova, Paulik, *Collect. Czech. Chem. Commun.*, **40**, 3055 (1975)

B. wallichiana.

ALKALOIDS: two uncharacterized bases.
 Vassova *et al.*, *Pharmazie*, **25**, 363 (1970)

BYRSONIMA

B. crassifolia.

UNCHARACTERIZED TERPENOID: byrsonimol.

Heyl, Heil, *Festschrift. Alax. Tschirch.*, 62 (1926)

C

CABRALEA

C. eichleriana.

TRINORTRITERPENOIDS: cabralea hydroxylactone, cabralealactone, cabraleone, eichlearialactone.

NORTRITERPENOID: cabralin, isocabralin.

TRITERPENOID: cabraleadiol, eichlerianic acid, ocotillone.

Rao *et al.*, *Phytochemistry*, **14**, 1071 (1975)

C. polytricha.

TRINORTRITERPENOID: cabralea hydroxylactone, cabralealactone, cabraleone.

TRITERPENOID: cabraleadiol, 3-epi-ocotillol, 3-epi-ocotillone.

Cason, Brown, *Tetrahedron*, **28**, 315 (1974)

Rao *et al.*, *Phytochemistry*, **14**, 1071 (1975)

C. toona.

SESQUITERPENOID: cubenol, epi-cubenol.

Ohta, Hirose, *Tetrahedron Lett.*, 2073 (1967)

CABUCALA

C. caudata Miq.

BISCARBOLINE ALKALOID: cabifiline.

Massiot *et al.*, *C.R. Acad. Sci.*, **294**, 579 (1982)

C. fasciculata.

SPIROINDOLONE ALKALOIDS: caboxine A, caboxine B, isocaboxine A, isocaboxine B.

UNCHARACTERIZED ALKALOIDS: (-)-cabерине, (-)-cabucraline, cabulatine.

Titeaux *et al.*, *Phytochemistry*, **14**, 564 (1975)

C. madagascariensis Pichon.

CARBOLINE ALKALOIDS: cabucine, 10-methoxyajmalicine. SPIROINDOLONE
ALKALOID: 10,11-dimethoxyisomitraphylline.

Douzoua *et al.*, *Ann. Pharm.*, **30**, 199 (1972)

C. striolata.

CARBOLINE ALKALOIDS: ajmalicinine, 10,11 -dimethoxy ajmalicine.
Bombardelli *et al.*, *Fitoterapia*, **45**, 183 (1974)

C. torulosa.

CARBOLINE ALKALOIDS: (-)-aricine, (-)-cabucine, cabucraline, (+)-quebrachidine, (-)
-tetrahydroalstonine, (-)-vincamagine.

Titeux *et al.*, *Phytochemistry*, **14**, 1648 (1975)

CACALIA (Compositae)

C. auriculata.

SESQUITERPENOID: cacalonol.
Takemoto *et al.*, *J. Pharm. Soc., Japan*, **94**, 1593 (1974)

C. bulbifera.

DITERPENOIDS: (-)-kauran-16 β -ol, kaur-16-en-19.ol.
El-Emary *et al.*, *Phytochemistry*, **14**, 1660 (1975)

C. decomposita.

SESQUITERPENOIDS: cacalol, cacalone.
Romo, Joseph-Nathan, *Tetrahedron*, **20**, 2331 (1975)

C. delphinifolia.

SESQUITERPENOIDS: cacalal, cacalolide, tetrahydromaturinone.
Naya *et al.*, *Chem. Lett.*, 1179 (1977)

C. hastata L.

PYRROLIZIDINE ALKALOID: hastacine.
SESQUITERPENOIDS: cacalolide, dehydrocacalohastin.
(A) Konovalova, Men'shikov, *J. Gen. Chem. USSR*, **15**, 328 (1945)
(T) Naya *et al.*, *Chem. Lett.*, 73 (1976)

C. hastata var. tamakae L.

SESQUITERPENOID: tetrahydromaturinone.
Naya *et al.*, *Chem. Lett.*, 73 (1976)

C. robusta Tolm.

PYRROLIZIDINE ALKALOID: hastacine.

Konovalova, Men'shikov, *J. Gen. Chem. USSR*, **15**, 328 (1945)***C. yatabei.***

PYRROLIZIDINE ALKALOID: yamataimine.

Kikichi *et al.*, *Tetrahedron Lett.*, 767 (1978)**CACCINIA*****C. glauca.***

TRITERPENOIDS: caccigenin, caccigenin lactone, 23-deoxycaccigenin. One uncharacterized alkaloid.

(A) Siddiqui *et al.*, *Phytochemistry*, **17**, 2049 (1978)(T) Tiwari *et al.*, *Indian J. Chem.*, **8**, 593 (1970)**CADABA*****C. farinosa.***

MACROCYCLIC ALKALOID: cadabicine.

Ahmad *et al.*, *Phytochemistry*, **24**, 2709 (1985)***C. fruticosa.***

QUATERNARY ALKALOID: cadabine.

Ahmad *et al.*, *Pakistan J. Sci. Ind. Res.*, **17**, 109 (1975)**CADIA*****C. ellisiana.***

LUPANINE ALKALOID: 13-hydroxylupanine-2-pyrrolcarbonate.

Lindner *et al.*, *IRCS Libr. Compend.*, **2**, 1550 (1974)***C. purpurea.***

SPARTEINE ALKALOID: cadaine.

TWO UNCHARACTERIZED BASES. FLAVONOIDs: apigenin, apigenin 7-O-glucoside, chrysoeriol, 7,3'-dihydroxy-4'-methoxyflavone.

(A) van Eijk *et al.*, *Pharm. Weekbl.*, **33**, 1865 (1982)

(F) Zweekhorst-Van Laer *et al.*, *Pharm. Weekbl.*, **111**, 1289 (1976)

CAESALPINIA (Leguminosae/Caesalpiniaceae)

C. bonducella.

DITERPENOIDs: α -caesalpin, β -caesalpin, τ -caesalpin, ε -caesalpin, #87-ceasalpin.

Balmain *et al.*, *Tetrahedron Lett.*, 5027 (1967)

C. coriara.

TANNINS: chebulagic acid, chebulinic acid.

Haslam *et al.*, *J. Chem. Soc.*, C, 2381 (1967)

C. digyna Rotte.

MACROCYCLIC ALKALOID: caesalpinine A.

Mahato *et al.*, *J. Am. Chem. Soc.*, **105**, 4441 (1983)

C. pulcherrima.

DITERPENOID: X-caesalpin.

Sengupta *et al.*, *Chem. Ind. (London)*, 534 (1970)

C. sappan L.

AMINO ACIDS: alanine, aspartic acid, glycine, leucine, norvaline, proline, threonine, valine.

Nigam *et al.*, *Indian J. Pharm.*, **39**, 85 (1977)

C. spinosa.

GLUCOSIDE: tannin.

Armitage *et al.*, *J. Chem. Soc.*, 1842 (1961)

CAJANUS

C. cajan.

ISOFLAVONES: cajanin, ferreirin.

BENZOPYRAN: cajanone.

- (B) Preston *et al.*, *Phytochemistry*, **16**, 143 (1977)
 (I) Ingham, *Z. Naturforsch.*, **31**, 504 (1976)

CALAMINTHA

C. nepeta subsp. glandulosa.

MONOTERPENOID: limonene, piperitenone, piperitone oxide.
 De Pooter *et al.*, *Phytochemistry*, **25**, 691 (1986)

CALCEOLARIA (Scrophulariaceae)

C. hypericina.

PHENYLPROPANOIDS: calceolarioside A, calceolarioside B.
 Nicoletti *et al.*, *Gazz. Chim. Ital.*, **116**, 431 (1986)

C. integrifolia.

PIGMENT: (-)-dunnione.
 Price *et al.*, *J. Chem. Soc.*, **1552**, 1940 (1939)

CALDARIELLA

C. acidophila.

QUINONE: caldariellaquinone.
 De Rosa *et al.*, *J. Chem. Soc., Perkin I*, 653 (1977)

CALEA

C. axillaris.

SESQUITERPENOID: calaxin.
 Nabin *et al.*, *J. Org. Chem.*, **44**, 1881 (1979)

C. jamaicensis.

SESQUITERPENOIDS: jamaicolides A, B, C and D.

Ober *et al.*, *Phytochemistry*, **25**, 877 (1986)*C. oxylepis.*

SESQUITERPENOIDS: 1-acetoxy-8-O-(2-methylbutanoyl)-desacetylzacatechinolide, 1-hydroxy-8-O-(2-methylbutanoyl)-deacetylzacatechinolide, 1-oxo-8-O-(2-methylbutanoyl)-desacetylzacatechinolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1164 (1982)*C. pinnatifolia.*

SESQUITERPENOID: arucanolide.

Ferreira *et al.*, *Phytochemistry*, **19**, 1481 (1980)*C. reticulata.*

SESQUITERPENOID: 4(15),5E,10(14)-germacratrien-1-one.

Fattorusso *et al.*, *Tetrahedron Lett.*, 4149 (1978)*C. solidaginea.*

SESQUITERPENOIDS: solidaginolides A and B.

Ober *et al.*, *Phytochemistry*, **24**, 2728 (1985)*C. subcordata.*

SESQUITERPENOIDS: subcordatolides A, B and C.

Ober *et al.*, *Phytochemistry*, **23**, 1289 (1984)*C. ternifolia.*SESQUITERPENOIDS: 8 β -angeloyloxy-9 α -acetoxyternifolin, 8 α -angeloyloxy-9 α -(2-methylbutanoyloxy)-ternifolin.Lee *et al.*, *Phytochemistry*, **21**, 2313 (1982)*C. teucrifolia.*

SESQUITERPENOIDS: acetoxycaleteucrin, acetoxynerolidol, calefolione angelate, calefolione methylbutyrate, caleteucrifolin, caleteucrin.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1643 (1981)*C. trichomata.*

SESQUITERPENOIDS: trichomatolides A, B, C, D and E.

Ober *et al.*, *Phytochemistry*, **23**, 1439 (1984)*C. urticifolia.*

SESQUITERPENOIDS: calein D, caleurticolid acetate, juanislamin, juanislamin-2,3-epoxide.

Borges-del-Castillo *et al.*, *J. Nat. Prod.*, **44**, 348 (1981)*C. zactechichi.*

CHROMENES: caleochromene A, caleochromene B, Sesquiterpenoids 1α -acetoxyzacatechinolide, caleins A, B, C and D, 1α -hydroxyzacatechinolide acetate, 1α -hydroxyzacatechinolide methyl ether, 1-oxozacatechinolide.

- (C) Quijano *et al.*, *Rev. Latinoam. Quim.*, **8**, 90 (1977)
- (T) Bohlmann, Zdero, *Phytochemistry*, **16**, 1065 (1977)
- (T) Quijano *et al.*, *ibid.*, **18**, 1745 (1979)

CALENDULA (Compositae)

C. arvensis.

FLAVONOIDS: isoquercitrinose, narcissoside, rutinose.

- Pinkas *et al.*, *C.R. Acad. Sci.*, **281D**, 447 (1975)

C. officinalis L.

CAROTENOIDS: flavochrome, mutatochrome.

- SAPONINS: calendulosides A, B, C, D, G and H.

STEROIDS: fucostanol, 4α -methyl-24-methylenecholest-7-en-3 β -ol, 4α -methylstigmasta-7,24(28)-dien-3 β -ol, 4 β -methylstigmasta-7,24(28)-dien-3 β -ol.

- SESQUITERPENOID: calendrin.

TRITERPENOIDS: heliantriol C, ursadiol, 12-ursene-3,16,21-triol.

- (C) Karrer *et al.*, *Helv. Chim. Acta*, **28**, 471 (1945)
- (Sap) Verchenko *et al.*, *Khim. Prir. Soedin.*, 532 (1974)
- (S) Sucrow *et al.*, *Pol. J. Chem.*, **53**, 1071 (1979)
- (T) St. Pyrek *et al.*, *ibid.*, **53**, 2465 (1979)

CALIBANUS

C. hookeri.

STEROIDS: calibagenin, 5-cholestene-3,14,16,22-tetraol.

- Giral, Rivera, *Phytochemistry*, **23**, 2089 (1984)

CALLIANDRA (Leguminosae)

C. haematocephala Hassk.

ACIDS: (2S,4R,5S)-dihydroxypipeolic acid, (2S,4S,5S)-dihydroxypipeolic acid. One uncharacterized alkaloid.

(Acid) Marlier *et al.*, *Phytochemistry*, **11**, 2597 (1972)

(A) Marlier *et al.*, *ibid.*, **18**, 479 (1979)

C. pittieri.

PHENOLICS: 2,4-cis-4,5-trans-4,5-dihydroxypipeolic acid, cis-4-hydroxypipeolic acid.

Romeo *et al.*, *Phytochemistry*, **22**, 1615 (1983)

CALLICARPA (Verbenaceae)

C. arborea Roxb.

AMINO ACID: L(+)- α -amino- β -(p-methoxyphenyl)-propionic acid.

STEROID: β -sitosterol.

TRITERPENOIDS: β -amyrin, lupeol acetate, maslinic acid, oleanolic acid, oleanolic acid methyl ester acetate, ursolic acid.

(Am) Zhang *et al.*, *Zhongcaoyao*, **16**, 556 (1985)

(S, T) Anjaneyulu *et al.*, *Curr. Sci.*, **46**, 667 (1977)

C. candicans.

DITERPENOID: callicarpone.

Kawazu, Mitsui, *Tetrahedron Lett.*, 3519 (1966)

C. formosana.

FLAVONOIDS: 5-hydroxy-3,4,7,4'-tetraethoxyflavone, 3,5,7,3',4'-pentamethoxyflavone, 3,5,7,4'-tetramethoxyflavone.

TRITERPENOIDS: 2 α -dihydroxyurs-12-en-28-oic acid, ursolic acid.

Chen *et al.*, *J. Chin. Chem. Soc.*, **33**, 329 (1987); *Chem. Abstr.*, 107 194917a

C. integerrima.

ACIDS: salicylic acid, syringic acid, vanillic acid.

ALIPHATIC: triacontane.

FLAVONES: 5-hydroxy-3',4',6,7-tetramethoxyflavone, 3',4',5,7-tetramethoxyflavone.

STEROID, β -sitosterol.

Wang *et al.*, *Zhongcaoyao*, **17**, 108 (1986); *Chem. Abstr.*, 105 39359k

C. longifolia.

DITERPENOID: callicarpone acetate.

Chatterjee *et al.*, *Tetrahedron*, **28**, 4319 (1972)

C. macrophylla Vahl.

AMINO ACID: L(+)- α -amino- β -(p-methoxyphenyl)-propionic acid.

STEROIDS: β -sitosterol, β -sitosterol β -D-glucoside.

DITERPENOIDS: acetylcallicarpenone, acetylcalliterpenone, callicarpenone, calliterpenone.

TRITERPENOIDS: crategolic acid, 2 α -hydroxyursolic acid, ursolic acid.

(Am) Zhang *et al.*, *Zhongcaoyao*, **16**, 556 (1985)

(S, T) Sengupta *et al.*, *J. Indian Chem. Soc.*, **53**, 218 (1976)

(T) Ahmad *et al.*, *Tetrahedron Lett.*, 2179 (1973)

C. maingayi.

DITERPENOID: maingaiyic acid.

Nishimo *et al.*, *Tetrahedron Lett.*, 1541 (1971)

CALLICHLIA

C. barteri Hook.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: beninine, callichiline.

INDOLE ALKALOID: 16-epi-aspidodasycarpine.

Naranjo *et al.*, *Helv. Chim. Acta*, **53**, 749 (1970)

CALLIGONUM (Polygonaceae)

C. leucocladum (Schrenk.) Bunge.

ACIDS: caffeic acid, chlorogenic acid, p-coumaric acid, 5-p-cumaroquinic acid, 3,4-dimethoxycinnamic acid, ferulic acid, 5-feruloquinic acid, 2-hydroxy-4-methoxybenzoic acid, isoferulic acid, neochlorogenic acid, sinapic acid.

FLAVONOIDS: aromadendrin, hyperoside, kaempferol, quercetin.

(A) Vorovskii *et al.*, *Rastit Resur.*, **12**, 76 (1976)

(F) Dubimin *et al.*, *Khim. Prir. Soedin.*, 427 (1975)

C. minimum Lipsky.

CARBOLINE ALKALOIDS: calligonidine, calligonine, eleagnine, barman, barman N-oxide, harmanine, oxyeleagnine.

Abdusalanov, Sadykov, *Nauchn. Tr. Tashk. Gos. Uni.*, **286**, 76 (1966)

CALLILEPIS

C. laureola.

MONOTERPENOID: 7-oxo-10-isovaleryloxy-8,9-epoxythymol isovalerate.
 Bohlmann, Zdero, *Phytochemistry*, **16**, 1854 (1977)

C. salicifolia.

SESQUITERPENOIDS: 12-isocomenal, 12-isocomenol.
 Bohlmann *et al.*, *Phytochemistry*, **21**, 139 (1982)

CALLISTEMON (Myrtaceae)

C. lanceolatus L.

PHLOROGLUCINOL: myrtucommulone.
 TRITERPENOID: 2 α -hydroxyuvaol.
 (Ph) Lounasmaa *et al.*, *Phytochemistry*, **16**, 1851 (1977)
 (T) Younes, *Aust. J. Chem.*, **28**, 221 (1975)

CALLITRIS (Cupressaceae)

C. columellaris.

DITERPENOIDS: 8,11,13-abietatrien-19-oic acid, 4-epi-dehydroabetic acid,
 9(20),13(16),14-labdatrien-18-oic acid.
 SESQUITERPENOIDS: callitrin, callitrisin, columellarin, dihydrocallitrisin,
 dihydrocolumellarin.
 Bracknell, Carman, *Tetrahedron Lett.*, 73 (1978)

C. glauca.

MONOTERPENOID: (-)-citronellic acid.
 Clark, *Chem. Ind.*, 450 (1952)

C. quadrivalvis.

MONOTERPENOID: thymoquinone.
 Liebermann, Iljinsky, *Ber. Dtsch. Chem. Ges.*, **18**, 3194 (1885)

Liebermann, Iljinsky, *ibid.*, **18**, 3220 (1885)

C. rhomboidea.

DITERPENOID: 4-epi-isocommunic acid.

Prasad, Krishnamurty, *Phytochemistry*, **16**, 801 (1977)

CALLITROPIS

C. araucariooides.

SESQUITERPENOID: τ -eudesmol.

McQuillan, Parrack, *J. Chem. Soc.*, 2973 (1956)

CALLODONIA

C. triquetra.

COUMARIN SESQUITERPENOID: callodocin.

Borisov *et al.*, *Khim. Prir. Soedin.*, 247 (1975)

CALLUNA

C. vulgaris (L.) Hull.

ACIDS: caffeic acid, chlorogenic acid, p-coumaric acid, ferulic acid, gentisic acid, p-hydroxybenzoic acid, protocatechuic acid, sinapic acid, syringic acid, vanillic acid.

FLAVONOIDS: kaempferol, orcinol, orcinol β -D-glucoside, quercetin, scopoletin.

Mantilla *et al.*, *An. Edafol. Agrobiol.*, 34, 765 (1975)

CALOCEPHALUS

C. brownii.

SESQUITERPENOIDS: calocephalin, pseudoivalin.

Batterham *et al.*, *Aust. J. Chem.*, **19**, 143 (1966)

CALOCYBE

C. gambosa.

PHENOXAZINES: 2-aminophenoxyazone, phenoxyazone.

Schlunegger *et al.*, *Helv. Chim. Acta*, **59**, 1383 (1976)

CALODENDRUM (Rutaceae)

C. capense (L.f.) Thunb.

LIMONOID: rutaevin.

SESSQUITERPENOID: calodendrolide.

Cassady *et al.*, *J. Chem. Soc., Chem. Commun.*, 86 (1977)

CALONECTRIA

C. nivalis.

SESSQUITERPENOIDS: calonectrin, 15-deacetylcalonectrin.

Gardner *et al.*, *J. Chem. Soc., Perkin I*, 2576 (1972)

CALONYCTION

C. aculeatum.

DITERPENOIDS: ent-6 α ,7 α ,1,17-tetrahydroxykauran-19-oic acid, ent-7 α , 16 α , 17-trihydroxykauran-19-oic acid.

GIBBERELLINS: gibberellin A-30, gibberellin A-31, gibberellin A-33, gibberellin A-34.

Murofushi *et al.*, *Tetrahedron Lett.*, 789 (1973)

CALOPHYLLUM (Guttiferae/Clusiaceae)

C. amoenum.

ALIPHATIC: hentriacontane.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelan-3 β -ol, friedelin.

Banerji *et al.*, *Q. J. Crude Drugs Res.*, **15**, 133 (1977); *Chem. Abstr.*, 88 133274f

C. apetalum Willd.

BENZOPYRAN: apetalic acid.

COUMARIN: apetalolide.

STEROID: apetalactone. Govindachari *et al.*, *J. Chem. Soc., C*, 1323 (1968)

C. australianum.

COUMARIN: calaustralin.

Bhushan *et al.*, *Indian J. Chem.*, **13**, 746 (1975)

C. blancoi.

BENZOPYRAN: blancoic acid.

Sout, Sears, *J. Org. Chem.*, **33**, 4185 (1968)

C. bracteatum Thw.

BENZOPYRAN: calophyllolide.

STEROID: β -sitosterol.

TRITERPENOIDS: taraxerol, taraxerone.

XANTHONES: calabaxanthone, 6-deoxyjacareubin, 1,8-dihydroxy-2,3,7-trimethoxyxanthone, 1,5-dihydroxyxanthone, 1,7-dihydroxyxanthone, guanandin, jacareubin, tovopyrifolin C, 1,3,5-trihydroxy-2-methoxyxanthone.

Somanathan *et al.*, *J. Chem. Soc., Perkin I*, 1935 (1972)

C. brasiliense Camb.

ACIDS: (2R,3R)-brasiliensic acid, (2R,3S)-brasiliensic acid.

XANTHONES: dehydrocycloguanandin, 6-deoxyjacareubin, 3,7-dimethoxy-1-hydroxyxanthone, gentisin, guanandin, 4-hydroxyxanthone, isoguanandin, jacareubin, osajaxanthone.

(Acid) Stout *et al.*, *Tetrahedron Lett.*, 3285 (1962)

(X) King *et al.*, *J. Chem. Soc.*, 3932 (1953)

(X) da Silva Pereira *et al.*, *An. Acad. Bras. Cienc.*, **38**, 426 (1966)

C. calaba L.

DIPYRAN: isochapeleiric acid.

XANTHONES: buchanoxanthone, calabaxanthone, calocalabaxanthone, 6-deoxyjacareubin, 1,6-dihydroxy-5-methoxyxanthone, 2,8-dihydroxy-1-methoxyxanthone, 1,7-dihydroxyxanthone, 1,8-dimethoxy-2-hydroxyxanthone, guanandin, 2-hydroxy-1,8-dimethoxyxanthone, 8-hydroxy-1,2-dimethoxyxanthone, jacareubin, scriblitifolic acid, 1,2,8-trihydroxyxanthone, 1,5,6-trihydroxyxanthone.

(D) Guerriero *et al.*, *Phytochemistry*, **10**, 2139 (1971)

(X) Somanathan *et al.*, *J. Chem. Soc., Perkin I*, 1935 (1972)

(X) Kumar *et al.*, *Phytochemistry*, **21**, 807 (1982)

C. canum Hook.

XANTHONES: jacareubin, osajaxanthone, 1,3,5,6-tetrahydroxy-2-(3-methylbut-2-enyl)-xanthone, 1,3,7-trihydroxy-2-(3-methylbut-2-enyl)-xanthone.

Carpenter *et al.*, *J. Chem. Soc., C*, 486 (1969)

C. chapelleri.

BENZOPYRAN: chapelieric acid.

Guerriero *et al.*, *Phytochemistry*, **10**, 2139 (1971)

C. cordata-oblongum Thw.

DITERPENOID: cordatooblongic acid.

XANTHONES: buchanoxanthone, cordatooblonguxanthone, 3-hydroxy-4-methoxyxanthone, 2-hydroxyxanthone, 4-hydroxyxanthone, scriblitifolic acid, 1,5,6-trihydroxyxanthone.

(T) Gunasekera, Sultanbawa, *J. Chem. Soc., Perkin I*, 2215 (1975)

(X) Somanathan *et al.*, *ibid.*, 1935 (1972)

C. cuneifolium Thw.

XANTHONES: calabaxanthone, 6-deoxyjacareubin, 1,7-dihydroxyxanthone, gunandin, scriblitifolic acid, thwaitesixanthone, trapezifolixanthin, 1,3,5-trihydroxy-2-(3-methyl-2-but enyl)-xanthone.

Gunasekera *et al.*, *J. Chem. Soc., Perkin I*, 1505 (1977)

C. fragrans Ridley.

XANTHONES: buchanoxanthone, 6-deoxyjacareubin, 1,7-dihydroxyxanthone, 1,2-dimethoxy-8-hydroxyxanthone, 8-hydroxy-1,2-dimethoxyxanthone, jacareubin, 1,3,5,6-tetrahydroxy-2-(3-methylbut-2-enyl)-xanthone, 1,5,6-trihydroxyxanthone.

Locksley, Murray, *J. Chem. Soc., C*, 1567 (1969)

C. inophyllum L.

BENZOPYRAN: calophynic acid.

COUMARINS: calaustralin, calophylloside, ponnalide.

TRITERPENOIDS: calophyllal, calophylllic acid.

XANTHONES: buchanoxanthone, 6-deoxyjacareubin, 1,7-dihydroxy-3,6-dimethoxyxanthone, 1,7-dihydroxyxanthone, guanandin, jacareubin, 1,3,5,6-tetrahydroxy-2-(3-methylbut-2-enyl)-xanthone, 1,5,6-trihydroxyxanthone.

(B, C) Gautier *et al.*, *Tetrahedron Lett.*, 2715 (1972)

- (T) Govindachari *et al.*, *Tetrahedron*, **23**, 1901 (1967)
(X) Jackson *et al.*, *Phytochemistry*, **8**, 927 (1979)

C. lankaensis.

ISOCOUMARIN: calozeylanic acid.

Samaraweera *et al.*, *Tetrahedron Lett*, 5083 (1981)

C. neo-ebudicum Guill.

XANTHONES: 6-deoxyjacareubin, jacareubin, 1,3,5,6-tetrahydroxy-2-(3-methylbut-2-enyl)-xanthone, 1,3,7-trihydroxy-2-(3-methylbut-2-enyl)-xanthone.

Scheinmann *et al.*, *Phytochemistry*, **10**, 1331 (1971)

C. papuana.

BENZOPYRANS: isopapuanic acid, papuanic acid.

Stout *et al.*, *J. Org. Chem.*, **33**, 4191 (1968)

C. pulcherrimum Wall ex Choisy.

XANTHONES: 1,5-dihydroxyxanthone, 1,7-dihydroxyxanthone.

Jackson *et al.*, *J. Chem. Soc., C*, 178 (1966)

C. ramiflorum Schwarz.

XANTHONES: 1,7-dihydroxyxanthone, 1-hydroxy-6,7-dimethoxyxanthone, 1-hydroxy-3,5,6-trimethoxy-2-(3-methylbut-2-enyl)-xanthone, jacareubin.

Carpenter *et al.*, *J. Chem. Soc., C*, 2421 (1969)

Subramanian *et al.*, *Phytochemistry*, **14** 298 (1975)

C. recedens.

BENZOPYRANS: isocalolongic acid, recedensic acid, recedensolide.

Guerriero *et al.*, *Phytochemistry*, **12**, 185 (1973)

C. sclerophyllum Vesq.

XANTHONES: 1,7-dihydroxyxanthone, jacareubin, 1-methoxy-3,5,6-trihydroxyxanthone, 1,3,5,6-tetrahydroxy-2-(3-methylbut-2-enyl)-xanthone, 1,3,5,6-tetrahydroxyxanthone.

Jackson *et al.*, *J. Chem. Soc., C*, 178 (1966)

C. scriblitifolium Hems, et Wyatt Smith.

XANTHONES: 6-deoxyjacareubin, guanandin, jacareubin, scriblitifolic acid, 1,3,5-trihydroxy-2-(3-methylbut-2-enyl)-xanthone, 1,3,7-trihydroxy-2-(3-methylbut-2-enyl)-xanthone.

Samanathan *et al.*, *J. Chem. Soc., Perkin I*, 1935 (1972)

C. soulattri Burm. f.

BENZOPYRAN: soulattrolide.

XANTHONES: buchanoxanthone, 6-deoxyjacareubin, 1,7-dihydroxyxanthone, scriblitifolic acid, 1,3,5-trihydroxy-2-(3-methylbut-2-enyl)-xanthone.

(B) Gunasekera *et al.*, *J. Chem. Soc., Perkin I*, 1505 (1977)
(X) Samanathan *et al.*, *ibid.*, 1935 (1972)

C. thwaitesii Planch et Triana.

ISOCOUMARIN: calozeuglanic acid.

TRITERPENOIDS: friedelinol, taraxerol.

XANTHONES: 1,5-dihydroxyxanthone, 1,7-dihydroxyxanthone, jacareubin, thwaitesixanthone.

(I) Samanathan *et al.*, *Tetrahedron Lett.*, 5083 (1981)

(T, X) Dahanayake *et al.*, *J. Chem. Soc., Perkin I*, 2510 (1974)

C. tomentosum Wight.

COUMARINS: tomentolide A, tomentolide B.

STEROID: apetalactone.

XANTHONES: buchanoxanthone, 6-deoxyjacareubin, 1,5-dihydroxyxanthone, 1,7-dihydroxyxanthone, jacareubin, 1,3,5-trihydroxy-2-(3-methylbut-2-enyl)-xanthone.

(C) Nigam *et al.*, *Tetrahedron Lett.*, 2633 (1967)

(S) Govindachari *et al.*, *J. Chem. Soc., C*, 1323 (1968)

(X) Karunanayake *et al.*, *Unpublished work cited in J. Chem. Soc., Perkin I*, 2515 (1974)

C. trapezifolium Thw.

STEROID: β -sitosterol.

TRITERPENOIDS: simiareol, taraxerol.

XANTHONES: buchanoxanthone, calabaxanthone, 6-deoxyjacareubin, 3,8-dihydroxy-1,2-dimethoxyxanthone, 1,5-dihydroxyxanthone, 1,7-dihydroxyxanthone, 2-hydroxyxanthone, toxyloxanthone, trapezifolixanthone.

Samanathan *et al.*, *J. Chem. Soc., Perkin I*, 2515 (1974)

C. verticillatum L.

NEOFLAVONOID: calofloride.

Ramiandrasoa *et al.*, *Tetrahedron*, **39**, 3923 (1983)

C. walkeri Wight.

ISOCOUMARIN: calozeuglanic acid.

TRITERPENOIDS: simiareol, taraxerol.

XANTHONES: buchanoxanthone, calabaxanthone, 1,5-dihydroxy-2,3-dimethoxyxanthone, 1,5-dihydroxyxanthone, 1,7-dihydroxyxanthone, guanandin, 1,3,5-trihydroxy-2-(3-methyl-2-butenyl)-xanthone.

(I) Samaraweera *et al.*, *Tetrahedron Lett.*, 5083 (1981)

(T, X) Dahanayake *et al.*, *J. Chem. Soc., Perkin I*, 2510 (1974)

C. zeylanicum Kosterm.

XANTHONE: zeylophanthone.

Karunanayake *et al.*, *Tetrahedron Lett.*, 4977 (1979)

CALOPLACA

C. ferruginea.

ANTHRAQUINONE: fallacinal.

Nakano *et al.*, *Phytochemistry*, **11**, 3505 (1972)

CALOPOGONIUM

C. mucumoides.

FLAVONOIDS: 5,4'-dihydroxy-6",6"-dimethylpyrano(3",2" 6,7)-isoflavone, 7-methoxy-3',4'-methylenedioxyisoflavone, 3',4'-methylenedioxy-6",6"-dimethylpyrano(2",3" 7,8)-isoflavone, 7,2',4',5'-tetramethoxyisoflavone, 7,3',4'-trimethoxyisoflavone.

Vilain *et al.*, *Bull. Soc. R. Sci. Liege*, **45**, 468 (1976); *Chem. Abstr.*, 86 152677q

CALOSCYPHA

C. fulgens.

CAROTENOID: β,τ -carotene.

Weisgraber *et al.*, *Experientia*, **27**, 1017 (1971)

CALOSTEMMA

C. purpurea.

BENZYISOQUINOLINE ALKALOID: crinine.

Boit, Ehmke, *Chem. Ber.*, **90**, 369, 2203 (1957)

CALOTROPIIS (Asclepiadaceae)

C. gigantea.

TRITERPENOIDS: α -amyrin, β -amyrin, α -amyrin benzoate, β -amyrin benzoate, giganteol, isogiganteol, taraasterol benzoate.

Row, *Curr. Sci.*, **37**, 156 (1968)

C. procera Dryand. R.Br.

STEROIDS: calactin, calotoxin, calotropin, calotropogenin, voruscharin.

Kupchan *et al.*, *Science*, **146**, 1685 (1964)

CALPURNIA (Leguminosae)

C. aurea (Ait.) Benth.

SPARTEINE ALKALOID: calpurmenine.

Radema *et al.*, *Phytochemistry*, **18**, 2063 (1979)

C. aurea subsp. aurea.

QUINOLIZIDINE ALKALOIDS: calpurmenine, calpurmenine pyrrolecarboxylic acid, calpurnine, digitinine, digitinine aminoalcohol, $3\beta,4\alpha$ -dihydroxy- 13α -O-(2 α -pyrrolylcarbonyl)-lupanine, 13-hydroxylupanine, 13-hydroxylupanine tiglate, $3\beta,4\alpha,13\alpha$ -trihydroxylupanine, virgiline, virgiline pyrrolecarboxylic acid.

Asres *et al.*, *Phytochemistry*, **25**, 1443 (1986)

C. aurea subsp. sylvatica.

QUINOLIZIDINE ALKALOIDS: calpurmenine, calpurmenine pyrrolecarboxylic acid.

Radema *et al.*, *Phytochemistry*, **18**, 2063 (1979)

C. subdecandra (L'Herit.) Schweickerdt.

QUINOLIZIDINE ALKALOID: calpurnine.

Goosen, *J. Chem. Soc.*, 3067 (1963)

CALTHA (Ranunculaceae)

C. palustris L.

GLYCOSIDE: ranunculin.

NORTRITERPENOIDS: caltholide, epi-caltholide.

Rastogi *et al.*, *Phytochemistry*, **23**, 1699 (1984)

CALVATIA (Basidiomycetae)

C. lilacina.

ACID: calvatic acid.

Gasco *et al.*, *Tetrahedron Lett.*, 3431 (1974)

CALYCANTHUS (Calycanthaceae)

C. floridus L.

DIMERIC PYRROLOINDOLE ALKALOIDS: calycanthidine, calycanthine, meso-calycanthine.

O'Donovan *et al.*, *J. Chem. Soc., C*, 1570 (1966)

C. glaucus Willd.

DIMERIC PYRROLOINDOLE ALKALOID: calycanthine.

Eccles, *Proc. Am. Pharm. Assoc.*, **84**, 382 (1888)

C. occidentalis Hook et Arn.

DIMERIC PYRROLOINDOLE ALKALOIDS: calycanthine, folicanthine.

O'Donovan *et al.*, *J. Chem. Soc., C*, 1570 (1966)

CALYCOPTERIS

C. floribunda.

FLAVONOIDS: calycopterin, gossypol, quercetin.

Rao *et al.*, *Indian J. Chem.*, **11**, 403 (1973)

Kasim *et al.*, *Curr. Sci.*, **44**, 888 (1975)

CALYCOTOME (Leguminosae)

C. spinosa Link.

UNCHARACTERIZED ALKALOIDS: calycotamine, calycotomine.

White, *N. Z. J. Sci. Tech.*, **25**, 93 (1943)

CALYPOGEIA (Hepaticae)

C. granulata Inouye.

SESQUITERPENOIDS: 3-acetoxy-2,3-bicyclogermacrenediol, 3 α -acetoxy-2,3-bicyclogermacrenediol, 2-acetoxy-3-hydroxybicyclogermacrene, 3-acetoxy-2-hydroxybicyclogermacrene.

TRINORSESQUITERPENOID: trinoranastreptene.

Takeda *et al.*, Bull. Chem. Soc., Japan, **56**, 1265 (1983)

CALYTHRIX

C. tetragona.

KETONE: calythrone.

Penfold *et al.*, J. Chem. Soc., 412 (1940)

CALYX

C. nicaeensis.

STEROID: calysterol.

Fattorusso *et al.*, Tetrahedron, **31**, 1715 (1975)

CAMELLIA (Theaceae/Camelliaceae)

C. irawadiensis.

PURINE ALKALOIDS: caffeine, theobromine.

Nagata *et al.*, Phytochemistry, **24**, 2271 (1985)

C. japonica L.

TRITERPENOIDS: camelledionol, camellediononol, camelliagenins A, B and C, 3 β ,18 β -dihydroxy-28-nor-12-oleanen-16-one, 18-hydroxy-28-nor-3,16-oleanenedione.

Itokawa *et al.*, Phytochemistry, **20**, 2539 (1981)

C. oleifera.

SAPONIN: oleiferone.

Sokol'skii *et al.*, *Khim. Prir. Soedin.*, 102 (1975)

C. sasanqua Thunb.

MONOTERPENOID GLYCOSIDE: sasanquin.

TRITERPENOIDS: camelliagenin D, 22 α -hydroxyerythrodiol, olean-12-ene-3 β ,22 α ,28-triol.

Ito, Ogina, *Tetrahedron Lett.*, 1127 (1967)

Yosioka *et al.*, *Chem. Ind. (London)*, 745 (1968)

C. sinensis (L.) O.Kuntze.

PURINE ALKALOIDS: caffeine, theobromine.

TRITERPENOID: camelliagenin D.

Ito, Ogina, *Tetrahedron Lett.*, 1127 (1967)

C. sinensis (L.) var. kolkhida.

FLAVONOIDS: apigenin 8-C-glucoside, apigenin 6,8-di-C-glucoside, dihydrokaempferol, kaempferol, kaempferol 3-O-glucoside, kaempferol 3-O-rhamnoglucoside, kaempferol 3-O-rutinoside, myricetin 3-O-glucoside, naringenin, quercetin, quercetin 3-O-glucoside, quercetin 3-O-rhamnoglucoside, quercetin 3-O-rutinoside, tricetin.

Chkhikvishvili, *Prikl. Biokhim. Mikrobiol.*, **22**, 410 (1986); *Chem. Abstr.*, 105 57942z

C. taliensis.

PURINE ALKALOIDS: caffeine, theobromine.

Nagata *et al.*, *Phytochemistry*, **24**, 2271 (1985)

CAMOENSIS

C. brevicalyx.

ALKALOIDS: two lupinane bases.

Waterman, Faulkner, *Phytochemistry*, **21**, 2401 (1975)

C. maxima.

SPARTEINE ALKALOIDS: camoensidine, camoensine, leontidine.

Santamaria, Khuong-Huu-Laine, *Phytochemistry*, **14**, 2401 (1975)

CAMPANULA (Campanulaceae)

C. cephalotes.

FLAVONOIDS: isoquercitrin, rhamnetin, rhamnetin 3-galactoside, rhamnetin 3-glucoside.

Teslov *et al.*, *Chem. Abstr.*, 86 185873d

C. glomerata L.

FLAVONOIDS: hyperoside, isoquercitrin, isorhamnetin, isorhamnetin 3-galactoside, isorhamnetin 3-glucoside, quercetin 3-glucuronide, rutin, trifolin.

PYRAN: 9-(tetrahydro-2-pyranyl)-2,8-nonadiene-4,6-diyn-1-ol.

Bentley *et al.*, *J. Chem. Soc., C*, 830 (1969)

C. medium L.

PIPERIDONE ALKALOID: camperine.

PYRAN: 9-(tetrahydro-2-pyranyl)-1,8-nonadiene-4,6-diyn-3-ol.

(A) Dopke, Werner, *Pharmazie*, **25**, 128 (1970)

(P) Teslov *et al.*, *Chem. Abstr.*, 86 185873d

(P) Badanyan *et al.*, *J. Chem. Soc., Perkin I*, 145 (1973)

C. patula.

FLAVONOIDS: campanoside, graveobioside A.

Teslov *et al.*, *Khim. Prir. Soedin.*, 117 (1977)

C. pyramidalis.

PYRAN: 9-(tetrahydro-2-pyranyl)-1,8-nonadiene-4,6-diyn-3-ol.

Badanyan *et al.*, *J. Chem. Soc., Perkin I*, 145 (1973)

CAMPHYLANDRA

C. aurantiaca.

STEROID: 25(27)-spirostene-1,2,3,4,5,6,7-heptaol.

Miyahara *et al.*, *Tetrahedron Lett.*, 83 (1980)

CAMPOVASSOURIA

C. bupleurifolia.

SESQUITERPENOID: 8 β -tigloylguagrazielolide.

Bohlmann *et al.*, *Phytochemistry*, **22**, 2860 (1983)

CAMPSIDIUM

C. valdivianum.

IRIDOID: plantarenaloside, stansioside.

Gambarino *et al.*, *J. Nat Prod.*, **48**, 992 (1985)

CAMPSIS (Bignoniaceae)

C. chinensis (Lam.) Voss.

IRIDOID: campenoside, 5-hydroxycampenoside.

Kobayashi *et al.*, *Heterocycles*, **16**, 1475 (1981)

CAMPTOTHECA

C. acuminata Decne.

INDOLOQUINOLINE ALKALOIDS: camptothecin, 11-hydroxycamptothecin, 10-methoxycamptothecin.

Lin *et al.*, *Huaxue Xuebao*, **40**, 85 (1982)

CANANGA (Annonaceae)

C. odorata (Lam.) Hook. f. et Thoms.

ALKALOIDS: canangine, sampangine.

SESQUITERPENOID: ylangene.

(A) Rao *et al.*, *J. Nat. Prod.*, **49**, 346 (1986)

(T) Herout, Dimitrov, *Chem. Listy*, **46**, 432 (1952)

CANARIUM

C. muelleri.

TRITERPENOID: canaric acid.

Carman, Connally, *Tetrahedron Lett.*, 627 (1964)

C. samoense.

SESQUITERPENOID: maaliol.

Stoll *et al.*, *Helv. Chim. Acta*, **40**, 1205 (1957)

C. strictum.

SESQUITERPENOID: canarone.

TRITERPENOIDS: canaric acid, 20-epi-pseudotaxastane-3 β ,20-diol, epi-pseudotaxastananol.

Wagh *et al.*, *J. Org. Chem.*, **29**, 2479 (1964)

CANAVALIA (Leguminosae)

C. gladiata.

GIBBERELLINS: canavalia gibberellin I, canavalia gibberellin II, gibberellin A-21, gibberellin A-22, gibberellin A-59.

Takahashi *et al.*, *Tetrahedron Lett.*, 4861 (1967)

C. lineata.

FLAVONOID: rutin.

Morita *et al.*, *Chem. Abstr.*, 88 148947b

CANELLA

C. winteriana.

SESQUITERPENOID: canellal.

El-Feraly *et al.*, *J. Chem. Soc., Chem. Common.*, 75 (1978)

CANNABIS (Cannabaceae)

C. sativa L.

MACROCYCLIC ALKALOID: cannabisativine.

FLAVONOIDS: apigenol O-glucoside, cannflavins A and B, isovitexin O-glucoside, orientin

- (A) Loffer *et al.*, *Tetrahedron Lett.*, 2815 (1975)
- (F) Barrett *et al.*, *Experientia*, **42**, 452 (1986)
- (P) Boeren *et al.*, *Experientia*, **33**, 848 (1977)
- (T) Lousberg *et al.*, *Phytochemistry*, **16**, 595 (1976)
- (T) Crombie *et al.*, *Tetrahedron Lett.*, 661 (1979)

C. sativa (Czechoslovakian).

DITERPENOIDS: cannabioxic acid, tetrahydrocannabinolic acid.

Hanus *et al.*, *Acta Univ. Palacki. Olomuc. Fac. Med.*, **74**, 161 (1975)

C. sativa (Egyptian).

DITERPENOIDS: cannabidiolic acid, cannabinol, cannabinolic acid.

Schultz, Huffner, *Z. Naturforsch.*, **14B**, 98 (1959)

C. sativa (Indian).

DITERPENOIDS: cannabinol, cannabinolic acid, (\pm)-8,9-dihydroxy-6a(10a)-tetrahydrocannabinol, (\pm)-9,10-6a(10a)-tetrahydrocannabinol.

Elsohly *et al.*, *Experientia*, **34**, 1127 (1978)

C. sativa (Lebanese).

DITERPENOIDS: cannabicitran, cannabiconarinone, cannabinol.

Grote, Spiteller, *Tetrahedron*, **34**, 3207 (1978)

C. sativa 'Meao' variant.

DITERPENOIDS: cannabinol, tetrahydrocannabivarinic acid.

Shoyama *et al.*, *Chem. Pharm. Bull.*, **25**, 2306 (1977)

C. sativa (South African).

DITERPENOIDS: cannabinol, cannabispriol.

Boeren *et al.*, *Experientia*, **35**, 1278 (1979)

C. sativa (Thai).

DITERPENOIDS: cannabichromene, cannabichromenic acid, cannabichromevarin, cannabichromevarinic acid, cannabidiolhydrophenanthene, cannabigerovarin, cannabigerovarinic acid, cannabispiradienone.

Shoyama *et al.*, *Chem. Pharm. Bull.*, **23**, 1984 (1975)

Crombie *et al.*, *Tetrahedron*, 661 (1979)

C. sativa (Turkish).

DITERPENOID: cannabidiolic acid, cannabinol, cannabinolic acid.

Schultz, Huffner, *Z. Naturforsch.*, **14B**, 98 (1959)

CANSCORA (Gentianaceae)

C. decussata (Schult.).

MONOTERPENOID: (-)-loliolide.

TRITERPENOID: canscoradione.

XANTHONES: 1,5-dihydroxy-3,7-dimethoxyxanthone, 3,5-dihydroxy-1-methoxyxanthone, 1,7-dihydroxy-3,5,6-trimethoxyxanthone, 2-C- β -D-glucopyranosyl-1,3,5,6-tetrahydroxyxanthone, 1-hydroxy-3,5-dimethoxyxanthone, 1-hydroxy-3,5,6,7-tetramethoxyxanthone, 1-methoxy-3,4-dihydroxyxanthone, 1-methoxy-3,5-dihydroxyxanthone, 3-rutinoside, 1,3,5,6,7-pentamethoxyxanthone, 1,3,6,7,8-pentamethoxyxanthone, 3-rutinosyl-5-hydroxy-1-methoxyxanthone, 1,3,5-trihydroxy-5,6-dimethoxyxanthone, 1,3,7-trihydroxy-5,6-dimethoxyxanthone, 1,3,8-trihydroxy-3-methoxyxanthone, 1,5,6-trihydroxy-3-methoxyxanthone.

(T) Ghosal *et al.*, *J. Pharm. Sci.*, **65**, 1549 (1976)

(X) Locksley *et al.*, *Phytochemistry*, **10**, 3179 (1971)

(X) Ghosal *et al.*, *Phytochemistry*, **15**, 1041 (1976)

CANTHARELLUS (Basidiomycetae)

C. cinnabarinus.

CAROTENOID: canthaxanthin.

Haxo, *Bot. Gaz.*, **112**, 228 (1950)

CANTHIDIUM

C. dicoccum.

TRITERPENOID: 3-epi-betulin.

Das, *Chem. Ind.*, 1331 (1971)

C. euryoides.

MACROCYCLIC ALKALOID: canthiumine.

Boulvin *et al.*, *Bull. Soc. Chim. Belg.*, **78**, 583 (1969)

CANTLEYA

C. corniculata.

PYRIDINE ALKALOID: cantleyine.

Sevenet *et al.*, *Bull. Soc. Chim. Fr.*, 3120 (1970)

CAPPARIS (Capparidiaceae)

C. aegyptica.

ACIDS: citric acid, oxalic acid, tartaric acid.

QUATERNARY ALKALOID: stachydine.

STEROIDS: β -sitosterol, β -sitosterol β -D-glucoside.

Hammouda *et al.*, *Pharmazie*, **30**, 747 (1975)

C. aphylla.

UNCHARACTERIZED ALKALOIDS: cappariline, capparine, capparinine.

Manzoor-i-Khuda, Jeelani, *Pakistan J. Sci. Ind. Res.*, **11**, 250 (1968)

C. decidua.

SPERMIDINE ALKALOIDS: capparisidine, capparisine.

Ahmad *et al.*, *Z. Naturforsch.*, **41B**, 1033 (1986)

C. deserti.

ACIDS: citric acid, oxalic acid, tartaric acid.

QUATERNARY ALKALOID: stachydine.

STEROIDS: β -sitosterol, β -sitosterol β -D-glucoside.

Hammouda *et al.*, *Pharmazie*, **30**, 747 (1975)

C. formosana Hemsl.

ACID: caffeic acid.

COUMARIN: scopoletin.

STEROIDS: campesterol, β -sitosterol, stigmasterol.Liu *et al.*, *Chem. Abstr.*, 88 60087k*C. leucophylla.*

ACIDS: citric acid, oxalic acid, tartaric acid.

QUATERNARY ALKALOID: stachydrine. STEROIDS: β -sitosterol, β -sitosterol β -D-glucoside.Hammouda *et al.*, *Pharmazie*, **30**, 747 (1975)*C. spinosa L.*

QUATERNARY ALKALOID: stachydrine.

FLAVONOIDS: kaempferol 3-rutinoside, quercetin 3-rutinoside.

(A) Cornforth, Henry, *J. Chem. Soc.*, 601 (1952)(F) Thomas *et al.*, *Chem. Abstr.*, 86 185906s*C. tormentosa L.*

QUATERNARY ALKALOID: stachydrine.

Schultz, Trier, *Z. Physiol. Chem.*, **67**, 59 (1910)**CAPRARIA***C. biflora.*

ANTIBIOTIC: biflorine.

de Lima *et al.*, *Rev. Quim. Ind. (Rio de Janeiro)*, **22**, 14 (1953)**CAPSICODENDRON***C. dinisii.*SESQUITERPENOIDS: 6 β -acetoxydrimenin, 6-acetoxyisodrimenin.Mahmoud *et al.*, *J. Nat. Prod.*, 43, 365 (1980)

CAPSICUM (Solanaceae)

C. annuum L.

CAROTENOIDS: capsanthin, capsanthin-5,6-epoxide, capsorubin, β -carotene, cryptoxanthin, α -cryptoxanthin, lutein, phytofluene, xanthophyll.

STEROIDS: capsicoside, lanostenol, lanosterol, 4α -methyl- 5α -cholest-8(14)-en- 3β -ol.

(C) Barber *et al.*, *J. Chem. Soc.*, 4019 (1967)

(C) Bovonat *et al.*, *Chem. Abstr.*, 84 132595s

(S) Matsumoto *et al.*, *Phytochemistry*, 22, 2621 (1983)

C. frutescens.

SESQUITERPENOID: capsaicin, capsidiol, capsidol.

Gordon *et al.*, *Can. J. Chem.*, 51, 749 (1973)

C. pendulum.

SESQUITERPENOID: capsaicin.

Gutsu *et al.*, *Chem. Abstr.*, 100 48599n

CAPURONETTA

C. elegans.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: 14,15-anhydrocapuronidine, 14,15-anhydrosodihydrocapuronidine, capuronidine, capuronine, capuvosine.

Chardon-Loriaux, Husson, *Tetrahedron Lett.*, 1845 (1975)

CARAPA

C. guaiianensis.

LIMONOIDS: 6α -acetoxypeoxyazadiradione, 6α -acetoxymethyleudenin, 11β -acetoxymethyleudenin, 7-deacetoxy-7-oxogedunin, $6\beta,11\beta$ -diacetoxymethyleudenin, $6\beta,11\beta$ -diacetoxymethyleudenin, epoxypeoxyazadiradione, 6α -hydroxymethyleudenin.

TRINORTRITERPENOID: andirobin.

Lavie *et al.*, *Bioorg. Chem.*, 2, 59 (1972)

Marcelle *et al.*, *Phytochemistry*, 14, 2717 (1975)

C. procera.

BENZOPYRANS: carapolides A, B, C, D, E and F.

LIMONOIDS: 7-deacetoxy-7-oxogedunin, proceranolide, proceranone, procerin.

(B) Kimba *et al.*, *Tetrahedron Lett.*, 1613 (1984)

(L) Sondergåm *et al.*, *Phytochemistry*, **20**, 173 (1981)

CARAUPA (Guttiferae/Clusiaceae)

C. densiflora.

XANTHOLIGNOIDS: cadensin A, cadensin B, kielcorin.

XANTHONE: 2,6-dihydroxy-7,8-dimethoxyxanthone.

(XL) Castelao *et al.*, *Phytochemistry*, **16**, 735 (1977)

(X) de Lima *et al.*, *An. Acad. Bras. Cienc.*, **42**, 133 (1970)

CARDARIA (Cruciferae)

C. draba (L.) Desv. (Lepidium draba L.).

One uncharacterized alkaloid.

Potapov, *Med. Zh. Uzb.*, 61 (1976)

CARDUNCELLUS

C. monspeliacum All.

FLAVONOIDS: luteolin, luteolin 7-glucoside, quercetin, quercetin 7-glucoside.

Proliac, *Fitoterapia*, **47**, 113 (1976)

CARDUUS (Compositae)

C. acanthoides L.

IMIDE ALKALOIDS: (+)-acanthoidine, (+)-acanthoine.

Frydman, Delofeu, *Tetrahedron*, **18**, 1063 (1962)

C. getulus Pomel.

TRITERPENOIDS: erythrodiol 3-acetate, taraxasterol, taraxasterol acetate.

Abdel-Salam *et al.*, *Inst. J. Crude Drug Res.*, **21**, 79 (1983); *Chem. Abstr.*, 100 3478f**CAREX (Cyperaceae)***C. brevicollis DC.*

CARBOLINE ALKALOIDS: brevicarine, brevicolline, dihydربrevicolline, barman, harmine, harmol.

Terent'eva *et al.*, *Khim. Prir. Soedin.*, 397 (1969)**CAREYA***C. arborea.*

TRITERPENOIDS: carearborin, careyagenols D and E.

Tang, *Phytochemistry*, **18**, 651 (1979)**CARICA***C. papaya L.*

MACROCYCLIC ALKALOIDS: carpaine, dehydrocarpamine I, dehydrocarpamine II, pseudocarpaine.

Tang, *Phytochemistry*, **18**, 651 (1979)**CARISSA***C. carandas.*

LIGNAN: carinol.

TRITERPENOID: carindone.

(L) Pal *et al.*, *Phytochemistry*, **14**, 2302 (1975)(T) Singh, Rastogi, *Phytochemistry*, **11**, 1707 (1972)

C. edulis.

FURAN: carissanol.

Achenbach *et al.*, *Phytochemistry*, **22**, 749 (1983)***C. lanceolata.***

SESQUITERPENOID: carisnone.

Mohr *et al.*, *Helv. Chim. Acta*, **37**, 462 (1954)

CARLINA (Compositae)

C. corymbosa L. var. globosa.TRITERPENOIDS: 11 α -hydroxy- β -amyrin, 30-norlupan-3 β -ol-20-one.Piozzi *et al.*, *Phytochemistry*, **14**, 1662 (1975)

CARNEGIA (Cactaceae)

C. gigantea (Engelm.) Britton et Rose.

ISOQUINOLINE ALKALOIDS: carnegine, dehydroheliamine, gigantine.

Ordez *et al.*, *Phytochemistry*, **22**, 2101 (1983)

CARPESIUM

C. abrotanoides.

SESQUITERPENOIDS: carabrol, carabrone, carpesiolin, granilin.

Maruyama *et al.*, *Phytochemistry*, **22**, 2773 (1983)***C. eximum.***

SESQUITERPENOID: carabrone.

Konovalova *et al.*, *Khim. Prir. Soedin.*, 721 (1972)

CARPOLOBIA (Polygalaceae)

C. lutea.

One uncharacterized saponin.

Delaude, *Bull. Soc. R. Sci. Liege*, **44**, 495 (1975)

CARTEROTHAMNUS

C. anomalochaeta.

DITERPENOIDS: carterochaetic acid, carterochaetol, carterothamnotriol.

Bohlmann *et al.*, *Phytochemistry*, **18**, 621 (1979)

CARTHAMNUS (Compositae)

C. lanatus.

SESQUITERPENOID: α -bisabolol- β -D-fucopyranoside.

San Feliciano *et al.*, *Phytochemistry*, **21**, 2115 (1982)

C. oxyacantha.

SESQUITERPENOID: hinesol- β -D-fucopyranoside.

Rustaiyan *et al.*, *Chem. Ber.*, **109**, 3953 (1976)

C. tinctorius L.

ACETYLENICS: 3-cis-11-trans-trideca-1,3,11-triene-5,7,9-triyne, 3-trans-11-trans-trideca-1,3,11-triene-5,7,9-triyne.

AMIDE: serotobenine.

MONOTERPENOID: deca-4,6-diyn-1-ol.

PHYTOALEXIN: safynol.

QUINONE: ubiquinone-9.

(Acet) Kogiso *et al.*, *Agr. Biol. Chem.*, **40**, 2085 (1976)

(Am) Sato *et al.*, *ibid.*, **49**, 2969 (1985)

(P) Nakada *et al.*, *ibid.*, **41**, 1761 (1977)

(Q) Hagimori *et al.*, *ibid.*, **42**, 499 (1978)

(T) Bohlmann, Zdero, *Chem. Ber.*, **103**, 2853 (1970)

CARUM (Umbelliferae)

C. copticum.

GLYCOSIDES: 3-galactosyloxy-5-hydroxytoluene, α -galactoside, 2-methyl-3-glucosyloxy-5-isopropylphenol.

Garg *et al.*, Proc. Nat. Acad. Sci. India, **55A**, 95 (1985)

C. roxburghianum.

BENZOPYRAN: seselin.

Gupta *et al.*, J. Indian Chem. Soc., **51**, 904 (1974)

CARYA

C. pecan.

FLAVONOIDs: azaleatin 3-arabinoside, azaleatin 3-rutinoside, caryatin 3'-glucoside, quercetin 3-glucoside.

El-Ansari *et al.*, Z. Naturforsch., **32C**, 444 (1977)

CARYOCAR

C. glabrum.

SESQUITERPENOID: caryocarsapogenin.

Ruzicka, van Veen, Z. Physiol. Chem., **184**, 69 (1929)

CARYOPTERIS (Verbenaceae)

C. x cladonensis.

DITERPENOID: caryopterone.

Giles *et al.*, J. Chem. Soc., Perkin I, 1632 (1969)

C. divaricata.

DITERPENOIDs: caryoptin, caryoptin hemiacetal, caryoptinol, dihydrocaryoptinol.

Harada *et al.*, J. Am. Chem. Soc., **100**, 8022 (1978)

CASCARA

C. segregata.

ANTHRAQUINONE: frandulaemodin.

Sargent *et al.*, *J. Chem. Soc., C*, 307 (1970)

CASEARIA (Flacourtiaceae)

C. ilicifolia Vent.

FLAVONOIDS: apigenin, kaempferol, quercetin.

STEROID: β -sitosterol.

TRITERPENOIDS: cycloartenol, 24-methylenecycloartenol.

Weniger *et al.*, *Planta Med.*, **32**, 170 (1978)

CASELLA

C. atromarginata.

DITERPENOIDS: 2-hydroxy-17,19-diacetoxy-1,13(16),14-spongiatrien-3-one, 2,17,19-trihydroxy-1,13(16),14-spongiatrien-3-one.

de Silva *et al.*, *Heterocycles*, **17**, 167 (1982)

CASIMIROA

C. edulis Llave et Lejarza.

GLUCOSIDIC ALKALOID: casimiroedine.

PYRIMIDINE ALKALOID: zapotidine.

QUINOLINE ALKALOIDS: casimiroine, edulinine, edulitine.

LIMONOID: zapoterin.

(A) King *et al.*, *J. Chem. Soc.*, 4613 (1056) (1056)

(T) Dreyer *et al.*, *J. Org. Chem.*, **33**, 3577 (1968)

CASSIA (Leguminosae)

C. absus.

QUATERNARY ALKALOID: chaksine, isochaksine.

Siddiqui, Ahmed, *Proc. Indian Acad. Sci.*, **2**, 421 (1935)

C. alata L.

ANTHROQUINONES: aloe-emodin, chrysophanol, emodin, rhein.

Villaroya *et al.*, *Asian J. Pharm.*, **3**, 17 (1976); *Chem. Abstr.*, 86 40173r

C. alexandria.

ACIDS: linoleic acid, oleic acid, palmitic acid, stearic acid.

Osman *et al.*, *Nahrung*, **20**, 483 (1976); *Chem. Abstr.*, 85 119625c

C. angustifolia.

ANTHRAQUINONES: meso-aloe-emodin, trans-aloe-emodin dianthrone diglucoside.

SAPONINS: sennosides A, A', B, C, D, E and F.

(An) Nakajima *et al.*, *J. Pharm. Pharmacol.*, **37**, 703 (1985)

(Sap) Stoll *et al.*, *Helv. Chim. Acta*, **33**, 313 (1950)

C. carnaval Speg.

PIPERIDINE ALKALOIDS: carnavaline, cassine, prosopinone.

Lythgoe, Vernengo, *Tetrahedron Lett.*, 1133 (1967)

C. dentata.

FLAVONOIDS: piceatanol, resveratrol.

STEROID: β -sitosterol.

De Oliveira *et al.*, *Rev. Latinoam. Quim.*, **8**, 82 (1977)

C. excelsa Schrad.

PIPERIDINE ALKALOID: cassine.

Hight, *J. Org. Chem.*, **29**, 471 (1966)

C. fistula.

FLAVONOIDS: (-)-epi-afzelechin, (+)-catechin, clitorin, dihydrokaempferol, kaempferol, kaempferol β -D-glucoside, kaempferol 3-neohesperidoside.

Patil *et al.*, *Indian J. Chem.*, **21B**, 626 (1982)

C. garrettiana.

ANTHRONE: cassioloin.

Hata *et al.*, *Chem. Pharm. Bull.*, **24**, 1688 (1976)

C. grandis.

ANTHROQUINONE: aloe-emodin.

Gritranapan *et al.*, *Chem. Abstr.*, 100 65011g

C. italica.

ACIDS: linoleic acid, oleic acid, palmitic acid, stearic acid.

Osman *et al.*, *Nahrung*, **20**, 483 (1976); *Chem. Abstr.*, 85 119625c

C. javanica.

ACIDS: cerotic acid, isostearic acid, pentacosanoic acid, stearic acid.

ALCOHOL: myrcyl alcohol.

ALIPHATICS: ceryl alcohol, hentriacontane, hentriacontanol, heptacosane, octacosane, octacosanol.

DITERPENOIDS: afzelechin, rimuene.

ESTER: ethylarachidate.

STEROIDS: β -sitosterol, β -sitosterol β -D-glucoside.

(Ac, E, T) Chaudhuri *et al.*, *Indian J. Pharm. Sci.*, 47, 172 (1985)

(Al, S) Joshi *et al.*, *Planta Med.*, **28**, 190 (1975)

C. macrantha.

CHROMENES: 3,5-dihydroxy-8-isobutyryl-2-methyl-7-methoxychromone, 6-O-galactosylrubrofusarin, rubrafusarin.

STEROID: β -sitosterol.

De Oliviera *et al.*, *Rev. Latinoam. Quim.*, **8**, 82 (1977)

C. marylandica L.

AMINE ALKALOID: N-methyl- β -phenethylamine.

Camp, Norvell, *Econ. Bot.*, **20**, 274 (1966)

C. multijuga.

ACID: stearic acid.

STEROIDS: β -sitosterol, β -sitosterone.

De Oliviera *et al.*, *Rev. Latinoam. Quim.*, **8**, 82 (1977)

C. nodosa.

FLAVONOID: 5-O- α -L-rhamnopyranosylvelutin.

Tiwari *et al.*, *J. Indian Chem. Soc.*, **59**, 526 (1982)

C. nomame.

ANTHRAQUINONES: emodin-9-anthrone, phycion, phycion 9-anthrone, phycion 10,10'-bianthrone.

Kitanaka *et al.*, *J. Nat. Prod.*, **48**, 849 (1985)

C. obtusifolia L.

ANTHRAQUINONES: alaterain 1-O- β -D-glucopyranoside, chrysoobtusin 8-O- β -D-glucopyranoside.

Kitanaka *et al.*, *Chem. Pharm. Bull.*, **33**, 1274 (1985)

C. occidentalis.

ANTHRAQUINONES: bianthaquinone, chrysophanol, funiculosin.

FLAVONOIDS: jaceidin 7-rhamnoside, matteucinol 7-rhamnoside.

XANTHONE: casiollin.

(An, X) Howard *et al.*, *Biochem. J.*, **44**, 227 (1949)

(F) Tiwari, Singh, *Phytochemistry*, **16**, 1107 (1977)

(X) Tiwari *et al.*, *Planta Med.*, **32**, 375 (1977)

C. petosiana.

NORDITERPENOIDS: colensanone, colensenone.

Mason, Luso, **3**, 119(1982)

C. renigera.

ANTHRAQUINONE: 1-hydroxy-3,8-dimethoxy-2-methylanthraquinone.

FLAVONOIDS: 5-hydroxy-4'-methoxyflavanone 7- α -L-rhamnopyranoside, 5-hydroxy-3',4',5,6,7-pentamethoxyflavanone 5-O- α -L-rhamnopyranoside, quercetin 3,6-dimethyl ether.

Tiwari *et al.*, *Phytochemistry*, **16**, 798 (1977)

C. roxburghii

ANTHRAQUINONE: roxburghinol.

Ashok *et al.*, *Phytochemistry*, **24**, 2673 (1985)

C. senna L.

BIANTHRAQUINONE: sennoside A.

Christ *et al.*, *ArzneimForsch.*, **28**, 225 (1978)

C. siamea Lamk.

CHROMONE ALKALOID: cassiadinine.

ISOQUINOLINE ALKALOIDS: siamine, siaminines A, B and C.

BENZOPYRAN: barakol.

CHROMONE: 5-acetyl-7-hydroxy-2-methylchromone.

ISOCOUMARIN: (+)-6-hydroxymellein.

QUINONES: cassiamins A, B and C.

STEROID: β -sitosterol.

TRITERPENOIDS: betulin, cycloart-23-en-3 β ,25-diol, friedelin, lupeol, oleanolic acid.

(A) El-Sayyed *et al.*, *J. Nat. Prod.*, **47**, 708 (1984)

(B) Bycroft *et al.*, *J. Chem. Soc., C*, 1686 (1970)

(Ch, I) Mallick, *Phytochemistry*, **25**, 1727 (1986)

(Q) Dutta *et al.*, *Tetrahedron Lett.*, 3023 (1964)

(S, T) Varshney, Pal, *J. Indian Chem. Soc.*, **54**, 548 (1977)

C. sophora.

ANTHRAQUINONE: chrysophanol.

FLAVONOID: rhamnetin 3-O- β -D-glucoside.

Grove *et al.*, *J. Chem. Soc., C*, 230 (1966)
 Tiwarts *et al.*, *Planta Med.*, **28**, 182 (1975)

C. speciosa.

ALIPHATIC: octacosanol.

ANTHRAQUINONES: chrysophanol, emodin, 8-O-methylchrysophanol.

STEROID: β -sitosterol.

TRITERPENOIDS: 3-O-acetylbetulinic acid, lupeol.

de Oliveira *et al.*, *Rev. Latinoam. Quim.*, **8**, 82 (1977)

C. tora L.

ANTHRAQUINONE: emodin.

Pal *et al.*, *Indian J. Pharm.*, **39**, 116 (1977)

C. torosa L.

ANTHRAZENES: phlegmacin A1, phlegmacin A2, phlegmacin B1, phlegmacin B2.

ANTHRAQUINONES: chrysophanol, emodin, germichrysone, physcion, torosachrysone, xanthorin.

(An) Takahashi *et al.*, *Phytochemistry*, **16**, 999 (1977)

(Aq) Takido *et al.*, *Lloydia*, **40**, 191 (1977)

CASSINE

C. metabelica.

PIPERIDINE ALKALOIDS: cassine, cassinine.

Wagner *et al.*, *Tetrahedron Lett.*, 125 (1977)

CASSINOPSIS

C. ilicifolia Kuntz.

BENZOISOQUINOLINE-CARBOLINE ALKALOID: (-)-deoxytubulosine.

Montiero *et al.*, *J. Chem. Soc., Chem. Commun.*, 317 (1965)

CASSIPOUREA

C. gerrardii Alston.

THIOALKALOIDS: gerrardine, gerrardoline.

Wright, Warren, *J. Chem. Soc., C*, 283 (1967)

C. gummiflua Tul. var. *verticillata* Lewis.

THIOALKALOID: cassipourine.

Wright, Warren, *J. Chem. Soc., C*, 283 (1967)

CASSYTHA (Lauraceae)

C. americana. (*C. filiformis* L.)

APORPHINE ALKALOID: launobine.

OXOAPORPHINE ALKALOIDS: cassamedine, cassemedinine.

Cava *et al.*, *J. Org. Chem.*, **33**, 2243, 2443 (1968)

C. glabella R.Br.

APORPHINE ALKALOID: cassythicine.

Tomita, Kikkawa, *J. Pharm. Soc., Japan*, **52**, 3833 (1958)

C. melantha R.Br.

APORPHINE ALKALOID: cassythicine.

Tomita, Kikkawa, *J. Pharm. Soc., Japan*, **52**, 3833 (1958)

C. pubescens R.Br.

APORPHINE ALKALOID: laurelliptine.

Johns *et al.*, *Aust J. Chem.*, **19**, 2331 (1966)

C. racemosa Nees.

APORPHINE ALKALOIDS: 1,2-dimethoxy-9,10-methylenedioxyaporphine, 1,2-dimethoxy-9,10-methylenedioxyoxoaporphine.

Johns *et al.*, *Aust J. Chem.*, **20**, 1457 (1967)

CASTANEA

C. caudata.

ALIPHATICS: ditriaccontane, heptacosane, hexacosane, monotriaccontane, nonacosane, octacosane, pentacosane, triaccontane, tritriaccontane.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelanol, epi-friedelanol, friedelin, glutinol, lupeol.

Tachi *et al.*, *J. Pharm. Soc., Japan*, **98**, 349 (1978)

CASTANOPSIS (Fagaceae)

C. cuspidata.

ALIPHATICS: ditriaccontane, heptacosane, hexacosane, monotriaccontane, nonacosane, octacosane, pentacosane, triaccontane, tritriaccontane.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelanol, epi-friedelanol, friedelin, glutinol, lupeol.

Tachi *et al.*, *J. Pharm. Soc., Japan*, **98**, 349 (1978)

C. indica.

TRITERPENOIDS: castanopsin, castanopsol, castanopsone.

Pant, Rastogi, *Phytochemistry*, **17**, 575 (1978)

C. lamontii.

TRITERPENOID: $3\alpha,4\alpha$ -epoxyfriedelane.

Hui, Li, *Phytochemistry*, **15**, 1313 (1976)

CASTANOSPERMUM

C. australis.

ISOFLAVONOID: koparin.

TRITERPENOID: castanogenol.

(I) Berry *et al.*, *Aust. J. Chem.*, **30**, 1827 (1977)

(T) Rao *et al.*, *Indian J. Chem.*, **7**, 1203 (1969)

CASTELA

***C. nicholsonii* Hook.**

BITTER PRINSIPLES: amarolide, castelanolide.

Mitchell *et al.*, *Phytochemistry*, **10**, 411 (1971)

***C. tweedii*.**

QUASSINOID: castelanone.

Polonsky *et al.*, *C.R. Acad. Sci.*, **288C**, 267 (1979)

CASUARINA (Casuarinaceae)

***C. cunninghamiana* Miq.**

FLAVONOIDS: kaempferol, kaempferol glucoside, quercetin, quercetin glucoside.

PHENOLIC: ellagic acid.

Natarajan *et al.*, *Phytochemistry*, **10**, 1283 (1971)

***C. equisetifolia* L.**

FLAVONOIDS: kaempferol, kaempferol glycoside, quercetin, quercetin glycoside, trifolin.

PHENOLICS: (+)-catechin, ellagic acid, (-)-gallocatechin.

STEROID: β -sitosterol.

Neelankantan *et al.*, *Fitoterapia*, **57**, 120 (1986)

***C. junghuniana* Miq.**

FLAVONOIDS: kaempferol, kaempferol glycoside, quercetin, quercetin glycoside, trifolin.

STEROID: β -sitosterol.

Neelankantan *et al.*, *Fitoterapia*, **57**, 120 (1986)

***C. rigida* Miq.**

FLAVONOIDS: kaempferol, kaempferol glycoside, quercetin, quercetin glycoside, trifolin.

STEROID: β -sitosterol.

Neelankantan *et al.*, *Fitoterapia*, **57**, 120 (1986)

***C. sticta* Ait.**

FLAVONOID: hinokiflavone.

ELLAGITANNINS: casuarictin, casuarinin, casuriin, pedunculagin, stachyurin, stictinin, tellimagrandin I.

(F) Sawada *et al.*, *J. Pharm. Soc., Japan*, **78**, 1023 (1958)

(T) Okuda *et al.*, *J. Chem. Soc., Perkin I*, 1765 (1983)

CATALPA (Bignoniaceae)

C. ovata G.Don.

NAPHTHOPYRAN: 4,9-dihydroxy- α -lapachone.

SESQUITERPENOIDS: catalpalactone, catalponol.

(N) Hayashi *et al.*, *Chem. Pharm. Bull.*, **23**, 384 (1975)

(T) Inoue *et al.*, *ibid.*, **28**, 1224 (1980)

C. speciosa.

IRIDOID: specioside.

DITERPENOID: specionin.

Chang, Nakanishi, *J. Chem. Soc., Chem. Commun.*, 605 (1983)

CATANANCHE

C. caerulea.

BENZOPYRAN: carlinoside.

PROLIAC, REYNAUD, *PLANTA MED.*, 32, 68 (1977):

CATHA

C. cassinoides.

STEROID: iguesterin.

Gonzalez *et al.*, *An. Quim.*, **70**, 376 (1974)

C. edulis.

SESQUITERPENE ALKALOID: cathidin D.

ALKAMINE: merucanthine.

(A) Cais *et al.*, *Tetrahedron*, **31**, 2727 (1975)

(Al) Brenneisen *et al.*, *Planta Med.*, **50**, 531 (1984)

CATHARANTHUS (Apocynaceae)

C. lanceus Boj.

CARBOLINE ALKALOID: pericycline.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: cathanneine, hoerhammericine, hoerhammerinine.

UNCHARACTERIZED ALKALOID: cathalanceine.

Aynilian *et al.*, *Tetrahedron Lett.*, 89 (1972)

C. longifolius.

BIS-IMIDAZOLIDINOCARBAZOLE ALKALOID: vindolicine.

Rabaron *et al.*, *Plant Med. Phytother.*, 7, 53 (1973)

C. ovalis Markgraf.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: cathovaline, kitraline, kitramine, vincolicine, vincovaline, vincovalinine.

Langlois *et al.*, *Helv. Chim. Acta*, 63, 773 (1980)

C. roseus G.Don.

CARBAZOLE ALKALOID: gomaline.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: catharanthamine, deacetylvinodoline, 17-desacetoxyeurosine, desacetylvinblastine, 21'-oxoleurosine, 16-epi-19-vindolenine, 16-epi-19-vindolenine N-oxide.

ANTHOCYANINS: hirsutidin, malvidin, petunidin.

(A) Bruyn *et al.*, *Bull. Soc. Chim. Belg.*, 91, 75 (1982)

(A) Atta-ur-Rahman *et al.*, *Phytochemistry*, 22, 1021 (1983)

(An) Carew, Kruegar, *ibid.*, 15, 442 (1976)

C. trichophyllus.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: cathaphylline, trichophylline.

Mukhopadhyay *et al.*, *Tetrahedron*, 39, 3639 (1983)

CAUCALIS (Umbelliferae)

C. scabra.

SESQUITERPENOIDS: caucalol acetate, caucalol diacetate.

Sasaki *et al.*, *Tetrahedron Lett.*, 623 (1966)

CAULERPA

C. brownii.

DITERPENOIDS: caulerpol, caulerpol diacetate.

Blackman, Wells, *Tetrahedron Lett.*, 2729 (1976)

C. flexilis.

SESQUITERPENOID: flexilin.

Blackman, Wells, *Tetrahedron Lett.*, 3063 (1978)

C. prolifera Lamaroux.

SESQUITERPENOID: caulerpenyne, furocaulerpin.

de Napoli *et al.*, *Experientia*, **37**, 1132 (1981)

C. trifaria.

DITERPENOID: ent-15,16-diacetoxy-7,13(16),14-labdatriene.

Blackman, Wells, *Tetrahedron Lett.*, 3063 (1978)

CAULOPHYLLUM

C. robustum.

SAPONINS: cauloside A, cauloside B, cauloside C, cauloside D, cauloside G.

TRITERPENOID: caulophyllogenin.

Strigina *et al.*, *Phytochemistry*, **14**, 1583 (1975)

C. thalictroides (L.) Michx.

QUINOLIZIDINE ALKALOIDS: caulophylline, N-methylcytisine.

Power, Salway, *J. Chem. Soc.*, **104**, 194 (1913)

CEANOTHUS (Rhamnaceae)

C. americanus L.

PEPTIDE ALKALOIDS: americine, ceanothines A, B, C, D, E and F.

TRITERPENOIDS: ceanothenic acid, ceanothic acid.

(A) Servis *et al.*, *J. Am. Chem. Soc.*, **91**, 5619 (1969)

(T) Eade *et al.*, *Aust J. Chem.*, **24**, 621 (1971)

***C. integerrimus* Hook et Arn.**

PEPTIDE ALKALOIDS: integerrenine, integerressine, integerrine.

Tschesche *et al.*, *Tetrahedron Lett.*, 1311 (1968)***C. velutinus* (Hook) Dougl.**

One uncharacterized alkaloid.

Richards, Lynn, *J. Am. Pharm. Assoc.*, **28**, 332 (1934)

CEDRELA (Meliaceae)

***C. angustifolia*.**

LIMONOIDs: angustidienolide, angustinolide.

Lavie *et al.*, *Tetrahedron*, **26**, 219 (1970)***C. fissilis*.**

LIMONOID: fissinolide.

Zelnik, Rosita, *Tetrahedron Lett.*, 6441 (1966)***C. glaziovii*.**

TRITERPENOIDs: mexicanolide, odoratol, 24-epi-odoratol, odoratone.

Connolly *et al.*, *Tetrahedron Lett.*, 3449 (1967)***C. mexicana*.**

LIMONOID: 7,11-diacetoxydihydroronolin.

TRITERPENOIDs: mexicanol, mexicanolide, odoratol.

Marcelle *et al.*, *Tetrahedron Lett.*, 505 (1981)***C. odorata*.**

TRITERPENOIDs: angolensic acid methyl ester, mexicanolide, odoratol, odoratone, photogedunin.

Akisanya *et al.*, *J. Chem. Soc.*, 3827 (1960)Bevan *et al.*, *ibid.*, 890 (1963)***C. odorata* var. *brasiliensis*.**

SESQUITERPENOID: cedrelanol.

Smalders, *Ingegheria Chimica*, **49**, 12 (1967)***C. toona*.**

PHENOL: siderin.

SESQUITERPENOIDs: cedrelone, T-muurolol.

(P) Nagasampagi *et al.*, *Phytochemistry*, **14**, 1673 (1975)(T) Parihar, Dutt, *J. Indian Chem. Soc.*, **27**, 77 (1950)

CEDRELOPSIS

C. grevei.

ALDEHYDE: 3-acetoxy-2,6-dihydroxy-4-methoxybenzaldehyde.

CHROMENES: alloevodionol, greveichromenol, greveiglycol, ptaeroxylin.

(A) Schulte *et al.*, *Arch. Pharm.*, **306**, 857 (1973)

(C) Dean, Robinson, *Phytochemistry*, **10**, 3221 (1971)

CEDRUS (Pinaceae)

C. atlantica Manetti.

SESQUITERPENOIDS: cis-atlantone, trans-atlantone, epi-cubenol.

Adams *et al.*, *J. Chem. Soc., Perkin I*, 1502 (1975)

C. atlantica Manetti cv. glauca.

FLAVONOIDS: isorhamnetin, kaempferol, laricitrin, myricetin, quercetin, syringetin.

Niemann, *Z. Naturforsch.*, **32C**, 1015 (1977)

C. deodara (Roxb.) G.Don.

MONOTERPENOID: limonene carboxylic acid.

SESQUITERPENOIDS: allohimachalol, atlantolone, atlantone, isocentdarol, isohimachalone, longiborneal.

Krisnappa *et al.*, *Phytochemistry*, **17**, 599 (1978)

C. lebanotica.

SESQUITERPENOID: cis-atlantone.

Pfau, *Helv. Chim. Acta*, **15**, 1481 (1932)

CELASTRUS (Celastraceae)

C. orbiculatus Thunb.

SESQUITERPENOIDS: isocelorbicol, isocelorbicol 1-cinnamate-2,9-diacetate.

Smith *et al.*, *J. Org. Chem.*, **41**, 3249 (1976)

C. paniculatus.

SESQUITERPENE ALKALOIDS: celapagine, celapaginine, celapanigine, celapanine.

SESQUITERPENOIDS: malkangunin, malkanguniol, paniculatadiol.

(A) Wagner *et al.*, *Tetrahedron*, **31**, 1949 (1975)
 (T) den Hertog *et al.*, *Tetrahedron Lett.*, 845 (1973)

C. scandens L.

CAROTENOID: celaxanthin.

TRITERPENOID: celastrol.

LeRosen, Zechmeister, *Arch. Biochem.*, **1**, 17 (1942)

CELSIA

C. coromandeliana Vahl.

STEROIDS: celsianol, 5,9(11)-stigmastadien-3 β -ol.

Sen, Chaudhury, *J. Indian Chem. Soc.*, **47**, 1063 (1970)

CELTIS

C. laevigata.

STEROIDS: β -sitosterol, stigmasterol.

TRITERPENOID: moretenol.

Santa-Cruz *et al.*, *Phytochemistry*, **14**, 2532 (1975)

CENTAUREA (Compositae)

C. aggregata.

FLAVONOID: euparotin.

Kupchan *et al.*, *J. Pharm. Sci.*, **54**, 929 (1965)

C. arbutifolia.

SESQUITERPENOID: arbutifolin.

Gonzalez *et al.*, *Phytochemistry*, **20**, 1895 (1981)

C. breviceps.

UNCHARACTERIZED ALKALOID: brevicepsine.

Kurmaz *et al.*, *Farm. Zh. (Leningrad)*, **17**, No. **2**, 40 (1962)

C. cachanahuen.

FLAVONOIDS: decussatin, swerchirin, swertiaperenin.

TRITERPENOID: oleanolic acid.

Versluys *et al.*, *Experientia*, **38**, 771 (1982)

C. canariensis.

SESQUITERPENOIDS: aguerin A, aguerin B, subexpinnatin.

Gonzalez *et al.*, *Tetrahedron Lett.*, 895 (1982)

C. canariensis var. subpinnata.

SESQUITERPENOID: aguerin B.

Gonzalez *et al.*, *Phytochemistry*, **17**, 995 (1978)

C. cineraria L.

FLAVONOID: 5,7,4'-trihydroxy-8-methoxyflavone.

STEROID: β -sitosterol.

TRITERPENOIDS: α -amyrin, β -amyrin.

El-Emary *et al.*, *Fitoterapia*, **54**, 133 (1983)

C. clementei.

FLAVONOID: 7,4'-di-O-methylscutellarein, hispidulin, isokaempferide, neglectin.

SESQUITERPENOID: clementein.

(F) Gonzalez *et al.*, *J. Nat. Prod.*, **48**, 819 (1985)

(T) Massonet *et al.*, *Tetrahedron Lett.*, 1641 (1983)

C. collina L.

FLAVONOID: 6-methoxyquercetin, quercetin, rhamnetin.

Kananzi *et al.*, *Pharmazie*, **37**, 454 (1982)

C. erythraea.

XANTHONE: 1,6,8-trihydroxy-3,5,7-trimethoxyxanthone.

Veshta *et al.*, *Khim. Prir. Soedin.*, 258 (1982)

C. hyrcanica.

SESQUITERPENOID: repin.

Evstratova *et al.*, *Khim. Prir. Soedin.*, 451 (1972)

C. hyssopifolia.

SESQUITERPENOIDS: hyssopifolins A, B, C, D and E, vahlenin.

Gonzalez *et al.*, *Phytochemistry*, **13**, 1193 (1974)

C. janeri.

SESQUITERPENOIDS: chlorojanerin, janerin.

Gonzalez *et al.*, *An. Quim.*, **73**, 86 (1977)

C. kandavanensis.

TERPENOIDS: 9 β -hydroxykandavanolide, kandavanolide.

Rustaiyan, Ardebili, *Planta Med.*, **50**, 364 (1984)

C. linifolia.

SESQUITERPENOID: aguerin, linichlorins A, B and C, vahlenin.

Gonzalez *et al.*, *Phytochemistry*, **17**, 997 (1978)

C. littorale.

XANTHONES: 1,8-dihydroxy-3,5-dimethoxyxanthone, 1,8-dihydroxy-3,5,6,7-tetramethoxyxanthone, 1-hydroxy-3,5,6,7,8-pentamethoxyxanthone, 1-hydroxy-3,5,8-trimethoxyxanthone.

Van der Sluis *et al.*, *Phytochemistry*, **24**, 2601 (1985)

C. macrocephala Muss.-Puschk.

PYRAN: 2-acetoxy-6-(1,3,9-undecatriene-5,7-diynyl)-tetrahydropyran.

Bohlmann *et al.*, *Chem. Ber.*, **103**, 2100 (1970)

C. melitensis L.

FLAVONOID: homoorientin, isovitexin, luteolin 7-O-glucoside, 6-methoxyluteolin 7-O-glucoside, 6-methoxyquercetin 7-O-glucoside, orientin, schaftoside, vicenin 2.

SESQUITERPENOID: melitensin, melitensin 8-hydroxyisobutyrate.

(F) Kamanzi *et al.*, *Plant Med. Phytother.*, **17**, 45 (1983)

(T) Gonzalez *et al.*, *Phytochemistry*, **14**, 2039 (1975)

C. nigrescens.

FLAVONOID: demethoxycentaureidin.

Bohlmann *et al.*, *Tetrahedron Lett.*, 3239 (1967)

C. polypodiiflora.

ACID: 1-hydroxybenzoic acid.

Rasulov *et al.*, *Khim. Prir. Soedin.*, 524 (1983)

C. repens.

SESQUITERPENOID: repdiolide.

Stevens *et al.*, *Phytochemistry*, **21**, 1093 (1982)

C. salonitana.

AMINE: N-phenyl- β -naphthylamine.

SESQUITERPENOID: salonitenolide.

(Am) Evstratova *et al.*, *Khim. Prir. Soedin.*, 582 (1977)

(T) Suchy *et al.*, *Collect. Czech. Chem. Commun.*, **32**, 2016 (1967)

C. scabiosa L.

SESQUITERPENOID: scabiolide.

Suchy *et al.*, *Collect. Czech. Chem. Commun.*, **27**, 1905 (1962)

C. seridis.

SESQUITERPENOID: 15-acetylartemisitolin.

Gonzalez *et al.*, *Phytochemistry*, **12**, 2997 (1973)*C. solstitalis L.*

FLAVONOIDS: homoorientin, orientin, quercetin, quercetin 3-O-glucoside, quercetin 7-O-glucoside, schaftoside.

SESQUITERPENOIDS: acetyl solstitalin, solstitalin.

(F) Kamanzi *et al.*, *Plant Med. Phytother.*, **10**, 78 (1976)(T) Zarghami, Heina, *Chem. Ind. (London)*, 1556 (1969)*C. sventenii.*

SESQUITERPENOID: aguerin B.

Gonzalez *et al.*, *Phytochemistry*, **17**, 955 (1978)**CENTELLA***C. asiatica.*

SAPONINS: isothankuniside, thankuniside.

TRITERPENOIDS: brahmic acid, isobrahmic acid, isothankunic acid, madasiatic acid, medicassic acid, thankunic acid.

(Sap) Dutta, Basu, *Bull. Nat Inst Sci. India*, **37**, 178 (1968)(T) Rastogi *et al.*, *J. Sci. Ind. Res.*, **19B**, 252 (1960)**CENTRANTHUS (Valerianaceae)***C. ruber (L.) DC.*

VALPOTRIATE: AHD-valtrate.

Handjieva *et al.*, *Phytochemistry*, **17**, 561 (1978)**CENTRARIA***C. nivalis.*

TRITERPENOID: epi-friedelinol.

Dominguez *et al.*, *Phytochemistry*, **12**, 224 (1973)

C. sanguinea.

ACID: anziaic acid.

Asahina *et al.*, *Ber. Dtsch. Chem. Ges.*, **70**, 1826 (1937)**CENTRATHERUM***C. punctatum.*

SESQUITERPENOID: centratherin.

Ohno *et al.*, *Phytochemistry*, **18**, 681 (1979)**CEPHALIS***C. acuminata Karsten.*

ISOQUINOLINE ALKALOID: emetine.

Battersby, Garratt, *J. Chem. Soc.*, 3512 (1959)*C. ipecacuanha. (Brot.) Rich.*

ISOQUINOLINE ALKALOIDS: cephaeline, emetine, ipecamine, isoemetine.

Battersby, Garratt, *J. Chem. Soc.*, 3512 (1959)**CEPHALARIA (Dipsacaceae)***C. coriacea.*

PHENOLIC: swertidin.

Zemtsova *et al.*, *Khim. Prir. Soedin.*, 705 (1977)*C. gigantea.*

PHENOLIC: swertidin.

Zemtsova *et al.*, *Khim. Prir. Soedin.*, 705 (1977)*C. kotschy.*

FLAVONOIDS: cynaroside, hyperoside, quercimeritin.

Movsumov, Aliev, *Khim. Prir. Soedin.*, 804 (1975)*C. nachiczevanica.*

FLAVONOIDS: cynaroside, hyperoside, quercimeritrin.
 Movsumov, Aliev, *Khim. Prir. Soedin.*, 804 (1975)

C. transylvanica.

TRITERPENOIDS: hederagenin, oleanic acid.
 Tagiev *et al.*, *Khim. Prir. Soedin.*, 822 (1976)

C. uralensis.

GLYCOSIDE: swertiajaponin.
 Zemtsova *et al.*, *Khim. Prir. Soedin.*, 705 (1977)

CEPHALOSPHAERA

C. usambarensis.

TRITERPENOID: 24-methylenecycloartenol.
 Taylor, Ritchie, *Aust. J. Chem.*, **14**, 473 (1961)

CEPHALOSPORIUM

C. aphidicola.

DITERPENOID: aphidicolin.
 Dalziel *et al.*, *J. Chem. Soc., Perkin I*, 2841 (1973)

C. caerulens.

SESTERTERPENOIDS: cephalonic acid, ophiobolin D.
 Irai *et al.*, *Tetrahedron Lett.*, 4111 (1967)
 Nozoe *et al.*, *ibid.*, 4113 (1967)

CEPHALOTAXUS (Cephalotaxaceae)

C. drupacea.

HOMOISOQUINOLINE ALKALOID: cephalotaxine.
 Paundler *et al.*, *J. Org. Chem.*, **28**, 2194 (1963)

C. fortuni Hook.

HOMOISOQUIBOLINE ALKALOIDS: acetylcephalotaxine, cephalotaxine.
 Paundler *et al.*, *J. Org. Chem.*, **38**, 2110 (1973)

C. hainanensis.

HOMOISOQUINOLINE ALKALOID: Homoisoquinoline alkaloid, hainanensine.
 Sun, Liang, *Yao Hsueh Hsueh Pao*, **15**, 39 (1980)

C. harringtonia. (Forbes) K.Koch.

HOMOISOQUINOLINE ALKALOIDS: deoxyharringtonine, drupacine, harringtonine.
 Powell *et al.*, *J. Org. Chem.*, **39**, 676 (1974)

*C. harringtonia (Forbes) K.Koch var. *drupacea*.*

HOMOISOQUINOLINE ALKALOID: harringtonine.
 Powell *et al.*, *Tetrahedron Lett.*, 4081 (1969)

CERAMIUM (Rhodophyceae)

C. rubrum.

CAROTENOIDS: α -carotene, β -carotene, α -cryptoxanthin, β -cryptoxanthin, fucoxanthin, lutein, zeaxanthin.

Bjoernland *et al.*, *Phytochemistry*, **15**, 291 (1976)

CERASTIUM

C. arvense.

FLAVONOIDS: ceravensin, ceravensin 7-O-glucoside, isovitexin 7,2"-di-O-glucoside.
 Dubois *et al.*, *Phytochemistry*, **21**, 1141 (1982)

CERATOCYSTIS

C. minor.

ISOCOUMARINS: 6,8-dihydroxy-3-hydroxymethylisocoumarin, 6,8-dihydroxy-3-methylisocoumarin, scytalone.

McGraw *et al.*, *Phytochemistry*, **16**, 1315 (1977)

CERATOPETALUM

C. apetalum.

TRITERPENOID: friedelanone.

Drake, Jacobsen, *J. Am. Chem. Soc.*, **57**, 1570, 1854 (1935)

CERBERA

C. manghes.

ACIDS: cerberic acid, cerberinic acid.

MONOTERPENOID: cerbinal.

Abe et al., *Chem. Pharm. Bull.*, **25** 3422 (1977)

CERBERTA

C. dilatata.

SAPONIN: cerbertin.

Cable et al., *Aust. J. Chem.*, **18**, 1079 (1965)

C. floribunda.

SAPONIN: cerbertin.

Cable et al., *Aust. J. Chem.*, **18**, 1079 (1965)

CERCIDIPHYLLUM

C. japonica.

FLAVONOID: aromadendrol.

Gripenberg, *Acta Chem. Scand.*, **6**, 1152 (1952)

CERCOSPORA

C. taiwanensis.

PYRONES: cis-3S,4S-4-hydroxymellein, mellein, taiwapyrone.

Camarda *et al.*, *Phytochemistry*, **15**, 537 (1976)

CEREUS (Cactaceae)

C. grandiflorus.

FLAVONOIDs: cacticin, narcissin.

Rahman *et al.*, *J. Org. Chem.*, **27**, 153 (1962)

C. pecten aboriginum.

ISOQUINOLINE ALKALOID: carnegine.

Heyl, *Arch. Pharm.*, **239**, 451 (1901)

C. validus.

AMINE ALKALOID: 3-nitro-4-hydroxyphenethylamine.

Neme *et al.*, *Phytochemistry*, **16**, 277 (1977)

CEROPEGIA

C. dichotoma.

TRITERPENOIDS: guimarenol, lup-18-en-3 β -ol.

Gonzalez *et al.*, *An. Quim.*, **69**, 921 (1973)

CERURA

C. vinula.

CAROTENOID: 3-hydroxy- β,ϵ -caroten-3'-one.

Kayser, *J. Compar. Physiol.*, **104**, 27 (1975)

CETRARIA

C. nivalis.

TRITERPENOID: 22 α -hydroxystictan-3-one.

Wilkins, *Phytochemistry*, **16**, 608 (1977)

C. richardsonii.

STEROID: ergosterol peroxide.

Sviridov, Strigina, *Khim. Prir. Soedin.*, 669 (1976)

CHAENOMELES (Rosaceae)

C. japonica.

MONOTERPENOID: betalbuside A, betalbuside B.

Tschesche *et al.*, *Chem. Ber.*, **110**, 3111 (1977)

CHAENORHINUM (Scrophulariaceae)

C. minus (L.) Lange.

MACROCYCLIC ALKALOID: O-methylorantine.

Datwyler *et al.*, *Helv. Chim. Acta*, **62**, 2712 (1979)

C. organifolium.

MACROCYCLIC ALKALOID: chaenorhine.

Hesse, Schmid, Izv. Otd. Khim. Nauk, *Bulg. Akad. Nauk*, **5**, 279 (1972)

C. rubrifolium.

MACROCYCLIC ALKALOID: (+)-chaenorhine.

Bosshardt *et al.*, *Pharm. Acta Helv.*, **51**, 371 (1976)

C. villosum.

MACROCYCLIC ALKALOID: O-methylorantine.

Bosshardt *et al.*, *Pharm. Acta Helv.*, **51**, 371 (1976)

CHAITURUS

C. marrubiastrum.

DITERPENOID: deoxymarrubialactone.

Popa, Salei, *Khim. Prir. Soedin.*, 399 (1976)

CHAMAECYPARIS (Cupressaceae)

C. formosensis Maxim.

41 norsesquiterpenoids and sesquiterpenoids.

Feng, *J. Chin. Chem. Soc.*, **33**, 265 (1986); *Chem. Abstr.*, 107 4282a

C. lawsoniana (A.Murr.) Parl.

SESQUITERPENOIDS: canadene, α -cadinol.

Shaw, *Can. J. Chem.*, **31**, 193 (1953)

C. nootkatensis (D.Don.) Spach.

DITERPENOID: 6-epi-manool oxide.

MONOTERPENOID: chaminic acid.

SESQUITERPENOIDS: α -alaskene, β -alaskene, cis-calamenene, trans-calamenene, calameone, calamone, (+)-calamusenone, chanootin, nootkatene, nootkatin, (+)-nootkatone.

Andersen *et al.*, *Tetrahedron Lett.*, 905 (1972)

C. obtusa (Sieb. et Zucc.) Endl.

TRITERPENOIDS: chamaecydin, 6-hydroxychamaecydin.

Hirose *et al.*, *J. Chem. Soc., Chem. Commun.*, 1535 (1983)

C. pisifera.

DITERPENOIDS: pisiferal, pisiferdiol, pisiferic acid, pisiferin, pisiferol.

Yatagi *et al.*, *Phytochemistry*, **19**, 1149 (1980)

C. pisifera var. plumosa.

DITERPENOIDS: O-methylpisiferic acid, pisiferic acid.

Kobayashi *et al.*, *Agr. Biol. Chem.* **50**, 240 (1986)

C. thyoides (L.) Britt.

SESQUITERPENOIDS: cuparene, cuparenic acid, hinokiic acid.

Matsui *et al.*, *Phytochemistry*, **14**, 1037 (1975)

CHAMAEDAPHNE

C. calyculata.

FLAVONOID: guaijaverin.

Glyzin *et al.*, Khim. Prir. Soedin., 515 (1975)

CHAMAENERION (Onagraceae)

C. angustifolium (L.) Scop. (Epilobium angustifolium L.).

PHENOLICS: chamaeneric acid I, chamaeneric acid II.

TRITERPENOID: 2-hydroxyursolic acid.

(P) Sasov *et al.*, Khim. Prir. Soedin., 106 (1986)

(T) Glen *et al.*, J. Chem. Soc., C, 510 (1967)

CHAMONIXIA (Basidiomycetae)

C. caespitosa.

PIGMENTS: chamonixin, gyrocyanin, gyrosporin.

Steglich *et al.*, Z. Naturforsch., 32C, 46 (1977)

CHARTOLEPIS

C. intermedia.

SESQUITERPENOID: grossheimin.

Samek *et al.*, Tetrahedron Lett., 4775 (1971)

CHASMANTHERA (Menispermaceae)

C. dependens.

MORPHINANDIENONE ALKALOID: pallidine.

PAVINE ALKALOID: bisnorargeminine.

PROTOBERBERINE ALKALOIDS: coreximine, govanine.

DITERPENOID: 8-hydroxycolumbin.

(A) Ohiri *et al.*, *Planta Med.*, **49**, 17 (1983)

(T) Oguakwa *et al.*, *ibid.*, 198 (1986)

CHEILANTHES (Cruciferae)

C. albomarginata.

FLAVONOIDs: genkwanin, kumatukenin, rhamnocitrin.

Wollenweber, *Phytochemistry*, **15**, 2013 (1976)

C. allionii.

SAPONINS: digitoxigenin glucodigulomethylloside, digitoxigenin gulomethylloside.

STEROID: alliotoxigenin.

Makarevich *et al.*, *Khim. Prir. Soedin.*, 754 (1975)

C. bulbosa.

FLAVONOIDs: acacigenin, apigenin, apigenin dimethyl ether.

Wollenweber, *Phytochemistry*, **15**, 2013 (1976)

C. farinosa.

STEROIDS: cheilanthon A, cheilanthon B.

SESTERTERPENOIDS: cheilanthatriol, cheilarinosin.

Iyer *et al.*, *Indian J. Chem.*, **10**, 482 (1972)

C. fragrans.

FLAVONOID: quercetin 3-O-glucosylgalactosylrhamnoside.

Imperato *et al.*, *Chem. Ind.*, 709 (1985)

C. grisea.

FLAVONOIDs: apigenin 7,4'-dimethyl ether, apigenin 7-methyl ether, kaempferol, kaempferol 7,4'-dimethyl ether, kaempferol 3,7,4'-trimethyl ether.

Wollenweber, *Phytochemistry*, **15**, 2013 (1976)

C. marantae.

TRITERPENOID: 6 β ,22-dihydroxyhopane.

Gonzalez *et al.*, *Phytochemistry*, **15**, 1996 (1976)

C. rufa.

FLAVONOIDs: genkwanin, kumatukenin, rhamnocitrin.

Wollenweber, *Phytochemistry*, **15**, 2013 (1976)

***C. scoparius* Brouss.**

STEROIDS: 16 β -acetoxystrophanthidin, arguayoside, corchoroside A, 16-dehydrostrophanthidin, helveticoside, strophanthidin, taucidoside.

Gonzalez *et al.*, *Farmaco Nueva*, **41**, 264, **267**, 273 (1976)

***C. tenuifolia*.**

STEROIDS: cheilanthon A, cheilanthon B.

Faux *et al.*, *J. Chem. Soc., Chem. Commun.*, 243 (1970)

CHELIDONIUM (Papaveraceae)

***C. majus* L.**

DIMERIC ALKALOID: chelidimerine.

OXOPROTOBERBERINE ALKALOIDS: α -allocryptopine, β -allocryptopine.

OXOQUINOLIZIDINE ALKALOID: protopine.

PHENANTHROISOQUINOLINE ALKALOIDS: chelerythrine, chelidonine, oxychelidone, sanguinarine.

PROTOBERBERINE ALKALOID: berberine.

SPARTEINE ALKALOID: (-)-sparteine.

UNCHARACTERIZED ALKALOIDS: chelidamine, chelirubine, corysamine.

Platonova *et al.*, *J. Gen. Chem. USSR*, **26**, 188 (1965)

Kun *et al.*, *J. Pharm. Sci.*, **56**, 372 (1969)

CHENOPODIUM (Chenopodiaceae)

***C. ambrosioides* L.**

DITERPENOID: aritasone.

Nakajima *et al.*, *J. Pharm. Soc., Japan*, **82**, 1278 (1962)

***C. atrovirens*.**

FLAVONOIDS: isorhamnetin 3-O-glycoside, quercetin 3-O-glycoside.

Crawford, *Brittonia*, **27**, 279 (1975); *Chem. Abstr.*, 84 56525b

***C. botrys* L.**

SESQUITERPENOIDS: 11-acetoxy-cis-guai-10(14)-en-4 α -ol, 4 α -acetoxy selinane-6 α ,11-diol, 6 α -acetoxy selin-4(15)-en-11-ol, 6 α -acetoxy selin-3-en-11-ol-2-one, chenopodic acid, α -chenopodiol, α -chenopodiol 6-acetate, β -chenopodiol, cis-guai-10-en-4 α ,11-diol, selinane-3 α ,4 α ,6 α ,11-tetraol, selinane-3 β ,6 α ,11-tetraol, selin-3-en-6 α ,11 β -

dihydroxy-2-one, selin-4(15)-en-3 β ,11-diol, selin-4-en-3 α ,6 α , 11-triol, selin-4(11)-en-3 α ,6 α ,11 -triol, selin-4(15)-en-3 β ,6 α ,11-triol.

de Pascual Teresa *et al.*, *Tetrahedron*, **36**, 371 (1980)

C. dessicatum var.

DESSICATUM, FLAVONOIDs: isorhamnetin 3-O-glycoside, quercetin 3-O-glycoside.

Crawford, *Brittonia*, **27**, 279 (1975); *Chem. Abstr.*, 84 56525b

C. dessicatum var. *leptophylloides*.

FLAVONOIDs: isorhamnetin 3-O-glycoside, quercetin 3-O-glycoside.

Crawford, *Brittonia*, **27**, 279 (1975); *Chem. Abstr.*, 84 56525b

C. hians.

FLAVONOIDs: isorhamnetin 3-O-glycoside, quercetin 3-O-glycoside.

Crawford, *Brittonia*, **27**, 279 (1975); *Chem. Abstr.*, 84 56525b

C. leptophyllum.

FLAVONOIDs: isorhamnetin 3-O-glycoside, quercetin 3-O-glycoside.

Crawford, *Brittonia*, **27**, 279 (1975); *Chem. Abstr.*, 84 56525b

CHICORUM

C. endiva.

ACID: chicoric acid.

Scarpatti *et al.*, *Tetrahedron*, **4**, 43 (1958)

C. intybus.

ACID: chicoric acid.

Scarpatti *et al.*, *Tetrahedron*, **4**, 43 (1958)

CHIDLOWIA

C. sanguinea.

PURINE ALKALOID: triacanthine.

Monseur, Adriaens, *J. Am. Chem. Soc.*, **84**, 2148 (1962)

CHILOSCYPHUS (Hepaticae)

C. polyanthus.

SESQUITERPENOIDS: chiloscyphone, ent-5 β -hydroxydiplophyllin, ent-3-oxodiplophyllin, α -selinene.

Asakawa *et al.*, *Phytochemistry*, **18**, 1007 (1979)

CHIMONANTHUS (Calycanthaceae)

C. fragrans Lindl. (Meratia praecox Rehd. et Wils.).

DIMERIC ALKALOID: (-)-chimonanthine.

STEROID: isoallochionographalone.

(A) Hodgson, Robinson, *Proc. Chem. Soc.*, 465 (1961)

(S) Sauer *et al.*, *Justus Liebigs Ann. Chem.*, **742**, 152 (1970)

CHIONOGRAPHIS

C. japonica Maxim.

STEROIDS: allochionographolone, chionogralactone, chionographolone, chionograsterol A, chionograsterol B, chionograsterone, kryptogenin.

Takeda *et al.*, *J. Pharm. Soc. Japan*, **88**, 104 (1968)

Sauer *et al.*, *Justus Liebigs Ann. Chem.*, **742**, 152 (1970)

CHISOCHETON

C. paniculatus.

TETRANORTriterpenoids: 6 α -acetoxyazadirone, 6 α -acetoxy-16-oxoazadirone.

TRITERPENOIDS: chisochetons A, B and C.

Saika *et al.*, *Indian J. Chem.*, **16B**, 1042 (1978)

Connolly *et al.*, *J. Chem. Soc., Perkin I*, 2959 (1979)

CHLORANTHUS

C. glaber.

SESQUITERPENOIDS: chlorantholactone A, chlorantholactone B.

Uchida *et al.*, *Heterocycles*, **9**, 139 (1978)

C. japonicus Sieb.

SESQUITERPENOIDS: chlorantholactone, shizukacoradienol, shizukanolide.

Kawabata *et al.*, *Agr. Biol. Chem.*, **48**, 713 (1984)

CHLORODESMIS (Chlorophyceae)

C. fastigiata.

TERPENOIDS: chlorodesmin, dihydrochlorodesmin.

Wells, Barrow, *Experientia*, **35**, 1544 (1979)

CHLOROGALUM

C. pomeridianum.

SAPONIN: amolonin.

STEROIDS: chlorogenin, tigogenin.

Tschesche *et al.*, *Justus Liebigs Ann. Chem.*, **699**, 212 (1966)

CHLOROPHORA (Moraceae)

C. tinctoria Gand.

TERPENOID: 6-prenylpinocembrin.

XANTHONE: 1,3,6,7-tetrahydroxyxanthone.

Gottlieb *et al.*, *Phytochemistry*, **14**, 1674 (1975)

CHLOROXYLON

C. swietenia (L.) DC.

FURANOQUINOLINE ALKALOIDS: chloroxylonine, skimmianine.

QUINOLINE ALKALOIDS: swietenidine A, swietenidine B.

COUMARINS: alloxanthoxyletin, demethyluvangetin, 8-prenyliodoketin, swietenocoumarins A, B, C, D, E and F, swietenol, swietenone.

PHENOLIC: 2,4-dihydroxy-5-prenylcinnamic acid.

(A) Auld, *J. Chem. Soc.*, **95**, 964 (1909)

(C) Bhide *et al.*, *Indian J. Chem.*, **15B**, 440 (1977)

(P) Majumder *et al.*, *ibid.*, **15B**, 200 (1977)

CHOANEPHRA

C. trispora.

SESQUITERPENOIDS: anhydrotrisporone, trisporone.

Cainelli *et al.*, *Chem. Ind. (London)*, **49**, 628, 740 (1967)

CHOISYA (Rutaceae)

C. arizonica.

COUMARIN: ramosin.

Dreyer *et al.*, *Phytochemistry*, **11**, 705 (1972)

C. mollis.

COUMARIN: ramosin.

Dreyer *et al.*, *Phytochemistry*, **11**, 705 (1972)

C. ternata H.B.K.

FURANOQUINOLINE ALKALOIDS: choisyne, evoxine, skimmianine.

FLAVONOIDS: astragalin, kaempferol 3-O-rhamnoside, quercetol 3-O-rutinoside.

(A) Frolova *et al.*, *Med. Prom.*, 35 (1958)

(F) Tea *et al.*, *Plant Med. Phytother.*, **9**, 187 (1975)

CHONDRIA (Rhodophyceae)

C. californica.

CYCLIC POLYSULPHIDES: 4-dioxo-1,2,4,6-tetrathiepane, 1-oxo-1,2,4-trithiolane, 4-oxo-1,2,4-trithiolane, 1,2,3,5,6-pentathiepane, 1,2,4,6-tetrathiepane, 1,2,4-trithiolane.

Wratten, Faulkner, *J. Org. Chem.*, **41**, 2465 (1976)

C. oppositiflada.

SESQUITERPENOIDS: cycloeuodesmol, isocycloeuodesmol.

Suzuki *et al.*, *Chem. Lett.*, 1267 (1980)

CHONDROCOCCUS (Rhodophyceae)

C. hornemannii.

HALOGENATED MONOTERPENOIDS: chondrocolactone, chondrocole A, chondrocole B.

Wppard *et al.*, *Tetrahedron Lett.*, 2367 (1978)

CHONDRODENDRON

C. limacifolium.

ALKALOIDS: two uncharacterized bases.

Barltrop, Jeffreys, *J. Chem. Soc.*, 159 (1954)

C. platyphyllum (St.Hill.) Miers.

BISBENZYLISOQUINOLINE ALKALOIDS: chondrofoline, isochondrodendrine.

UNCHARACTERIZED ALKALOIDS: bebeerine B, α -bebeerine.

King, *J. Chem. Soc.*, 737 (1940)

C. tomentosum.

BISBENZYLISOQUINOLINE ALKALOIDS: chondrocurarine chloride, (+)-chondrocurine, (-)-curine, (+)-tomentocurine.

King, *J. Chem. Soc.*, 1472 (1937)

Dutcher, *J. Am. Chem. Soc.*, **74**, 2221 (1952)

CHONEMORPHA

C. macrophylla.

STEROIDAL ALKALOIDS: chonemorphine, funtumufrine C, japindine.

Banerji *et al.*, Indian J. Chem., **11**, 1056 (1973)

C. penangensis.

STEROIDAL ALKALOID: chonemorphine.

Chatterjee, Das, Chem. Ind. (London), 1445 (1959)

CHORISIA

C. insignis.

STEROIDS: brassicasterol, campesterol, cholesterol, 24-ethylcholesta-1,3,6-triene, β -sitosterol, stigmasterol, stigmasta-3,5-dien-7-one, stigmasta-4,6-dien-3-one, stigmast-4-en-3,6-dione, stigmast-4-en-3-one.

Becerra *et al.*, Rev. Latinoam. Quim., **14**, 92 (1983)

C. speciosa.

STEROIDS: brassicasterol, campesterol, cholesterol, 24-ethylcholesta-1,3,6-triene, stigmasta-3,5-dien-7-one, stigmasta-4,6-dien-3-one, stigmast-4-en-3,6-dione, stigmast-4-en-3-one, stigmasterol.

Becerra *et al.*, Rev. Latinoam. Quim., **14**, 92 (1983)

CHRESTA

C. sphaerocephala.

SESQUITERPENOID: chrestanolide.

Bohlmann *et al.*, Phytochemistry, **20**, 518 (1981)

CHROMOLAENA

C. collina.

DITERPENOID: 7β -acetoxy-trans-communic acid.

Bohlmann, Fiedler, *J. Indian Chem. Soc.*, **55**, 1161 (1978)

C. glaberrina.

SESQUITERPENOID: chromolaenin.

Bohlmann, Lothar, *Chem. Ber.*, **111**, 408 (1978)

C. laevigata.

SESQUITERPENOID: chromolaenin.

Bohlmann, Lothar, *Chem. Ber.*, **111**, 408 (1978)

C. meridensis.

FLAVONOIDS: eriodactylol 7-methyl ether, eupatolitin, rhamnetin, velutin.

Amaro *et al.*, *Rev. Latinoam. Quim.*, **14**, 86 (1983)

C. pseudoinsignis.

SESQUITERPENOID: 7,12-dihydroxy-4-amorphen-3-one.

Bohlmann *et al.*, *Phytochemistry*, **21**, 371 (1982)

CHRYSANTELLUM

C. procumbens Rich.

SAPONINS: chrysantellin A, chrysantellin B.

Becchi *et al.*, *Eur. J. Biochem.*, **108**, 27 (1980)

CHRYSANTHEMUM (Compositae)

C. anethifolium Brous.

STEROID: β -sitosterol.

TRITERPENOID: α -amyrin.

Sayed *et al.*, *Bull. Fac. Pharm. Cairo Univ.*, **12**, 101 (1976); *Chem. Abstr.*, 85 43709k

C. boreale.

ESTER: buranoic acid 3-methyl-2-(2,4-dihexadiynylidene)-4-hydroxy-1,6-dioxaspiro-[4,5]-dec-3-yl ester.

Matsuo *et al.*, *Tetrahedron Lett.*, 1885 (1974)

C. cineriaefolium Bocc.

UNCHARACTERIZED ALKALOID: chrysanthemine.

NORTRITERPENOID: pyrethrol.

SESSQUITERPENOID: pyrethrosin.

UNCHARACTERIZED TERPENOIDS: jasmolin I, jasmolin II.

(A) Yoshimura *et al.*, *Z. Physiol. Chem.*, **77**, 290 (1912)

(T) Castille, Louvain, *An. R. Acad. Farm.*, **32**, 721 (1966)

(T) Godin *et al.*, *J. Chem. Soc., C*, 332 (1966)

C. coronarium.

CAROTENOID: mutatochrome.

SESSQUITERPENOID: dihydrocumambrin A.

El-Masry *et al.*, *Phytochemistry*, **23**, 2983 (1984)

C. floculosum.

SESSQUITERPENOID: α -bisabolone.

Bohlmann, Rao, *Tetrahedron Lett.*, 1295 (1972)

C. indicum.

SESSQUITERPENOID: yehujalactone.

Chien, Chen, *Yao Hsueh Hsueh Pao*, **10**, 129 (1963)

C. japonense.

MONOTERPENOIDS: nojigiku acetate, nojigiku alcohol.

Matsuo *et al.*, *Tetrahedron Lett.*, 4219 (1974)

C. leucanthemum L.

ACETYLENIC: 4-acetoxy-8,9-epoxy-7-(2-hexadiynylidene)-1,6-dioxaspiro-[4,4]-non-2-ene.

FLAVONOIDS: acacetin, scopoletin.

PHENOLIC: 2,6-dimethoxy-p-benzoquinone.

(Ac) Bohlmann *et al.*, *Justus Liebigs Ann. Chem.*, **668**, 51 (1963)

(F, P) Waddell *et al.*, *J. Tenn. Acad. Sci.*, **56**, 53 (1983); *Chem. Abstr.*, 100 48584d

C. morifolium Ramat.

HALOGENATED SESSQUITERPENOID: chlorochrymorin.

Osawa *et al.*, *Tetrahedron Lett.*, 5135 (1973)

C. morifolium Ramat. var. sinense Makino f. esculentum Makino.

ALIPHATICS: heptacosane, pentocosane.

FLAVONOID: apigenin.

Takahashi *et al.*, *Chem. Abstr.*, 97 159570k

C. nauseatum.

DITERPENOID: 16-succinylxygrindelic acid.

Rose, *Phytochemistry*, **19**, 2689 (1980)

C. ornatum var. spontaneum.

SESQUITERPENOID: angeloylcumambrin B.

Haruno *et al.*, *Phytochemistry*, **20**, 2583 (1981)

C. parthenium (L.) Bernh.

SESQUITERPENOIDS: chrysartenin A, chrysartenin B.

Romo *et al.*, *Phytochemistry*, **9**, 1615 (1970)

C. poteriifolium.

SESQUITERPENOID: cis, cis-2 α -hydroxycostunolide.

Bohlmann, Ehlers, *Phytochemistry*, **16**, 137 (1977)

C. sinense.

MONOTERPENOID: chrysanthenone.

Penfold *et al.*, *J. Chem. Soc.*, 1496 (1939)

C. vulgare (L.) Bernh. (Tanacetum vulgare L.).

MONOTERPENOID: (+)-filifolide.

SESQUITERPENOIDS: (+)-vulgarone A, (+)-vulgarone B.

Uchio *et al.*, *Int. Congr. Ess. Oils*, **20**, 1049 (1967)

CHYSOSPLENIUM (Saxafragaceae)

C. alternifolium.

FLAVONOIDs: 3,7-di-O-methylquercetagenin, penduletin, 3,6,7,3'-O-tetramethylquercetagenin, 3,6,7-O-trimethylquercetagenin.

Jay *et al.*, *Phytochemistry*, **15**, 517 (1976)

C. oppositifolium.

FLAVONOIDs: 3,6,7,3'-O-tetramethylquercetagenin, 3,7,3'-O-trimethylquercetagenin, 3,6,7-O-trimethylquercetagenin.

Jay *et al.*, *Phytochemistry*, **15**, 517 (1976)

C. tetrandrum.

FLAVONOID: penduletin.

Jefferies *et al.*, *Aust. J. Chem.*, **20**, 1049 (1967)

CHYSOTHAMNUS (Compositae)

C. paniculatus.

DITERPENOIDS: chrysolic acid, chrysothane, 12 norsesterpenoids and diterpenoids.

Timmermann *et al.*, *Phytochemistry*, **22**, 523 (1983)

C. nauseosus.

DITERPENOID: 1-hydroxygrindelic acid.

Rose *et al.*, *Phytochemistry*, **19**, 2689 (1980)

C. viscidiflorus.

FLAVONOIDS: quercetagenin 3,5,6,3'-tetramethyl ether, 5,7,4'-trihydroxy-3,6,8,3'-tetramethoxyflavone.

Urbatsch *et al.*, *Phytochemistry*, **14**, 2279 (1975)

CHUKRASIA

C. tabularis A.Juss.

ACID: tannic acid.

FLAVONOIDS: quercetin, quercetin 3-galactoside.

LIMONOIDS: 6-acetoxychukrasin, 12 α -acetoxyphragmalin 3,30-diisobutyrate, 12 α -acetoxyphragmalin 30-propionate, chukrasins A, B, C, D and E, phragmalin 3,30-diisobutyrate, phragmalin 3-isobutyrate-30-propionate, tabularin.

(Ac, F) Purushothaman *et al.*, *J. Res. Indian Med.*, **10**, 25 (1975); *Chem. Abstr.*, 85 2561n

(T) Ragettli, Tam, *Helv. Chim. Acta*, **61**, 1814 (1978)

CHYSIS

C. bracteescens.

PYRROLIZIDINE ALKALOIDS: chysin A, chysin B, (+)-1-(methoxycarbonyl)-pyrrolizidine.

Luning, Trankner, *Acta Chem. Scand.*, **22**, 2324 (1968)

CICAS (CYCAS)

C. circinalis.

ALKALOID: cycasin.

Riggs *et al.*, *Chem. Ind.*, 926 (1956)

C. revoluta.

ALKALOID: cycasin.

Riggs *et al.*, *Chem. Ind. (London)*, 926 (1956)

CIMICIFUGA (Ranunculaceae)

C. acerina.

SAPONIN: 25-O-methylcimigenoside.

TRITERPENOIDS: acerinol, acerionol, isodahurinol.

Kusano *et al.*, *J. Pharm. Soc., Japan*, **96**, 321 (1976)

C. acerina var. peltata.

TRITERPENOIDS: 24-O-acetylhydroshengmanol xyloside, acetylshengmanol, acetylshengmanol xyloside, shengmanol xyloside.

Kimura *et al.*, *J. Pharm. Soc., Japan*, **103**, 293 (1983)

C. dahurica. Two uncharacterized alkaloids.

TRITERPENOID: dahurinol.

(A) Hata *et al.*, *Chem. Pharm. Bull.*, **26** 2279 (1978)

(T) Sakurai *et al.*, *J. Pharm. Soc., Japan*, **92**, 724 (1972)

C. japonica.

SAPONIN: 25-O-methylcimigenoside.

TRITERPENOIDS: acerinol, acerionol, 24-O-acetyldihydroshangmanol xyloside.

Sakurai *et al.*, *Chem. Pharm. Bull.*, **29**, 955 (1981)

C. simplex.

TRITERPENOIDS: acerinol, acerionol, cimicifugenol, cimicifugin, cimicifugoside, cimigol, isodahurinol.

Takemoto *et al.*, *J. Pharm. Soc., Japan*, **90**, 68 (1970)

Kusano *et al.*, *Chem. Pharm. Bull.*, **25**, 3182 (1977)

CINCHONA

C. amygdalifolia.

QUINOLINE ALKALOIDS: dihydroquinidine, quinidine, epi-quinidine, quinine, epi-quinine.

Forst, Bohringer, *Ber. Dtsch. Chem. Ges.*, **15**, 520, 1656 (1882)

C. calisaya Ledger.

QUINOLINE ALKALOIDS: dihydroquinidine, homocinchonidine, quinidine, epi-quinidine, quinine, epi-quinine.

Forst, Bohringer, *Ber. Dtsch. Chem. Ges.*, **15**, 520, 1656 (1882)

C. calisaya Ledger var. javanica.

UNCHARACTERIZED ALKALOID: javanine.

QUINOLINE ALKALOIDS: dihydroquinidine, quinidine, epi-quinidine, quinine, epi-quinine.

Hesse, *Ber. Dtsch. Chem. Ges.*, **10**, 2162 (1877)

C. ledgeriana.

QUINOLINE ALKALOIDS: alkaloid CL-I, alkaloid CL-II, alkaloid Cl-III, alkaloid Cl-IV, alkaloid CL-V, alkaloid CL-VI, cinchophyllamine, conquinamine, isocinchophyllamine, quinamine, quinine.

Potier *et al.*, *Bull. Soc. Chim. Fr.*, **7**, 2309 (1966)

Zeches *et al.*, *Phytochemistry*, **19**, 2451 (1980)

C. micrantha.

QUINOLINE ALKALOIDS: cinchonine, quinidine, epi-quinidine, quinine, epi-quinine.

Martinotti, *Ind. Chim. Rome*, **6**, 395 (1931)

C. pelletierana Wedd.

QUINOLINE ALKALOID: quinine.

UNCHARACTERIZED ALKALOIDS: conchairamidine, conchairamine, cusciamidine, cuscamine.

Hesse, *Justus Liebigs Ann. Chem.*, **200**, 304 (1880)

C. pitayensis.

QUINOLINE ALKALOIDS: dihydroquinidine, quinidine, epi-quinidine, quinine, epi-quinine.

Forst, Bohringer, *Ber. Dtsch. Chem. Ges.*, **15**, 520, 1656 (1882)

C. rosulenta.

QUINOLINE ALKALOID: dicinchonine.

Hesse, *Justus Liebigs Ann. Chem.*, **227**, 154 (1885)

***C. succirubra* Pav.**

QUINOLINE ALKALOIDS: cinchamidine, conquinamine, dicinchonine, diconquinine, homocinchonidine, quinamine, epi-quinidine, quinine.

UNCHARACTERIZED ALKALOID: succirubine.

Khuda *et al.*, *Sci. Res., (Dacca)*, **2**, 1 (1965)

***C. tucujensis*.**

QUINOLINE ALKALOID: cinchonidine.

Goutarel *et al.*, *Helv. Chim. Acta*, **33**, 150 (1950)

CINERARIA

***C. albicans*.**

SESQUITERPENOID: 1-oxocinalbicol.

Abraham, *Phytochemistry*, **17**, 1629 (1978)

***C. decipiens*.**

SESQUITERPENOID: 1-oxocinalbicol.

Abraham, *Phytochemistry*, **17**, 1629 (1978)

***C. fruticulorum*.**

MONOTERPENOID: 2-pinene-4,10-diol.

SESQUITERPENOID: 5,7,11-cineratrien-9-one.

TRITERPENOID: biscineradienone.

Bohlmann *et al.*, *Phytochemistry*, **21**, 2531 (1982)

***C. lydrata*.**

SESQUITERPENOIDS: cinalyatol acetate, 1,10-dihydrocinalyatol acetate.

Abraham, *Phytochemistry*, **17**, 1629 (1978)

CINNAMOMUM (Lauraceae)

***C. camphora* Sieb.**

LIGNANS: cinnamonol, dimethylmatairesinol, dimethylsecoisolariciresinol, hinokinin, kusunokinin.

MONOTERPENOIDS: (+)-camphene, (-)-camphene, (+)-camphor, 3,7-dimethylocta-1,5-dien-3,7-diol, 3,7-dimethylocta-1,7-dien-3,6-diol.

SESQUITERPENOIDS: camphorenol, epi-camphorenol, camphorenone.

(L) Takaoka *et al.*, *Bull. Chem. Soc., Japan*, **50**, 2821 (1977)

(T) Hikino *et al.*, *Tetrahedron Lett.*, 5069 (1967)

C. cassia Blume.

PHENOLICS: (-)-epi-catechin, procyanidins B1, B2, B5, B7 and C1.

TANNINS: cinnamtannins A1, A2, A3 and A4.

DITERPENOIDS: cinncassiols A, B, C, C1, C3, D1, D2, D3 and D4, cinncassiol D1 glucoside, cinncassiol D2 glucoside.

(P, Tan) Morimoto *et al.*, *Chem. Pharm. Bull.*, **34**, 633 (1986)

(T) Nohara *et al.*, *ibid.*, **29**, 2451 (1981)

C. japonicum.

MONOTERPENOIDS: cis-yabunikkeol, trans-yabunikkeol.

Fujita *et al.*, *Bull. Chem. Soc., Japan*, **43**, 1599 (1970)

C. kanahirai.

CYCLOPENTANE: 1,2,3,3-tetramethylcyclopentane.

Saito *et al.*, *J. Chem. Soc., Japan*, **64**, 1024 (1943)

C. micranthum.

ALIPHATICS: octatriacontane, tetracosanol, triacontanoic acid.

STEROIDS: cholesterol, β -sitosterol.

Lin *et al.*, *Chem. Abstr.*, 85 1892221

C. obtusifolium Nees.

PHENOLICS: (-)-epi-catechin, procyanidins B2, B5, B7 and C1.

TANNINS: cinnamtannins A2, A3 and A4.

Morimoto *et al.*, *Chem. Pharm. Bull.*, **34**, 633 (1986)

C. sieboldii Meisner.

PHENOLICS: (+)-catechin, (-)-epi-catechin, proanthocyanidins B1, B2 and B5.

Morimoto *et al.*, *Chem. Pharm. Bull.*, **33**, 4338 (1985)

C. zeylanicum.

DITERPENOIDS: cinnzeylanol, cinnzeylanol 1-acetate.

Isogai *et al.*, *Agr. Biol. Chem.*, **40**, 2305 (1976)

CINNAMOSMA

C. fragrans.

SESQUITERPENOIDS: bemadienolide, bemarivolide.

Canonica *et al.*, *Tetrahedron*, **25**, 3903 (1969)

CIRSIUM

C. arisanense Kitamura.

FLAVONOID: linarin.

Morita *et al.*, *Chem. Abstr.*, 88 34562s

C. arvense.

FLAVONOID: linarin.

Rendyuk *et al.*, *Khim. Prir. Soedin.*, 282 (1977)

C. ferum Kitamura.

ACID: fumaric acid.

FLAVONOID: pectolinarin.

Morita *et al.*, *Chem. Abstr.*, 88 34562s

C. kawakamii.

FLAVONOID: luteolin 7-glucoside.

Lin, *J. Chin. Chem. Soc.*, **22**, 275 (1975); *Chem. Abstr.*, 84 28055e

C. setosum Willd.

FLAVONOID: linarin.

Rendyuk *et al.*, *Acta Pharm. Jugosl.*, **27**, 135 (1977); *Chem. Abstr.*, 88 117796x

C. wallichii.

ACID: fumaric acid.

Lin, *J. Chin. Chem. Soc.*, **22**, 275 (1975); *Chem. Abstr.*, 84 28055e

CISSAMPELOS

C. insularis Makino.

BISBENZYLISOQUINOLINE ALKALOID: insularine.

Kondo, Yano, *J. Pharm. Soc., Japan*, No. **54**, 107 (1927)

C. pareira L.

BISBENZYLISOQUINOLINE ALKALOIDS: cissampareine, (++)-curine-4"-methyl ether, (\pm)-hayatidine, hayatine, tetrandrine, tetrandrine N-2'-oxide.

PROTOBERBERINE ALKALOID: cyclanoline.

Kupchan *et al.*, *J. Pharm. Sci.*, **54**, 580 (1965)

Dahmen *et al.*, *Arch. Pharm.*, **310**, 95 (1977)

CISSUS

C. pallida.

DIMER: pallidol.

Khan *et al.*, *Phytochemistry*, **25**, 1945 (1986)

CISTANCHE (Orobanchaceae)

C. salsa.

IRIDOIDS: 6-deoxycatalpol, mussaenosidic acid.

Kobayashi *et al.*, *Chem. Pharm. Bull.*, **33**, 3645 (1985)

CISTUS (Cistaceae)

C. bourgeanii.

TRITERPENOID: casasequic acid.

de Pascual Teresa *et al.*, *An. Quim.*, **75**, 131 (1979)

C. clusii.

FLAVONOIDS: apigenin 7,4'-dimethyl ether, luteolin 7,3'-dimethyl ether, luteolin 7,3',4'-trimethyl ether, quercetin 3,7,3',4'-tetramethyl ether, quercetin 7,3',4'-trimethyl ether.

MONOTERPENOID: borneol, bornyl acetate, camphene, limonene, α -pinene, β -pinene.

SESQUITERPENOID: caryophyllene oxide, ent-13-epi-manoyl oxide.

TRITERPENOID: (-)-betuligenol.

de Pascual Teresa *et al.*, *An. Quim.*, **73**, 40 (1983)

C. hirsutus.

ALIPHATICS: hentriaccontane, nonacosane.

Kaehlen *et al.*, *Z. Pflanzenphysiol.*, **77**, 99 (1975); *Chem. Abstr.*, 84 71470y

C. ladaniferus.

ALIPHATICS: hentriaccontane, nonacosane.

DITERPENOID: 8-abien-18-oic acid, 6β -acetoxy-7-oxo-8-labden-15-oic acid, ambreinolide, dihydropalustric acid, labdane-8 α ,15-diol, labdanolic acid, labdan-8 α ,15,19 α -triol, 12-norambreinolide, 8-epi-norambreinolide.

(Al) Kaehlen *et al.*, *Z. Pflanzenphysiol.*, **77**, 99 (1975); *Chem. Abstr.*, 84 71470y
 (T) de Pascual Teresa *et al.*, *An. Quim.*, **75**, 335 (1979)

C. laurifolius L.

ALIPHATICS: hentriaccontane, nonacosane.

DINORDITERPENOIDS: salmantic acid, salmantic acid methyl ester, salmantidiol.

DITERPENOID: 6 β -acetoxy-8,13S-epoxy-15-methoxy-ent-labdane.

(Al) Kaehlen *et al.*, *Z. Pflanzenphysiol.*, **77**, 99 (1975); *Chem. Abstr.*, 84 71470y

(T) de Pascual Teresa *et al.*, *Phytochemistry*, **22**, 2783 (1983)

C. monspeliensis L.

ALIPHATICS: hentriaccontane, nonacosane.

DITERPENOID: cistadoic acid, cistodiol.

(Al) Kaehlen *et al.*, *Z. Pflanzenphysiol.*, **77**, 99 (1975); *Chem. Abstr.*, 84 71470y

(T) Berti *et al.*, *Tetrahedron Lett.*, 1401 (1970)

C. palhinhae.

DITERPENOID: three labdanes and one clerodane.

de Pascual Teresa *et al.*, *Phytochemistry*, **22**, 2805 (1983)

C. populifolius L.

DITERPENOID: ent-cleroden-2-acetoxy-15-oic acid, isodehydropopulifolic acid, oxopopulifolic acid, populifolic acid.

de Pascual Teresa *et al.*, *An. Quim.*, **74**, 476 (1978)

C. rheifolia.

QUINOLIZIDINE ALKALOID: kayawongine.

Kelly *et al.*, *J. Nat Prod.*, **46**, 353 (1983)

C. salviifolius.

ALIPHATICS: hentriaccontane, nonacosane.

Kaehlen *et al.*, *Z. Pflanzenphysiol.*, **77**, 99 (1975); *Chem. Abstr.*, 84 71470y

C. symphytifolius Lam.

DITERPENOID: cistadienic acid, cistenolic acid.

Calabuig *et al.*, *Phytochemistry*, **20**, 2255 (1981)

CITHAREXYLUM

C. subserratum.

FLAVONOID: 5,4'-dihydroxy-7,3'-dimethoxyflavone 6-glucoside.

SAPONINS: durantoside I, durantoside II.

(F) Mathuram *et al.*, *Phytochemistry*, **15**, 838 (1976)
 (Sap) Ganapathy, Rao, *Fitoterapia*, **54**, 13 (1983)

CITRULLUS (Cucurbitaceae)

C. battich.

AMINO ACIDS: citrulline, α,β -diaminopropionic acid.

INDOLE: indolacetic acid.

TERPENOID: p-hydroxymethylanisole.

Inatomi, *Meiji Daigaku Nogakubu Kenkyu Hokoku*, **34**, 7 (1975); *Chem. Abstr.*, 84 71479h

C. colocynthis (L.) Schrad.

TRITERPENOIDS: citrullone, colocynthin.

Yankov, Khusain, *Dokl. Bulg. Akad. Nauk*, **28**, 1641 (1975)

C. ecirrhosus.

TRITERPENOIDS: cucurbitacin J, cucurbitacin K, cucurbitacin L.

Enslin *et al.*, *J. Sci., Food Agr.*, **8**, 673 (1957)

C. lanatus var. sitroides.

STEROID: stigmast-7-en-3 β -ol β -D-glucopyranoside.

Seifert *et al.*, *Pharmazie*, **32**, 125 (1977)

CITRUS (Rutaceae/Zygophyllaceae)

C. aurantium.

COUMARINS: aurapten, (+)-auraptenal.

GLYCOSIDE: rhoifolin.

NORTRITERPENOID: isolimonic acid.

(C) Lundin *et al.*, *Tetrahedron*, **21**, 89 (1965)

(Gl) Coussio *et al.*, *Experientia*, **20**, 562 (1964)

(T) Bennett *et al.*, *Phytochemistry*, **19**, 2417 (1980)

C. chinensis.

SESQUITERPENOIDS: α -sinensal, β -sinensal.

Stevens *et al.*, *J. Org. Chem.*, **30**, 1690 (1965)

C. grandis.

ACRIDONE ALKALOIDS: grandisimine, grandisine.

QUATERNARY ALKALOID: stachydrine.

Wu *et al.*, *Phytochemistry*, **22**, 1493 (1983)

***C. hassaku* Hort.**

PHENYLPROPANOIDS: citrusins A, B and C, coniferin, syringin.

Sawabe *et al.*, *Nippon Nogeik Kagaku Kaishi*, **60**, 593 (1986); *Chem. Abstr.*, 105 222728u

***C. ichangensis*.**

BITTER PRINCIPLE: ichangin.

Dreyer, *J. Org. Chem.*, **31**, 2279 (1966)

***C. jambhiri* Lush.**

COUMARINS: hesperidin, neohesperidin, tangeretin.

Chaliha *et al.*, *Tetrahedron*, **21**, 1441 (1965)

***C. junos*.**

MONOTERPENOIDS: camphene, citral, citronellol, limonene, linalool, nerol, pinene.

SESQUITERPENOID: bicyclogermacrene.

Nishimura *et al.*, *Tetrahedron Lett.*, 3097 (1969)

***C. laurifolius*.**

DITERPENOID: acetylaurifolic acid. Monoterpoids limonene, linalool, nerol.

de Pascual Teresa *et al.*, *An. Quim.*, **74**, 1540 (1978)

***C. limon*.**

FLAVONOIDS: citronetin, isolimocitrol, isolimocitrol 3- β -D-glucoside, isolimocitrol 3,7,4'-trimethyl ether, 2"-O-xylosylvitexin.

Bentili *et al.*, *Tetrahedron*, **20**, 2313 (1964)

Tomas *et al.*, *Chem. Abstr.*, 84 102365z

***C. medica* L. var. *sarcodactylis* (Noot.) Swingle.**

FLAVONOIDS: 3,5,6-trihydroxy-7,4'-dimethoxyflavone, 3,5,6-trihydroxy-7,3',4'-trimethoxyflavone.

He *et al.*, *Yaoxue Xuebao*, **20**, 433 (1985); *Chem. Abstr.*, 104 17641y

***C. orlando* x *tangelo* x *Clementine*.**

CAROTENOID: β -citraurinene.

Leuenberger, Stewart, *Phytochemistry*, **15**, 227 (1976)

***C. parodisi* L.**

STEROID: 5,6-dihydroergosterol.

LIMONOIDS: nomilin, nomilinic acid.

SESQUITERPENOIDS: 3,7(11)-eudesmadien-2-one, (+)-nootkatone.

(S) Barton, Cox, *J. Chem. Soc.*, 1357 (1948)

(T) Demole *et al.*, *Helv. Chim. Acta*, **66**, 1381 (1983)

C. reticulata.

CAROTENOID: reticulataxanthin.

STEROIDS: calamin, cyclokalamin, retrocalamin.

(C) Yokoyama *et al.*, *J. Org. Chem.*, **30**, 2412 (1965)

(S) Bennett, Hasegawa, *Tetrahedron*, **37**, 17 (1981)

C. reticulata cv Austra x Fortunella sp.

LIMONOID: 6-keto-7-deacetylnomolin.

Hasegawa *et al.*, *Phytochemistry*, **25**, 1984 (1986)

C. sinensis Osbeck.

PHENYLPROPANOIDS: citrusins A, B and C.

Sawabe *et al.*, *Nippon Nogei Kagaku Kaishi*, **60**, 539 (1986); *Chem. Abstr.*, 105 222728u

C.

SUDACHI FLAVONOIDS: demethoxysudachitin, 4'- β -D-glucosylsudachitin 7-O-(3-hydroxy-3-methylglutalate), sudachitin.

Kumamoto *et al.*, *Agr. Biol. Chem.*, **49**, 2797 (1985)

C. trifoliata.

FLAVONOID: citrifoliol.

Asahina *et al.*, *Chem. Abstr.*, 23 3475

C. unshiu Marc.

FLAVONOID: hesperidin.

MONOTERPENOIDS: β -elemene, limonene, linalool, myrcene, τ -terpinene.

(F) Okuyama *et al.*, *Chem. Abstr.*, 87 81233z

(T) Kekelidze *et al.*, *Khim. Prir. Soedin.*, 572 (1985)

CITRUS-PONCIRUS hybrid.

DINORTITERPENOIDS: 1-abeo-7-acetoxyisoobacun-3,10-olide;, 1-abeo-7-acetoxy-9(11)-obacunene;,(11)-obacunene;

Bennett *et al.*, *Phytochemistry*, **21**, 2349 (1982)

CLADONIA (Cladoniaceae)

***C. bellidiflora* (Ach.) Schaeerer.**

ACID: squematic acid.

Asahina *et al.*, Ber. Dtsch. Chem. Ges., 70, **62**, 64 (1937)

***C. crispata* (Ach.) Flotow.**

ACID: squematic acid.

Asahina *et al.*, Ber. Dtsch. Chem. Ges., 70, **62**, 64 (1937)

***C. cryptochlorophaea*.**

ACID: cryptochlorophaeic acid.

Shibata, Phytochemistry, **4**, 133 (1965)

***C. deformis* (L.) Hoffm.**

TRITERPENOIDS: 14-taraxerene, zeorin.

Huneck, Chem. Ber., **94**, 614 (1961)

***C. incrassata* Floerke.**

BENZOPYRAN: rhodocladonic acid.

Baker *et al.*, Can. J. Chem., **47**, 2733 (1969)

***C. pleurota* (Floerke) Schaeerer.**

CAROTENOIDS: β -carotene, lutein, neozeaxanthin, violaxanthin.

PIGMENTS: rhodocladonic acid, usnic acid.

Asperges *et al.*, Bull. Soc. R. Bot. Belg., **110**, 260 (1977); Chem. Abstr., 88 101632e

***C. polycarpoides*.**

BISANHYDRIDE: homohevesdride.

Archer *et al.*, Phytochemistry, **26**, 2117 (1987)

***C. polydactyla* (Floerke) Spreng.**

PIGMENT: rhodocladonic acid.

Baker *et al.*, Can. J. Chem., **47**, 2733 (1969)

CLADOPHORA (Chlorophyceae)

C. glomerata Kutz.

CAROTENOIDS: β -carotene, τ -carotene, α -cryptoxanthin, flavoxanthin, isocryptoxanthin, torularhodin.

Mantiasevic, Hargas, *Chem. Abstr.*, 88 85996u

CLADRASTIS (Leguminosae)

C. amurensis Benth.

QUINOLIZIDINE ALKALOID: cytisine.

Govindachari *et al.*, *J. Chem. Soc.*, 3839 (195)

C. platycarpa.

FLAVONOIDS: bayin, cladrastin 7-O- β -D-glucoside, fujikinin, platycarpanetin 7-O- β -D-glucoside, pseudobaptigenin.

Ohashi *et al.*, *Phytochemistry*, 15, 354 (1976)

CLARISIA (Moraceae)

C. racemosa R. et P.

STEROID: β -sitosterol.

STILBENE: 3,5-dihydroxy-4'-methoxystilbene.

XANTHONE: 1,3,6,7-tetrahydroxyxanthone.

(S, St) Gottlieb *et al.*, *Phytochemistry*, 14, 1674 (1975)

(X) Cotterill, Scheinmann, *J. Chem. Soc., Chem. Commun.*, 664 (1975)

CLAUSENA

C. anisata (Willd.) Oliv.

CARBAZOLE ALKALOID: clausanitine.

COUMARINS: chalepin, coumurrayin, imperatorin, osthole, pimpinellin, scopoletin, umbelliferone, xanthotoxin, xanthotoxol.

MONOTERPENOIDS: limonene, methylchavicol, myrcene.

(A) Okorie *et al.*, *Phytochemistry*, **14**, 2720 (1975)

(C, T) Reisch *et al.*, *Sci. Pharm.*, **53**, 153 (1985)

C. dentata.

COUMARIN: nordentatin.

Govindachari *et al.*, *Tetrahedron*, **24**, 753 (1968)

C. heptaphylla Wt. et Arn.

CARBAZOLE ALKALOIDS: clausenapine, heptaphylline, heptazolidine, heptazoline.

Chakraborty *et al.*, *Chem. Ind. (London)*, 303 (1974)

C. indica Oliv.

CARBAZOLE ALKALOID: 6-methoxyheptaphylline.

PYRIDINE ALKALOID: indicaine.

BENZOPYRAN: clausanidin.

SESQUITERPENOID: clausantalene.

(A) Joshi *et al.*, *Indian J. Chem.*, **10**, 1123 (1972)

(B) Kuffner *et al.*, *Monatsh. Chem.*, **104**, 911 (1973)

(T) Joshi *et al.*, *Experientia*, **31**, 138 (1975)

C. pentaphylla (Roxb.) DC.

COUMARINS: clausarin, clausenidin, clausenin, clausmarin A, clausmarin B, dentatin.

SESTERTERPENOID: clausenolide.

STEROID: β -sitosterol.

TRITERPENOID: O-methylclausenol.

(C) Anwer *et al.*, *Experientia*, **33**, 412 (1977)

(T) Chakraborty *et al.*, *J. Chem. Soc., Chem. Commun.*, 246 (1979)

C. wildenovii.

DITERPENOIDS: diclausenan A, diclausenan B.

Rao *et al.*, *Tetrahedron Lett.*, 1019 (1976)

CLAVICEPS (Clavicipitaceae/Hypocreaceae)

C. paspali.

ERGOT ALKALOIDS: paspalicine, paspaline, paspalinine.

Springer, Clardy, *Tetrahedron Lett.*, 231 (1981)

C. purpurea Tul.

ERGOT ALKALOIDS: chanoclavine, ergoclavine, ergocornine, ergocorninine, ergocristine, ergocristinine, α -ergocryptine, β -ergocryptine, ergocryptinine, ergometrine, ergometrinine, ergomollinine, ergomonamine, ergosecalinine, ergosine, ergosinine, ergostine, ergotamine, ergotaminine, ergotoxine, ergovalide.

Stoll *et al.*, *Helv. Chim. Acta*, **28**, 1283 (1945)

Ban'kovskaya *et al.*, *Khim. Prir. Soedin.*, 134 (1973)

CLAVULARIA*C. inflate.*

SESQUITERPENOIDS: 12-acetoxysinularene, cyclosinularene.

Braekman *et al.*, *Tetrahedron*, **37**, 179 (1981)

C. koellikeri.

MONOTERPENOIDS: clavularin A, clavularin B.

Endo *et al.*, *J. Chem. Soc., Chem. Commun.*, 322 (1983)

CLEISTANTHUS (Euphorbiaceae)*C. collinus (Roxb.) Benth. et Hook f.*

GLYCOSIDES: cleistanthins A, B and C, diphyllin-4-O-[β -2,3-di-O-methylxylopyranosyl]- β -D-glucopyranoside.

NAPHTHOFURAN: collinusin.

Anjaneyulu *et al.*, *Indian J. Chem.*, **15B**, 10 (1977)

C. schlechteri.

DITERPENOID: cleistanthol.

McGarry *et al.*, *J. Chem. Soc., Chem. Common.*, 1074 (1969)

CLEISTOPHOLIS (Annonaceae)*C. patens.*

OXOAPORPHINE ALKALOID: isomoschatoline.

SESQUITERPENOIDS: methyl-(-)-trans, trans-10,11-dihydroxyfarnesoate, methyl-(+)-10-hydroxy-6,11-cyclofarnes-7(14)-enoate.

(A) Abd-El Atti *et al.*, *J. Nat. Prod.*, **45**, 476 (1982)

(T) Waterman *et al.*, *Phytochemistry*, **24**, 523 (1985)

CLEMATIS (Ranunculaceae)

C. apiifolia.

TRITERPENOID: 3-O-acetyloleanolic acid.

Fujita *et al.*, *J. Pharm. Soc., Japan*, **94**, 189 (1974)

C. biternata.

TRITERPENOID: 3-O-acetyloleanolic acid.

Fujita *et al.*, *J. Pharm. Soc., Japan*, **94**, 189 (1974)

C. chinensis Osbeck.

SAPOGENINS: prosapogenin CP-0, prosapogenin CP-2a, prosapogenin CP-3a.

SAPONINS: prosaponins A, B, C, CP-2, CP-6, CP-7 and CP-8.

Kizum Tomimori, *Chem. Pharm. Bull.*, **27**, 2388 (1979)

C. japonica.

TRITERPENOID: 3-O-acetyloleanolic acid.

Fujita *et al.*, *J. Pharm. Soc., Japan*, **94**, 189 (1974)

C. patens.

TRITERPENOID: 3-O-acetyloleanolic acid.

Fujita *et al.*, *J. Pharm. Soc., Japan*, **94**, 189 (1974)

C. recta var. mandschurica.

SAPONINS: clematosides A, A', B and C.

Chirva, Konyukov, *Khim. Prir. Soedin.*, 60 (1969)

C. songarica.

SAPONINS: saponins A, B and B'.

Krokhmalyuk *et al.*, *Khim. Prir. Soedin.*, 600 (1975)

C. stans.

TRITERPENOID: 3-O-acetyloleanolic acid.

Fujita *et al.*, *J. Pharm. Soc., Japan*, **94**, 189 (1974)

C. stans var. austrojaponensis.

TRITERPENOID: 3-O-a.cetyloleanolic acid.

Fujita *et al.*, *J. Pharm. Soc., Japan*, **94**, 189 (1974)

C. uncinata var. ovatifolia.

TRITERPENOID: 3-O-acetyloleanolic acid.

Fujita *et al.*, *J. Pharm. Soc., Japan*, **94**, 189 (1974)

C. vitalba.

SAPONINS: vitalbosides A, B, C, D, E, F, G and H.

Chirva *et al.*, *Dokl. Akad. Nauk SSSR*, **217**, 969 (1974)

CLEOME (Capparidaceae)

C. icosandra.

DITERPENOID: cleomeolide.

Mahato *et al.*, *J. Am. Chem. Soc.*, **101**, 4720 (1979)

C. viscosa.

DITERPENOIDS: (3E,7Z,11Z)-17,20-dihydroxycembra-3,7,11,15-tetraen-19-oic acid, (1R,3E,7Z,12R)-20-hydroxycembra-3,7,15-trien-19-oic acid.

Koselan *et al.*, *Aust. J. Chem.*, **38**, 1365 (1985)

CLEONIA

C. lusitanica.

DITERPENOID: cleonioic acid.

Garcia-Alvarez *et al.*, *Phytochemistry*, **18**, 1835 (1979)

CLERODENDRON (Verbenaceae)

C. calamitosum.

DITERPENOIDS: caryoptenol, caryoptin, 3-epi-caryoptin.

Hosozawa *et al.*, *Phytochemistry*, **13**, 308, 1019 (1974)

C. campbellii.

STEROIDS: 4α -methylstigmasta-7,25-dien-3 β -ol, stigmasta-5,22E,24S-trien-3 β 0-ol, 24S-stigmasta-5,22,25-trien-3 β -ol.

Bolger *et al.*, *Tetrahedron Lett.*, 3043 (1970)

Pakrashi *et al.*, *ibid.*, 365 (1971)

C. inerme.

FLAVONOIDs: 4'-methylscutellarein, pectolinarigenin.

Vandanham *et al.*, *Phytochemistry*, **16**, 294 (1977)

C. infortumatum.

STEROID: 5,25-stigmastadien-3 β -ol.

DITERPENOID: clerodin.

TRITERPENOIDS: clerodolone, clerodone. (S) Manzoor-i-Khuda *et al.*, *Tetrahedron*, **22**, 2377 (1966)

(T) Manzoor-i-Khuda, Sarela, *ibid.*, **21**, 979 (1965)

C. nerifolium.

DITERPENOID: nerifolinol.

Purushothaman *et al.*, *Indian Drugs*, **29**, 640 (1980); *Chem. Abstr.*, 106 30005e

C. neutens.

STEROIDS: cholesterol, clerodolone, (24S)-ethylcholesta-5,22,25-trien-3 β -ol, β -sitosterol, stigmasterol.

Nair *et al.*, *Curr. Sci.*, **45**, 391 (1976)

C. phlomoides.

FLAVONOID: scutellarein.

Arisawa *et al.*, *Chem. Pharm. Bull.*, **18**, 916 (1970)

C. serratum.

FLAVONOIDs: luteolin, luteolin 7-O- β -D-glucuronide, scutellarein.

PHENOLIC: (\pm)-catechin.

STEROIDS: α -spinasterol, stigmasterol.

TRITERPENOIDS: queretaroic acid, serratagenic acid.

(F, P, S) Nair *et al.*, *Curr. Sci.*, **45**, 391 (1976)

(T) Rangaswami, Sarayan, *Tetrahedron*, **25**, 3701 (1969)

C. splendens.

STEROIDS: clerodolone, (24S)-ethylcholesta-5,22,25-trien-3 β -ol.

TRITERPENOIDS: β -amyrin, friedelan-3 β -ol, friedelanone.

Joshi *et al.*, *J. Indian Chem. Soc.*, **62**, 409 (1985)

C. thomsonae Balf.

IRIDOID: 8-O-acetylmioporoside.

Lemmel, Rimpler, *Z. Naturforsch.*, **36C**, 708 (1981)

C. trichotomum Thunb.

DIMERIC CARBOLINE ALKALOIDS: N:N'-diglucopyranosyltrichotomine, trichotomine, trichotomine G1.

TERPENOID: clerodendrin A.

(A) Iwadare *et al.*, *Tetrahedron*, **30**, 4105 (1974)

(T) Kato *et al.*, *J. Chem. Soc., Chem. Commun.*, 1632 (1971)

C. trichotomum Thunb. var. fargesii Rehd.

GLYCOSIDE: clerodendroside.

Morita *et al.*, *J. Pharm. Soc., Japan*, **97**, 976 (1977)

C. ugandense.

IRIDOID: ugandoside.

Jacke, Rimpler, *Phytochemistry*, **22**, 1729 (1983)

C. uncinatum Schinz.

HYDROQUINONE: uncinatone.

Dorsaz *et al.*, *Helv. Chim. Acta*, **68**, 1605 (1985)

CLETHRA (Clethraceae)

C. barbinervis Sieb. et Zucc.

TRITERPENOIDS: barbinervic acid, clethric acid.

Takahashi, Takani, *Chem. Pharm. Bull.*, **26**, 2689 (1978)

CLIBADIUM

C. glomeratum.

One diterpenoid.

Czerson *et al.*, *Phytochemistry*, **18**, 257 (1979)

CLIMACOPTERA

C. transoxana.

SAPONINS: copterosides A, B, C, D, E, F, G and H.

Annaev *et al.*, *Khim. Prir. Soedin.*, 60 (1984)

CLITOCYBE (Agaricaceae)

C. acromelalga.

PYRIDINE ALKALOIDS: acromelic acid A, acromelic acid B.

QUATERNARY ALKALOID: clithioneine.

Konno *et al.*, *Phytochemistry*, **23**, 1003 (1984)

C. fasciculata.

PYRROLIZIDINE ALKALOID: lepistine.

Laing *et al.*, *Tetrahedron Lett.*, 269 (1975)

C. illudens (Schw.) Sacc.

ACID: atromentic acid.

SESQUITERPENOIDS: illudin M, illudin S, illudoic acid, illudol.

(A) Anchel *et al.*, *Phytochemistry*, **10**, 3259 (1971)

(T) Anchel *et al.*, *Proc. Nat. Acad. Sci., USA*, **36**, 300 (1950)

C. nebularis (Batsch ex Fr.) Kummer.

STEROID: portensterol.

Regerat *et al.*, *Ann. Pharm. Fr.*, **34**, 323 (1976)

C. subilludens.

BENZOFURAN: thelephoric acid.

Gripenberg, *Tetrahedron*, **10**, 135 (1960)

CLITORIA

C. ternatea L.

ACIDS: arachidic acid, behenic acid, lignoceric acid, linoleic acid, linolenic acid, oleic acid, palmitic acid, stearic acid.

FLAVONOIDS: elitorin, kaempferol 3-glucoside, kaempferol 3-neohesperidoside, kaempferol 3-rutinoside.

STEROID: stigmast-4-ene-3,6-dione.

(Ac) Debnath *et al.*, *J. Inst. Chem. Calcutta*, **47**, 253 (1975); *Chem. Abstr.*, 84 147724g

(F) Morita *et al.*, *J. Pharm. Soc., Japan*, **97**, 649 (1977)

(S) Ripperger, *Pharmazie*, **33**, 82 (1978)

CLIVIA (Amaryllidaceae)

C. miniata (Regel.) Benth.

PERHYDROINDOLE ALKALOIDS: clivacetine, clivatine, clivealine, cliviahaksine, cliviamartine, cliviasine, clivicosine, clividine, clivimine, clivionine, clivojuline, clivonidine, lycorine.

Dopke, Rosham, *Z. Chem.*, **20**, 374 (1980)

Dopke *et al.*, *ibid.*, **23**, 102 (1983)

CLUSIA

C. congestiflora.

BENZOPHENONE: clusianone.

McCandlesh *et al.*, *Acta Crystallogr.*, **32B**, 1793 (1976)

C. ellipticifolia Cuatr.

TRITERPENOIDS: friedelin, epi-friedelinol.

Salama, *Chem. Abstr.*, 105 206298y

CLYTIA

C. richartiana.

TERPENOID: saudin.

Mossa *et al.*, *J. Org. Chem.*, **50**, 916 (1985)

CNEORUM (Cneoraceae)

C. pulverulentum Vent.

CNEORINS: cneorins A, B, C, D, E, F, H, K and L, cneorum-chromones C, E and G, cneorum-coumarin B.

STEROID: 5-stigmastene-3,7,20-triol.

(C) Mondon, Epe, *Tetrahedron Lett.*, 1273 (1976)

(S) Mondon *et al.*, *Chem. Ber.*, **108**, 1989 (1975)

C. tricoccum.

BENZODIOXIN: (E)-bethancorol.

DITERPENOIDS: cneorubines U, W, X and Y.

SESTERTERPENOIDS: tricoccines R0, R1, R2, R3, R4, R5, R6, S1, S2, S3, S4, S5, S6, S7, S8, S10, S13, S16, S22, S27, S32.

Trautmann *et al.*, *Chem. Ber.*, **113**, 3848 (1981)**CNESTUS (Connaraceae)***C. glabra.*

AMINO ACID: methionine sulfoximine.

Jeannoda *et al.*, *Phytochemistry*, **24**, 854 (1985)*C. polypylla.*

AMINO ACID: methionine sulfoximine.

Jeannoda *et al.*, *Phytochemistry*, **24**, 854 (1985)**CNICOTHAMNUS***C. lorentzii.*

SESQUITERPENOID: cnicothamnol.

Bohlmann *et al.*, *Phytochemistry*, **18**, 95 (1979)**CNICUS (Compositae)***C. benedictus L.*

LIGNANS: 2-acetyl nortracheloside, arctigenin, nortracheloside, salonitenolide, trachelogenin.

SESQUITERPENOID: cnicin.

(L) Vanhaelen *et al.*, *Phytochemistry*, **14**, 2709 (1975)(T) Suchy *et al.*, *Chem. Ber.*, **93**, 2449 (1960)

CNIDIUM (Umbelliferae)

C. officinale L.

BENZOFURANS: cnidilide, ligustilide.

Mitsuhashi *et al.*, *Tetrahedron*, **20**, 1971 (1964)

COCCIFERA

C. plurota.

TRITERPENOID: zeorin.

Barton, Bruun, *J. Chem. Soc.*, 1683 (1952)

COCCOLOBA

C. excoriata.

STEROID: β -sitosterol. Triterpenoids betulinic acid, friedelin, lupeol, lupeol acetate, taraxerone, ursolic acid.

Dan *et al.*, *Fitoterapia*, **57**, 445 (1986)

COCCULUS (Menispermaceae)

C. carolinus.

PHENANTHRENE ALKALOID: carococcine.

QUATERNARY ALKALOIDS: magnoflorine, palmatine.

FLAVONOIDS: (-)-bivurnitol, (+)-quercitrol.

Elsohly *et al.*, *J. Pharm. Sci.*, **65**, 132 (1976)

C. diversifolius DC.

BISBENZYLISOQUINOLINE ALKALOID: tetrandrine.

UNCHARACTERIZED ALKALOID: kukoline.

Ohta, *Ber. Ges. Physiol.*, **33**, 352 (1925)

C. japonicus.

BISBENZYLISOQUINOLINE ALKALOID: tetrandrine.

Chen, Chen, *J. Biol. Chem.*, **109**, 681 (1935)

C. laurifolius DC.

APORPHINE ALKALOID: laurifoline.

BENZYLISOQUINOLINE ALKALOIDS: (±)-coclaurine, erythrociline, erythroculinol.

BIPHENYL ALKALOIDS: laurifine, laurifinine, laurifonine.

ERYTHRINA ALKALOIDS: coccoline, coccolinine, coccudinone, cocculinine, cocculinine, cocculinidine, cocculinidine, coccuvine, coccuvinine.

Inubushi *et al.*, *Tetrahedron Lett.*, 153 (1969)

Bhakuni, Jain, *Tetrahedron*, **36**, 3107 (1980)

C. leaebi.

BISBENZYLISOQUINOLINE ALKALOIDS: coesoline, penduline.

Ikram *et al.*, *Planta Med.*, **45**, 253 (1982)

C. pendulus Diels.

BISBENZYLISOQUINOLINE ALKALOIDS: coesoline, coesolinine, penduline.

Jishi *et al.*, *Indian J. Chem.*, **12**, 517 (1974)

C. sarmentosus Diels.

BRIDGED BISBENZYLISOQUINOLINE ALKALOIDS: isotrilobine, menisarine, trilobine.

Tomita, Furukawa, *J. Pharm. Soc., Japan*, **83**, 190 (1963)

C. trilobus (Thunb.) DC.

BISBENZYLISOQUINOLINE ALKALOIDS: coclobine, daphnoline, isotrilobine, trilobine.

Wada *et al.*, *Tetrahedron Lett.*, 5179 (1966)

Ito *et al.*, *J. Pharm. Soc., Japan*, **89**, 1163 (1969)

COCHLEARIA (Cruciferae)

C. arctica Schlecht.

PYRROLE ALKALOIDS: hygrine, hygroline.

UNCHARACTERIZED ALKALOID: cochlearine.

Platonova, Kuzovkov, *Med. Prom.*, **17**, 19 (1963)

COCHLIOBOLUS

C. heterostrophus.

TETRANORTRITERPENOIDS: geranylnerilidol, ophiobola-7,18-dien-20-ol, ophiobolins A, B and C.

Nozoe *et al.*, *Tetrahedron Lett.*, 4457 (1968)

C. lunata.

ANTIBIOTICS: lunatoic acid A, lunatoic acid B.

Nukina, Marumo, *Tetrahedron Lett.*, 2603 (1977)

C. miyabeanus.

NORSESTERTERPENOIDS: cochliobolins A, B and C.

TRITERPENOIDS: cochlioquinone A, cochlioquinone B, ophiobolin A.

Orsenigo *et al.*, *Phytopathology*, 2, **29**, 189 (1957)

Carruthers *et al.*, *J. Chem. Soc., Chem. Common.*, 164 (1971)

C. setariae.

SESQUITERPENOIDS: cis-sativenediol, trans-sativenediol.

Nukina *et al.*, *J. Am. Chem. Soc.*, **97**, 2542 (1975)

COCHLOSPERMUM

C. gillivraei.

FLAVONOIDS: (+)-afzelechin, apigenin, naringenin

Cook *et al.*, *Phytochemistry*, **14**, 2510 (1975)

COCSINIUM (Menispermaceae)

C. blumeanum Miers.

PROTOBERBERINE ALKALOIDS: berberine, jatrorrhizine, palmatine.

Awe, *Arch. Pharm.*, **284**, 352 (1951)

C. fenestratum Colebr.

PROTOBERBERINE ALKALOID: berberine.

Awe, *Arch. Pharm.*, **284**, 352 (1951)

CODIUM (Chlorophyceae)

C. bursa.

STEROID: (24S)-24-methylcholesta-5,25-dien-3 β -ol.

Romeo *et al.*, *Chem. Abstr.*, 97 141766u

C. fragile.

STEROID: codisterol.

Rubinstein, Goad, *Phytochemistry*, **13**, 481 (1974)

CODONOCARPUS (Lobeliaceae)

C. australis A.Cunn.

MACROCYCLIC ALKALOIDS: codonocarpine, N-methylcodonocarpine.

Doskotch *et al.*, *Tetrahedron*, **30**, 3229 (1974)

CODONOCEPHALUM (Compositae)

C. grane Schrenk. (Inula grandis Schrenk.).

One uncharacterized alkaloid.

Zabolotnaya, Safronic, Vilp., XI, 152 (1959), given in S. Yu Yunusov (ed.) (1974) The Alkaloids (University of Tashkent)

CODONOPSIS (Lobeliaceae)

C. clematidea (Schrenk) Clarke.

PYRROLE ALKALOIDS: codonopsine, codonopsinine.

Matkhalikova *et al.*, *Khim. Prir. Soedin.*, 607 (1969)

C. lanceolata.

STEROIDS: α -spinasterol, stigmasterol.

TRITERPENOIDS: albigenic acid, echinocystic acid, oleanolic acid.

(S, T) Yans *et al.*, *Chem. Abstr.*, 84 102371y

(T) Han *et al.*, *Chem. Abstr.*, 86 40163n

C. pilosula.

STEROIDS: δ -spinasterol, δ -spinasterol glucoside, stigmast-7-en-3 β -ol, stigmast-7-en-3 β -ol glucoside.

TRITERPENOIDS: friedelin, taraxerol, taraxeryl acetate.

Wong *et al.*, *Planta Med.*, 49, 60 (1983)

COELIDIUM

C. fourcadei.

PIPERIDINE ALKALOIDS: α -aldotriptiperideine, isotriptiperideine.

Arndt, De Plessis, *J. S. Afr. Chem. Inst.*, 21, 54 (1968)

COELOCLINE (Annonaceae)

C. polycarpa DC.

PROTOBERBERINE ALKALOID: berberine.

Awe, *Arch. Pharm.*, 284, 352 (1951)

COFFEA (Rubiaceae)

C. arabica.

PURINE ALKALOID: caffeine.

DITERPENOID: ent-16-kauren-19-ol.

(A) Charrier, Berthand, *Chem. Abstr.*, 84 118445m 118445m

(T) Wohlberg *et al.*, *Phytochemistry*, 14, 1677 (1975)

C. canephora.

PURINE ALKALOID: caffeine.

Charrier, Berthand, *Chem. Abstr.*, 84 118445m

C. dewevrei.

ACIDS: methoxytetramethyluric acid, 1,3,7,9-tetramethyluric acid, O(2),1,9-trimethyluric acid.

Petermann *et al.*, *Phytochemistry*, **16**, 620 (1977)

C. dewevrei var. aruwimiensis.

ACIDS: methoxytetramethyluric acid, 1,3,7,9-tetramethyluric acid, O(2),1,9-trimethyluric acid.

Petermann *et al.*, *Phytochemistry*, **16**, 620 (1977)

C. dewevrei var. excelsa.

ACIDS: methoxytetramethyluric acid, 1,3,7,9-tetramethyluric acid, O(2),1,9-trimethyluric acid.

Petermann *et al.*, *Phytochemistry*, **16**, 620 (1977)

C. eugenoides.

PURINE ALKALOID: caffeine.

Charrier, Berthand, *Chem. Abstr.*, 84 118445m

C. liberica.

ACIDS: methoxytetramethyluric acid, 1,3,7,9-tetramethyluric acid, O(2),1,9-trimethyluric acid.

Petermann *et al.*, *Phytochemistry*, **16**, 620 (1977)

C. stenophylla.

PURINE ALKALOID: caffeine.

Charrier, Berthand, *Chem. Abstr.*, 84 118445m

C. vanneyi.

TRITERPENOID: mascaroside.

Ducroix *et al.*, *J. Chem. Soc., Chem. Commun.*, 396 (1975)

COIX

C. lacryma-jobi.

ANTINEOPLASTIC AGENT: coixenolide.

Lee, *Chem. Abstr.*, 87 130483s

COLA

C. acuminata.

PURINE ALKALOID: theobromine.

Blout *et al.*, *J. Am. Chem. Soc.*, **72**, 479 (1950)

COLCHICUM (Liliaceae)

C. autumnale L.

COLCHICINE ALKALOIDS: O-acetylcolchicine, N-acetyldemecolcine, 2-acetyl-2-demethylcolchicine, 3-acetyl-3-demethylcolchicine, autumnaline, colchicine, colchifoline, demecolcine, 2-demethylcolchicine, 3-demethylcolchicine.

Santavy, Reichstein, *Helv. Chim. Acta*, **33**, 1606 (1950)

Potesilova *et al.*, *Collect. Czech. Chem. Commun.*, **32**, 141 (1967)

C. cornigerum Tachk. et Drar.

COLCHICINE ALKALOIDS: autumnaline, colchicine, cornigerine, 3-demethylcolchicine, α -lumicornigerine, β -lumicornigerine, α -lumi-3-demethylcolchicine, 2-methylcolchicine, 3-methylcolchicine.

El-Hamidi, Santavy, *Collect. Czech. Chem. Commun.*, **27**, 2111 (1962)

Saleh *et al.*, *ibid.*, **28**, 3413 (1963)

Battersby *et al.*, *J. Chem. Soc., C*, 3514 (1971)

C. doerfleri.

COLCHICINE ALKALOIDS: autumnaline, colchicine, colchiculine, 2-demethylcolchicine, N-formyl-N-deacetylcolchicine.

Gasic *et al.*, *Planta Med.*, **32**, 368 (1977)

C. kesselringii Rgl.

COLCHICINE ALKALOIDS: allocolchicine, colchicine, colchicine, 2-demethylcolchicine, 3-demethylcolchicine, 2-demethylllumicolchicine, 3-demethyl- α -lumicolchicine, N-formyldesacetylcolchicine, α -lumicolchicine, regelamine, regelidine, regelinine.

ISOQUINOLINE ALKALOIDS: crociflorinone, kesselridine, kesselringine.

UNCHARACTERIZED ALKALOIDS: crocifloridine, crociflorine, crociflorinine.

Turdikulov *et al.*, *Khim. Prir. Soedin.*, 541 (1971)

Yusupov *et al.*, *Izd-vo Farmatsicheskii Uzbekistanskii SSR*, 181 (1973)

C. latifolium S. et S.

COLCHICINE ALKALOIDS: autumnaline, colchiciline, 3-demethyl-N-formyl-N-deacetylcolchicine, 2,3-didemethylcolchicine, 10,11-epoxycolchicine.

Potesilova *et al.*, *Collect. Czech. Chem. Commun.*, **41**, 3146 (1976)

C. luteum Baker.

COLCHICINE ALKALOIDS: colchiceine, colchicine, 3-demethylcolchamine, 2-demethylcolchicine, 3-demethylcolchicine, 3-demethyl- α -lumicolchicine, N-formyldesacetylcolchicine, lumicolchicine.

ISOQUINOLINE ALKALOID: kesselringine.

SPIROISOQUINOLINE ALKALOIDS: luteidine, luteine.

Mukhamed'yarova *et al.*, *Khim. Prir. Soedin.*, 354 (1976)

Yusupov *et al.*, *ibid.*, 359 (1976)

C. speciosum Stev.

COLCHICINE ALKALOIDS: colchamine, colchiceine, colchicine, specionine, speciosine.

Masinova, Santavy, *Collect. Czech. Chem. Commun.*, **19**, 1283 (1954)

Kiselev, *J. Gen. Chem. USSR*, **26**, 3218 (1956)

C. szovitsii.

APORPHINE ALKALOID: szovitsinine. Dibenzocycloheptanone alkaloids szovitsamine, szovitsidine.

Yusupov *et al.*, *Khim. Prir. Soedin.*, 271 (1975)

C. vasiani.

ISOQUINOLINE ALKALOID: autumnaline.

Potesilova *et al.*, *Collect. Czech. Chem. Commun.*, **34**, 3540 (1969)

COLEUS (Labiatae/Lamiaceae)

C. amboinicus Louriero.

TRITERPENOIDS: crategolic acid, 2 α ,3 α -dihydroxyoleanolic acid, euscaphic acid, oleanolic acid, pomolic acid, 2 α ,3 α ,19 α ,23-tetrahydroxyursolic acid, tomentic acid, ursolic acid.

Brieskorn, Riedel, *Arch. Pharm.*, **310**, 910 (1977)

C. aquaticus.

DITERPENOIDS: coleon C, coleon D.

Ruedi, Eugster, *Helv. Chim. Acta*, **55**, 1736 (1972)

C. barbatus.

DITERPENOIDS: barbatusin, barbatusol, coleon E, coleon F.
 Kelecom *et al.*, *Phytochemistry*, **23**, 1677 (1984)

C. blumei.

ANTHOCYANIN: cyanidin 3,5-diglucoside.

FLAVONOID: dihydrokaempferol.

Lamprecht *et al.*, *Phyton (Buenos Aires)*, **33**, 157 (1975); *Chem. Abstr.*, 84 147738q

C. caerulescens.

DITERPENOID: coleon Y.

Grob *et al.*, *Helv. Chim. Acta*, **61**, 871 (1978)

C. carnosus.

DITERPENOIDS: 7 α -acetoxy-6 β ,20-dihydroroyleanone, 7 α -acetoxyroyleanone.

Yoshizaka *et al.*, *Helv. Chim. Acta*, **62**, 2754 (1979)

C. forskohlii.

DITERPENOIDS: 7 β -acetoxy-8,13-epoxy-6 β -hydroxylabd-14-en-11-one, 6 β -acetoxy-8,13-epoxy-1 α ,7 β ,9-trihydroxylabd-14-en-11-one, coleonols A, B, C, D, E and F, coleosol.

Bhat *et al.*, *Tetrahedron Lett.*, 1669 (1977)

Tandon *et al.*, *Indian J. Chem.*, **16B**, 341 (1978)

C. garckeanaus.

DITERPENOIDS: 16-O-acetylcoleon W, 16-O-acetylcoleon X, coleon X, coleon Z.

Miyase *et al.*, *Helv. Chim. Acta*, **62**, 2374 (1979)

C. ignarius.

DITERPENOIDS: coleon A, coleon B.

Eugster *et al.*, *Helv. Chim. Acta*, **46**, 530 (1963)

C. kilimandschari.

DITERPENOIDS: coleon E, coleon F.

Ruedi, Eugster, *Helv. Chim. Acta*, **56**, 1129 (1973)

C. somaliensis.

DITERPENOIDS: coleon G, coleon H, coleon I, coleon J, coleon K, coleon O.

Moir *et al.*, *Helv. Chim. Acta*, **56**, 2534, 2539 (1973)

COLLADONIUM

C. triquestra.

COUMARIN: badrakemin.

Saidkhodzhaev, Nikonov, *Khim. Prir. Soedin.*, 490 (1973)

COLLETIA (Rhamnaceae)

C. spinosissima Gmel.

BENZYLISOQUINOLINE ALKALOID: colletine.

Sanchez, Comin, *Tetrahedron*, **23**, 1139 (1963)

COLLETOTRICHUM

C. capsici.

NORSESQUITERPENOID: colletodiol.

MacMillan *et al.*, *J. Chem. Soc., Perkin I*, 1487 (1983)

C. nicotianae.

NORTRITERPENOIDS: colletotrichins A, B and C.

Grove *et al.*, *J. Chem. Soc., C*, 230 (1966)

COLLYBIA

C. maculata.

SESQUITERPENOIDS: collybolide, isocollybolide.

Bui *et al.*, *Tetrahedron*, **30**, 1327 (1974)

COLONA

C. auriculata.

BENZOPYRAN: tiliroside.

Lin, *J. Chin. Chem. Soc.*, **22**, 383 (1975); *Chem. Abstr.*, 84 147653

COLUBRINA

C. faralaotra.

UNCHARACTERIZED ALKALOID: faralaotrine.

Guinaudeau *et al.*, *Planta Med.*, **37**, 304 (1975)

C. faralaotra subsp. trichocarpa.

ACIDS: p-coumaric acid, ferulic acid, p-hydroxybenzoic acid, syringic acid, vanillic acid.

FLAVONOIDS: kaempferol, myricetol, quercetol.

Guinaudeau *et al.*, *Planta Med.*, **39**, 54 (1976)

C. granulosa.

TRITERPENOIDS: colubrinic acid, granulosic acid.

Rotman, Jurd, *Phytochemistry*, **17**, 491 (1978)

C. texensis.

PEPTIDE ALKALOID: texensine.

Wani *et al.*, *Tetrahedron Lett.*, 4675 (1973)

COLYTHIS

C. elliptica.

TRITERPENOID: colysanoxide.

Ageta *et al.*, *Tetrahedron Lett.*, 4349 (1982)

C. pothifolia.

TRITERPENOID: colysanoxide.

Ageta *et al.*, *Tetrahedron Lett.*, 4349 (1982)

COMBRETIUM

C. apiculatum.

PHENANTHROID: 4,6,7-trihydroxy-2,3-dimethoxyphenanthrene.

Letcher *et al.*, *J. Chem. Soc., C*, 3070 (1971)

C. hereroense.

PHENANTHROID: 2,3,5,7-tetrahydroxyphenanthrene-5,7-dimethyl ether.

Letcher *et al.*, *J. Chem. Soc., Perkin I*, 2941 (1972)

C. micranthum G.Don.

QUATERNARY ALKALOIDS: choline, 4-hydroxystachydrine, stachydrine.

UNCHARACTERIZED ALKALOID: combretine.

Lehmann, *Heil U. Gewuerz-Pflan.*, **22**, 1 (1943)

Bassene *et al.*, *Ann. Pharm. Fr.*, **44**, 191 (1986)

C. molle.

TRITERPENOIDS: mollic acid, mollic acid 3-O-glucoside, mollic acid 3-O-xyloside.

Pegel *et al.*, *J. Chem. Soc., Perkin I*, 1711 (1985)

C. psidiooides S.

PHENANTHROID: 2,3,5,7-tetrahydroxyphenanthrene-3,5,7-trimethyl ether.

Letcher *et al.*, *J. Chem. Soc., Perkin I*, 1179 (1973)

C. zeyheri.

ALKALOID: N-methyl-L-tyrosine.

Mwauluka *et al.*, *Phytochemistry*, **14**, 1657 (1975)

COMMELINA

C. benghalensis.

ALIPHATICS: dotriacanol, octacosanol, triacontanol.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

Pandey, Gupta, *J. Res. Indian Med.*, **10**, 79 (1975); *Chem. Abstr.*, 85 2563q

C. communis.

ANTHOCYANIN: malonylawobanin.

Goto *et al.*, *Tetrahedron Lett.*, 4863 (1983)

C. undulata.

TRITERPENOIDS: dammar-12,25-dien-3 β -acetate, dammar-12,25-dien-3 β -ol.

Sharma *et al.*, *Phytochemistry*, **21**, 2420 (1982)

COMMIPHORA(Burseraceae)

C. dalzielii.

TRITERPENOIDS: β -amyrin, cabraleadiol, cabraleadiol 3-acetate, cabraleone, isofourquierone, lupeol, epi-lupeol.

Waterman, Ampofo, *Phytochemistry*, **24**, 2925 (1985)

C. molmol.

SESQUITERPENOIDS: 2-acetoxyfuranodiene, 4,5-dihydrofuranodien-6-one, 1 (10)Z,4Z-furanodien-6-one, furanoeudesma-1,3-diene, furanoeudesma-1,4-diene-3,5-dione, furanoeudesma-1,4-dien-6-one, 2-methoxyfuranodiene, 2-methoxyfuranoguaia-9-en-8-one.

Brieskorn *et al.*, *Phytochemistry*, **22**, 187 (1983)

Brieskorn *et al.*, *ibid.*, **22**, 1207 (1983)

C. mukul.

STEROIDS: 6-acetoxy-3,5-cholestanediol, guggulsterols I, II, III, IV and V, E-guggulsterone, Z-guggulsterone.

DITERPENOIDS: α -camphorene, mukulol.

(S) Purushothaman, Chandrasekharan, *Indian J. Chem.*, **14B**, 802 (1976)

(T) Patil *et al.*, *Tetrahedron*, **28**, 2341 (1972)

C. myrrha.

SESQUITERPENOID: comiferin.

Mincione, Iaverone, *Chim. Ind. (Milan)*, **54**, 525 (1972)

C. pyracanthoides.

TRITERPENOIDS: commie acid C, commie acid D, commie acid E.

UNCHARACTERIZED TERPENOIDS: commie acid A, commie acid B.

Thomas, Miller, *Experientia*, **76**, 62 (1960)

COMMITHECA (Rubiaceae)

C. liebrechtsiana.

ANTHRAQUINONES: lucidin, rubiadin.

Hocquemiller *et al.*, *Plant Med. Phytother.*, **10**, 248 (1976)

COMULARIA

C. camerunensis.

INDOLE ALKALOIDS: eburnamenine, eburnamine, isoeburnamine, pleiocarpine, pleiocarpinine.

Bruneton, *Planta Med.*, **46**, 58 (1982)

CONANDRON

C. ramoidioides.

GLYCOSIDES: acteoside, conandroside.

Nonaka *et al.*, *Phytochemistry*, **16**, 1265 (1977)

CONDURANGO

C. cortex.

STEROIDS: condurangoglycoside A0, condurangoglycoside C0, 2,22-dideoxy-20-hydroxyecdysone.

Ikekawa *et al.*, *J. Chem. Soc., Chem. Commun.*, 448 (1980)

Hayashi *et al.*, *Chem. Pharm. Bull.*, **38**, 1954 (1980)

CONIUM (Umbelliferae)

C. maculatum L.

PIPERIDINE ALKALOIDS: N-acetyl-(+)-coniine, N-acetyl(-)-coniine, conhydrine, α -conhydrine, τ -coniceine, (+)-coniine, N-methyl-(+)-coniine, N-methyl(-)-coniine, pseudoconhydrine.

Giesecke, *Arch. Pharm.*, **20**, 97 (1827)

Gabriel, *Ber. Dtsch. Chem. Ges.*, **42**, 4059 (1900)

CONOCARPUS

C. erectus.

BENZOFURAN: conocarpin.

Hayashi *et al.*, *Phytochemistry*, **14**, 1085 (1975)

CONOCEPHALUM

C. conicum.

FLAVONOIDS: apigenin 7-O-glucuronide, apigenin 7-O-glucuronide-4-O-glucuronide, chrysoeriol, chrysoeriol 7-O-glucuronide-4-O-glucuronide, lucenin-2, luteolin, luteolin 7,3'-di-O-glucuronide, luteolin 7-O-glucuronide-4-O-glucuronide, luteolin 7-O-glucuronide-3',4'-di-O-rhamnoside, vicenin-2.

SESQUITERPENOIDS: 8-acetoxyzaluzanin C, 8-acetoxyzaluzanin D.

(F) Markham *et al.*, *Phytochemistry*, **15**, 147 (1976)

(T) Asakawa *et al.*, *ibid.*, **18**, 285 (1979)

CONOCLINIOPSIS

C. prasiifolia.

SESQUITERPENOIDS: conoprasiolide, conoprasiolide 5'-O-acetate, two bejaranolides and two furoheliangolides.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1509 (1984)

CONOPHARYNGIA

C. durissima Stapf.

CARBOLINE ALKALOIDS: akuammiline, anhydrovobasinediol.

DIMERIC ALKALOIDS: conoduramine, conodurine.

HOMOCARBOLINE ALKALOIDS: conopharyngine, coronaridine hydroxyindolenine, isovoacangine.

Gorman *et al.*, *J. Am. Chem. Soc.*, **82**, 1142 (1960)
 Das *et al.*, *C.R. Acad. Sci.*, **264C**, 1765 (1967)

C. johnstonii Stapf.

CARBAZOLE ALKALOID: tubotaiwine N-oxide.
 Pinar *et al.*, *Helv. Chim. Acta*, **55**, 2972 (1972)

C. jollyana Stapf.

HOMOCARBOLINE ALKALOIDS: 20-hydroxy-19-oxocoronaridine, jollyanine, 19-oxocionopharyngine.

Hootele, Petcher, *Chimia*, **22**, 245 (1968)

C. longiflora Stapf.

IMIDAZOLIDINOCARBAZOLE ALKALOID: conoflorine.
 Dugan *et al.*, *Helv. Chim. Acta*, **50**, 60 (1967)

CONSOLIDA

C. orientalis Schroed.

ANTHOCYANIN: delphinidin 3-rutinoside-5-glucoside.
 Sulyok *et al.*, *Chem. Abstr.*, 105 168914m

CONVALLARIA (Liliaceae)

C. keisukei.

SAPONINS: convallatosaponins A, B, C and D, glucoconvallatosaponin A, glucoconvallatosaponin B.

STEROIDS: convallogenin A, convallogenin B.
 Kimura *et al.*, *Chem. Pharm. Bull.*, **15**, 1204 (1967)

C. majalis L.

CARDENOLIDES: peripalloside, periplogenin, strophalloside, strophanolloside, strophanthidin, strophanthidol.

FLAVONOIDS: isorhamnetin 3-galactoside, isorhamnetin 3-galactodirhamnoside, isorhamnetin 3-galactorhamnoside, kaempferol 3-galactodirhamnoside, kaempferol 3-galactorhamnoside, kaempferol 3-galactoside, quercetin 3-galactodirhamnoside, quercetin 3-galactorhamnoside, quercetin 3-galactoside.

SAPONINS: convallatoside, neoconvallotoxide, toloside.

STEROIDS: canescin, convallamarin, convallamarogenin, convallarin, convallatoxin, myalin.

(C) Kubelka *et al.*, *Pharm. Acta Helv.*, **50**, 353 (1975)

(F) Malinowski *et al.*, *Acta Pol. Pharm.*, **33**, 767 (1976); *Chem. Abstr.*, 87 180762c

(Sap) Buchvarov *et al.*, *Farmatsiya*, **29**, 36 (1979)

(S) Tschesche *et al.*, *Chem. Ber.*, **106**, 3010 (1973)

CONVOLVULUS (Convolvulaceae)

C. erinaceus Ldt.

HYGRINE ALKALOID: cuskhygrine.

Spath, Tuppy, *Monatsh. Chem.*, **79**, 119 (1948)

C. glomeratus.

GLUCOSIDE: 2-C-methylerythritol.

Anthonsen *et al.*, *Acta Chem. Scand.*, **B 30**, 91 (1976)

C. hamadae V.Petrov.

HYGRINE ALKALOIDS: cuskhygrine, hygrine.

Spath, Tuppy, *Monatsh. Chem.*, **79**, 119 (1948)

C. krauseanus.

TROPANE ALKALOID: convolisine.

Atripova, Yunusov, *Khim. Prir. Soedin.*, 527 (1979)

C. lineatus L.

TROPANE ALKALOIDS: convolvamine, convolvine.

Yunusov *et al.*, *Dokl. Akad. Nauk Uzb. SSR*, 17 (1958)

C. microphyllus Sieb.

ALIPHATICS: dotriacanol, hexacosanol, octacosanol, triacontanol.

STEROIDS: β -sitosterol, ϵ -sitosterol.

Bisht *et al.*, *Chem. Abstr.*, 88 133284j

C. pluricaulis Chois.

UNCHARACTERIZED ALKALOID: sankhpuspine.

Basu, Dandiya, *J. Amer. Pharm. Assoc.*, **37**, 27 (1948)

C. pseudocanthabrica Schrenk.

TROPANE ALKALOIDS: convolvamine, convolvicine, convolvidine, convolvine.

Orekhov, Konovalova, *Arch. Pharm.*, **271**, 145 (1933)

C. subhirsutus Rgl. et Schmalh.

TROPANE ALKALOIDS: confoline, convolvamine, convolvine.

Orekhov, Konovalova, *Arch. Pharm.*, **27**, 145 (1933)Sharova *et al.*, *Khim. Prir. Soedin.*, 672 (1980)**CONYZA (Compositae)*****C. podocephala.***

DITERPENOIDS: conycephaloside, conypododiol.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1693 (1982)***C. sticta.***

FLAVONOIDS: conyzatin, 5,7-dihydroxy-3,8,4'-trimethoxyflavone.

DITERPENOIDS: conyzic acid, stictic acid.

(F) Tandon, Rastogi, *Phytochemistry*, **16**, 1455 (1977)(T) Tandon, Rastogi, *Indian J. Chem.*, **18B**, 529 (1979)***C. ulnifolia.***

SESQUITERPENOID: oxoselinene.

Bohlmann, Jakupovic, *Phytochemistry*, **18**, 1367 (1979)**COOPERIA (Amaryllidaceae)*****C. drummondii Herb.***

BENZOISOQUINOLINE ALKALOID: lycorine.

Greathouse, Rigler, *Am. J. Bot.*, **28**, 702 (1941)***C. pedunculata.***

BENZOISOQUINOLINE ALKALOIDS: lycorine, pseudolycorine.

Greathouse, Rigler, *Am. J. Bot.*, **28**, 702 (1941)**COPAIFERA*****C. multijuga.***

DITERPENOID: copaiferolic acid.

SESQUITERPENOID: α -multijugenol.

Delle Monache *et al.*, *Ann. Chim. (Rome)*, **60**, 233 (1970)

***C. officinalis* L.**

DITERPENOID: (-)-hardwickiic acid.

Cocker *et al.*, *Tetrahedron Lett.*, 1983 (1965)

COPRIMUS

***C. rotundus*.**

NORSESQUITERPENOID: isokobusone.

Hikino *et al.*, *Chem. Pharm. Bull.*, **17**, 1390 (1969)

COPRINARIUS (Agaricales)

***C. cotoneus*.**

PIGMENT: leprocybin.

Kopanski *et al.*, *Ann. Chem.*, 1280 (1982)

COPROSMA (Rubiaceae)

***C. acerosa*.**

PIGMENT: soranjidiol.

Bowie *et al.*, *Aust. J. Chem.*, **15**, 332 (1962)

***C. areolata*.**

ANTHRAQUINONE: copreolatin.

Briggs *et al.*, *J. Chem. Soc.*, 1718 (1952)

***C. australis*.**

ANTHRAQUINONE: morindone.

Roberts *et al.*, *Aust. J. Chem.*, **30**, 1553 (1977)

***C. linariifolia* Hook. f.**

PIGMENTS: anthragallol 2-ethyl ether, 3-hydroxy-2-methylanthraquinone, nordamnacanthal, rubiadin, rubiadin 1-methyl ether.

Gambarino *et al.*, *J. Nat. Prod.*, **48**, 992 (1985)

C. lucida.

PIGMENT: 1,3-dihydroxy-2-hydroxymethylanthraquinone.

Briggs *et al.*, *J. Chem. Soc., Perkin I*, 1789 (1976)

C. propinqua A.Cunn.

COUMARIN: scopoletin.

IRIDOID: asperuloside.

Gambarino *et al.*, *J. Nat. Prod.*, **48**, 992 (1985)

C. pyrifolium.

IRIDOID: asperuloside, deacetylasperuloside.

Gambarino *et al.*, *J. Nat. Prod.*, **48**, 992 (1985)

C. robusta Raoul.

ANTHRAQUINONES: rubiadin, rubiadin 1-methyl ether.

COUMARIN: scopoletin.

IRIDOID: asperuloside.

Gambarino *et al.*, *J. Nat. Prod.*, **48**, 992 (1985)

C. rotundifolia A.Cunn.

ANTHRAQUINONES: lucidin, rubiadin, rubiadin 1-methyl ether.

COUMARIN: scopoletin.

Gambarino *et al.*, *J. Nat. Prod.*, **48**, 992 (1985)

C. tenuicaulis Hook. f.

ANTHRAQUINONES: 1,2-dihydroxy-6-methylanthroquinone, 3-hydroxy-2-methylanthraquinone, rubiadin, rubiadin 1-methyl ether.

COUMARIN: scopoletin.

PIGMENT: 6-methylalizarin.

(A, C) Briggs *et al.*, *J. Chem. Soc., Perkin I*, 1789 (1976)

(P) Brew *et al.*, *J. Chem. Soc., C*, 2001 (1971)

COPTIS (Ranunculaceae)

C. groenlandica.

PROTOBERBERINE ALKALOID: isocoptisine.

UNCHARACTERIZED ALKALOID: groenlandicine.

Cooper *et al.*, *Planta Med.*, **19**, 23 (1971)

C. japonica Makino.

PROTOBERBERINE ALKALOIDS: berberine, columbamine, coptisine, worenine.

FLAVONOIDS: coptiside I, coptiside II.

(A) Kitasato, *J. Pharm. Soc., Japan*, **30**, 705 (1953)

(F) Fujiwara *et al.*, *Chem. Pharm. Bull.*, **24**, 407 (1976)

C. occidentalis.

PROTOBERBERINE ALKALOID: berberine.

Awe, *Arch. Pharm.*, **284**, 352 (1951)

C. teeta Wall.

UNCHARACTERIZED ALKALOID: coptine.

Gross, *Am. J. Pharm.*, **14**, 193 (1873)

C. trifolia.

PROTOBERBERINE ALKALOID: berberine.

Awe, *Arch. Pharm.*, **284**, 352 (1951)

CORALLIA (Rhizophoraceae)

C. brachiata (Lour.) Merr.

INDOLE ALKALOID: (+)-hygrine.

Fitzgerald, *Aust J. Chem.*, **18**, 589 (1965)

CORALLINA

C. buchordii.

TRITERPENOID: 3,4-seco-20(29)-lupen-3-oic acid.

Corbett *et al.*, *J. Am. Chem. Soc.*, **102**, 1171 (1980)

CORBICULA

C. leana.

STEROID: corbisterol.

Toyama *et al.*, *Bull. Chem. Soc., Japan*, **25**, 355 (1952)

CORCHORUS

C. capsularis.

TRITERPENOIDS: capsugenin, corosin.

Manzoor-i-Khuda *et al.*, *Pakistan J. Sci., Ind. Res.*, **14**, 49 (1971)

C. olitorius.

STEROIDS: coroloside, deglucocoroloside.

TRITERPENOID: corosin.

(S) Masslenikova *et al.*, *Khim. Prir. Soedin.*, 535 (1975)

(T) Manzoor-i-Khuda *et al.*, *Pakistan J. Sci. Ind. Res.*, **14**, 49 (1971)

C. trilocularis.

STEROID: trilocularin.

Rao, Rao, *Phytochemistry*, **14**, 533 (1975)

CORDIA

C. alliodora.

BENZOPYRAN: cordiaquinol C.

HOMOSESQUITERPENOIDS: alliodorin, alliodorol, allioquinol C, cordiachromen A, cordillinol.

TRITERPENOIDS: 3,29-dihydroxyolean-12-en-27-oic acid, 3,29-dioxoolean-12-en-27-oic acid, 3-hydroxyolean-12-ene-27,28-dioic acid, 3-hydroxyolean-12-en-27-oic acid, 3-hydroxy-29-oxoolean-12-en-27-oic acid, 3-oxoolean-12-en-27-oic acid.

Manners, Jurd, *J. Chem. Soc., Perkin I*, 405 (1977)

Chen *et al.*, *J. Org. Chem.*, **48**, 3525 (1983)

C. millenii.

QUINONES: cordiachromes A, B, C, D, E and F.

Moir, Thomson, *J. Chem. Soc., Perkin I*, 1352 (1973)

C. obliqua L.

TRITERPENOIDS: 5,7-dimethoxytaxifolin-3-)- α -L-rhamnopyranoside, lup-20(29)-ene-3-O- β -maltoside.

Chuahen, Srivastava, *Phytochemistry*, **17**, 1005 (1978)

C. verbenacea.

TRITERPENOIDS: cordialin A, cordialin B.

Velde *et al.*, *J. Chem. Soc., Perkin I*, 2697 (1982)

CORDYCEPS (Ascomycetae)

C. ophioglossipides.

ESTER ALKALOID: ophiocardin.

Koenig *et al.*, *Chem. Ber.*, **113**, 2221 (1980)

CORDYLA

C. africana.

ISOFLAVONOIDS: 6,7,3',4'-tetramethoxyisoflavone, 5,6,7,8-tetramethoxy-3',4'-methylenedioxyisoflavone.

Braz Filho *et al.*, *Phytochemistry*, **10**, 2834 (1971)

CORDYLINE (Agavaceae)

C. australis Hook. f.

STEROID: australigenin.

Blunden *et al.*, *J. Nat. Prod.*, **47**, 246 (1984)

C. cannabina.

STEROIDS: brisbagenin, brisbagenone.

Jewers *et al.*, *Steroids*, **24**, 203 (1974)

C. cannifolia.

STEROID: cordylagenin.

Jewers *et al.*, *Tetrahedron Lett.*, 1475 (1974)

C. indivisa.

STEROID: pollinasterol.

Itoh *et al.*, *Phytochemistry*, **16**, 1081 (1977)

C. stricta.

STEROIDS: cordylagenin, 18-hydroxycrabbogenin, pompeygenin, strictagenin.

Jewers *et al.*, *Tetrahedron Lett.*, 1475 (1974)

Blunden *et al.*, *Tetrahedron*, **37**, 2911 (1981)

COREOPSIS

C. grandiflora.

FLAVONOID: 7,8,3',4'-tetrahydroxyflavanone.

King *et al.*, *J. Chem. Soc.*, 569 (1951)

C. martema.

CHALCONE: marein.

Harborne *et al.*, *J. Am. Chem. Soc.*, **78**, 829 (1956)

C. neucensis.

CHALCONES: lanceolin, marein.

Harborne, *Phytochemistry*, **16**, 927 (1977)

C. tinctoria.

CHALCONE: marein.

Harborne *et al.*, *J. Am. Chem. Soc.*, **78**, 829 (1956)

CORIARIA (Coriariaceae)

C. japonica A.Gray.

SESQUITERPENOIDS: coryamyrtin, corianin.

Kariyone *et al.*, *J. Pharm. soc., Japan*, **50**, 106 (1930)

CORIOLUS (Basidiomycetae)

C. consors.

NORSESQUITERPENOIDS: coriolins A, B and C.

SESQUITERPENOID: hirsutene.

Takahashi *et al.*, *Tetrahedron Lett.*, 1637 (1970)

CORNULACA

C. monacantha Del.

TRITERPENOIDS: azizic acid, manevalic acid.

Dawidar *et al.*, *Chem. Pharm. Bull.*, **27**, 2938 (1979)

CORNUS (Cornaceae)

C. controversa Hemsl.

SESQUITERPENOID: cornusol.

Kurihara, Kikuchi, *J. Pharm. Soc., Japan*, **98**, 969 (1978)

C. femina.

GLUCOSIDE: cornoside.

Hensen *et al.*, *Acta Chem. Scand.*, **27**, 367 (1973)

C. florida L.

TRITERPENOID: betulinic acid.

Ruzicka *et al.*, *Helv. Chim. Acta*, **21**, 1706 (1938)

CORONILLA (Leguminosae)

C. glauca.

STEROID: alloglaucotoxigenin.

Stoll *et al.*, *Helv. Chim. Acta*, **32**, 293 (1949)

C. hyrcana.

STEROIDS: deglucohyrcanoside, hyrcanoside.

Bagirov, Komissarenko, *Khim. Prir. Soedin.*, 251 (1967)

C. varia L.

LACTOSE: 6-deoxy-D-mannono-1,4-lactone.

STEROIDS: coronillin, deglucohyrcanoside.

(L) Opletal *et al.*, *Pharmazie*, **41**, 605 (1986)

(S) Bagirov, Komissarenko, *Khim. Prir. Soedin.*, 251 (1967)

CORTEX

C. chinæ.

SAPONINS: quinovinglycosides A, B and C.

Hlasiwatz, *Justus Liebigs Ann. Chem.*, **111**, 182 (1859)

C. condurango.

ALKALOIDS: condurangamine A, condurangamine B.

Pailer, Ganzinger, *Monatsh. Chem.*, **106**, 37 (1975)

CORTICUM (Hymenomycetæ)

C. caeruleum.

PYRAN: cortalcerone.

Baute *et al.*, *Phytochemistry*, **15**, 1753 (1976)

CORTINARIUS (Agaricaceæ)

C. brunneus.

AMINO ACID: L-4-hydroxy-3-methoxyphenylalanine.

Dardenne *et al.*, *Phytochemistry*, **16**, 1822 (1977)

C. infractus.

CARBOLINE ALKALOID: infractin.

Steglich *et al.*, *Tetrahedron Lett.*, 2341 (1984)

C. odorifer.

PIGMENT: anhydrophlegmacin.

Steglich *et al.*, *Z. Naturforsch.*, **27B**, 1286 (1972)

C. orellanus.

TOXIN: orellanine.

Antkowiak *et al.*, *Bull. Acad. Pol. Sci.*, **23** 729 (1975); *Chem. Abstr.*, 84 71474c

CORYDALIS (Papaveraceae/Fumariaceae)

C. ambigua Cham. et Schltd.

BENZOPHENANTHRIDINE ALKALOID: ambinine.

PROTOBERBERINE ALKALOIDS: corybulbine, corydaline, corydaline I, dehydrocorydaline, (\pm)-tetrahydrocoptisine.

Freund, Josephi, *Ber. Dtsch. Chem. Ges.*, **25**, 2411 (1892)

Cui *et al.*, *Xaoxue Xuebao*, **19**, 904 (1985); *Chem. Abstr.*, 103 19853x

C. aurea Willd.

BENZYLISOQUINOLINE ALKALOID: bicucine.

ISOQUINOLINE ALKALOID: corypalline.

ISOQUINOLINE LACTONE ALKALOIDS: bicuculline, cordrastine.

OXOPROTOBERBERINE ALKALOID: α -allocryptopine.

PROTOBERBERINE ALKALOIDS: capauridine, capaurine, corydaline, (-)-tetrahydropalmatine.

UNCHARACTERIZED ALKALOID: aurotensine.

Manske, *Can. J. Res.*, **9**, 436 (1933)

C. bulleyana

ISOQUINOLINE ALKALOIDS: (+)-6-acetonylcorynoline, acetylorydamine, (+)-acetylcorynoline, (+)-acetyliscorynoline, allocryptopine, bulleyanine, (+)-bulleyanoline, (-)-cheilanthifoline, (+)-conispermine, corycavamine, corydamine, (+)-corynoline, (+)-corynoloxine, dihydrosanguinarine, (+)-12-formyloxcorynoline, (+)-12-hydroxycorynoline, (+)-isoboldine, (+)-isocorynoline, (+)-norjuziphine, (+)-6-oxoacetylorynoline, (+)-scoulerine, (\pm)-stylopine.

Hong *et al.*, *Planta Med.*, 193 (1986)

C. caseana A. Gray.

ISOQUINOLINE LACTONE ALKALOID: bicuculline.

OXOPROTOBERBERINE ALKALOID: α -allocryptopine.

PROTOBERBERINE ALKALOIDS: caseamidine, caseamine, (\pm)-corypalmine, (-)-scoulerine, (-)-tetrahydropalmatine, (\pm)-tetrahydropalmatine.

Manske, Miller, *Can. J. Res.*, **16B**, 153 (1938)

Yu *et al.*, *Can. J. Chem.*, **49**, 124 (1971)

C. cava

APORPHINE ALKALOID: predicentrine.

Johns *et al.*, *Aust J. Chem.*, **22**, 1277 (1969)

C. cheilantheifolia Hemsl.

OXOPROTOBERBERINE ALKALOID: α -allocryptopine.

PROTOBERBERINE ALKALOIDS: berberine, (-)-canadine, cheilanthifoline, (-)-corypalmine.

Manske, *Can. J. Res.*, **16B**, 438 (1938)

C. clarkei.

PROTOBERBERINE ALKALOIDS: caseanadine, clarkeanidine.

Rothera *et al.*, *J. Nat. Prod.*, **48**, 802 (1985)*C. claviculata (L.) DC.*

DIBENZAZONINE ALKALOID: crassifolazonine.

ISOQUINOLINE ALKALOIDS: culacorine, cularine, limousamine, oxocularine, ribasidine.

Boente *et al.*, *Tetrahedron Lett.*, 2295 (1983)Boente *et al.*, *Heterocycles*, **23**, 1069 (1985)*C. consperma.*

NAPHTHOISOQUINOLINE ALKALOID: conspermine.

Fang *et al.*, *Planta Med.*, **50**, 25 (1984)*C. crystalline, Engelm.*

ISOQUINOLINE LACTONE ALKALOID: bicuculline.

Manske, *Can. J. Res.*, **9**, 436 (1933)*C. decumbens Pers.*

APORPHINE ALKALOID: bulbocapnine.

PROTOBERBERINE ALKALOID: dehydrocorydaline.

Kikkawa *et al.*, *J. Pharm. Soc., Japan*, **79**, 1244 (1959)*C. delavayi Franch.*

NAPHTHOISOQUINOLINE ALKALOID: 6-acetylcorynoline.

Luo, *Yunnan Zhiwu Yanjiu*, **4**, 69 (1982)*C. fedtshencoana Rgl.*

APORPHINE ALKALOID: bulbocapnine.

NAPHTHOISOQUINOLINE ALKALOID: sanguinarine.

OXOQUINOLIZIDINE ALKALOID: protopine.

Manske, *Can. J. Res.*, **21B**, 240 (1943)*C. fimrillifera Korsh.*

OXOQUINOLIZIDINE ALKALOID: protopine.

Haworth, Perkin, *J. Chem. Soc.*, 1769 (1926)*C. gigantea Trautv. et Mey.*

ISOQUINOLINE ALKALOIDS: (-)-adlumidine, (-)-adlumine, (-)-cheilanthifoline, dihydroxysanguinarine, (-)-scoulerine.

ISOQUINOLINE LACTONE ALKALOID: bicuculline.

NAPHTHOISOQUINOLINE ALKALOID: sanguinarine.

OXOQUINOLIZIDINE ALKALOID: protopine.

Manske, *Can. J. Res.*, **15B**, 274 (1937)Margvelashvili *et al.*, *Khim. Prir. Soedin.*, 832 (1976)

C. glaucescens Rgl.

APORPHINE ALKALOID: bulbocapnine.

OXOQUINOLIZIDINE ALKALOID: protopine.

PROTOBERBERINE ALKALOID: corydaline.

Mottus *et al.*, *Can. J. Chem.*, **31**, 1144 (1953)

C. gortschakovii.

APORPHINE ALKALOIDS: bracteoline, corytuberine, domesticine, isoboldine.

BENZYLISOQUINOLINE ALKALOIDS: corgoine, gorchacoine, sendaverine.

ISOQUINOLINE LACTONE ALKALOIDS: (+)-adlumine, (+)-bicuculline.

OXOPROTOBERBERINE ALKALOID: cryptopine.

OXOQUINOLIZIDINE ALKALOID: protopine.

PROTOBERBERINE ALKALOID: isocorydaline.

Tomita, Kitamura, *J. Pharm. Soc., Japan*, **79**, 1092 (1959)

Irgashev *et al.*, *Khim. Prir. Soedin.*, 127 (1977)

C. govaniana.

PROTOBERBERINE ALKALOID: govanine.

Mehra *et al.*, *J. Chem. Soc.*, **B**, 14, 58 (1976)

C. incisa Pers.

ISOQUINOLINE ALKALOIDS: corydamine, N-formylcorydamine.

NAPHTHOISOQUINOLINE ALKALOIDS: acetylcorynoline, acetylisocorynoline, corynoline, (+)-14-epi-corynoline, corynoloxine.

PROTOBERBERINE ALKALOID: (-)-corypalmine.

Chatterjee *et al.*, *J. Indian Chem. Soc.*, **29**, 921 (1952)

Yakao, *Chem. Pharm. Bull.*, **19**, 247 (1971)

C. koidzumiana.

PROTOBERBERINE ALKALOIDS: corydalidzine, corynoxidine, epi-corynoxidine.

Tani *et al.*, *Tetrahedron Lett.*, 803 (1973)

C. ledebouriana K. et K.

NAPHTHOISOQUINOLINE ALKALOID: sanguinarine.

OXOPROTOBERBERINE ALKALOID: α -allocryptopine.

OXOQUINOLIZIDINE ALKALOID: protopine.

SPIROISOQUINOLINE ALKALOID: ledeborine.

Israilov *et al.*, *Khim. Prir. Soedin.*, 268 (1975)

C. lutea (L.) DC.

OXOPROTOBERBERINE ALKALOID: ochrobirine.

PROTOBERBERINE ALKALOIDS: (-)-tetrahydrocolumbamine, (-)-tetrahydropalmatine.

Manske, *Can. J. Res.*, **18B**, 75 (1940)

C. marshalliana.

APORPHINE ALKALOIDS: bulbocapnine, corydine, domesticine, isobolbine.

ISOQUINOLINE LACTONE ALKALOIDS: adlumidine, bicuculline.

OXOQUINOLIZIDINE ALKALOID: protopine.

Manske, *Can. J. Res.*, **8**, 210, 404 (1933)

***C. micrantha* (Engelm) Gray.**

PROTOBERBERINE ALKALOIDS: capauridine, capaurine, (-)-scoulerine, (-)-tetrahydropalmatine.

Manske, *Can. J. Res.*, **16**, 81 (1938)

***C. montana* (Engelm) Britton.**

PROTOBERBERINE ALKALOIDS: capauridine, capaurimine, capaurine, (-)-scoulerine, (\pm)-tetrahydropalmatine.

Manske, *Can. J. Res.*, **16**, 81 (1938)

***C. nobilis* Pers.**

APORPHINE ALKALOID: corytuberine.

ISOQUINOLINE LACTONE ALKALOIDS: bicuculline, corlumine.

OXOPROTOBERBERINE ALKALOID: cryptopine.

PROTOBERBERINE ALKALOID: isocorypalmine.

Manske, *Can. J. Res.*, **14B**, 325, 347 (1936)

***C. ochotensis* Turez.**

OXOPROTOBERBERINE ALKALOIDS: cryptocavine, ochrobirine.

PROTOBERBERINE ALKALOIDS: corytenchine, corytenchirine, lienkonine.

UNCHARACTERIZED ALKALOID: aurotensine.

Lu, Wang, *Phytochemistry*, **21**, 809 (1982)

***C. ochotensis* Turez. var. *raddeana*.**

AMINE ALKALOID: aobamidine.

BENZYLISOQUINOLINE ALKALOID: aobamine.

SPIROISOQUINOLINE ALKALOIDS: raddeanamine, raddeanidine, raddeanine, raddeanone.

Kametani *et al.*, *Heterocycles*, **4**, 723 (1976)

***C. ochroleuca* Koch.**

ISOQUINOLINE LACTONE ALKALOID: bicuculline.

OXOPROTOBERBERINE ALKALOID: ochrobirine.

PROTOBERBERINE ALKALOIDS: (-)-corypalmine, (-)-tetrahydrocolumbamidine, (-)-tetrahydropalmatine.

Manske, *Can. J. Res.*, **18B**, 75 (1940)

***C. ophiocarpa* (Hook.) Makino.**

OXOPROTOBERBERINE ALKALOIDS: α -allocryptopine, cryptocavine.

PROTOBERBERINE ALKALOIDS: carpoxidine, 13-hydroxystylopine, ophiocarpine.

UNCHARACTERIZED ALKALOIDS: bebeerine, (-)-cryptopalmine.
 Manske, Marion, *J. Am. Chem. Soc.*, **62**, 2042 (1940)
 Tani *et al.*, *J. Pharm. Soc., Japan*, **98**, 1243 (1978)

C. paczoskii N. Busch.

APORPHINE ALKALOID: bulbocapnine.
 PROTOBERBERINE ALKALOID: corydaline.
 SPIROISOQUINOLINE ALKALOID: corpaine.
 Kikkawa *et al.*, *J. Pharm. Soc., Japan*, **79**, 1244 (1959)

C. pallida Pers.

ISOQUINOLINE ALKALOID: corypalline.
 PROTOBERBERINE ALKALOIDS: capauridine, capaurimine, capaurine, palmatine chloride, (\pm)-tetrahydropalmatine.
 Kametani *et al.*, *J. Pharm. Soc., Japan*, **95**, 1103 (1975)

C. pallida Pers. var. tenuis Yatabe.

PROTOBERBERINE ALKALOID: kikemanine.
 Kametani, *J. Chem. Soc., C*, 1060 (1970)

C. persica Cham. et Schlecht.

NAPHTHOISOQUINOLINE ALKALOIDS: chelerythrine, sanguinarine.
 OXOQUINOLIZIDINE ALKALOID: protopine.
 Manske, *Can. J. Res.*, **21B**, 140 (1943)

C. platycarpa Makino.

ISOQUINOLINE LACTONE ALKALOID: bicuculline.
 PROTOBERBERINE ALKALOIDS: corybulbine, dehydrocapaurimine, (-)-tetrahydrocolumbamine, (-)-tetrahydropalmatine.
 Manske, *Can. J. Res.*, **16**, 81 (1938)
 Tani *et al.*, *J. Pharm. Soc., Japan*, **90**, 903 (1970)

C. popovii Nevski.

APORPHINE ALKALOID: bulbocapnine.
 PROTOBERBERINE ALKALOID: corydaline.
 Kikkawa, *J. Pharm. Soc., Japan*, **79**, 1244 (1959)

C. pseudoadunca M.Pop.

APORPHINE ALKALOID: adukaine.
 ISOQUINOLINE ALKALOID: (-)-adlumidine.
 ISOQUINOLINE LACTONE ALKALOIDS: (+)-bicuculline, (\pm)-bicuculline, 2-hydrastine.
 NAPHTHOISOQUINOLINE ALKALOID: sanguinarine.
 OXOQUINOLIZIDINE ALKALOID: protopine.
 PROTOBERBERINE ALKALOIDS: coramine, (-)-scoulerine.
 Yunusov *et al.*, *Khim. Prir. Soedin.*, 340 (1966)

C. rosea Leych.

ISOQUINOLINE ALKALOIDS: (-)-adlumidine, (\pm)-adlumidine, (-)-adlumine.
 OXOQUINOLIZIDINE ALKALOID: protopine.
 Manske, *Can. J. Res.*, **16B**, 89 (1938)

C. scouleri H.K.

OXOPROTOBERBERINE ALKALOID: α -allocryptopine.
 PROTOBERBERINE ALKALOID: (-)-scoulerine.
 Manske, *Can. J. Res.*, **20B**, 49 (1942)

C. sempervirens (L.) Pers.

AMINE ALKALOID: adlumiceine.
 ISOQUINOLINE LACTONE ALKALOIDS: bicuculline, capnoidine.
 LACTONE ALKALOID: adlumiceine enol-lactone.
 OXOPROTOBERBERINE ALKALOID: cryptopine.
 Preininger *et al.*, *Phytochemistry*, **12**, 2513 (1973)

C. sewerzovii Rgl.

ISOQUINOLINE LACTONE ALKALOIDS: (-)-bicuculline, corlumine.
 NAPHTHOISOQUINOLINE ALKALOID: sanguinarine.
 OXOPROTOBERBERINE ALKALOIDS: α -allocryptopine, cryptopine.
 OXOQUINOLIZIDINE ALKALOID: protopine.
 PROTOBERBERINE ALKALOID: corydaline.
 Yunusov *et al.*, *Khim. Prir. Soedin.*, 61 (1968)

C. sibirica Pers.

ISOQUINOLINE LACTONE ALKALOIDS: bicuculline, corlumine.
 OXOPROTOBERBERINE ALKALOID: cryptopine.
 PROTOBERBERINE ALKALOID: (-)-scoulerine.
 SPIROISOQUINOLINE ALKALOID: sibiricine.
 Manske, *Can. J. Chem.*, **47**, 3585 (1969)

C. solida Sm.

APORPHINE ALKALOID: bulbocapnine.
 PROTOBERBERINE ALKALOID: solidaline.
 SPIROBENZYLISOQUINOLINE ALKALOID: (\pm)-corysolidine.
 Manske *et al.*, *Can. J. Chem.*, **56**, 383 (1978)
 Rohimizadeh *et al.*, *Phytochemistry*, **25**, 2245 (1986)

C. stewartii.

UNCHARACTERIZED ALKALOIDS: corycidine, corydicine, corydinine.
 Ikram *et al.*, *Pakistan J. Sci. Ind. Res.*, **9**, 34 (1966)

C. stricta Sieph.

ISOQUINOLINE ALKALOIDS: (+)- α -hydrastine, N-methylcorypalline.
 NAPHTHOISOQUINOLINE ALKALOID,: sanguinarine.

OXOQUINOLIZIDINE ALKALOID: protopine.
Irgashev *et al.*, *Khim. Prir. Soedin.*, 490 (1983)

C. tashiroi.

PROTOBERBERINE ALKALOID: dehydrodiscratamine chloride.
Tani *et al.*, *Planta Med.*, **41**, 403 (1981)

C. ternata Makino.

APORPHINE ALKALOID: (-)-corydine.
OXOPROTOBERBERINE ALKALOID: α -allocryptopine.
PROTOBERBERINE ALKALOIDS: (+)-tetrahydrocoptisine, (\pm)-tetrahydrocoptisine, (-)-tetrahydrocoptisine.
Arumugam *et al.*, *Chem. Ber.*, **91**, 40 (1958)

C. thalictrifolia Franch.

ISOQUINOLINE ALKALOID: adlumidine.
PROTOBERBERINE ALKALOIDS: (-)-corypalmine, thalictrifoline.
Chatterjee *et al.*, *J. Indian Chem. Soc.*, **29**, 921 (1952)

C. tuberosa DC. (C. cava Schwg.).

APORPHINE ALKALOIDS: bulbocapnine, (-)-corydine, corytuberine.
OXOPROTOBERBERINE ALKALOIDS: corycavamine, corycavidine, corycavine.
PROTOBERBERINE ALKALOIDS: (+)-canadine, corybulbine, corydaline, (+)-corypalmine, dehydrocorydaline, isocorybulbine, isocorypalmine, (+)-thalictricavine.
Spath *et al.*, *Ber. Dtsch. Chem. Ges.*, **56**, 877 (1923)
Gadamer, Knorck, *Apoth. Ztg.*, **41**, 928 (1926)

C. vaginans.

SPIROISOQUINOLINE ALKALOID: 1-O-methylcorpaine.
Margvelashvili *et al.*, *Khim. Prir. Soedin.*, 123 (1976)

CORYLUS

C. avellana.

STEROIDS: avenasterol, campesterol, citrostadienol, gramisterol, obtusifoliol, β -sitosterol, stigmasterol.
Van Dijck *et al.*, *Rev. Fr. Corps Gras*, **22**, 619 (1975); *Chem. Abstr.*, 84 161775f

C. maxima.

STEROIDS: avenasterol, campesterol, citrostadienol, gramisterol, obtusifoliol, β -sitosterol, stigmasterol.
Van Dijck *et al.*, *Rev. Fr. Corps Gras*, **22**, 619 (1975); *Chem. Abstr.*, 84 161775f

CORYNANTHE

C. mayumbensis.

CARBOLINE ALKALOID: 2-isorauniticine.

Strombon, Bruhn, *Acta Pharm. Suec.*, **15**, 127 (1978)

C. yohimbe.

CARBOLINE ALKALOIDS: alloyohimbine, 19-dehydroyohimbine, yohimbine.

Arndt, Jerassi, *Experientia*, **21**, 566 (1965)

CORYPHANTHA

C. bumamma.

AMINE ALKALOID: N-methyl-4-methoxyphenethylamine.

Bruhn *et al.*, *Acta Pharm. Suec.*, **12**, 199 (1975)

C. calipensis.

AMINE ALKALOIDS: (-)-calipamine, macromerine methyl ether.

Bruhn, Agurell, *J. Pharm. Sci.*, **63**, 574 (1974)

C. cornifera var. echinus.

AMINE ALKALOID: 4-methoxy- α -hydroxy- β -phenethylamine.

Hornemann *et al.*, *J. Pharm. Sci.*, **61**, 41 (1972)

C. greenwoodii.

AMINE ALKALOIDS: corypanthine, N,N-dimethyl-3,4-dimethoxy- α -methoxyphenethylamine.

Mayer *et al.*, *J. Nat. Prod.*, **46**, 688 (1983)

C. macromeria (Engelm.) Lem. var. runyonii B. et R.

AMINE ALKALOID: N-formylnormacromerine.

Keller *et al.*, *J. Pharm. Sci.*, **62**, 408 (1973)

C. runyonii B. et R.

AMINE ALKALOID: macromerine.

Hodgkins *et al.*, *Tetrahedron Lett.*, 1321 (1967)

CORYSPERMUM

C. leptopyrum.

ISOQUINOLINE ALKALOID: salsoline.

Spath *et al.*, *Ber. Dtsch. Chem. Ges.*, **67**, 1214 (1934)

COSMOS

C. bipinnatus.

BENZOPYRAN: cosmoiin.

Nakaoki *et al.*, *J. Pharm. Soc., Japan*, **55**, 967 (1935)

COSTUS

C. speciosus.

ALIPHATICS: 14-oxoheptacosanoic acid, 15-oxooctacosanoic acid, 14-oxotricosanoic acid, tetradecyl-13-methylpentadecanoate, tetradecyl-11-methyltridecanoate, triacontanoic acid, triacontanol.

FLAVONOID: diosgenin.

SAPONINS: costicoside I, costicoside J.

STEROIDS: β -sitosterol, 5 α -stigmast-9(11)-en-3 β -ol.

(Al, F, S) Gupta *et al.*, *Phytochemistry*, **25**, 1899 (1986)

(Sap) Singh *et al.*, *ibid.*, **25**, 911 (1986)

COTULA (Compositae/Asteraceae)

C. hispida.

SESQUITERPENOID: isovaleryloxycostunolide.

Bohlmann, Zdero, *Phytochemistry*, **18**, 336 (1979)

COTYLEDON (Crassulaceae)

C. orbiculata.

BUFADIENOLIDES: orbicusides A, B and C.

Steyn *et al.*, *J. Chem. Soc., Perkin I*, 1633 (1986)

C. wallichii Harv.

SAPONIN: cotyledoside.

Van Wyk *et al.*, *J. S. Afr. Chem. Inst.*, **28**, 281 (1975)

COURBONIA

C. virgata.

QUATERNARY ALKALOID: stachydrine ethyl ester.

Henry, King, *J. Chem. Soc.*, 2866 (1950)

COUROUPITA

C. guianensis.

ALKALOIDS: couroupitine A, couroupitine B.

Sen *et al.*, *Tetrahedron Lett.*, 609 (1974)

CRASPIDOSPERMUM

C. verticillatum Boj.

CARBOLINE ALKALOIDS: 14-vincine, 16-epi-14-vincine.

Kan-Fan *et al.*, *C.R. Acad. Sci.*, **272C**, 1431 (1971)

C. verticillatum Boj. var. petiolare.

CARBOLINE ALKALOID: andrangine.

HOMOCARBOLINE ALKALOIDS: andranganine, deformylstemmadine.

Kan-Fan *et al.*, *Bull. Soc. Chim. Fr.*, 2839 (1974)

CRATAEGUS (Rosaceae)

C. monogyna L.

FLAVONOIDS: 4"-O-acetylvitexin 2"-O-rhamnoside, homoorientin rhamnoside, isoorientin 2"-O-rhamnoside, isoschaftoside, 8-methoxykaempferol 3-O- β -D-glucopyranoside, orientin rhamnoside, rutin, saponaretin rhamnoside, schaftoside, spiraeoside, vicenin-1, vicenin-2, vicenin-3, vitexin 2"-O-rhamnoside.

Nikolov, *Khim. Prir. Soedin.*, 422 (1975)

Nikolov et al., *Chem. Abstr.*, 97 212665y

C. oxyacantha L.

TRITERPENOIDS: acantholic acid, trans-crategolic acid.

UNCHARACTERIZED TERPENOID: neotaegolic acid.

Tschesche, Popper, *Chem. Ber.*, **92**, 320 (1959)

C. phaenopyrum.

FLAVONOID: 5,7,3',4'-tetrahydroxyflavanone 5,3'-diglucoside.

Kowalewski, *Planta Med.*, **19**, 311 (1971)

CRATOXYLON (Guttiferae/Clusiaceae)

C. celibicum Blume.

XANTHONE: celibaxanthone.

Stout et al., *Tetrahedron*, **19**, 667 (1963)

CREMASTOSPERMA (Annonaceae)

C. polyphlebum.

BISBENZYLISOQUINOLINE ALKALOID: phlebicine.

Cava et al., *J. Org. Chem.*, **39**, 3588 (1974)

CREPIS (Compositae)

C. conyzaeifolia.

ACIDS: (6Z,9Z,12R,13S)-12,13-epoxy-6,9-octadecadienoic acid, (6E,9Z,12R,13S)-12,13-epoxy-6,9-octadecadienoic acid.

LACTONE: (-)-(S,S)-12-hydroxy-13-octadec-cis-9-enolide.

Spencer *et al.*, *Phytochemistry*, **16**, 282, 764 (1977)

C. japonica.

SESQUITERPENOIDS: crepisides A, B, C, D, E, F, G, H and I, glucozaluzanin C.

Miyase *et al.*, *Chem. Pharm. Bull.*, **33**, 4451 (1985)

C. napifera (Franch) Babc.

TRITERPENOID: taraxeryl acetate.

Liang, Chen, *Yaoxue Tongbao*, **17**, 242 (1982); *Chem. Abstr.*, 97 159491k

C. pygmaea.

SESQUITERPENOIDS: 4,5-dihydro-11-nor-hydroxy-7,11-santonin, 8-epi-grossheimin, 11-hydroxy-13-nor-3-oxo-1,7(11)-eudesmadien-12,6-olide.

Casinovi *et al.*, *Planta Med.*, **44**, 186 (1982)

C. virens.

SESQUITERPENOID: 8-epi-grossheimin.

Barbetti *et al.*, *Collect. Czech. Chem. Common.*, **44**, 3123 (1979)

CRESSA

C. cretica L.

FLAVONOID: quercetin glycoside.

Purushothaman, *J. Res. Indian Med.*, **9**, 109 (1974); *Chem. Abstr.*, 85 2560m

CRINODENDRON (Elaeocarpaceae)

C. hookerianum.

TRITERPENOID: cucurbitacin H.
 Holzepfel, Enslin, *J. S. Afr. Chem. Inst.*, **17**, 142 (1964)

CRINUM (Amaryllidaceae)

C. angustum.

CARBOLINE ALKALOID: angustine.

ISOQUINOLINE ALKALOIDS: 6 α -hydroxybuphanisine, 6 β -hydroxybuphanisine.

Ali *et al.*, *Phytochemistry*, **20**, 1121, 1731 (1981)

C. asiaticum L.

ISOQUINOLINE ALKALOIDS: criabetaine, crinamine, hamayne, lycorine, lycoriside, palmilycorine, ungeremine.

Ghosal *et al.*, *Phytochemistry*, **24**, 2703 (1985)

Ghosal *et al.*, *J. Chem. Res. Synop.*, (3), 112 (1986)

C. asiaticum L. var. japonicum Bak.

PHENANTHRIDINE ALKALOID: 4,5-etheno-8,9-methylenedioxyphenanthridine.

ESTER: methyl linoleate.

STEROID: stigmasterol.

TRITERPENOIDS: cycloartenol, cyclolaudenol, 31-norcyclolaudenol.

Takagi *et al.*, *J. Pharm. Soc., Japan*, **97**, 1155 (1977)

C. augustum.

AMINE ALKALOID: N-(3-hydroxy-4-methoxybenzylidene)-4'-hydroxyphenethylamine.

Ghosal *et al.*, *J. Chem. Res. Synop.*, (1), 28 (1986)

C. erubescens.

ISOQUINOLINE ALKALOIDS: flexinine, 6-hydroxycrinamine.

Boit, Ehmke, *Ber. Dtsch. Chem. Ges.*, **90**, 369 (1957)

C. fimbriatum.

ISOQUINOLINE ALKALOID: 6-hydroxycrinamine.

Fales *et al.*, *Chem. Ind.*, 1415 (1959)

C. gigantum Andr.

ISOQUINOLINE ALKALOID: lycorine.

Greathouse, Rigler, *Am. J. Bot.*, **28**, 702 (1941)

C. latifolium.

AMINE ALKALOID: latisoline.

ISOQUINOLINE ALKALOIDS: pratorimine, pratosine.

***C. macrantherum* Engl.**

AMINE ALKALOIDS: O-acetylmacranthine, diacetylmacranthine, macranthine.

ISOQUINOLINE ALKALOID: acetylcaranine.

LACTONE ALKALOID: macronine.

Hauth, Stauffacher, *Helv. Chim. Acta*, **47**, 185 (1964)***C. moorei* Hook. f.**

ISOQUINOLINE ALKALOIDS: crinamidine, crinine.

Boit, Ehmke, *Chem. Ber.*, **87**, 1704 (1954)***C. oligantum*.**

ISOQUINOLINE ALKALOID: oliganine.

Dopke *et al.*, *Z. Chem.*, **23**, 101 (1983)***C. ornatum*.**

ALKALOIDS: ornazamine, ornazidine.

Onyriuka, Jackson, *Isr. J. Chem.*, **17**, 185 (1978)***C. powellii* Hort.**

ISOQUINOLINE ALKALOIDS: cherylline, precriwelline.

UNCHARACTERIZED ALKALOIDS: cinalbine, crinosine.

Wildman, Bailey, *J. Org. Chem.*, **83**, 3749 (1968)***C. powellii* Hort. var. *harlamense*.**

ISOQUINOLINE ALKALOIDS: crispaline, powellamine.

Dopke *et al.*, *Arch. Pharm.*, **295**, 868 (1962)***C. pratense* Herb.**

ISOQUINOLINE ALKALOID: lycorine.

Greathouse, Rigler, *Am. J. Bot.*, **28**, 702 (1941)***C. scabrum*.**

ISOQUINOLINE ALKALOID: lycorine.

Greathouse, Rigler, *Am. J. Bot.*, **28**, 702 (1941)***C. zeanicum*.**

ISOQUINOLINE ALKALOID: 6-hydroxycrinamine.

Goosen *et al.*, *J. Chem. Soc.*, 1088 (1960)***C. zeylanicum*.**

ISOQUINOLINE ALKALOID: zeylamine.

Dopke *et al.*, *Z. Chem.*, **26**, 438 (1986)

CRIOCERAS

C. dipladeniiflorus.

CARBOLINE ALKALOID: 12-methoxy-14-vincamine.

DIMERIC IMIDAZOLIDINOCARBAZOLE ALKALOID: criophylline.

INDOLE ALKALOID: 12-methoxyvoaphylline.

Bruneton *et al.*, *Phytochemistry*, **13**, 1963 (1974)

C. longiflorus Pierre.

CARBOLINE ALKALOIDS: 14,15-dehydrovincamine, 16epi-14,15 -dehy dro vincamine.

Cave *et al.*, *C.R. Acad. Sci.*, **272C**, 1387 (1971)

CRITONIA (Compositae/Eupatorieae)

C. daleoides.

BENZOFURAN: tremetone.

Bohlmann *et al.*, *Phytochemistry*, **16**, 1973 (1977)

C. morifolia (Mill.) King et Rob.

SESQUITERPENOIDS: critonilide, isocritonilide.

Bohlmann *et al.*, *Chem. Ber.*, **110**, 301 (1977)

CROCUS (Iridaceae)

C. albiflorus.

CAROTENOID: crocetin.

Jucker, Karrer, *Carotenoids*, 242 (1968)

C. luteus.

CAROTENOID: crocetin.

Jucker, Karrer, *Carotenoids*, 242 (1968)

C. sativa L.

CAROTENOIDS: crocetin, crocetin di- β -glucoside, crocetin β -D-gentiobioside, crocetin- β -D-glucoside, crocetin- β -D-glucoside-D-gentiobioside, crocin, crocin-2, crocin-3, crocin-4.

Dhingra *et al.*, Indian J. Chem., **13**, 339 (1975)
Pfander *et al.*, Pure Appl. Chem., **47**, 121 (1976)

CRONQUISTIANTHUS (Compositae)

C. chachapoyensis.

SESQUITERPENOIDS: 8 β -angeloyloxycronquistianthusic acid, cronquistianthusic acid, elemacronquistianthusic acid, 8 β -tigloyloxyconquistianthusic acid.

Bohlmann *et al.*, Justus Liebigs Ann. Chem., 240 (1984)

CROOMIA

C. heterosepala Okuyama.

ALKALOID: croomine.

Noro *et al.*, Chem. Pharm. Bull., **27**, 1495 (1979)

C. nana Burm.

PYRROLIZIDINE ALKALOIDS: cronaburmine, crotanarine.

Siddiqui *et al.*, Phytochemistry, **17**, 2143 (1978)

CROPTILON

C. divaricatum.

DITERPENOID: norjulslimdioline.

Dominguez *et al.*, Rev. Latinoam. Quim., **3**, 177 (1973)

CROSSOPTERYX

C. kotschyana Fenzl.

UNCHARACTERIZED ALKALOID: crossoptine.

Blaise, Les Crossopteryx Africains Etude Botanique, Thesis, Paris (1932)

CROSSOSTYLIS

C. multiflora.

TROPANE ALKALOID: tropan-3 α -yl ferulate.

Gnaccio *et al.*, *J. Nat. Prod.*, **46**, 398 (1983)

C. sebertii.

TROPANE ALKALOIDS: tropan-3 α -yl cinnamate, tropan-3 α -yl ferulate.

Gnaccio *et al.*, *J. Nat. Prod.*, **46**, 398 (1983)

CROTALARIA

C. albida.

PYRROLIZIDINE ALKALOID: croalbidine.

Sawhney *et al.*, *Indian J. Chem.*, **11**, 88 (1973)

C. anagyroides.

PYRROLIZIDINE ALKALOIDS: anacrotine 1, methylpyrrolizidine.

Atal *et al.*, *Tetrahedron Lett.*, 537 (1966)

C. aridicola Domin.

PYRROLIZIDINE ALKALOIDS: 7 β -acetoxy-1-methoxymethyl-1,2-dehydro-8-pyrrolizidine, 1 β ,2 β -epoxy-1 β -methoxymethyl-8-pyrrolizidine, 7 α -hydroxy-1-methoxymethyl-1,2-dehydro-8-pyrrolizidine, 7 β -hydroxy-1-methoxymethyl-1,2-dehydro-8-pyrrolizidine.

Culvenor *et al.*, *Aust. J. Chem.*, **20**, 757 (1967)

C. axillaris Ait.

PYRROLIZIDINE ALKALOIDS: axillaridine, axillarine.

Crout, *J. Chem. Soc., C*, 1379 (1969)

C. barbata.

PYRROLIZIDINE ALKALOID: crobarbatine.

Puri *et al.*, *Experientia*, **29**, 390 (1973)

C. burha.

PYRROLIZIDINE ALKALOIDS: croburhine, crotalarine.

BENZOPYRAN: sumatrol.

(A) Rao *et al.*, *Indian J. Chem.*, **13**, 835 (1975)

(B) Kerry *et al.*, *J. Chem. Soc.*, 1601 (1939)

C. californicus.

DITERPENOID: barbasoic acid methyl ester.

Wilson *et al.*, *J. Am. Chem. Soc.*, **98**, 3669 (1976)*C. candicans.*

PYRROLIZIDINE ALKALOIDS: crocandine, cropodine.

Haksar *et al.*, *Indian J. Chem.*, **21B**, 492 (1982)*C. crassipes Hook.*

PYRROLIZIDINE ALKALOID: retusamine.

Culvenor *et al.*, *Aust. J. Chem.*, **20**, 801 (1967)*C. crispata F.Muell.*

PYRROLIZIDINE ALKALOIDS: crispatine, fulvine.

Culvenor, Smith, *Aust. J. Chem.*, **16**, 239 (1963)*C. dura Wood et Evans.*

PYRROLIZIDINE ALKALOID: crotaline.

Marais, *Onderstepoort Journal*, **20**, 61 (1944)*C. fulva Roxb.*

PYRROLIZIDINE ALKALOID: fulvine.

Schoental, *Aust. J. Chem.*, **16**, 233 (1963)*C. globifer Mey.*

PYRROLIZIDINE ALKALOIDS: crotaline, globiferine.

Marais, *Onderstepoort Journal*, **20**, 61 (1944)Brown *et al.*, *Phytochemistry*, **23**, 457 (1984)*C. goreensis Guill. et Perr.*PYRROLIZIDINE ALKALOID: 7 β -hydroxy-1-methylene-8-pyrrolizidine.Culvenor, Smith, *Aust. J. Chem.*, **14**, 284 (1961)*C. grahamiana R.Wight et Walk. Arm.*

PYRROLIZIDINE ALKALOID: grahamine.

Atal *et al.*, *Aust. J. Chem.*, **22**, 1773 (1969)*C. grantiana.*

PYRROLIZIDINE ALKALOID: grantianine.

Adams *et al.*, *J. Am. Chem. Soc.*, **84**, 571 (1942)*C. incana.*

PYRROLIZIDINE ALKALOID: anacrotine.

Mattocks, *J. Chem. Soc., C*, 235 (1968)*C. intermedia.*

PYRROLIZIDINE ALKALOIDS: integerrimine, usaramine.

Suri *et al.*, Indian J. Pharm., **37**, 96 (1975)

C. laburnifolia L.

PYRROLIZIDINE ALKALOIDS: crotalaburnine, hydroxysenkirkine.

Crout, J. Chem. Soc., Perkin I, 1602 (1972)

*C. laburnifolia L. subsp. *eldomae*.*

PYRROLIZIDINE ALKALOIDS: crotafoline, madurensine.

Crout, J. Chem. Soc., Perkin I, 1602 (1972)

C. madurensis.

PYRROLIZIDINE ALKALOIDS: cromadurine, madurensine.

BENZOPYRANS: crotmadine, crotmarine.

(A) Atal *et al.*, Tetrahedron Lett., 537 (1966)

(B) Bhakuni *et al.*, J. Nat. Prod., **47**, 585 (1984)

C. mitchellii Benth.

PYRROLIZIDINE ALKALOID: retusamine.

Culvenor *et al.*, Aust. J. Chem., **20**, 801 (1967)

C. mucronata Desv.

PYRROLIZIDINE ALKALOIDS: mucronitine, mucronitinine.

Bhacca, Sharma, Tetrahedron, **24**, 6319 (1968)

C. nana Burns.

PYRROLIZIDINE ALKALOIDS: crotaburnine, crotananine.

Siddiqui *et al.*, Phytochemistry, **17**, 2143 (1978)

C. novae-hollandiae DC.

PYRROLIZIDINE ALKALOID: retusamine.

Culvenor *et al.*, Aust. J. Chem., **20**, 801 (1967)

C. retusa L.

PYRROLIZIDINE ALKALOID: retusamine.

Culvenor *et al.*, Aust. J. Chem., **10**, 464 (1957)

C. semperflorus Vent.

PYRROLIZIDINE ALKALOID: crosemperine.

Atal *et al.*, Aust. J. Chem., **20**, 205 (1967)

C. spectabilis.

PYRROLIZIDINE ALKALOID: retronecanol.

Manske, Can. J. Res., **5**, 651 (1931)

C. stricta.

PYRROLIZIDINE ALKALOID: crotastrictine.

Ghandhi *et al.*, *Curr. Sci.*, **37**, 285 (1968)

C. tetragona.

AMINO ACID: 2-amino-5-hydroxyhexanoic acid.

Suri *et al.*, *Indian J. Pharm.*, **37**, 96 (1975)

C. trifoliastrum Willd.

PYRROLIZIDINE ALKALOIDS: $1\beta,2\beta$ -epoxy- 1α -hydroxymethyl-8-purrolizidine, $1\beta,2\beta$ -epoxy- 1β -methoxymethyl-8-pyrrolizidine, 7α -hydroxy- 1 -methoxymethyl- $1,2$ -dehydro-8-pyrrolizidine, 7β -hydroxy- 1 -methoxymethyl- $1,2$ -dehydro-8-pyrrolizidine.

Culvenor *et al.*, *Aust. J. Chem.*, **20**, 757 (1967)

C. usaramoensis E.G.Baker.

PYRROLIZIDINE ALKALOIDS: usaramine, usaramoensine.

Culvenor, Smith, *Aust J. Chem.*, **19**, 2127 (1966)

C. verrucosa.

FLAVONOID: kaempferol 7,4'-di-O-L-rhamnopyranoside.

Rao *et al.*, *Fitoterapia*, **56**, 175 (1985)

C. virgulata subsp. grantiana.

PYRROLIZIDINE ALKALOIDS: grantaline, grantianine.

Smith, Culvenor, *Phytochemistry*, **23**, 473 (1984)

C. walkeri Arnott.

PYRROLIZIDINE ALKALOIDS: O-acetyl crotaverrine, crotaverrine.

STEROID: β -sitosterol.

Suri *et al.*, *Indian J. Chem.*, **14B**, 471 (1976)

CROTON (Euphorbiaceae)

C. argyrophyllumoides.

DITERPENOID: terpenoid Aa-ICM.

Monte *et al.*, *J. Nat. Prod.*, **47**, 55 (1984)

C. balsamifera Jacq.

PHENANTHRENE ALKALOID: norsinoacutine.

Chambers *et al.*, *J. Chem. Soc., Chem. Commun.*, 449 (1966)

C. bonplandianum.

PHENANTHRENE ALKALOID: 3-methoxy-4,6-dihydroxymorphanandien-7-one.

Tiwari *et al.*, *Phytochemistry*, **20**, 863 (1981)

***C. californicus*.**

DITERPENOID: barbascic acid methyl ester.
Wilson *et al.*, *J. Am. Chem. Soc.*, **98**, 3669 (1976)

***C. californicus var. tenuis*.**

XANTHONE: 1,2,3,4,6,7-hexamethoxyxanthone.
Tammami *et al.*, *Phytochemistry*, **16**, 2040 (1977)

***C. caudatus*.**

NORDITERPENOIDS: crotocaudin, isocrotocaudin.
Chatterjee *et al.*, *Tetrahedron*, **33**, 2407 (1977)

***C. columnaris*. (*C. joufra*).**

DITERPENOID: plaunol, swassin.
Rosengsumran *et al.*, *J. Nat. Prod.*, **45**, 772 (1982)

***C. corylifolius*.**

DITERPENOIDS: crotofolin A, crotofolin E.
Chan *et al.*, *J. Am. Chem. Soc.*, **97**, 4037 (1975)

***C. diasii*.**

DITERPENOID: diasin.
De Alvarenga *et al.*, *Phytochemistry*, **17**, 1773 (1978)

***C. discolor* Willd.**

PHENANTHRENE ALKALOID: 8,14-dihydrosalutaridine.
SPIRONORAPORPHINE ALKALOID: discolorine.
Stuart *et al.*, *J. Chem. Soc., C*, 1228 (1970)

***C. draco*.**

DITERPENOID: draconin.
Rodriguez-Hahn *et al.*, *Rev. Latinoam. Quim.*, **6**, 123 (1975)

***C. eleuteria*.**

DITERPENOIDS: cascarilladiene, cascarillin, cascarillin A, cascarillone.
Claude-Lefontaine *et al.*, *Bull. Soc. Chim. Fr.*, 88 (1976)

***C. flavans* L.**

PHENANTHRENE ALKALOIDS: flavinantine, flavinine, norsinoacutine.
Stuart, Chambers, *Tetrahedron Lett.*, 2879 (1967)

***C. glabellus*.**

FLAVONOID: ayanin.
De Garcia *et al.*, *Chem. Abstr.*, 105 206297x

C. humilis.

AMINE ALKALOID: N-N(2)-methylbutyryl- α -glutamyl)-2-phenethylamine.
 Kutney *et al.*, *Tetrahedron Lett.*, 3263 (1971)

C. labdaniferus.

DITERPENOID: 6 β -acetoxy-7-oxo-8-labd-15-oic acid,
 de Pascual Teresa *et al.*, *Phytochemistry*, **21**, 899 (1982)

C. linearis Jacq.

PHENANTHRENE ALKALOID: dihydrosalutaridine.
 SPIROISOQUINOLINE ALKALOIDS: crotonosine, jaculadine, jacularine.
 Stuart *et al.*, *J. Chem. Soc., C*, 1228 (1970)

C. lucidus.

NORDITERPENOID: crotonin.
 Chan *et al.*, *J. Chem. Soc., Chem. Commun.*, 191 (1967)

C. macrostachys.

DITERPENOID: crotepoxide.
 Kupchan *et al.*, *J. Am. Chem. Soc., Perkin I*, **90**, 2982 (1968)

C. nitens.

DITERPENOID: crotonitenone.
 Burke *et al.*, *J. Chem. Soc., Perkin I*, 2666 (1981)

C. niveus.

DITERPENOID: nivenolide.
 Rojas, Rodriguez-Hahn, *Phytochemistry*, **17**, 574 (1978)

C. oblongifolius.

DITERPENOIDS: 11-dehydro-(-)-hardwickiic acid, oblongifoliol, oblongifolic acid.
 Aiyar, Seshadri, *Phytochemistry*, **11**, 1473 (1972)

C. penduliflorus.

DITERPENOID: penduliflaworosin.
 Adesogan, *J. Chem. Soc., Perkin I*, 1151 (1981)

C. poilanei.

DITERPENOID: poilaneic acid.
 Sato *et al.*, *Phytochemistry*, **20**, 1715 (1981)

C. rhamnifolius.

DITERPENOID:
 20-acetoxy-9-hydroxy-13,15-seco-4-tiglia-1,6,10-triene-3,13-dione.
 Stuart, Barratt, *Tetrahedron Lett.*, 2399 (1969)

C. salutaris.

PHENANTHRENE ALKALOID: salutaridine.

Barton *et al.*, *J. Chem. Soc.*, 2423 (1965)

C. sellowii.

PHENOLIC: sellovicine B.

Bohlmann *et al.*, *Chem. Ber.*, **102**, 1691 (1969)

C. sonderianus.

DITERPENOIDS: 3,4-seco-sonderianol, sonderianin, sonderianol.

Craviero *et al.*, *Phytochemistry*, **21**, 2571 (1982)

C. sparsiflorus Morong.

APORPHINE ALKALOID: sparsiflorine.

SPIROISOQUINOLINE ALKALOIDS: crotosparinine, isocrotosparinine.

DITERPENE ESTER: croton factor S.

(A) Chatterjee *et al.*, *Tetrahedron Lett.*, 1539 (1965)

(T) Upadhyay, Hecker, *Phytochemistry*, **15**, 1070 (1976)

C. sublyratus.

DITERPENOIDS: plaunol, plaunol A, plaunol B, plaunolide.

Takahashi *et al.*, *Phytochemistry*, **22**, 302 (1983)

C. tiglum L.

DITERPENOIDS: crotifolin A, ingenol 3,20-dibenzoate, phorbol, phorbol 12-tiglate-13-decanoate.

TOXIN: crotin.

Chan *et al.*, *J. Am. Chem. Soc.*, **97**, 4437 (1975)

C. turumquirensis Stayerm.

QUATERNARY ALKALOID: turumquirensine.

Burnell, Casa, *Nature*, **203**, 297 (1964)

C. verreauxii Baill.

DITERPENOIDS: croverin, dihydrocroverin.

Fujita *et al.*, *J. Chem. Soc., Chem. Common.*, 920 (1980)

C. wilsonii.

ALKALOIDS: five aporphine bases.

Stuart, Chambers, *Tetrahedron Lett.*, 4135 (1967)

CRYPTOCARYA

C. angulata C.T.White.

PHENANTHRENE ALKALOID: N,N-dimethylaminoethyl-3,4-dimethoxyphenanthrene.
Yunusov *et al.*, *Bull. Soc. Chim.*, **7**, 70 (1946)

C. bourdillonii.

PYRANONE: cryptocaryalactone.
Govindachari *et al.*, *Indian J. Chem.*, **10**, 149 (1972)

C. bowiei.

ISOQUINOLINE ALKALOIDS: cryptaustaline, cryptowoline.
Ewing *et al.*, *Aust. J. Chem.*, **6**, 78 (1953)

C. chinensis.

ISOQUINOLINE ALKALOIDS: (-)-caryachine, (+)-caryachine, crychine.
Lu, Lan, *J. Pharm. Soc., Japan*, **83**, 177 (1966)

C. konishii.

BENZYLISOQUINOLINE ALKALOID: crykonisine.
Lu, *J. Pharm. Soc., Japan*, **87**, 1278 (1967)

C. longifolia Kosterm.

BENZYLISOQUINOLINE ALKALOIDS: longifolidine, longifolonine.
Bick *et al.*, *Aust J. Chem.*, **34**, 195 (1981)

C. odorata.

APORPHINE ALKALOID: cryptodorine.
Bick *et al.*, *Bull. Soc. Chim. Fr.*, **12**, 4596 (1972)

C. pleuroperma White et Francis.

PHENANTHROINDOLIZIDINE ALKALOIDS: cryptopleuridine, cryptopleurine, cryptopleurospermine.

PIPERIDINE ALKALOID: pleurospermine.

Johns *et al.*, *Aust. J. Chem.*, **23**, 353 (1970)

CRYPTOLEPIS

C. buchanani.

PYRIDINE ALKALOID: buchananine.

Dutta *et al.*, *Phytochemistry*, **17**, 2047 (1978)

C. sanguinolenta Sch.

UNCHARACTERIZED ALKALOID: cryptolepine.

dinquart, *Bull. Acad. Med. Belg.*, **9**, 627 (1929)

CRYPTOMERIA (Taxodiaceae)

C. japonica D.Don.

DITERPENOIDS: cryptojaponol, cryptomeriol, cryptomerione, cryptometone, isokaurene, phyllocladan-16 α -ol (+)-sugiol.

Nagahama *et al.*, *Bull. Chem. Soc., Japan*, **37**, 1029 (1964)

CRYPTOMONAS

C. ovata.

CAROTENOID: alloxanthin.

Haxo, Fork, *Nature*, **184**, 1051 (1952)

C. ovata var. palustris.

CAROTENOID: ϵ -carotene.

Chapman, Haxo, *Plant Cell Physiol.*, **4**, 57 (1963)

CRYPTOSTEGIA

C. grandiflora.

TERP ENOID: cryptograndoside.

Krasso *et al.*, *Helv. Chim. Acta*, **55**, 1352 (1972)

CRYPTOSTYLIS (Orchidaceae)

C. erythroglossa Hayata.

ISOQUINOLINE ALKALOIDS: (-)-1,2,3,4-tetrahydro-6,7-dimethoxy-2-methyl-1-(3,4-methylenedioxyphenyl)-isoquinoline, (-)-1,2,3,4-tetrahydro-6,7-dimethoxy-2-methyl-(3,4,5-trimethoxyphenyl)-isoquinoline.

Agurell *et al.*, *Acta Chem. Scand.*, **28B**, 239 (1974)

C. fulva Schltr.

ISOQUINOLINE ALKALOIDS: cryptostylynes I, II and III.

Leander *et al.*, *Acta Chem. Scand.*, **27**, 710 (1973)

CRYSTOPHORA

C. moniliformis.

NORDITERPENOID: 8,13-epoxy-14,15-dinor-12-labden-3 β -ol.

Ravi *et al.*, *Aust J. Chem.*, **35**, 171 (1982)

CUCUBALUS

C. baccifer.

FLAVONOIDS: homoorientin, isosaponarin, orientin, saponaretin, saponaretin 6"-O-galactoside, vitexin.

Darmograi *et al.*, *Sb. Nauchn. Tr. Ryazan. Med. Inst.*, **50**, 33 (1975); *Chem. Abstr.*, 84 56522y

CUCUMARIA

C. frondosa.

TRITERPENOID: frondogenin.

Findlay *et al.*, *J. Nat. Prod.*, **47**, 320 (1984)

CUCUMIS (Cucurbitaceae)

C. angolensis.

TRITERPENOID: cucurbitacin F.

Enslin *et al.*, *J. Sci. Food Agr.*, **8**, 673 (1957)

C. hirsutus.

TRITERPENOID: cucurbitacin G.

Enslin *et al.*, *J. Sci. Food Agr.*, **8**, 673 (1957)

C. prophetarum.

TRITERPENOID: cucurbitacin Q-1.

Atta-ur-Rahman *et al.*, *Phytochemistry*, **12**, 2741 (1973)

C. sativus.

STEROIDS: 24-ethyl-5 α -cholesta-7,22-dien-3 β -ol, 24-ethylcholest-5-en-7 β -ol, 24-methylenepollinasterol, 24(R)-14 α -methyl-24-ethyl-5 α -cholest-9(11)-en-3 β -ol, 7,22-stigmastadien-3 β -ol, 7-stigmasten-3 β -ol.

Matsumoto *et al.*, *Phytochemistry*, **22**, 2622 (1983)

Akahisa *et al.*, *Lipids*, **21**, 491 (1986)

CUCURBITA (Cucurbitaceae)

C. lundelliana.

TRITERPENOID: isomultiflorenone.

Sengupta, Khastgir, *Tetrahedron*, **19**, 123 (1963)

C. pepo L.

GIBBERELLINS: gibberellin A-39, gibberellin A-48, gibberellin A-49.

STEROIDS: 24 α -ethylathosterol, spinasterol, 5 α -stigmasta-7,25-dien-3 β -ol.

DINORSESQUITTERPENOIDS: cucurbitic acid, cucurbitic acid glucoside, cucurbitic acid methyl ester.

DITERPENOIDS: (+)-cis-abscisic acid, (+)-trans-abscisic acid, (+)-dehydromovomifoliol, (+)-vomifoliol.

(S) Nes *et al.*, *Lipids*, **12**, 511 (1977)

(T) Fukui *et al.*, *Agr. Biol. Chem.*, **41**, 175, 181 (1977)

CUDRANIA (Moraceae)

C. cochinchinensis.

BENZOPHENONE: cudranone.

Ottersen *et al.*, *Acta Chem. Scand.*, **31B**, 434 (1977)

C. cochinchinensis var. gerontogea.

BENZOPHENONE: cudranone.

Chang *et al.*, *J. Pharm. Sci.*, **66**, 908 (1977)

C. javanensis.

XANTHONE: cudranixanthone.

Murty *et al.*, *Phytochemistry*, **11**, 2089 (1972)

C. tricuspidata.

FLAVONOIDS: cudraflavone A, cudraflavone B.

Fujimoto *et al.*, *Planta Med.*, **50**, 161 (1984)

CULLUMIA (Compositae/Arctotideae)

C. squarrosa (L.) R.Br.

Thienyl and thietane polyacetylenes.

Bohlmann, Suwita, *Chem. Ber.*, **108**, 515 (1975)

C. sulcata Less.

Four thienyl polyacetylenes.

Bohlmann, Suwita, *Chem. Ber.*, **108**, 515 (1975)

CUNNINGHAMIA

C. lanceolata Hook. f.

FLAVONOID: robustaflavone.

Ansari *et al.*, *J. Indian Chem. Soc.*, **62**, 406 (1985)

CUNURIA

C. balsamona Cham. et Schl.

STEROIDS: β -sitosterol, stigmasterol.

TRITERPENOID: friedelin.

Lin *et al.*, *Chem. Abstr.*, 87 81231x

CUPRESSUS (Cupressaceae)

C. cashmeriana.

FLAVONOIDS: amentoflavone, cupressuflavone, hinokiflavone, isocryptomerin, quercetin 3-O-(6"-O- α -rhamnopyranosyl)- β -D-glucopyranoside, sequoiaflavone.

Khabir *et al.*, *J. Nat. Prod.*, **50**, 511 (1987)

C. dupreziana.

SESQUITERPENOID: α -duprezzianene.

Piovetti *et al.*, *Phytochemistry*, **16**, 103 (1977)

C. funebris Endl.

SESQUITERPENOID: α -funebrene.

Motl, Paknikar, *Collect. Czech. Chem. Commun.*, **33**, 1939 (1968)

C. goveniana var. *abramasiana*.

NORDITERPENOID: cupressol.

Jolad *et al.*, *J. Nat. Prod.*, **47**, 983 (1984)

C. lusitanica.

FLAVONOID: podocarpusflavone A.

Rizvi *et al.*, *Phytochemistry*, **13**, 1990 (1974)

C. macrocarpus.

DITERPENOID: (+)-isophyllocladene.

SEQUITERPENOID: juniperol.

Naffa, Ourisson, *Bull. Soc. Chim. Fr.*, 382 (1954)

C. pygmaea (Lemm.) Sarg.

MONOTERPENOID: α -thujaplicinol.

TROPOLONES: 3-isopropenyl-7-hydroxytropolone, pygmaein.

Zavarin, *J. Org. Chem.*, **27**, 3368 (1962)

C. semopervirens L.

FLAVONOIDS: cupressuflavone, hinokiflavone, isocryptomerin, quercetin, quercetin 3-O- α -L-rhamnopyranoside.

DITERPENOIDS: trans-communic acid, cupressic acid, neocupressic acid, (+)-semperirol.

(F) Khabir *et al.*, *J. Nat. Prod.*, **50**, 511 (1987)

(T) Balansard *et al.*, *Trans. Soc. Pharm. Montpellier*, **33**, 367 (1973)

C. torulosa.

FLAVONOID: cupressuflavone.

DITERPENOID: toruloasal.

(F) Nakazawa *et al.*, *Chem. Pharm. Bull.*, **10**, 1036 (1962)

(T) Enzell, *Acta Chem. Scand.*, **15**, 1303 (1961)

C. tricuspidata (Can) Lav.

MONOTERPENOIDS: methyl-4-trans-dehydrogeranate, α -pinene, β -thujaplicin, τ -thujaplicin.

SEQUITERPENOID: nootkatin.

Senter *et al.*, *Phytochemistry*, **14**, 2233 (1975)

CURARIA

C. candicans.

BISBENZYLISOQUINOLINE ALKALOIDS: (+)-candicusine, (-)-limacine N-oxide.

Lavault *et al.*, *J. Chem. Res. Synop.*, 248 (1985)

CURCULIGO (Amaryllidaceae)

C. orchoides.

ALIPHATIC: 3-methoxy-5-acetyl-31-tritriacontene.

GLYCOSIDES: curculigine A, 5,7-dimethoxy-dihydromyricetin-3-O- α -L-xylopyranosyl-4-O- β -D-glucopyranoside.

(Al) Mehta *et al.*, *Acta Cienc. Indica*, **7**, 174 (1982); *Chem. Abstr.*, 97 141652d

(Gl) Tiwari *et al.*, *Planta Med.*, **29**, 291 (1976)

CURCUMA

*C. aromatic*a.

MONOTERPENOID: 2-bornanol.

SESSQUITERPENOID: curcumene.

Stothers *et al.*, *Can. J. Chem.*, **54**, 1211 (1976)

C. longa.

SESSQUITERPENOIDS: curlone, α -turmerone, β -turmerone.

Kuso *et al.*, *Phytochemistry*, **22**, 596 (1983)

C. xanthorrhiza.

SESSQUITERPENOID: xanthorrhizol.

Rimpler *et al.*, *Z. Naturforsch.*, **25B**, 995 (1970)

C. zedoaria.

SESSQUITERPENOIDS: curculone, curcumadiol curcumenol, curcumol, curdione, curzerenone, ent-curzerenone, isocurcumenol, isofuranodienone, prokurcumenol, procurzerenone, zederone, zedoarone.

Hikino *et al.*, *Chem. Pharm. Bull.*, **19**, 93 (1971)

CUSPIDUM

C. filix.

BISQUINONE: filixic acid.

Roehm, *Justus Liebigs Ann. Chem.*, **318**, 253 (1901)

CUTLERIA

C. multifida.

HOMOMONOTERPENOID: multifidene.

Jaenicke *et al.*, *J. Am. Chem. Soc.*, **96**, 3324 (1974)

CYANOPHYTA (Cyanophyceae)

C. sp.

CAROTENOIDS: isocryptoxanthin, mutatochrome.

Francis, Halfen, *Phytochemistry*, **11**, 2347 (1972)

CYANOSTEGIA

C. angustifolia Turez.

FLAVONOIDS: 5,7,4'-trihydroxy-3,8-dimethoxyflavone, 5,7,4'-trihydroxy-3,8,3'-trimethoxyflavone.

Ghisalberti *et al.*, *Aust. J. Chem.*, **20**, 1049 (1967)

C. microphylla.

FLAVONOIDS: chrysosplenol, 5,7,4'-trihydroxy-3,8-dimethoxyflavone, 5,7,4'-trihydroxy-3,8,3'-trimethoxyflavone.

Ghisalberti *et al.*, *Aust. J. Chem.*, **20**, 1049 (1967)

CYATHOCLINE

C. lyrata.

MONOTERPENOID: lyratol.

Dergan *et al.*, *Tetrahedron Lett.*, 5337 (1967)

C. purpurea.

SESQUITERPENOID: isoivangustin.

Nayasampagi *et al.*, *Phytochemistry*, **20**, 2034 (1981)

CYATHULA

C. bulleri Brodie strain 6680a (ATCC 38351).

SESQUITERPENOIDS: cybrodal, cybrodic acid, cybrodol.

Ayer, McGaskill, *Tetrahedron Lett.*, 1917 (1980)

C. capitata Monquim-Tandon.

STEROIDS: amarasterone A, amarasterone B, cyasterone, poststerone, precyasterone, sengosterone.

Takemoto *et al.*, *Tetrahedron Lett.*, **3191**, 5136 (1967)

Hikino *et al.*, *Tetrahedron*, **26**, 887 (1970)

CYATHUS (Basidiomycetae)

C. africanus.

DITERPENOIDS: cyafrin A-4, cyafrin A-5, cyafrin B-4.

Ayer *et al.*, *Can. J. Chem.*, **56**, 2113 (1978)

C. helenae.

DITERPENOIDS: cyathin A-3, cyathin A-4, cyathin A5, cyathin B-3, cyathin C-3, cyathin C-5.

Ayer *et al.*, *Can. J. Chem.*, **56**, 717 (1978)

C. striatus.

ANTIBIOTICS: striatins A, B and C.

Hecht *et al.*, *J. Chem. Soc., Chem. Commun.*, 665 (1978)

CYCLACHAENA

C. xanthifolia.

SESQUITERPENOIDS: dehydrocoronopilin, ivoxanthin.

Nomikov *et al.*, *Khim. Prir. Soedin.*, 375 (1969)

CYCLAMEN (**Primulaceae**)

C. europeum.

SAPOGENINS: cyclamigenins A-1, A-2, B, C and D, cyclamiretin, cyclamiretin A.

SAPONIN: cyclamin.

Dorchai *et al.*, *Tetrahedron*, **24**, 1377, 5649 (1968)

C. graecum Lam.

SAPOGENIN: cyclamiretin C.

Harvala, Hylands, *Planta Med.*, **33**, 180 (1978)

C. hederifolium Aiton.

SAPOGENIN: cyclamiretin C.

Harvala, Hylands, *Planta Med.*, **33**, 180 (1978)

CYCLEA

C. barbata.

BISBENZYLISOQUINOLINE ALKALOID: homoaromoline.

Tomita *et al.*, *J. Pharm. Soc., Japan*, **87**, 1012 (1967)

C. burmanni.

UNCHARACTERIZED ALKALOIDS: burmannaline, burmannine.

Saradamma, *Bull. Cent. Res. Inst. Univ. Travancore*, **3**, 55 (1954)

C. hainanensis.

PROTOBERBERINE ALKALOID: α -hainanine.

Zhang *et al.*, *Chih Wu Hsueh Pao*, **23**, 216 (1981)

C. insulkaris (Mak.) Diels.

ALKALOIDS: cycleanine, insulanoline.

Fujita, Murai, *J. Pharm. Soc., Japan*, **71**, 1043 (1951)

C. peltata.

BISBENZYLISOQUINOLINE ALKALOIDS: cycleacurine, cycleadrine, cycleahomine, cycleanine, cycleanorine, cycleapeltine, fangch incline.

Kupchan *et al.*, *J. Org. Chem.*, **38**, 1846 (1973)

CYCLOBIUM

C. clausseni.

QUINONE: claussequinone.

Gottlieb *et al.*, *Phytochemistry*, **12**, 2495 (1973)

C. vecchi.

QUINONE: claussequinone.

Gottlieb *et al.*, *Phytochemistry*, **12**, 2495 (1973)

CYDONIA

C. oblongata.

GLYCOSIDES: marmelolactine A, marmelolactine B, roseoside.

Ishihara *et al.*, *Agr. Biol. Chem.*, **47**, 2121 (1983)

CYLICODISCUS

C. gabunensis.

CHALCONE: okanin.

Russell *et al.*, *J. Chem. Soc.*, 1506, 1940 (1934)

CYMARA

C. sibthorpiana.

SESQUITERPENOID: sibthorpine.

Omar *et al.*, *Phytochemistry*, **23**, 2381 (1984)

CYMBALARIA (Scrophulariaceae)

C. muralis Gaertn. Meyer et Scherb.

IRIDOID: antirrhinoside.

Kapoor *et al.*, *Phytochemistry*, **13**, 1018 (1974)

CYMBELLA

C. cymbiformis Kutz.

CAROTENOIDS: β -carotene, fucoxanthin, lutein.

Illyes *et al.*, *Stud. Cercet. Biochim.*, **18**, 109 (1975); *Chem. Abstr.*, 85 17083g

CYMBIDIUM

C. giganteum.

SAPONIN: cymbidioside.

Dalmen, Leander, *Phytochemistry*, **17**, 1975 (1978)

CYMBOPOGON

C. citratus.

TRITERPENOIDS: cymbopogone, cymbopogonol.

Crawford *et al.*, *Tetrahedron Lett.*, 3099 (1975)

Hanson *et al.*, *Phytochemistry*, **15**, 1074 (1976)

C. flexuosus.

ALIPHATICS: triacontane, triacontanol.

STEROID: β -sitosterol.

TRITERPENOID: arundoin.

Thappa *et al.*, *Indian J. Chem.*, **13**, 1108 (1975)

C. senarensis.

MONOTERPENOID: (+)-piperitone.

Read, Walker, *J. Chem. Soc.*, 308 (1934)*C. winterianus.*

MONOTERPENOID: hydroxycitronellic acid.

Sethi *et al.*, *Indian Perfum.*, **23**, 167 (1979)**CYMOPHOLIA (Chlorophyceae)***C. barbate.*

SESQUITERPENOIDS: cyclocymopol, cyclocymopol methyl ether, isocymopolone.

McConnell *et al.*, *Phytochemistry*, **21**, 2139 (1982)**CYMOPTERUS***C. watsonii.*

FUROCOUMARINS: byakangelicin, heraclenol.

Frank *et al.*, *Phytochemistry*, **14**, 1681 (1975)**CYNANCHUM***C. africanum.*

STEROIDS: cynafoside A, cynafoside B.

Tsukamoto *et al.*, *Tennen Yuki Kagobutsu Toronkai Kown Yoshishu*, 27th 529 (1985)*C. caudatum Max.*

STEROIDAL ALKALOIDS: gagamine, gagaminine.

STEROIDS: caudatin, 12-O-cinnamoyl-20-O-acetylglycosarcostin, 20-O-cinnamoylikemagenin, 12-O-cinnamoylikemagenol, 20-O-cinnamoylsarcostin, cynanchogenin, 5,6-epoxycaudatin, glycocynanchogenin, glycopenupogenin, ikemagenin, isoikemagenin, pupogenin.

(A) Yamagishi *et al.*, *Chem. Pharm. Bull.*, **20**, 2289 (1972)(S) Bando *et al.*, *ibid.*, **28**, 2258 (1980)

C. glaucescens Hand.-Mazz.

SAPogenins: glaucogenins A, B and C.

SAPONINS: glaucogenin C 3-O- β -D-thevetoside, glaucoside F, glaucoside G.
Nakagawa *et al.*, *Chem. Pharm. Bull.*, **31**, 879 (1983)***C. otophyllum.***

STEROID: quinyangshengenin.

Mu *et al.*, *Yaoxue Xuebao*, **18**, 356 (1983)***C. sibiricum.***

STEROIDS: sibiricoside D, sibiricoside E.

Tursunova *et al.*, *Khim. Prir. Soedin.*, **171** (1975)***C. vincetoxicum.***

AZAPHENANTHRENE ALKALOID: vincetene.

INDOLIZIDINE ALKALOID: 6-hydroxy-2,3-dimethoxyphenanthro-[9,10-f]-indolizidine.

ISOQUINOLINE ALKALOID: 6-hydroxy-2,3-dimethoxy-9,11,12,13,13a,14-hexahydrodibenzo-[fmh-pyrrolo-1,2-b]-isoquinoline.

Weigrabe *et al.*, *Justus Liebigs Ann. Chem.*, **721**, 154 (1969)Budzikiewicz *et al.*, *Justus Liebigs Ann. Chem.*, 1212 (1980)***C. wilfordi Hemsl.***

STEROIDS: 12-O-cinnamoyl-20-O-ikemanoylsarcostin, 12-O-cinnamoyl-20-O-tigloylsarcostin, 12-O-cumanoyl-20-O-tigloylsarcostin, wilforine.

Hayashi, Mitsuhashi, *Chem. Pharm. Bull.*, **23**, 139 (1975)

CYNARA (Compositae)

C. cardunculus.

SESQUITERPENOID: cynaratriol.

Bernhard *et al.*, *Helv. Chim. Acta*, **62**, 1288 (1979)***C. scolymus L.***

PIGMENTS: cyanidol 3-caffeylglicoside, cyanidol caffeylsophoroside, cyanidol dicaffeylsophoroside, cyanidol diglucoside, cyanidol glucoside, cyanidol 5-glucoside-3-caffeylsophoroside, cyanidol sophoroside.

SESQUITERPENOIDS.: cynarapicrin, cynaratriol, cynarolide, isoamberboin.

(P) Aubert *et al.*, *Chem. Abstr.*, 97 195777s(T) Bernhard *et al.*, *Helv. Chim. Acta*, **62**, 1288 (1979)

CYNESPORA

C. melonis.

SESQUITERPENOIDS: 2-hydroxyguaiioxide, 3-hydroxyguaiioxide.

Takeda, *Pure Appl. Chem.*, **21**, 181 (1970)

CYNOGLOSSUM (Boraginaceae)

C. amabile Stapf. et Drummond.

PYRROLIZIDINE ALKALOIDS: amabiline, echinatine.

Culvenor, Smith, *Aust. J. Chem.*, **20**, 2499 (1967)

C. glochidiatum.

PYRROLIZIDINE ALKALOID: amabiline.

Suri *et al.*, *Indian J. Pharm.*, **37**, 69 (1975)

C. lanceolatum.

PYRROLIZIDINE ALKALOIDS: cynaustine, cynaustraline.

Suri *et al.*, *Indian J. Pharm.*, **37**, 69 (1975)

C. latifolium R.Br.

PYRROLIZIDINE ALKALOID: latifoline.

Crowley, Culvenor, *Aust. J. Chem.*, **15**, 139 (1962)

C. officinale L.

PYRROLIZIDINE ALKALOID: heliosupine.

UNCHARACTERIZED ALKALOIDS: consolicine, consolidine, cynoglossine.

Culvenor *et al.*, *Aust. J. Chem.*, **9**, 512 (1956)

C. pictum Ait.

PYRROLIZIDINE ALKALOIDS: echinatine, echinatine N-oxide, heliosupine, heliosupine N-oxide.

UNCHARACTERIZED ALKALOID: pictumine.

Culvenor, *Aust. J. Chem.*, **9**, 512 (1956)

Man'ko, Marchenko, *Khim. Prir. Soedin.*, 655 (1972)

C. viridiflorum Pall.

PYRROLIZIDINE ALKALOIDS: heliosupine, heliosupine N-oxide, viridiflorine.

Men'shikov *et al.*, *J. Gen. Chem. USSR*, **18**, 1736 (1948)

CYNOMETRA

C. ananta.

IMIDAZOLE ALKALOIDS: anantine, cynodine, cynometrine.

Khuong-Huu-Laine *et al.*, *Tetrahedron Lett.*, 1757 (1973)

C. hankei.

IMIDAZOLE ALKALOIDS: cynodine, cynometrine, N(1)-demethylcynodine, N(1)-demethylcynometrine.

Waterman, Faulkner, *Phytochemistry*, **20**, 2765 (1981)

CYNOSEIRA

C. stricta.

TRINORTRITERPENOID: 2-(10,11-dihydroxygeranylgeranyl)-6-methyl-1,4-benzenediol, 2-(10,11-dihydroxygeranylgeranyl)-6-methyl-1,4-benzoquinone.

Amico *et al.*, *Phytochemistry*, **21**, 421 (1982)

CYNURA

C. japonica Makino.

STEROIDS: 3-epi-neoruscogenin, spirosta-5,25(27)-diene-1,3-diol.

Takehira *et al.*, *Tetrahedron Lett.*, 3647 (1977)

CYPERUS (Cyperaceae)

C. articulus.

SESQUITERPENOID: cyperotundone.

Naves, Ardizio, *Bull. Soc. Chim. Fr.*, 372 (1954)

C. brevibracteatus.

BENZOPYRAN: (-)-breverin.

QUINONE: breviquinone.

Allan *et al.*, *Tetrahedron Lett.*, 7 (1973)

C. conicus.

QUINONE: conicaquinone.

MacLeod *et al.*, *Tetrahedron Lett.*, 241 (1972)

C. corymbosus.

SESQUITERPENOID: isocorybolene.

Gambarino *et al.*, *Phytochemistry*, 24, 2726 (1985)

C. rotundus L.

ACIDS: p-coumaric acid, ferulic acid, p-hydroxybenzoic acid, protocatechuic acid, vanillic acid.

SESQUITERPENOIDS: caryophyllene, cyperene, cyperenone, cyperol, cyperolone, cyperotundone, β -elemene, α -humulene, isocyperol, kbusone, mustakone, rotundene, rotundenol, α -rotundol, β -rotundol, rotundone, β -selinene.

Hikino *et al.*, *Tetrahedron*, 27, 4831 (1971)

Komai *et al.*, *Chem. Abstr.*, 97 123942u

C. rotundus L. (Indian).

SESQUITERPENOID: (+)-copadiene.

Kapadia *et al.*, *Tetrahedron Lett.*, 4661 (1967)

C. scaber.

BENZOPYRAN: scaberin.

QUINONE: scabequinone.

SESQUITERPENOID: scabediol.

Allan *et al.*, *Tetrahedron Lett.*, 3 (1973)

C. scariosus.

SESQUITERPENOIDS: cyperenol, isopatchoula-3,5-diene, patchoulenol, rotundene.

Nerali, Chakravarti, *Tetrahedron Lett.*, 2447 (1967)

CYPHOLOPHUS (Urticaceae)

C. friesianus.

ALKALOIDS: acetylcypholophine, cypholophine.

Hart *et al.*, *J. Chem. Soc., D*, 441 (1976)

CYPHOMANDRA

C. betaceae Sendt.

AMIDE ALKALOID: solacaproine.

ANTHOCYANINS: malvinidin 3-diglucoside, paeonidin 3-diglucoside, pelargonidin 3-diglucoside.

(A) Evans *et al.*, *J. Chem. Soc., Perkin I*, 2017 (1972)

(An) Bobbio *et al.*, *Food Chem.*, **12**, 189 (1983); *Chem. Abstr.*, 100 63936a

CYRTANTHUS (Amaryllidaceae)

C. pallidus Sims.

ISOQUINOLINE ALKALOID: lycorine.

Greathouse, Rigler, *Am. J. Bot.*, **28**, 702 (1941)

CYSTOSIERA (Phaeophyceae)

C. balearica.

SPIROPYRAN: cystoketal.

Amico *et al.*, *J. Nat. Prod.*, **47**, 947 (1984)

C. caespitosa.

Two polyenes.

Amico *et al.*, *J. Chem. Res. Synop.*, 262 (1962)

C. crinita.

DITERPENOIDS: crinitol, 1,7-dihydroxy-3,7,11,15-tetramethylhexadecatetraen-13-one, oxocrinitol acetate.

Fattorusso *et al.*, *Tetrahedron Lett.*, 937 (1976)

Amico *et at*, *Phytochemistry*, **20**, 1085 (1981)

C. elegans.

DINORTRITERPENOIDS: 2,12-dihydroxy-16-(2-hydroxy-5-methoxy-3-methylphenyl)-2,6,10,14-tetramethyl-2,10,14-hexadecatrien-4-one, 2,12-dihydroxy-16-(2-hydroxy-5-methoxy-3-methylphenyl)-2,6,10,14-tetramethyl-3,10,14-hexadecatrien-5-one.

DITERPENOID: eleganolone.

Francisco *et al.*, *Phytochemistry*, **17**, 1003 (1978)

Banaigs *et al.*, *Tetrahedron Lett.*, 3271 (1982)

C. fimbriata (Desf.) Bory.

ACIDS: arachidic acid, lauric acid, myristic acid, oleic acid, palmitic acid.

Sayed *et al.*, *J. Pharm. Sci.*, **20**, 199 (1979)

C. mediterranea.

DITERPENOID: cystoseirols A, B, C, D and E, mediterraneol.

Francisco *et al.*, *J. Org. Chem.*, **51**, 2707 (1986)

C. stricta.

DITERPENOID: cystoseirols A, B, C, D and E.

Francisco *et al.*, *J. Org. Chem.*, **51**, 2707 (1986)

C.

TAMARISCIFOLIA, DITERPENOID: cystoseirols A, B, C, D and E.

Frabcisco *et al.*, *J. Org. Chem.*, **51**, 2707 (1986)

CYTINUS (Rafflesiaceae)

C. hypocistis.

PIGMENT: isoterchebin.

Furstenwerth *et al.*, *Ann. Chem.*, 112 (1976)

CYTISUS (Leguminosae)

C. caucasicus Grossh.

QUINOLIZIDINE ALKALOIDS: (+)-lupanine, pachycarpine, (+)-sparteine.

Clemo *et al.*, *J. Chem. Soc.*, 429 (1931)

C. hirsutus L.

QUINOLIZIDINE ALKALOID: 7-hydroxysparteine.

Mollov *et al.*, *Dokl. Bolg. Akad. Nauk, SSR* **24**, 1657 (1971)

C. laburnum L.

IMIDAZOLIDINE ALKALOID: cytisine.

PYRROLIZIDINE ALKALOIDS: 1-hydroxymethyl-8H β -pyrrolizidine, laburnine.
Galinovsky *et al.*, *Monatsh. Chem.*, **80**, 550 (1949)*C. monspessulanus L.*

LUPINANE ALKALOID: monspessulanine.

White, *N.Z. J. Sci. Tech.*, **27B**, 335, 339, 474, 478 (1946)*C. nigricans L. var. elongates Willd.*

IMIDAZOLIDINE ALKALOID: cytisine.

UNCHARACTERIZED ALKALOID: calycotomine.
White, *N.Z. J. Sci. Tech.*, **25B**, 152 (1944)*C. proliferus L.f.*

IMIDAZOLIDINE ALKALOID: cytisine.

UNCHARACTERIZED ALKALOID: calycotomine.
White, *N.Z. J. Sci., Tech.*, **25B**, 152 (1944)*C. ratisbonensis Schaeff.*

QUINOLIZIDINE ALKALOIDS: (-)-lupanine, (-)-sparteine.

Bellavita, *Farm. Sci.*, **3**, 424 (1948)*C. ruthenicus Fisch.*

QUINOLIZIDINE ALKALOID: sparteine.

Bellavita, *Farm. Sci.*, **3**, 424 (1948)*C. scoparius (L.) Link.*

QUINOLIZIDINE ALKALOIDS: genisteine, hydroxylupanine, isosparteine, luponine, (-)-sparteine.

UNCHARACTERIZED ALKALOID: sароthamnine.

FLAVONOID: scoparin.

GIBBERELLIN: gibberellin A-35.

(A) Valeur, *J. Pharm. Sci.*, **8**, 573 (1913)(F) Beyersdorff *et al.*, *Naturwissenschaften*, **17**, 392 (1962)(G) Yamane *et al.*, *Agr. Biol. Chem.*, **38**, 649 (1974)

D

DACRYDIUM (Podocarpaceae)

D. bidwillii.

DITERPENOIDS: isopimara-7,15-dien-18-al, isopimara-7,15-dien-18-ol, isopimara-7,15-diene, 18-norisopimaradien-4 α -ol.

Church, Ireland, *J. Org. Chem.*, **28**, 17 (1963)

Grant *et al.*, *Aust. J. Chem.*, **20**, 969 (1967)

D. biforme.

NORDITERPENOID:18-norisopimara-4(19),7,15-triene. Diterpenoids biformene, manool, sclarene.

Carman, Dennis, *Aust. J. Chem.*, **20**, 157 (1967)

D. colensoi.

DITERPENOIDS: 2 α -carboxycolensen-2 β -ol, colensenone, 2,3-dicarboxy-2,3-secomanoyl oxide, 2 β -hydroxycolensen-2 α -oic acid, 2 β -hydroxy-1 α -hydroxymethylcolensene-2 α -carboxylic acid lactone, 2 α -hydroxymanoyl oxide, 18-hydroxy-2-oxomanoyl oxide, 8 β -hydroxysandaracopimar-15-ene, manoyl oxide, 2-oxomanoyl oxide, sandaracopimaradiene-3 β ,19-diol, sandaracopimara-8(14),16-diene-2 α ,3 β ,18,19-tetraol, sandaracopimara-8(14),16-diene-2 α ,18,19-triol, sandaracopimara-8(14),16-diene-3 β ,18,19-triol, sandaracopimaradien-19-ol.

Grant *et al.*, *Aust J. Chem.*, **22**, 1265 (1969)

Grant, McGrath, *Tetrahedron*, **26**, 1619 (1970)

D. cupressinum.

SESQUITERPENOID: juniperol.

DITERPENOIDS: laurenene, rimuene, (+)-sugiol.

Corbett *et al.*, *J. Chem. Soc., Perkin I*, 1774 (1979)

D. elatum.

DITERPENOID: cedrol.

Stork, Breslow, *J. Am. Chem. Soc.*, **75**, 3291 (1953)

D. franklini.

SESQUITERPENOID: dacrinol.

Baggaley *et al.*, *Acta Chem. Scand.*, **21**, 2247 (1967)

D. intermedium.

STEROIDS: dacrysterone, β -ecdysone 2-cinnamate, β -ecdysone 3-cinnamate, β -ecdysone 3-p-coumarate, makisterone, polypodine D 2-cinnamate, ponasterone 2-cinnamate, makisterone A.

Russell *et al.*, *Aust. J. Chem.*, **26**, 1805 (1973)

D. kirkii.

DITERPENOIDS: $2\beta,3\beta$ -dihydroxymanoyl oxide, 7α -hydroxymanool.

Camble *et al.*, *Aust. J. Chem.*, **22**, 1691 (1969)

DACRYMYCES (Basidiomycetae)

D. stillatus.

CAROTENOID: phytofluene.

Goodwin, *Biochem. J.*, **53**, 538 (1953)

DACTYLARIA

D. lutea.

PIGMENTS: altersolanols A, B and C.

Stoessl *et al.*, *Can. J. Chem.*, **47**, 767 (1969)

Stoessl *et al.*, *ibid.*, 777 (1969)

DACTYLINA

D. arctica.

STEROIDS: $5\alpha,8\alpha$ -epidioxy- 5α -ergosta-6,22-dien- 3β -ol, usnic acid.

Strigina, Sviridov, *Phytochemistry*, **17**, 327 (1978)

DACTYLOCAPNOS

***D. macrocarpos* Hutch.**

OXOPROTOBERBERINE ALKALOID: a-allocryptopine.

OXOQUINOLIZIDINE ALKALOID: protopine.

Manske, Miller, *Can. J. Res.*, **18B**, 288 (1940)

DAEDAELIA (Basidiomycetae)

***D. confragosa*.**

ACIDS: dottacontanoic acid, palmitic acid.

STEROID: ergosterol.

TRITERPENOID: epi-lupeol.

Merijanian *et al.*, *Rev. Latinoam. Quim.*, **14**, 73 (1983)

***D. quercina*.**

TRITERPENOIDS: carboxyacetylquercinic acid, quercinic acid.

Adam *et al.*, *Tetrahedron Lett.*, 1461 (1967)

DAEMONOROPS

***D. draco*.**

SESQUITERPENOID: pterocarpal.

Nasini *et al.*, *Phytochemistry*, **20**, 514 (1981)

DAHLIA (Compositae)

***D. scapigera*.**

POLYENE: 1-acetoxy-4,5-epoxy-tetradecadiene-8,10-diyne.

Lam *et al.*, *Phytochemistry*, **10**, 1877 (1971)

D. tenuicaulis.

ACETYLENICS: 1,3-diacetoxytetradeca-4,6-diene-8,10,12-triyne, 1-acetoxytetradeca-4,6-diene-8,10,12-triyne.

CHALCONES: 4,2',4'-trihydroxychalcone, 3,2',4'-trihydroxy-4-methoxychalcone, 2'-hydroxy-4,4',6-trimethoxychalcone.

FLAVANS: 5-hydroxy-7,4'-dimethoxyflavanone, 5,7,4'-trimmethoxyflavan-4-ol, 5,7,4'-trimethoxyflavanone.

Lam *et al.*, *Phytochemistry*, **14**, 1621 (1975)

DALBERGIA (Leguminosae)

D. barretoana.

SESQUITERPENOID: (S)-methoxydalbergione.

TRITERPENOID: 3-o-acetyloleanolic acid.

Braga *et al.*, *An. Acad. Bras. Cienc.*, **39**, 249 (1967)

Fujita *et al.*, *J. Pharm. Soc., Japan.*, **94**, 189 (1974)

D. inundata.

ISOFLAVONE: orobol 3'-methyl ether.

Markham *et al.*, *Phytochemistry*, **7**, 791 (1968)

D. latifolia Roxb.

BENZOPYRAN: dalbinol.

FLAVONOIDS: daliriodain, 7,4'-dihydroxyflavan.

XANTHONE: 2,7-dihydroxy-3-methoxyxanthone.

(B) Chibber *et al.*, *Phytochemistry*, **17**, 1442 (1978)

(F, X) Donnelly *et al.*, *Proc. R. Ir. Acad.*, **83B**, 39 (1983); *Chem. Abstr.*, **100** 20402u

D. nitidula Welw. ex Bak.

BENZOPYRANS: hemileiocarpin, heminitidulan.

Brandt *et al.*, *J. Chem. Soc., Perkin I*, 137 (1978)

D. paniculata.

BENZOPYRANONES: dalpanin, dalpanol.

Adinarayana *et al.*, *Phytochemistry*, **12**, 2543 (1973)

D. retusa.

ISOFLAVONE: retusin.

Jurd *et al.*, *Tetrahedron Lett.*, 2149 (1972)

D. sericea.

ISOFLAVONE: 7-hydroxy-6Hnethoxy-3',4'-methylenedioxyisoflavone.

TRITERPENOID: pseudobaptigenin, betulin, erythrodiol, glutinol, taraxerol, tirucallol acetate.

Parthasarathy *et al.*, *Phytochemistry*, **15**, 226 (1976)

D. sissoo.

COUMARIN: dalbergin.

ISOFLAVONE: psitectorigenin.

(C) Mukherjee *et al.*, *Tetrahedron*, **27**, 799 (1971).

(I) Dhingra *et al.*, *Indian J. Chem.*, **12**, 1118 (1974)

D. spinosa.

ISOFLAVONOID: dalspinin, dalspinosin.

Dosen *et al.*, *Indian J. Chem.*, **21B**, 385 (1982)

D. stevensonii Standl.

COUMARIN: stevenin.

ISOFLAVONE: tectorigenin. tcw(C) Ahmad *et al.*, *J. Chem. Soc., Perkin 1*, 1737 (1973)

(I) Khara *et al.*, *Indian J. Chem.*, **16B**, 78 (1978)

D. volubilis.

ALIPHATIC: triacontane.

COUMARIN: 7-hydroxy-4-methoxycoumarin.

FLAVONOIDS: biochanin A, claroin, dalbergin, formononetin, (+)-medicarpin, 7-O-methyldalbergin, tectoridin, tectorigenin, volubilin.. Steroid β -sitosterol.

Chawla *et al.*, *Phytochemistry*, **15**, 235 (1976)

Khara *et al.*, *Indian J. Chem.*, **16B**, 78 (1978)

DALEA (Fabaceae)

D. frutescens.

AMINE ALKALOID: N-methyl- β -phenethylamine.

Camp, Norvell, *Econ. Bot.*, **20**, 274 (1966)

D. tuberculata.

COUMARIN: coumarin.

FLAVONOIDS: saltilin, torreonin.

STEROID: β -sitosterol.

TRITERPENOID: β -amyrin, friedelin, friedelanol, epi-friedelanol.

Dominguez *et al.*, *Rev. Latinoam. Quim.*, **13**, 39 (1982)

DAMNACANTHUS (Rubiaceae)

D. major.

PIGMENTS: damnacanthal, 1,3,5-trihydroxyanthraquinone-2-carboxaldehyde.

Thomson *et al.*, *J. Chem. Soc., C*, 2001 (1971)

D. subspinosus Hand-Mazz.

PIGMENT: 5-hydroxydamnacanthol ethyl ether.

Li *et al.*, *Yaoxue Xuebao*, **21**, 303 (1986); *Chem. Abstr.*, 105 94503c

DANAIS (Rubiaceae)

D. fragrans Gaertn.

ANTHROQUINONE: 1-hydroxydimethylanthraquinone.

FLAVONOIDS: kaempferol 3-O-rhamnodiglucoside, kaempferol 3-O-rhamnoglucoside, quercetin 3-O-rhamnoglucoside, rubiadin, rubiadin xyloglucoside.

Andre *et al.*, *Plant Med. Phytother.*, **B 10**, 110 (1976)

DANIELLA (Leguminosae)

D. ogea.

DITERPENOIDS: daniellic acid, ozic acid, ozol.

Bevan *et al.*, *J. Chem. Soc., C*, 1063 (1968)

D. oliveri.

DITERPENOIDS: daniellic acid, oliveric acid.

Hauser *et al.*, *Tetrahedron*, **26**, 3461 (1970)

DAPHNANDRA (Monimiaceae)

D. apatela.

BISBENZYLISOQUINOLINE ALKALOID: apateline.

Bick, Sotheeswaran, Aust, *J. Chem.*, **31**, 2077 (1978)

D. aromatica.

BISBENZYLISOQUINOLINE ALKALOID: aromoline.

Bick, Whalley, Univ. Queensland Papers, Dept. Chem., 1, No. 33 (1948)

D. dielsii Perkins.

BISBENZYLISOQUINOLINE ALKALOID: repanduline.

Bick, Whalley, *Univ. Queensland Papers, Dept. Chem.*, No. 1, 28 (1946)**D. johnsonii.**

BISBENZYLISOQUINOLINE ALKALOIDS: johnsonine, N-methylapateline, N-methylnorapateline.

Bick, Loew, *Aust. J. Chem.*, **31**, 2539 (1978)**D. micrantha Benth.**

BISBENZYLISOQUINOLINE ALKALOIDS: daphnandrine daphnoline.

Pyman, *J. Chem. Soc.*, **105**, 1679 (1914)**D. repandula.**

BISBENZYLISOQUINOLINE ALKALOIDS: O-methylrepandise, repandise, repandinine, repanduline.

Bick *et al.*, *J. Chem. Soc.*, 692 (1953)

DAPHNE (Thymelaeaceae)

D. genkwa Sieb. et Zucc.

FLAVONOIDS: apigenin, genkwanin, 3'-hydroxygenkwanin, yuenkanin.

DITERPENOIDS: yuanhaufin, yuanhuacium ester, yuanhaudin, yuanhuapine.

(F) Li *et al.*, *Zhongcaoyao*, **14**, 392 (1983); *Chem. Abstr.*, 100 64929a(T) Wang *et al.*, *Huaxue Xuebao*, **40**, 835 (1982)**D. odora Thunb.**

COUMARINS: daphneticin, daphnetin, daphnoretin, odoracin, umbelliferone.

FLAVONOIDS: daphnodorin A, daphnodorin B, daphnodorin C.

PHENOLIC: daphneolone.

(C) Kosigo *et al.*, *Agric. Biol. Chem.*, **40**, 2119 (1976)(F) Baba *et al.*, *Chem. Pharm. Bull.*, **34**, 595 (1986)(P) Kosigo *et al.*, *Phytochemistry*, **13**, 2332 (1974)**D. sericea.**FLAVONOIDS: apigenin, apigenin 7- β -D-glucoside, isovitexin, luteolin 7-methyl ether, luteolin 7-methyl ether 5- β -D-glucoside.Ulubelen *et al.*, *Phytochemistry*, **21**, 801 (1982)

D. tangutica.

COUMARINS: daphneticin, daphnetin, daphnoretin, 7-hydroxy-8-methoxycoumarin.

LIGNANS: (-)-dihydrosesamin, (-)-lariciresinol, (-)-pinoresinol, (+)-syringaresinol.

DITERPENOID: gniditin.

Zhuang *et al.*, *Planta Med.*, **45**, 172 (1982)

DAPHNIPHYLLUM (Daphniphyllaceae)

D. bancanum Kurz.

UNCHARACTERIZED ALKALOID: daphniphylline.

Irikawa *et al.*, *Tetrahedron*, **24**, 5691 (1968)

D. gracile.

ALKALOIDS: daphnicine, daphnigraciline, daphnigracine, hydroxydaphnigraciline, oxodaphnigraciline, epi-oxodaphnigraciline, oxodaphnigracine.

Yamamura *et al.*, *Chem. Lett.*, 923 (1978)

Yamamura *et al.*, *ibid.*, 393 (1980)

D. humile.

ALKALOIDS: deoxyyuzurianine, methyl homodaphniphyllate.

Toda *et al.*, *Tetrahedron*, **30**, 2683 (1979)

D. macropodum Miq.

ALKALOIDS: codaphniphyllidine, daphmarine, daphmacropodine, daphnilactone A, daphnilactone B, macrodaphnine, macrodaphniphyllamine, macrodaphniphyllidine, methyl homodaphniphyllate, neodaphniphylline, neoyuzurimine, secodaphniphylline, yuzurimine A, yuzurimine B.

IRIDOIDS: asperuloside, daphylloside.

(A) Irikawa *et al.*, *Tetrahedron Lett.*, 5363 (1966)

(A) Toda *et al.*, *Tetrahedron*, **30**, 2683 (1974)

(I) Inouye *et al.*, *J. Pharm. Soc., Japan*, **86**, 943 (1966)

D. teijsmanni.

ALKALOIDS: daphnijasmine, daphniteijsmannine, daphniteijsmine, deacetyl daphnijasmine, dihydrodaphnilactone, methyl homodaphniphyllate.

Yamamura, Hirata, *Tetrahedron Lett.*, 2849 (1974)

Yanamura, Hirata, *ibid.*, 3673 (1974)

Toda *et al.*, *Tetrahedron*, **30**, 2683 (1974)

DARLINGIA (Proteaceae)

D. darlingiana (*F.Muell.*) *L.A.S. Johnson.*

PIPERIDINE ALKALOIDS: bellendine, darlingine.

PYRROLE ALKALOIDS: darlingianine, tetrahydrodarlingianine.

Bick *et al.*, *Aust. J. Chem.*, **32**, 2523 (1979)

D. ferrugina.

PIPERIDINE ALKALOID: (+)-ferruginine.

Bick *et al.*, *Aust. J. Chem.*, **32**, 2537 (1979)

DARWINIA (Myrtaceae)

D. grandiflora.

TERPENOID: baeckeol.

Hems *et al.*, *J. Chem. Soc.*, 1208 (1940)

DATISCA (Datiscaceae)

D. cannabina.

FLAVONOIDS: cannabin, datinate-CM, datin, datinoside, datuscanin, datuscetin, datuscin, galangin, galanginoside, isalpinin.

Zapesochnaya *et al.*, *Rastit. Resur.*, **12**, 237 (1976); *Chem. Abstr.*, 85 59588f

Zapesochnayi *et al.*, *Khim. Prir. Soedin.*, 176 (1982)

D. glomerata.

TRITERPENOIDS: datiscacin, datiscoside, datiscoside C.

Eddy *et al.*, *J. Chem. Soc., Perkin I*, 1333 (1983)

DATURA (Solanaceae)

D.alba.

TROPANE ALKALOID: (+)-hyoscyamine.

Bremner, Cann, *Aust. J. Chem.*, **21**, 1369 (1968)

D. arborea L.

TROPANE ALKALOIDS: daturine, (-)-hyoscyamine, scopolamine.

Marion, Thomas, *Can. J. Chem.*, **33**, 1853 (1955)

D. candida.

TROPANE ALKALOIDS: 6 β ,7 β -dihydroxylittorine, hyoscine, hyoscyamine, meteloidine, norhyoscine.

Griffen *et al.*, *Aust. J. Chem.*, **29**, 2329 (1976)

D. ceratocala.

TROPANE ALKALOID: 6 α -(2-methylbutanoyloxy)tropan-3 β -ol.

Beresford, Woolley, *Phytochemistry*, **13**, 2511 (1974)

D. cornigera Hook.

TROPANE ALKALOID: 6 α -tigloyltropane.

Eade, Schartner, *Helv. Chim. Acta*, **18**, 344 (1935)

D.fastuosa. (D. metel).

TROPANE ALKALOIDS: fastudine, fastudinine, fastunine, fastusine, fastusinine, (-)-hyoscyamine.

TRITERPENOID: daturadiol.

Khaleque *et al.*, *Sci. Res. (Dacca)*, **3**, 212 (1966)

D. ferox.

TROPANE ALKALOID: meteloidine.

Sheehan, Bissel, *J. Org. Chem.*, **19**, 270 (1954)

D. innoxia Mill.

TRITERPENOIDS: daturadiol, daturanolone.

Kocor *et al.*, *J. Org. Chem.*, **33**, 3685 (1973)

D. metel L.

TROPANE ALKALOID: norhyoscyamine.

STEROID: withametelin.

(A) Carr, Reynolds, *J. Chem. Soc.*, **101**, 946 (1912)

(S) Oshima *et al.*, *Tetrahedron Lett.*, 2025 (1987)

D. metel L. var. fastuga.

TROPANE ALKALOID: 3 β -acetoxytropane.

Evans, Major, *J. Chem. Soc., C*, 1621 (1966)

D. meteloides DC.

TROPANE ALKALOIDS: apohyoscine, $(-)$ - $3\beta,6\alpha$ -ditigloyloxytropane, $3\beta,6\alpha$ -ditigloyloxytropane- 7β -ol, $(-)$ -hyoscyamine, meteloidine, norhyoscyamine.

Evans, Woolley, *J. Chem. Soc.*, 4936 (1965)

D. quercifolia.

STEROIDS: daturalactone-3, daturalactone-4, 12-oxowithanolide.

TROPANE ALKALOID: $(-)$ -hyoscyamine.

(A) Marion, Spenser, *Can. J. Chem.*, **32**, 1116 (1954)

(S) Qurishi *et al.*, *Phytochemistry*, **18**, 283, 1756 (1979)

D. sanguinea Ruiz, et Pav.

TROPANE ALKALOIDS: 3β -acetoxytropane, 6α -isovaleryloxy- 3 -tigloyloxytropane- 7β -ol, $(-)$ - 3α -($2,3$ -dihydroxy- 2 -phenylpropionoyloxy)- $6,7$ -epoxytropane.

Evans, Major, *J. Chem. Soc., C*, 2775 (1968)

Van Eijk *et al.*, *Planta Med.*, **28**, 139 (1975)

D. stramonium L.

TROPANE ALKALOIDS: atropine, $(-)$ -hyoscyamine, scopolamine.

STEROID: vitastrammonolide.

SESQUITERPENOIDS: capsidol, 4-hydroxylubimin.

(A) Gadamer, *Arch. Pharm.*, **239**, 294 (1901)

(S) Masslenikova *et al.*, *Tezisy Dokl.—Sov. Indiiskii Simp. Khim. Prir. Soedin.*, 53 (1978)

(T) Stoessl *et al.*, *J. Chem. Soc., Chem. Commun.*, 431 (1975)

D. stramonium x D. discolor.

TROPANE ALKALOIDS: apoatropine, apohyoscine, hyoscine, hyoscyamine, meteloidine, noratropine, pseudotropine, tropine.

Al-Yahya *et al.*, *J. Pharm. Pharmacol.*, **27**, 87P (1975)

D. stramonium var. stramonium.

TROPANE ALKALOIDS: flurodaturatine, homofluorodaturatine.

Maier *et al.*, *Monatsh. Chem.*, **112**, 1425 (1981)

DATURICARPA

D. elliptica Stapf.

INDOLE ALKALOIDS: ibogaine, ibogaline, ibophyllidine, iboxygaine, voacangine.

Bruneton *et al.*, *Plant Med. Phytother.*, **10**, 20 (1976)

DAUCUS (Umbelliferae)

D. carota L.

UNCHARACTERIZED ALKALOID: daucine.

AMINOACIDS: alanine, threonine, tyrosine, valine.

CAROTENOIDS: α -carotene, β -carotene, #87-carotene.

PHYTOALEXIN: 6-methoxymellein.

STEROID: diosgenin.

SESQUITERPENOIDS: α -bergamotene, carotol, (-)- β -bisabolene, (-)-daucene, daucol.

(A) Pictet, Court, *Bull. Soc. Chim.*, **1**, 1001 (1907)

(Am) Ali *et al.*, *J. Indian Chem. Soc.*, **64**, 230 (1987)

(C) Karrer *et al.*, *Helv. Chim. Acta*, **14**, 1083 (1931)

(Ph) Korusaki, Nishi, *Phytochemistry*, **22** 669 (1983)

(T) Larsen *et al.*, *J. Am. Chem. Soc.*, **99**, 8015 (1977)

DAVALLIA

D. divericata var. chinense.

TRITERPENOID: davallic acid.

Nakanishi *et al.*, *Tetrahedron Lett.*, 1451 (1963)

DAVIDSONIA

D. pruriens.

FLAVONOIDS: kaempferol, kaempferol 3-O-rhamnoside, kaempferol 3-O-rhamnoside sulphate, luteolin 7-O-xyloside, myricetin, myricetin 3-O-rhamnoside, myricetin 3-O-rhamnoside sulphate, quercetin, quercetin 7-O-rhamnoside, quercetin 7-O-rhamnoside sulphate.

PHENOLICS: epi-catechin gallate, (-)-epi-gallocatechin gallate, gallylproanthocyanidin.

TRITERPENOIDS: 3 β -hydroxybauer-7-en-28-oic acid, methyl 3-oxobauer-7-en-28-oate.

(F, P) Wilkins *et al.*, *Phytochemistry*, **16**, 144 (1977)

(T) Meksuriyen *et al.*, *ibid.*, **25**, 1685 (1986)

DECACHAETA

D. haenkeana.

FLAVONOIDS: quercetagenin 6,7,4'-trimethyl ether, quercetagenin 6,7,4'-trimethyl ether 6-sulphate.

Miski *et al.*, *Phytochemistry*, **24**, 3078 (1985)

D. ovalifolia.

FLAVONOIDS: 6-methoxyacetin, 6-methoxyacigenin.

SESQUITERPENOIDS: 4 α , 15-dihydro-7 α -hydroxy-3-deoxylaluzanin C, 7 α -hydroxycostunolide, 7 α -hydroxyreynosin, 7 α -hydroxysantamarin pinnatifidin.

De Luengo *et al.*, *Phytochemistry*, **25**, 1917 (1986)

D. thieleana.

TRITERPENOIDS: decathieleanolide, thieleanine.

Castro *et al.*, *Ann. Chem.*, 974 (1983)

DECALEPSIS

D. hamiltonii.

TRITERPENOIDS: α -amyrin, β -amyrin.

Simpson, *J. Chem. Soc.*, **283**, 286 (1944)

DECODON

D. verticillata L.

MACROCYCLIC ALKALOIDS: decaline, decamine, decinine, decodeine, 12-O-desmethyldecaline, desmethylvertaline, dihydrolythrine, dihydrodecamine, vertaline.

UNCHARACTERIZED ALKALOID: verticillatine.

Ferris, *J. Org. Chem.*, **27**, 2985 (1962)

DELESSERIA

D. sanguinea.

HYDROQUINONE: jacaranone.

Yvin *et al.*, *J. Nat. Prod.*, **48**, 814 (1985)

DELIA

D. emoryi.

PIGMENT: dalrubone.

Dreyer *et al.*, *Tetrahedron*, **31**, 287 (1975)

D. tinctoria.

PIGMENT: dalrubone.

Dreyer *et al.*, *Tetrahedron*, **31**, 287 (1975)

DELISEA (Rhodophyceae/Bonnemaisoniaceae)

D.fimbriata. (D.pulchra).

HALOGENATED MONOTERPENOIDS: acetoxymethylfimbrolides a, b, c, d, e, f and g.

Kaslauskas *et al.*, *Tetrahedron Lett.*, **37**, 41 (1977)

DELONIX

D. regia.

ACIDS: oxaloacetic acid, pyruvic acid.

AMINOACIDS: alanine, threonine, tyrosine, valine.

(Ac) Mukherjee *et al.*, *Phytochemistry*, **14**, 1915 (1975)

(Am) Ali *et al.*, *J. Indian Chem. Soc.*, **64**, 230 (1987)

DELPHINIUM (Ranunculaceae)

D. ajacis L. (Consolida ambigua).

DITERPENE ALKALOIDS: ajacine, ajacinine, ajacinidine, ajacinoidine, ajaconine, ajacusine, ajadine, deicosine, trimethylacetyleicosine.

Goodson, *J. Chem. Soc.*, 245 (1947)

Pelletier *et al.*, *Heterocycles*, **9**, 463 (1978)

D. araraticum.

One uncharacterized diterpene alkaloid.

Samatov, *Aptechn. Delo*, **14**, 26 (1965)

D. barkeyi.

DITERPENE ALKALOIDS: anthranoyllycoctonine, deltaline.

Couch, *J. Am. Chem. Soc.*, **58**, 684 (1936)

D. bicolor Nutt.

DITERPENE ALKALOIDS: delphocurarine. Two uncharacterized alkaloids.

Jones, Benn, *Tetrahedron Lett.*, 4351 (1972)

D. btiernatum Huth.

DITERPENE ALKALOIDS: 10-benzoylbrowniine, 10-benzoylliliensine, delphatine, delbine, delbiterine, iliensine.

Salimov *et al.*, *Khim. Prir. Soedin.*, 106 (1978)

D. bonvalotii.

DITERPENE ALKALOIDS: bonvalol, bonvalone, bonvalotine.

Jiang *et al.*, *Heterocycles*, **22**, 2429 (1984)

D. brownii Rybd.

DITERPENE ALKALOID: browniine.

Benn *et al.*, *Can. J. Chem.*, **41**, 477 (1963)

D. cardinale.

DITERPENE ALKALOIDS: dehydrobrowniine, hetisinone.

Benn, *Can. J. Chem.*, **44**, 1 (1966)

Aplin *et al.*, *ibid*, **46**, 2635 (1968)

D. cardiopetalum DC.

DITERPENE ALKALOIDS: 15-acetylcardiopetaline, 14-acetyldihydrogadesine, acetylhetisinone, 14-benzoyldihydrogadesine, 14-benzoylgadesine, cardiopetalamine, cardiopetalidine, cardiopetaline, dihydrogadesine, karacoline.

Gonzalez *et al.*, *Heterocycles*, **24**, 1513 (1986)

***D. carolinianum* Walt.**

DITERPENE ALKALOID: delcaroline.

FLAVONOIDS: quercetin-(3"-benzoyl-2"-glucosyl)-3-glucoside-7-rhamnoside, quercetin-(glucosylbenzoyl)-glucoside, quercetin-(zylosylbenzoyl)-glucoside.

(A) Pelletier *et al.*, *Heterocycles*, **16**, 747 (1981)(F) Warnock *et al.*, *Phytochemistry*, **22**, 1834 (1983)***D. cashmiranum*.**

DITERPENE ALKALOID: (+)-cashmiradelphine.

Shamma *et al.*, *J. Nat Prod.*, **42**, 615 (1979)***D. confusa* M.Pop.**

DITERPENE ALKALOID: condelfine.

Rabinovitch, Konovalova, *J. Gen. Chem. USSR*, **12**, 329 (1942)***D. consolida* L.**

DITERPENE ALKALOIDS: consolidine, delcosine, delsoline, delsonine, lycocitonine.

Marion, Edwards, *J. Am. Chem. Soc.*, **69**, 2010 (1947)Goodson, *J. Chem. Soc.*, 245 (1947)***D. corymbosum* Rgl.**

DITERPENE ALKALOIDS: anthranoyllycoctonine, delcorine, delpyrine, deoxydelcorine, deoxylycorine, dictyocarpine, eldelidine, lycocitonine, methyllycaconitine, methyllycoctonine.

Narzullaev *et al.*, *Khim. Prir. Soedin.*, 412 (1974)***D. nudatum*.**

DITERPENE ALKALOIDS: condelfine, delnudine, hetisinone, isotalatizidine.

Goetz, Wiesner, *Tetrahedron Lett.*, 5335 (1969)***D. dictyocarpum* DC.**

DITERPENE ALKALOIDS: dictyocarpine, delectine, delphirine, eldeline, eldelidine, lycocitonine, methyllycaconitine.

Narzullaev *et al.*, *Khim. Prir. Soedin.*, 498 (1972)Samilov *et al.*, *ibid*, 665 (1975)***D. elatum* L.**

DITERPENE ALKALOIDS: eldeline, delpheline, delatine, delphelatine, eldelidine, methyllycaconitine.

Feofilaktov, Alekseeva, *J. Gen. Chem. USSR*, **24**, 739 (1954)***D. elisabethae*.**

DITERPENE ALKALOIDS: anthranoyllococtonine, lycocitonine, methyllycaconitine.

Beshitaishvili *et al.*, *Soobshch. Akad. Nauk Gruz. SSR*, **79**, 617 (1975); *Chem. Abstr.*, 84 86723g

***D. flexuosum* Bieb. (MB).**

DITERPENE ALKALOIDS: anthranoyllycoctonine, delflexine, delpyrine, methyllycoctonine.

Brutko, Massagetov, *Khim. Prir. Soedin.*, 21 (1967)

***D. foetidum*.**

Three uncharacterized alkaloids.

Zolomitskaya, *Dokl. Akad. Nauk Arm. SSR*, **37**, 95 (1963)

***D. freynii* Conrath.**

DITERPENE ALKALOIDS: anthranoyllycoctonine, delfrenine, delflexine, delpyrine, methyllycoctonine.

Brutko, Massagetov, *Khim. Prir. Soedin.*, 21 (1967)

***D. glaucescens* Rydb.**

DITERPENE ALKALOIDS: glaucedine, glaucenine, glucephine, glaucerine.

Pelletier *et al.*, *J. Org. Chem.*, **46**, 3284 (1981)

***D. gracile*.**

DITERPENE ALKALOID: graciline.

Gonzalez *et al.*, *Heterocycles*, **22**, 667 (1984)

***D. grandiflorum* L.**

DITERPENE ALKALOIDS: anthranoyllycaconitine, delpyrine, methyllycaconitine.

Strzelecka, *Diss. Pharm. Pharmacol.*, **20**, 325 (1968)

Savchenko, *Aktual. Vopr. Farm.*, **2**, 22 (1974); *Chem. Abstr.*, 84 147613v

***D. iliense* Huth.**

DITERPENE ALKALOID: ilidine.

Zhamietashvili *et al.*, *Khim. Prir. Soedin.*, 876 (1977)

***D. menziesii* DC.**

UNCHARACTERIZED DITERPENE ALKALOID: delphocurarine.

Hely, Sudd, *Apoth. Ztg.*, **43**, 28 (1903)

***D. nelsonii* Gr.**

UNCHARACTERIZED DITERPENE ALKALOID: delphocurarine.

Hely, Sudd, *Apoth. Ztg.*, **43**, 28 (1903)

***D. nudicaule* Torr. et Gray.**

DITERPENE ALKALOIDS: 2-dehydrohetisine, 6-deoxydelcorine, dictyocarpine, dihydrogadesine, hetisine, lycoctonine, methyllycaconitine, nudicaulamine, nudicaulidine, nudicaulin.

Kilanthaivel *et al.*, *Heterocycles*, **23**, 2515 (1985)

***D. nuttallianum* Pritz.**

DITERPENE ALKALOID: hetisine 13-O-acetate.

Benn *et al.*, *Heterocycles*, **24**, 1605 (1986)

D. occidentale.

DITERPENE ALKALOID: deltaline.

Couch, *J. Am. Chem. Soc.*, **58**, 684 (1936)

D. oreophilum Huth.

DITERPENE ALKALOIDS: anthranoyllycoctonine, delpyrine, delsine, demissine, methyllycoctonine, oreodine, oreoline.

Khazlikhim *et al.*, *Khim. Prir. Soedin.*, 869 (1977)

D. orientale J.Gay.

DITERPENE ALKALOIDS: anthranoyllycoctonine, delcoline, delorine, delsoline, methyllycoctonine.

Platonova, Kuzuvkov, *Med. Prom. SSSR*, **4**, 17 (1963)

Platonova, Kuzuvkov, *ibid.*, **4**, 19 (1963)

D. pentagynum Lam.

DITERPENE ALKALOIDS: 14-acetylgadesine, gadeline, gadesine, gadanine, pentagyidine.

Gonzalez *et al.*, *Tetrahedron Lett.*, 959 (1983)

D. puniceum Pall.

DITERPENE ALKALOIDS: anthranoyllycoctonine, delpyrine, methyllycoctonine.

Brutko, Massagetov, *Rastit. Resur.*, **6**, 243 (1970)

D. pyramidatum Albov.

DITERPENE ALKALOIDS: delpyrine, methyllycoctonine.

Brutko, Massagetov, *Khim. Prir. Soedin.*, 21 (1967)

D. rotundifolium Afan.

DITERPENE ALKALOIDS: browniine, delsemine, methyllycaconitine.

Yunusov, Abubakirov, *Dokl. Akad. Nauk Uzb. SSR*, **8**, 21 (1949)

D. rugulosum.

One uncharacterized diterpene alkaloid.

Namedov, *Aptech. Delo.*, **14**, 26 (1903)

D. scopulorum Gr.

UNCHARACTERIZED DITERPENE ALKALOID: delphocurarine.

Heyl, *Sudd, Apoth. Ztg.*, **43**, 28 (1903)

D. semibarbatum Bienert.

DITERPENE ALKALOIDS: anthranoyllycoctonine, delsemidine, delsemine, delpyrine, lycoctonine, methyllycaconitine.

Yunusov, Abubakirov, *J. Gen. Chem. USSR.*, **22**, 1461 (1952)

D. staphisagria L.

DITERPENE ALKALOIDS: delphidine, delphinine, delphinoidine, delphirine, delphisine, staphidine, staphimine, staphinine, staphirine, staphisagnine, staphisagrine, staphisagroine.

Marquis, *Ann. Chim. Phys.*, **52**, 35 (1953)

Pelletier *et al.*, *Phytochemistry*, **16**, 404 (1977)

D. tatsiense Franch.

DITERPENE ALKALOIDS: deacetylambiguine, tatsiensine, tatsinine.

Pelletier *et al.*, *Heterocycles*, **20**, 1347 (1983)

D. ternatum.

DITERPENE ALKALOID: dehydroeldelidine.

Matveev *et al.*, *Khim. Prir. Soedin.*, 131 (1985)

D. tricorne.

DITERPENE ALKALOID: tricornine.

Pelletier, Bhattacharyya, *Phytochemistry*, **16**, 1464 (1977)

D. vestitum Wall.

DITERPENE ALKALOIDS: delvestridine, delvestrine.

Desai *et al.*, *Heterocycles*, **23**, 2483 (1985)

DENDRANTHEMA(Compositae/Anthemi deae)

D. maximowiczii (Kort.) Tzvel.

SESQUITERPENOID: dendranthemol acetate.

Bohlmann *et al.*, *Chem. Ber.*, **108**, 735 (1975)

D. nactongense.

SESQUITERPENOID: dendranthemol acetate.

Bohlmann *et al.*, *Chem. Ber.*, **108**, 735 (1975)

DENDROBIUM (Orchidaceae)

D. aduncum.

SESQUITERPENOID: aduncin.

Gawell, Leander, *Phytochemistry*, **15**, 1991 (1976)**D. amoenum.**

SESQUITERPENOIDS: amoenin, amotin.

Dahnen, Leander, *Phytochemistry*, **17**, 1949 (1978)**D. anosmum Lindl.**

PYRIDOAMIDAZOLE ALKALOID: di(tetrahydropyridoimidazolium).

Leander, Luning, *Tetrahedron Lett*, 905 (1968)**D. chrysanthemum Wall.**

PYRROLIDINE ALKALOID: (-)-hygrine.

Liebermann, Khuling, *Ber.*, **24**, 407 (1891)**D. crassinoides B. et Rf.**

GLUCOSIDES: cis-crassinodine, trans-crassinodine.

Dahmen *et al.*, *Acta Chem. Scand.*, **30B**, 297 (1976)**D. crepidatum.**

DIMERIC ALKALOID: dendrocrepine.

INDOLIZIDINE ALKALOIDS: crepidamine, crepidine.

Eleander *et al.*, *Acta Chem. Scand.*, **27**, 1907 (1973)**D. findleyanum.**

LACTONE ALKALOID: 2-hydroxydendrobine.

Granelli *et al.*, *Acta Chem. Scand.*, **24**, 1209 (1970)**D. hildebrandii Rolfe.**

TERTIARY AMINE ALKALOIDS: 6-hydroxynobiline, N-isopentyl-6-hydroxydendroxinium chloride.

Eleander, Leander, *Acta Chem. Scand.*, **25**, 717 (1971)Hedman, Leander, *ibid*, **26**, 3177 (1972)**D. nobile Lindl.**

LACTONE ALKALOIDS: dendramine, dendrine, dendrobine, dendrobine N-oxide, dendroxine, N-isopentenyldendrobium bromide, N-isopentenyldendroxine, N-isopentenyldendroxinium chloride, N-isopentenyl-6-hydroxydendroxinium chloride nobiline, nobilonine.

PHENANTHROQUINONE: denbinobin.

STEROIDS: β -sitosterol, β -sitosterol β -D-glucoside.

SESQUITERPENOID: nobilomethylene.

(A) Inubishi, Nakano, *Tetrahedron Lett.*, 2723 (1965)(A) Hedman, Leander, *Acta Chem. Scand.*, **26**, 3177 (1972)(Ph) Talapatra *et al.*, *Indian J. Chem.*, **21B**, 386 (1982)

(T) Okamoto *et al.*, *Chem. Pharm. Bull.*, **20**, 418 (1972)

D. ochreatum Lindl.

SAPONINS: dendrosteroside, ochreasteroside, 16-epi-ochreasteroside.
Behr, Leander, *Phytochemistry*, **15**, 1403 (1976)

D. parishii.

PYRIDOIMIDAZOLE ALKALOID: di(tetrahydropyridoimidazolium).
Leander, Luning, *Tetrahedron Lett.*, 905 (1968)

D. pierardii Roxb.

LACTONE ALKALOID: pierardine.
Eleander *et al.*, *Acta Chem. Scand.*, **23**, 2177 (1969)

D. primulinum Lindl.

IMIDAZOLE ALKALOID: dendroprimine.
PYRROLIDINE ALKALOID: (-)-hygrine.
Blomqvist *et al.*, *Acta Chem. Scand.*, **27**, 1439 (1973)

D. superbum Rchb. f.

25 ketones and acetates.
Flath *et al.*, *J. Agric. Food Chem.*, **30**, 841 (1982); *Chem. Abstr.*, 97 106997y

DENNSTAEDTIA

D. scabra.

SESQUITERPENOID: 4-hydroxypterosin A, pterosin V.
Murakami *et al.*, *Chem. Pharm. Bull.*, **23**, 1630 (1975)

D. wilfordii.

SESQUITERPENOIDS: pterolactones A and B.
Murakami *et al.*, *Chem. Pharm. Bull.*, **28**, 1869 (1980)

DENTARIA (Cruciferae)

D. enneaphylos.

LACTAM ALKALOID: sisymbrin.
Turemitch *et al.*, *Sci. Pharm.*, **53**, 163 (1985)

DERMOCYBE

D. sanguinea (Wulf. ex Fr.) Wunche.

ANTHRAQUINONES: dermoglaucin, dermocybin.

Steglich *et al.*, *Chem. Ber.*, **105**, 2928 (1972)

DERRIS

D. eclipta.

PISCICIDE: rotenone.

Carlson *et al.*, *Tetrahedron*, **29**, 2731 (1973)

D. elliptica.

BENZOFURAN: tubaic acid.

BENZOPYRAN: β -tubaic acid.

Obara *et al.*, *Agric. Biol. Chem.*, **40**, 1245 (1976)

D. glabrescens.

COUMARIN: derrusnin.

East *et al.*, *J. Chem. Soc., C*, 365 (1969)

D. malaccensis.

BENZOPYRAN: α -toxicarol.

ISOFLAVONE: toxicarolisoflavone.

Cahn *et al.*, *J. Chem. Soc.*, **513**, 734 (1938)

D. obtusa.

AURONATE: derriobtusone.

ALIPHATIC: heptacosanol.

STEROID: β -sitosterol.

Do Nascimento *et al.*, *Phytochemistry*, **15**, 1553 (1976)

D. robusta.

COUMARINS: derrusnin, robustic acid, robustin, robustone.

Jain *et al.*, *Tetrahedron*, **30**, 2485 (1974)

D. scandens.

BENZOPYRANONE: chandalone.

COUMARINS: scandenin, scandenone, scandinone.

(B) Falshaw *et al.*, *J. Chem. Soc., C*, 374 (1969)

(C) Pelter *et al.*, *Tetrahedron Lett.*, 1209 (1964)

(c) Pelter *et al.*, *ibid.*, 2817 (1967)

D. trifoliata.

FLAVONOID: rhamnetin 3-O-neohesperidoside.

Nar *et al.*, *J. Nat. Prod.*, **49**, 710 (1986)

D. uruau.

SAPONIN: derrisaponin.

Parente, Mors, *Anais Acad. Bras. Cienc.*, **52**, 503 (1980)

DESMARESTIA (Phaeophyceae)

D. ligulata.

ACIDS: citric acid, lactic acid, oxalic acid, succinic acid.

Sato *et al.*, *Chem. Abstr.*, 84 102368c

DESMIA (Rhodophyceae)

D. hornemannii.

HALOGENATED MONOTERPENOIDS: 3-bromo-7-chloromycene, 7-bromo-10E-chloromycene, 7-bromo-10Z-chloromycene, 7-bromomycene, 10E-bromomycene, 10Z-bromomycene, 9-chloromycene, 3-chloro-7,10(Z)-dibromomycene, 7-chloro-10(E)-bromomycene, 7-chloro-10(Z)-bromomycene, 3,7-dibromo-10(Z)-chloromycene.

Naya *et al.*, *Chem. Lett.*, 839 (1976)

D. japonicus. (*Chondrococcus japonicus*).

HALOGENATED MONOTERPENOIDS: (e)-10-bromo-3-chloromycene, (Z)-10-bromo-3-chloromycene.

Naya *et al.*, *Chem. Lett.*, 839 (1976)

DESMODIUM (Leguminosae)

D. pulchellum Bent. ex Baker.

INDOLE ALKALOIDS: 5-methoxy-N,N-dimethyltryptamine, 5-methoxy-N,N-dimethyltryptamine N-oxide, 5-methoxy-N-methyltryptamine.

Culvenor *et al.*, *Aust. J. Chem.*, **17**, 1301 (1964)

Ghosal, Mukherjee, *Chem. Ind. (London)*, 793 (1965)

***D. styracifolium* Merr.**

FLAVONOIDS: schaftoside, vicenins 1, 2 and 3.

Yasukawa *et al.*, *J. Pharm. Soc., Japan*, **106**, 517 (1986)

***D. tiliifolium*.**

ISOQUINOLINE ALKALOID: salsoline.

Spath *et al.*, *Ber.*, **67**, 1214 (1934)

DESMONCUS (Palmae)

***D. polyacanthos*.**

CATECHINS: (+)-afzelechin, (+)-catechin, (+)-epi-catechin.

Marletti *et al.*, *Phytochemistry*, **15**, 443 (1976)

DESMOS

***D. dasymachalus*.**

APORPHINE ALKALOID: dasymachaline.

Chan, Toh, *Phytochemistry*, **25**, 1999 (1986)

DEUTZIA (Philadelphaceae)

***D. scabra* Thunb.**

IRIDOID: deutzioside, scabroside, scasbrosidol.

Plouvier, *C.R. Acad. Sci.*, **261**, 4248 (1965)

Esposito *et al.*, *J. Nat. Prod.*, **46**, 614 (1983)

DIALIUM (Caesalpinaeae)

D. ovoideum.

ALKALOID: albizziine.

Peiris *et al.*, *Phytochemistry*, **16**, 1821 (1977)

DIANELLA (Liliaceae)

D. ensifolia Redouté.

CHROMONES: 5,7-dihydroxy-2,8-dimethyl chromone, 5,7-dihydroxy-2,6,8-trimethylchromone.

PHENOLICS: dianellidin, methyl 2,4-dihydroxy-3,6-dimethylbenzoate, methyl 2,4-dihydroxy-6-methylbenzoate, methyl 2,4-dihydroxy-3,5,6-trimethylbenzoate.

Lojanapiwatna *et al.*, *J. Sci. Soc., Thailand*, **8**, 95 (1982); *Chem. Abstr.*, 97 178728j

D. nigra.

PHENOLICS: dianellidin, dianellin, dianellinone.

Cooke *et al.*, *Aust. J. Chem.*, **18**, 218 (1965)

Briggs *et al.*, *New Zealand J. Sci.*, **18**, 559 (1975); *Chem. Abstr.*, 84 132647k

D. revoluta R.Br.

CHROMONE: 5,7-dihydroxy-6-methyl-2-nonacosylchromone.

Cooke *et al.*, *Tetrahedron Lett.*, 1039 (1970)

DIANTHUS (Caryophyllaceae)

D. barbatus L.

PYRAN: barbapy reside.

SAPONINS: barbatoside A, barbatoside B.

(P) Plouvier *et al.*, *Phytochemistry*, **25**, 546 (1986)

(Sap) Cordell *et al.*, *Lloydia*, **40**, 361 (1977)

D. caryophyllus.

ANTHOCYANIN: pelargonidin 3-malyglucoside.

Terahara *et al.*, *Phytochemistry*, **25**, 1715 (1986)

D. deltoidea.

ANTHOCYANIN: cyanidin 3-malylglucoside.

PYRAN: barbapy residue.

(An) Terahara *et al.*, *Phytochemistry*, **25**, 1715 (1986)

(P) Plouvier *et al.*, *Phytochemistry*, **25**, 546 (1986)

D. superbus var.longicalycinus.

SAPONINS: dianoside A, dianoside B.

Oshima *et al.*, *Planta Med.*, **50**, 40 (1984)

DICENTRA (Fumariaceae/Papaveraceae)

D. canadensis (Goldie) Walp.

APORPHINE ALKALOIDS: (-)-corydine, isocorydine.

ISOQUINOLINE ALKALOID: cancentrine.

Clark *et al.*, *J. Am. Chem. Soc.*, **92**, 4998 (1973)

D. chrysanthia Walp.

ISOQUINOLINE LACTONE ALKALOID: bicuculline.

OXOPROTOBERBERINE ALKALOIDS: cryptocavine, cryptopine.

UNCHARACTERIZED ALKALOID: chrycentrine.

Manske, Marion, *J. Am. Chem. Soc.*, **62**, 2042 (1940)

D. cucullaria (L.) Bernh.

ISOQUINOLINE LACTONE ALKALOIDS: bicuculline, corlumine.

ISOQUINOLINE ALKALOID: cularine.

OXOPROTOBERBERINE ALKALOID: cryptopine.

Manske, *Can. J. Res.*, **18**, 288 (1940)

D. eximia (Ker.) Torr.

APORPHINE ALKALOIDS: (+)-corydine, (-)-corydine, dicentrine, eximidine.

OXOPROTOBERBERINE ALKALOID: coreximine.

Tomita *et al.*, *J. Pharm. Soc., Japan*, **87**, 880 (1967)

D. formosa (Andr.) Walp.

APORPHINE ALKALOIDS: (-)-corydine, corytuberine, dicentrine.

ISOQUINOLINE ALKALOID: cularine.

Manske, *Can. J. Res.*, **10**, 521 (1934)

D. ochroleuca Engelm.

ISOQUINOLINE ALKALOID: bicuculline.

OXOPROTOBERBERINE ALKALOID: cryptopine.

Manske, *Can. J. Res.*, **9**, 436 (1933)

***D. oregana* Eastwood.**

APORPHINE ALKALOIDS: (-)-corydine, dicentrine.

ISOQUINOLINE ALKALOID: cularine.

OXOPROTOBERBERINE ALKALOID: α -allocryptopine.

PROTOBERBERINE ALKALOID: (-)-corypalmine.

Kametani, Fukumoto, *Chem. Ind. (London)*, 291 (1963)

***D. pusilla* Sieb. et Zucc.**

APORPHINE ALKALOID: dicentrine.

Manske, *Can. J. Res.*, **14B**, 348 (1936)

***D. spectabilis*.**

OXOQUINOLIZIDINE ALKALOID: protopine.

Manske, *Can. J. Res.*, **15B**, 274 (1937)

DICHAPETCHUM

***D. cymosum*.**

PYRIDINE ALKALOID: trigonelline.

Holtz *et al.*, *Z. Biol.*, **8**, 57 (1924)

DICHROA (Saxifragaceae)

***D. febrifuga* Lour.**

QUINAZOLINE ALKALOIDS: febrifugine, isofebrifugine.

UNCHARACTERIZED ALKALOIDS: dichroidine, dichroine A, dichroine B, dichroine- α , dichroine- β , dichroine- τ ,

Koepfli *et al.*, *J. Am. Chem. Soc.*, **69**, 1837 (1947)

DICHROSTACHYS

***D. cinerea* Maab.**

STEROID: β -sitosterol.

TRITERPENOIDS: β -amyrin, friedelen-3 β -ol, friedelan-3-one.

Joshi *et al.*, *J. Indian Chem. Soc.*, **54**, 649 (1977)

DICOMA

D. anomala.

SESQUITERPENOIDS: 14-acetoxydicomanolide, dicomanolide, hydroxydehydrozaluzanin C, 24-oxodicomanolide. Bohlmann *et al.*, *Phytochemistry*, **17**, 570 (1978) 9-

DICORIA

D. canescens.

MONOTERPENOID: (-)-cis-chrysanthemol- β -D-glucopyranoside. Miyakado *et al.*, *Phytochemistry*, **13**, 2881 (1974)

DICRANOSTIGMA (Fumariaceae)

D. franchetianum (Prain.) Fedde.

NAPHTHOISOQUINOLINE ALKALOID: chelidonine. OXOQUINOLIZIDINE ALKALOID: protopine. Manske, *Can. J. Res.*, **20B**, 53 (1942)

DICTAMNUS (Rutaceae)

D. albus L.

FURANOISOQUINOLINE ALKALOIDS: dictamine, isomaculosidine. QUINOLONE ALKALOID: preskimmianine. COUMARIN: auraptene. NORSESQUITERPENOID: fraxinellone. (A) Storer, Young, *Tetrahedron*, **29**, 1217 (1973) (C) Reisch *et al.*, *Planta Med.*, **15**, 320 (1967) (T) Coggon *et al.*, *J. Chem. Soc., B*, 1521 (1970)

D. angustifolia G.Don.

FURANOISOQUINOLINE ALKALOID: dictamine.

QUINOLINE ALKALOIDS: dubamine, dubamidine, evoxine, skimmianine.
 Sidyakin *et al.*, *Uzb. Khim. Zh.*, **6**, 56 (1962)

***D. caucasicus* Fisch.**

FURANOISOQUINOLINE ALKALOIDS: dictamine, dimethoxyisodictamine, α -fagarine, isodictamine, 6α -methoxyisodictamine, robustine, skimmianine.
 Asahina *et al.*, *Ber.*, **63**, 2045 (1930)
 Asatiani *et al.*, *Soobshch. Akad. Nauk Gruz SSR*, **64**, 1 (1971)

***D. hispanicus* Webb.**

COUMARINS: bergapten, psoralen, xanthotoxin.
 STEROID: β -sitosterol.
 TRITERPENOIDS: α -amyrin, β -amyrin.
 Gonzalez *et al.*, *An. Quim.*, **73**, 430 (1977)

DICTYOPHLEBA

***D. lucida*.**

STEROIDAL ALKALOIDS: distyolucidamine, dictyolutidine.
 Janot *et al.*, *Bull. Soc. Chim. Fr.*, **11**, 3472 (1966)

DICTYOPTERIS (Phaeophyceae)

***D. australis*.**

MONOTERPENOIDS:(+)-butylcyclohepta-2,6-dione, (+)-6-butylcyclohepta-2,4-dione.
 Moore, Yost, *J. Chem. Soc., Chem. Commun.*, 937 (1973)

***D. divaricata*.**

SESQUITERPENOID: epi-cubenol.
 Suzuki *et al.*, *Bull. Chem. Soc., Japan*, **54**, 2366 (1981)

***D. plagiogramma*.**

MONOTERPENOIDS:(+)-(R)-butylcyclohepta-2,5-dione, (+)-6-butylcyclohepta-2,4-dione.
 Moore, Yost, *J. Chem. Soc., Chem. Common.*, 937 (1973)

***D. undulata*.**

DITERPENOIDS: chromazonarol, isochromazonarol, yakuzunol, zonaroic acid.
 Ravi *et al.*, *Pure Appl. Chem.*, **51**, 1893 (1978)

D. zonariooides.

QUINONE: cyclospongiaquinone.

Ravi *et al.*, *Pure Appl. Chem.*, **51**, 1893 (1978)**DICTYOSTELUM*****D. discoideum.***

PURINE ALKALOID: discadenine

Obata *et al.*, *Agric. Biol. Chem.*, **37**, 1989 (1973)**DICTYOTA (Phaeophyceae/Dictyotaceae)*****D. acutiloba.***

DITERPENOIDS: dictyolene, dictyoxepin.

Sun *et al.*, *J. Am. Chem. Soc.*, **99**, 3516 (1977)***D. binghamiae.***

DITERPENOIDS: dictyol G acetate, dictyoxide A, dictyotriol A diacetate.

Pathirana *et al.*, *Can. J. Chem.*, **62**, 1666 (1984)***D. cervicornis Kuetzing.***

DITERPENOIDS: cervicol, dolostane, 3-secodolastene.

Texiera *et al.*, *Bull. Soc. Chim. Belg.*, **95**, 263 (1986)Texiera *et al.*, *J. Nat. Prod.*, **49**, 570 (1986)***D. crenulata.***

NORDITERPENOIDS: acetoxycrenulatin, crenulatin.

DITERPENOIDS: 4-acetoxycrenulide, crenulide.

Sun *et al.*, *J. Org. Chem.*, **48**, 1903 (1983)Sun *et al.*, *ibid.*, 1907 (1983)***D. dentata.***

DITERPENOID: dictyol H.

Alvarado *et al.*, *J. Nat. Prod.*, **48**, 132 (1985)***D. dichotoma (Hudson) Lemaroux.***

SESQUITERPENOIDS: tricyclodictyofuran A, tricyclodictyofuran B, tricyclodictyofuran C.

DITERPENOIDS: dictyoacetal, dictyofuran C, dictyofuran T, dictyol B acetate, dictyol C, dictyol F, epi-dictyol F, dictyone, dictydiol, dictyriene A, dictyriene B, dictyodiol, dictyotadiol, 3,4-epoxy-7,18-dollabelladiene, 3,4-epoxy-14-hydroxy-7,18-dollabelladiene, 3,4-epoxy-14-oxo-7,18-dollabelladiene, 14-oxo-7,18-dollabelladiene, 14-oxo-3,7,18-dollabellatriene.

Enoki *et al.*, *Chem. Lett.*, 1399 (1983)

Enoki *et al.*, *ibid.*, 1627 (1983)

Enoki *et al.*, *Tetrahedron Lett.*, 1731 (1985)

D. dichotoma var. implexa.

DITERPENOIDS: dictyol B, dictyol I acetate, pachydictyol A.

De Rosa *et al.*, *Phytochemistry*, **25**, 2179 (1986)

D. divaracata.

DITERPENOIDS: 4(S)-acetoxy-14(S)-hydroxydolast-1(15),7,9-triene, 7(S)-acetoxy-14(S)-dihydroxydolast-1(15),8-diene, 7(S)-acetoxy-4(S),14(S)-dihydroxydolast-1(15),8-diene, 4(S),7S)-diacetoxy-14(S)-hydroxydolast-1(15),8-diene, 7(S)-acetoxy-14(S)-hydroxydolast-1(15),8-diene.

Sun *et al.*, *Tetrahedron*, **37**, 1237 (1981)

D. flabellata.

DITERPENOID: pachydictyol A epoxide.

Robertson, Fenical, *Phytochemistry*, **16**, 1071 (1977)

D. indica.

DITERPENOID: dictyotriol A, dictyotriol B.

Li, Xue, *Hydrobiologia*, **116**, 168 (1984)

D. linearis.

DITERPENOID: amijidictyol, 14-deoxyamijiol, isoamijiol.

Ochi *et al.*, *Chem. Lett.*, 1253 (1980)

D. masonii.

DITERPENOID: hydroxydilophol.

Sun, Fenical, *J. Org. Chem.*, **44**, 1354 (1979)

D. prolificans.

DITERPENOID: 18-acetoxy-19-oxo-1(9),6,13-xenicatrien-17,18-olide, 1(9)E,6E,13-xenicatriene-17,18:19,18-diolide.

Ravi *et al.*, *Aust. J. Chem.*, **35**, 121 (1982)

DIDYMOCARPUS

D. aurantiaca.

CHALCONES: aurentiacin, aurentiacin A, 5,6-dehydrokawain, 7,8-epi-5,6-dehydrokawain.

Rezende *et al.*, *Phytochemistry*, **10**, 3167 (1971)

Narayan *et al.*, *ibid.*, **15**, 229 (1976)

D. oblonga.

DITERPENOIDS: didymooblongin, (-)-ent-16 α -kauranol, (-)-ent-16 α -kauran-19-oic acid.

Mitra *et al.*, *Indian J. Chem.*, **19B**, 79 (1980)

D. pedicellata.

UNCHARACTERIZED ALKALOIDS: pedicelline, pedicine, pedicinine.

PYRANONE: 5,6-dehydrokawain.

SESQUITERPENOID: α -humulene.

(A) Grippa, *Rend. Accad. Naz.*, **4**, 18, (1968)

(A) Grippa, *ibid.*, 317 (1968)

(P) Rezende *et al.*, *Phytochemistry*, **10**, 3167 (1971)

(T) Clemo, Harris, *J. Chem. Soc.*, 665 (1952)

DIDYMOSALPINX

D. abbeokutae.

DITERPENOID: abbeokutone.

Taylor, *J. Chem. Soc.*, 1360 (1967)

DIGITALIS (Scrophulariaceae)

D. canariensis. L.

STEROID: canarigenin.

Studer *et al.*, *Helv. Chim. Acta*, **116**, 23 (1963)

D. canariensis L. var. isabelliana (Webb) Lindinger.

SAPONIN: digitoxigenin allomethyloside.

Kaiser *et al.*, *Experientia*, **21**, 575 (1965)***D. ciliata.***

COUMARIN: cynaroside.

SAPONIN: gitaloxin.

TRITERPENOID: deacetyllanostroside.

(C) Gvazova *et al.*, *Khim. Prir. Soedin.*, 818 (1976)(S, T) Kamertelizde *et al.*, *ibid.*, 824 (1976)***D. grandiflora Mill. (D. ambigua Murr.)***

ANTHRAQUINONE: digitolutein.

FLAVONOIDS: apigenol glucuronide, chrysoeriol glucuronide, kaempferol heterobioside, luteolol glucuronide, luteolol 7-glucoside.

Boudouin *et al.*, *C.R. Acad. Sci.*, **283D**, 1177 (1976)***D. lanata Ehrh.***

ANTHRAQUINONE: 3-methylpurpurin.

SAPONINS: digalonin, digolein, diginatin, digitalonin, digitonin, digitoxigenin allomethyloside, digitoxigenin digilanidobioside, gitorin, neoglucodigifucoside, tigonin.

STEROIDS: campesterol, cholesterol, digitogenin, 28-isofucosterol, lanatigonin, lanatosides A, B, C and D, neodigitalogenin, neodigitalogenin, neodigitogenin.

TRITERPENOIDS: cycloartenol, 24-methylenecycloartanol.

(An) Furuya *et al.*, *Phytochemistry*, **11**, 1073 (1972)(Sap) Kaiser, *Experientia*, **21**, 575 (1965)(S) Tschesche *et al.*, *Tetrahedron*, **18**, 959 (1962)(S, T) Helmbold *et al.*, *Planta Med.*, **33**, 185 (1978)***D. orientalis.***PIGMENTS: digoemodin, 1-hydroxyanthraquinone-3-carboxylic acid, α -hydroxy- β -hydroxymethylanthraquinone, isochrysophenol, 3-methylantharufin.

SAPONIN: origidin.

(P) Imre *et al.*, *Phytochemistry*, **13**, 681 (1974)(Sap) Mannich, Schneider, *Arch. Pharm.*, **279**, 223 (1941)***D. purpurea L.***

SAPONINS: digacetinin, digolein, digitonin, F-gitonin, gitoroside, gitoxoside, purpronin, purpureagitoside, strospeside, tigonin.

STEROIDS: desglucodigitonin, digalonin, diginin, 14 α -digipronin, digipurpurogenin I, digipurpurogenin II, digitalin, digitalonin, digitalogenin, digitogenin, digitalin, gitaloxigenin, gitaloxin, gitorin, gitostin, neodigitogenin, neogitostin, glucoverodoxin, neodigitalogenin, purpinin, tigogenin.

BENZOPYRAN: digicitrine.

(B) Meier *et al.*, *Helv. Chim. Acta*, **45**, 232 (1965)(Sap) Furuya *et al.*, *Chem. Pharm. Bull.*, **18**, 1080 (1970)

- (S) Tschesche *et al.*, *Justus Liebigs Ann. Chem.*, **606**, 160 (1957)
 (S) Wada, Satoh, *Chem. Pharm. Bull.*, **12**, 752 (1964)

D. schischkinii.

ANTHRAQUINONE: 3-methylpurpurin.

PIGMENTS: digitoxin, isochrysophenol, 3-methylanthrufin, methylquinizarin.

STEROID: glucoacetylglucoside.

(A) Furuya *et al.*, *Phytochemistry*, **11**, 1073 (1972)

(P) Sanderman *et al.*, *Naturwissenschaften*, **52**, 262 (1965)

(S) Imre, Ersoy, *Experientia*, **34**, 1254 (1978)

D. thapsi.

FLAVONE: thapsin.

Rao *et al.*, *Indian J. Chem.*, **11**, 403 (1973)

D. trojana.

ANTHRAQUINONES: digitoxigenin-1 α -methyl ether, hydroxypachybasin, hydroxyziganein.

Imre *et al.*, *Phytochemistry*, **15**, 317 (1976)

D. viridiflora.

PIGMENTS: digitoxin, isochrysophenol.

Bick *et al.*, *Biochem. J.*, **98**, 112 (1966)

DILLENTIA (Dilleniaceae)

D. indica.

TRITERPENOID: 3 β -hydroxylupan-13,28-lactone.

FLAVANONE: 3,5,7,4'-tetrahydroxy-3'-methoxyflavone.

(F) Paranasasivam *et al.*, *J. Chem. Soc., Perkin I*, 612 (1975)

(T) Banerji *et al.*, *Phytochemistry*, **14**, 1447 (1975)

D. pentagyna.

DITERPENOID: dipoloic acid.

Srivastava *et al.*, *Curr. Sci.*, **53**, 646 (1984)

DILOPHUS (Phaeophyceae/Dictyotaceae)

D. dichotoma.

DITERPENOID: dictyol D.

Denise *et al.*, *Experientia*, **33**, 413 (1977)

D. fasciola.

SESQUITERPENOIDS:(1R,4R,10R)-1,4-epoxycadinane, 4(15),5E,10(14)-germacratrien-1 α -acetate, (2S,8R)-germacra-1(11),E6-trien-2-ol acetate.

LIPID: (-)-(R)-1 -O-geranylgeranylglycerol.

Fattorusso *et al.*, *Gazz. Chim. Ital.*, **109**, 589 (1979)

D. ligulatus.

DITERPENOID: dictyoxide.

Amica *et al.*, *Phytochemistry*, **18**, 1895 (1979)

D. okamuri.

DITERPENOIDS: fukurinal, fukurinolol.

Ochi *et al.*, *Chem. Lett.*, 1927 (1982)

D. prolificans.

DITERPENOIDS: 3 α -acetoxydilopholone, 3 β -acetoxydilopholone, dilopholone, epoxydilopholone.

Kazlauskas *et al.*, *Tetrahedron Lett.*, 4155 (1978)

DIMELAENA

D. orienta.

TRITERPENOID: zeorin.

Huneck, Lehn, *Bull. Soc. Chim.*, 1702 (1963)

DIMEROSTEMMA

D. asperatum.

SESQUITERPENOID: dimerostemmolide.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1802 (1984)

D. bishopii.

SESQUITERPENOID: dimerostemmolide.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1802 (1984)

D. brasiliandum.

SESQUITERPENOIDS: 1-O-(4-acetoxyangeloyloxy)-dimerostemmolide, 1-O-(4-acetoxyangeloyloxy)-isodimerostemmolide, 1-O-(5-acetoxyangeloyloxy)-isodimerostemmolide, 1-O-(4-acetoxytiglyl)-dimerostemmolide, 1-O-(2,3-epoxy-2-methylpronaloyl)-dimerostemmolide, dimerostemmobrasiolide, dimerostemmolide, 1-O-(2-hydroxymethylpropanoyl)-dimerostemmolide, 1-O-(2-hydroxymethylpropanoyl)-isodimerostemmolide, 1-O-(2-hydroxymethylpropanoyl)-8-(2-methylpropanoyl)-dimerostemmolide, 1-O-tiglyldimerostemmolide.

DITERPENOID: dimerobrasiolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1343 (1982)

D. lippoides.

Three unnamed sesquiterpenoids.

Bohlmann *et al.*, *Phytochemistry*, **20**, 838 (1981)

DIMORPHOTHECA (Calendulaceae)

D. aurantiaca.

DITERPENOID: 3 α -tigloyloxy-9,11-dehydrostachenoic acid.

Bohlmann *et al.*, *Phytochemistry*, **16**, 1073 (1977)

D. pluvalis Moench.

DITERPENOIDS: 3 β -acetoxy sandaracopimar-7,15-dien-20-oic acid, 3 β -acetoxy sandaracopimar-8(14),15-dien-20-oic acid, 20-cupressenoic acid, sandaracopimar-7,15-dien-20-oic acid, sandaracopimar-8(14), 15-dien-20-oic acid.

Bohlmann, Ngo Le Van, *Chem. Ber.*, **109**, 1446 (1976)

DIOSCOREA (Dioscoreaceae)

D. batatas.

PHENANTHRENES: batatasin I, batatasin II, batatasin III, batatasin IV.

Hashimoto *et al.*, *Phytochemistry*, **17**, 1179 (1978)

D. bulbifera.

STEROIDS: diosbulbins A, B and C diosgenin.

Komori *et al.*, *Chem. Ber.*, **101**, 3096 (1968)

D. bulbifera forma spontanea.

STEROIDS: diosbulbins D, E, F and G.

SAPONINS: diosbulbinoside D, diosbulbinoside F.

Komori *et al.*, *Chem. Ber.*, **101**, 3096 (1968)

D. capillaris.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. chiapasensis Matuda.

STEROIDS: chiapagenin, isochiapagenin.

Harrison *et al.*, *J. Org. Chem.*, **26**, 155 (1961)

D. colletii Hook.

STEROIDS: 3,5-deoxyneotigogenin, 3,5-deoxytigogenin, diosgenin, diosgenin palmitate, isoparthogenin, sarsasapogenin, epi-sarsasapogenin, β -sitosterol, smilagenin, epi-smilagenin, smilagenone, yamogenin, yamogenin β -D-glucoside, yamogenin palmitate.

Minghe *et al.*, *Planta Med.*, **49**, 38 (1983)

Liu *et al.*, *Yaoxue Xuebao*, **20**, 143 (1985); *Chem. Abstr.*, 103 3692h

D. colletii Hook var. hypoglauca (Palibin) Pei et Ting.

SAPONINS: gracillin, progracillin.

Tang *et al.*, *Zhiwu Xuebao*, **28**, 453 (1986); *Chem. Abstr.*, 105 222756b

D. composite.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. cyphocarpa.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. deltoidea Wall.

SAPONIN: diosgenin-3-O-glucopyranosyl-O- β -D-glucopyranosyl- β -D-glucopyranoside.

STEROIDS: campesterol, deltofolin, deltonin, diosgenin, β -sitosterol, spirostan-3,5-dione, stigmasterol.

Stohs *et al.*, *Planta Med.*, **28**, 101 (1975)

Passeshnichenko *et al.*, *Dokl. Akad. Nauk SSSR*, **246**, 742 (1981)

D. dugessi.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. dumetorum Pax.

TROPANE ALKALOID: dioscine.

Pinter, *J. Chem. Soc.*, 2236 (1952)

D. galeottiana.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. gracillimum.

STEROIDS: gracilin, protodioscin.

Tsukumoto, Kawasaki, *J. Pharm. Soc., Japan*, **74**, 1127 (1954)

D. grandiflora.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 119 (1943)

D. hirsuta Blume.

TROPANE ALKALOID: dioscorine.

STEROID: diosgenin.

(A) Boorsma, *Meded. Lds Pttuin*, 13 (1984)

(S) Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. hirsuticaulis.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. jaliscana.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. lobata.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. macrostachya.

STEROIDS: diosgenin, ricogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **71**, 3856 (1949)

D. mexicana.

STEROIDS: diosgenin, neokammagenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **69**, 2375 (1947)***D. militaris.***

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***D. minima.***

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***D. multinervis.***

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***D. paranensis Kunth.***

STEROID: yamogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **69**, 2184 (1947)***D. platycalpata.***

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***D. plumifera.***

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***D. prazeri.***SAPONINS: diosgenin 3-O- α -L-rhamnopyranosyl-O-di- β -D-glucopyranoside, diosgenin 3-O- α -L-rhamnopyranosyl- β -D-glucopyranoside, prazerigenin A 3-O- α -L-rhamnopyranosyl-O-di- β -D-glucopyranoside, prazerigenin A 3-O-L- α -rhamnopyranosyl- β -D-glucopyranoside.

STEROIDS: prazerigenin A, prazerigenin A glycopyranoside, prazerigenin B, prazerigenin C.

PHENANTHRENES: 5,6-dihydroxy-2,4-dimethoxy-9,10-dihydrophenanthrene, 5,6-dihydroxy-1,3,4-trimethoxy-9,10-dihydrophenanthrene.

(P) Rajamaran *et al.*, *Indian J. Chem.*, **13**, 1137 (1975)(S, Sap) Rajamaran *et al.*, *Indian J. Chem.*, **14B**, 735 (1976)(Sap) Wij *et al.*, *ibid.*, **15B**, 451 (1977)***D. pringlei.***

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***D. remotiflora.***

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. sanzibarensis.

TROPANE ALKALOID: dioscine.

Pinder *et al.*, *J. Chem. Soc.*, 2236 (1952)

D. sativa.

SAPONIN: trillin.

Marker *et al.*, *J. Am. Chem. Soc.*, **62**, 1548 (1940)

Marker *et al.*, *ibid.*, **62**, 3349 (1940)

D. septemloba.

SAPONINS: kikuba saponin, methylprotogracilin, protogracilin.

Kawasaki *et al.*, *Chem. Pharm. Bull.*, **22**, 2164 (1974)

D. spiculiflora.

STEROIDS: botogenin, neobotogenin.

Wahlens *et al.*, *J. Org. Chem.*, **22**, 182 (1957)

D. subtomentosa.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. tenuipes Franch et Sarat.

STEROIDS: 2-acetoxy-3,4-dihydroxy—pregn-16-en-20-one, 4-acetoxy-2,3-dihydroxy-5 α -pregn-16-en-20-one, 2-acetoxy-2,3,4-trihydroxy—pregn-16-en-20-one, 4-acetoxy-2,3,4-trihydroxy-5 α -pregn-16-en-20-one, diotigenin, glycosides S-3a, S-4, U-3, 3-methoxaldiotigenin 4-acetate, 2,3,4-trihydroxy-5 β -pregn-16-en-20-one.

Kiyosawa, Kawasaki, *Chem. Pharm. Bull.*, **25**, 163 (1977)

Kiyosawa, Kawasaki, *Tetrahedron Lett.*, 4599 (1977)

D. testudinaria.

STEROID: yamogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. tokoro Makino.

SAPONINS: prototokorin, tokoronin, yononin.

STEROIDS: dioscin, diosgenin, 3-epi-diosgenin, tokorogenin, yonogenin.

(Sap) Kawasaki, Yamauchi, *J. Pharm. Soc., Japan*, **83**, 757 (1963)

(Sap) Tomita, Uomori, *Phytochemistry*, **13**, 729 (1974)

(S) Uomori *et al.*, *Phytochemistry*, **22**, 203 (1983)

D. tryphida.

ANTHOCYANINS: malvidin 3,5-diferulate, malvidin 3,5-diglucoside, peonidin 3,5-diglucoside.

Carreno-Diaz *et al.*, *J. Food Sci.*, **42**, 615 (1977); *Chem. Abstr.*, 86 185971j

D. ulinei.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. urceolata.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. zingiberensis Wright.

SAPONIN: protozingiberensis saponin.

STEROIDS: diosgenin palmitate, gracillin, protogracillin, β -sitosterol.

Liu *et al.*, *Zhiwa Xuebao*, **27**, 68 (1985); *Chem. Abstr.*, 103 3668e

DIOSCOREOPHYLLUM

D. cummingsii.

TRITERPENOIDS: columbin, isocolumbin.

Cava *et al.*, *J. Am. Chem. Soc.*, **78**, 5317 (1950)

DIOSPYROS (Ebenaceae)

D. canaliculate.

CHROMENE: canaliculatin.

Waterman *et al.*, *J. Chem. Res. Synop.*, 2 (1985)

D. celebica.

FLAVONOIDS: dihydrosindigo B, diosindigo B.

QUINONES: celebaquinone, diomeloquinone A, isocelebaquinone.

Maiti *et al.*, *J. Chem. Soc., Perkin I*, 675 (1986)

D. discolor.

ANTHRAQUINONE: 1,3,5,6-tetrahydroxy-2-methylantraquinone-8-O- β -D-glucopyranoside.

Srivastava *et al.*, *Curr. Sci.*, **54**, 998 (1985)

D. galpini.

NAPHTHOQUINONES: isoxylospyrin, whyteone.

Van der Vijver *et al.*, *Pharm. Weekbl.*, **111**, 1273 (1976)

D. heterotricha.

NAPHTHOQUINONES: 8'-hydroxyisodospyrin, mamegakinone.
Alves *et al.*, *An. Fac. Farm. Porto*, **33**, 5 (1973); *Chem. Abstr.*, 17097q

D. ismailii.

CHROMENE: ismailin.
Waterman *et al.*, *J. Chem. Res. Synop.*, 2 (1985)

D. japonica.

NAPHTHALENONE: (R)-shinanolone.
Kuroyanagi *et al.*, *Chem. Pharm. Bull.*, **19**, 2314 (1971)

D. kaki.

CAROTENOIDS: β -carotene, cryptoxanthin, lycopene.
LIGNAN: (-)-divamlyltetrahydrofuran ferulate.
NAPHTHALENONE: (R)-shinanolone.
(C) Kolesnik *et al.*, *Khim. Prir. Soedin.*, 456 (1977)
(L) Matsuura *et al.*, *Phytochemistry*, **24**, 626 (1985)
(N) Kuroyanagi *et al.*, *Chem. Pharm. Bull.*, **19**, 2314 (1971)

D. lotus.

PIGMENT: bisisodospyrin.
Natori *et al.*, *Chem. Pharm. Bull.*, **19**, 2308 (1971)

D. lycooides.

NAPHTHOQUINONES: 8'-hydroxyisodospyrin, mamegakinone.
Alves *et al.*, *An. Fac. Farm. Porto*, **33**, 5 (1973); *Chem. Abstr.*, 17097q

D. manni.

QUINONES: diospyrin, 3'-methoxydiospyrin, 7-methyljuglone.
TRITERPENOIDS: betulin, betulinic acid, lupeol.
Jeffrey *et al.*, *Phytochemistry*, **22**, 1832 (1983)

D. melanoxylon.

PIGMENTS: 3,3'-bi[6-hydroxy-5-methoxy-2-methylnaphthoquinone], 4,11-dihydroxy-5-methoxy-2,9-dimethyldinaphtho-[1,2-b 2',3'-d]-furan-7,12-quinone.
Sankaram *et al.*, *Phytochemistry*, **20**, 1093 (1981)

D. mollis.

NAPHTHALENES: 1,8-dihydroxy-3-methylnaphthalene, 4,5,8-trimethoxy-2-naphthaldehyde.
Borsub *et al.*, *Tetrahedron Lett.*, 105 (1976)

D. montana.

TRITERPENOID: allobetulin.

Lillie *et al.*, *J. Chem. Soc., Perkin I*, 2155 (1976)

D. natalensis.

NAPHTHOQUINONES: isoxylospyrin, rotundiquinone, whyteone.

Van der Vijver *et al.*, *Pharm. Weekbl.*, **111**, 1273 (1976)

D. quiloensis.

NAPHTHALENES: 4,5,6,8-tetrahydroxy-2-naphthaldehyde, 4,5,8-trihydroxy-2-naphthaldehyde.

Harper *et al.*, *J. Chem. Soc., C*, 626 (1970)

D. whyteana.

NAPHTHOQUINONES: isoxylospyrin, whyteone.

Van der Vijver *et al.*, *Pharm. Weekbl.*, **111**, 1273 (1976)

DIOTIS

D. maritima.

ACETYLENIC: 9,16-heptadecadiene-4,6-diyn-3-ol.

de Pascual Teresa *et al.*, *An. Quim.*, **73**, 1525 (1977)

DIPHASIA

D. klaineana.

PHENOLIC: tecleanone.

Casey *et al.*, *Tetrahedron Lett.*, 401 (1975)

DIPHYSA

D. robinioides.

BENZOPYRONES: (-)-4'-O-methylglabridin, (-)-4'-O-methylpreglabridin.

FLAVONOIDS: diphysolone, diphysolone 4'-methyl ether, ferreirin, kievitone.

STILBENE:ent-3,5,3',4',5'-pentahydroxystilbene.

(B, S) Castro *et al.*, *J. Nat. Prod.*, **49**, 1080 (1986)

(F) Ingham *et al.*, *Z. Naturforsch.*, **38C**, 899 (1983)

DIPIDAX (Liliaceae/Wurmbaeoideae)

D. triqueta (Jacq.) Baker.

COLCHICINE ALKALOID: cornigerine.

Pihewska *et al.*, *Collect. Czech. Chem. Commun.*, **32**, 158 (1967)

DIPLAZIUM (Athyriaceae)

D. subsinuatum.

TRITERPENOIDS: 17,24-dihydroxyhopan-28,22-olide, 17-hydroxyhopan-28,22-olide-24-glucopyranoside.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **30**, 3632 (1982)

DIPLOCUSIA

D. glaucescens.

STEROIDS: 24(28)-dehydromakisterone A, 20-hydroxyecdysone, makisterone, 24-epi-makisterone, pterosterone.

Miller *et al.*, *Planta Med.*, **40** (1985)

DIPLODIA

D. macrospora.

INDOLE ALKALOID: chaetoglobosine A.

Springer *et al.*, *Tetrahedron Lett.*, 1905 (1980)

D. pinea.

MONOTERPENOID: diplodialides A, B and C.

DITERPENOID: diplodiatoxin.

Wada, Ishida, *J. Chem. Soc., Perkin I*, 1154 (1979)

DIPLOKNEMA

D. butyracea.

FLAVONOIDS: myricetin, myricetin 3-O-rhamnoside, quercetin, quercetin 3-O-rhamnoside.

Khetwal *et al.*, *Fitoterapia*, **57**, 128 (1986)

DIPLOPAPPUS

D. fruticosus.

SESQUITERPENOIDS: 2,8-decadiene-4,6-diyn-1,10-dial, cis,cis-matricarianol, trans,trans-matricarianol, cis,cis-matricarianol acetate.

Bohlmann *et al.*, *Chem. Ber.*, **105**, 1919 (1972)

DIPLOPHYLLUM(Hepaticae/Scapaniaceae e)

D. albicans (L.) Dum.

SESQUITERPENOIDS: acetoxydiplophyllin, albicanol, anastreptene, 11-dihydrodiplophyllin, diploalbicanol, diplophyllin, diplophyllolide, diplophyllolide B, ent-selina-4,11-diene.

Ohta *et al.*, *Tetrahedron*, **33**, 617 (1977)

Asakawa *et al.*, *Phytochemistry*, **18**, 1007 (1979)

D. taxifolium (Wahl.) Dum.

SESQUITERPENOIDS: acetoxydiplophyllin, albicanol, diploalbicanol, diplophyllin, diplophyllolide, ent-selina-4,11 -diene.

Ohta *et at.*, *Tetrahedron*, **33**, 617 (1977)

Asakawa *et al.*, *Phytochemistry*, **18**, 1007 (1979)

DIPLOPTERYGIUM

D. glaucum.

TRITERPENOID: hopan-22-ol.

Baddeley *et al.*, *J. Chem. Soc.*, 3891 (1961)

DIPLORRHYNCHUS

D. condylocarpon (Muell) Arg.

CARBAZOLE ALKALOIDS: mossambine, norfluorocurarine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: condyfoline, condylocarpine.

INDOLE ALKALOID: stemmadenine.

Yuldashev, Yunusov, *Khim. Zh. Uzbeksk.*, **7**, 44 (1963)

Schumann, Schmid, *Helv. Chim. Acta*, **46**, 1996 (1963)

D. condylocarpon (Muell) Arg. subsp. mossambicensis (Benth.) Duvign.

CARBAZOLE ALKALOIDS: mossambine, norfluorocurarine, tombozine.. Indole alkaloid stemmadenine.

Schumann, Schmid, *Helv. Chim. Acta*, **46**, 1996 (1963)

DIPSACUS (Dipsacaceae)

D. azureus Schrenk.

PYRIDINE ALKALOIDS: cantleyine, gentianine.

Sevenet *et al.*, *Bull. Soc. Chim. Fr.*, **8**, 3120 (1970)

D. sylvestris Huds. (D. fullonum L.).

IRIDOIDS: sylvestrosides I, II, III and IV.

Jensen *et al.*, *Phytochemistry*, **18**, 273 (1979)

DIPTEROCARPUS (Dipterocarpaceae)

D. dyeri.

SESQUITERPENOIDS: α -gurjunene, β -gurjunene, ent- β -gurjunene, τ -gurjunene, gurjuresene.

Asakawa *et al.*, *Phytochemistry*, **17**, 457 (1978)A

D. elatus.

SESQUITERPENOID: 5 β ,10 α -selina-3,11-diene, 10 α -selina-4,11 -diene.

Lund *et al.*, *Phytochemistry*, **9**, 2419 (1970)

D. gracilis.

SESQUITERPENOID: apitonene-1. TRITERPENOID: gracilols A, B and C.

Kitao, Ikeda, *Zairyō*, **16**, 848 (1967)

Ikeda, Kitao, *Mokuzai Gakkaishi*, **20**, 460 (1974)

D. hispidus.

TRITERPENOID: octillone, octillone I, octillone II.

Bisset *et al.*, *Phytochemistry*, **5**, 865 (1966)

D. macrocarpus.

SESQUITERPENOID: dipterol, dipterone.

Krishnamurty *et al.*, *Indian J. Chem.*, **12**, 520 (1974)

D. pilosus.

SESQUITERPENOID: humulene epoxide III.

DITERPENOID: hollongdione.

TRITERPENOID: 2-acetylasiacic acid methyl ester, caryophyllenol I caryophyllenol II.

Gupta, Dev, *Tetrahedron*, **27**, 635 (1971)

Gupta, Dev, *ibid.*, **27**, 823 (1971)

DIRCA (Thymelaeaceae)

D. occidentalis.

ESTERS: dircin, pimelea factor P2.

LIGNANS: (-)-lariciresinol, (-)-medioresinol, (+)-syringaresinol.

Badawi *et al.*, *J. Pharm. Sci.*, **72**, 1285 (1983)

DISCARIA

D. crenata.

CARBOLINE ALKALOID: crenatine A.

Pucheco *et al.*, *Phytochemistry*, **12**, 954 (1973)

D. febrifuga Mart.

PEPTIDE ALKALOIDS: discarines A, B, C and D.

Digel *et al.*, *Z. Physiol. Chem.*, **364**, 1641 (1983)

DISTEMONANTHUS

D. benthamianus.

FLAVONES: ayanin, oxyayanin A, oxyayanin B.

King *et al.*, *J. Chem. Soc.*, 4587 (1954)

Kupchan *et al.*, *Phytochemistry*, **10**, 664 (1971)

DISYNAPHIA

D. halimifolia.

SESQUITERPENOIDS: disyfolide, disyhamifolide.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1077 (1981)

DITTRICHIA

D. viscosa.

SESQUITERPENOIDS: 6 α -hydroxy-9-desacetylneupatorolide,
methylpropanoylditricholide.

2-

Bohlmann, Gupta, *Phytochemistry*, **21**, 1443 (1982)

DOCYNIOPSIS

D. tschonoski.

FLAVONE: toringin.

Marsh, *Biochem. J.*, **59**, 58 (1955)

DODONAEA (Sapindaceae)

D. alternate.

TRITERPENOID:lup-20(29)-ene-3 β ,11 β -diol.

Ghisalberti *et al.*, *Phytochemistry*, **12**, 1125 (1973)

D. attenuata.

DITERPENOID: ent-17-acetoxy-15,16-epoxy-18-hydroxy-3,13(16),14-clerodatrien-18-oic acid.

Jefferies, Payne, *Tetrahedron Lett.*, 4777 (1967)

D. attenuata var. linearis.

DITERPENOID: huatriwaic acid.

Jefferies, Payne, *Tetrahedron Lett.*, 4777 (1967)

D. boroniaefolia.

Three diterpenoids.

Jefferies *et al.*, *Aust. J. Chem.*, **26**, 2199 (1973)

D. lobulata.

DITERPENOIDS: 6 β ,8 β -dihydroxy-enantio-labdan-15-oic acid, 7 α ,8 β -dihydroxy-enantio-labdan-15-oic acid, enantio-labdanoic acid, enantio-labdanolic acid.

Dawson *et al.*, *Aust. J. Chem.*, **19**, 2113 (1966)

D. microzyga.

DITERPENOID: ent-2 α ,17-dihydroxylabdan-17,13-dien-15-oic acid.

Jefferies *et al.*, *Aust. J. Chem.*, **27**, 1097 (1974)

D. petiolaris.

DITERPENOIDS: ent-3 β -acetoxy-8(17),13(16),14-labdatrien-15-oic acid, ent-3 β -hydroxy-15,16-epoxy-8(17),13(16),14-labdatrien-18-oic acid.

Jefferies *et al.*, *Aust. J. Chem.*, **34**, 1001 (1981)

D. viscosa.

DITERPENOIDS: dodonic acid, hautriwaic acid. Eight flavonoids.

(F) Sachdev *et al.*, *Phytochemistry*, **22**, 1253 (1983)
 (T) Jefferies, Payne, *Tetrahedron Lett.*, 4777 (1967)

DOLICHOS(Papilionaceae)

D. falcata.

TRITERPENOIDS: medicagenic acid, medicagenic acid 3-O- β -D-glucoside.
 Feng *et al.*, *Zhongcaoyao*, **16**, 47 (1985)

D. lablab.

GIBBERELLIN: 3-O-glucopyranosylgibberellin A-4.
 Yokoya *et al.*, *Agric. Biol. Chem.*, **42**, 1811 (1978)

DOLICHOTHELE (Cactaceae)

D. longimamma.

AMINE ALKALOID: ubine.
 ISOQUINOLINE ALKALOIDS: longimammadine, longimammanine,
 longimammidine, longimammamine, longimammosine.
 Tomina *et al.*, *Izv. Akad. Nauk SSSR*, 2181 (1971)
 Ranieri, McLaughlin, *J. Org. Chem.*, **41**, 319 (1976)

D. sphaerica R. et R.

ALKALOID: dolicotheline.
 Rosenberg, Paul, *Tetrahedron Lett.*, 1039 (1969)

DOREMA

D. ammoniacum.

BENZOPYRAN: ammoresinol.
 SESQUITERPENOID: ferulene.
 (B) Kunz *et al.*, *J. Prakt. Chem.*, **141**, 350 (1934)
 (T) Semmler *et al.*, *Ber.*, **50**, 1826 (1917)

D. hyrcanum.

GLYCOSIDES: hyrcanoside, pleoside.

Nurmukhamedova *et al.*, *Khim. Prir. Soedin.*, 101 (1976)

DORONICUM (Compositae)

D. grandiflorum Lam.

FLAVONOIDS: 5,7,4'-trihydroxy-8,3'-dimethoxyflavone, 5,7,4'-trihydroxy-8-methoxyflavone.

Reynaud *et al.*, *Pharmazie*, **38**, 628 (1983)

D. microphyllum.

SAPONINS: doronicosides A, B, C and D

Alieva *et al.*, *Khim. Prir. Soedin.*, 658 (1977)

D. pardalianches L.

PYRROLIZIDINE ALKALOID: otosenine.

Rajagopalan *et al.*, *Indian J. Chem.*, **24B**, 882 (1985)

DORSTENIA (Moraceae)

D. contraferva.

STEROID: syriogenin.

Okada, Anjyo, *Chem. Pharm. Bull.*, **23**, 2039 (1975)

DORYPHORA (Monimiaceae)

D. sassafras.

ISOQUINOLINE ALKALOIDS: corypalline, doryphorinine.

UNCHARACTERIZED ALKALOIDS: doryafrine, doryanine, doryflavine, doryphorine.

Chen *et al.*, *Lloydia*, **37**, 493 (1974)

Francisca *et al.*, *Indian J. Chem.*, **15B**, 182 (1977)

DRACAENA (Liliaceae)

D. australis.

STEROID: smilagenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

D. draco.

STEROID: dracogenin.

Gonzalez *et al.*, *Rev. Latinoam. Quim.*, **3**, 8 (1972)

DRACOCEPHALUM

D. nutans.

FLAVONOID: leuteolin 5-O- β -L-galactoside.

Shamyrina *et al.*, *Khim. Prir. Soedin.*, 577 (1977)

DRACONTOMELUM (Anacardiaceae)

D. mangiferum Bl.

QUINOLIZIDINE ALKALOID: (-)-1,2,3,4,6,7-hexahydro-12H-indolo-[2,3-a]-quinolizidine.

Johns *et al.*, *Aust J. Chem.*, **19**, 1951 (1966)

DREGEA (Asclepiadaceae)

D. sinensis var. corrugata.

STEROID: drevogenin.

Jin *et al.*, *Yunnan Zhiwu Yanjiu*, 9, 227 (1987); *Chem. Abstr.*, 107 194915w

D. volubilis Benth.

STEROID: drevogenin P.

Sauer *et al.*, *Helv. Chim. Acta*, **48**, 857 (1965)

DRIMYS (Winteraceae)

D. leucolata.

SESQUITERPENOID: polygodial.

Barnes, Loder, *Aust. J. Chem.*, **15**, 322 (1962)

Barnes, Loder, *ibid.*, **15**, 389 (1962)

D. winteri L.

SESQUITERPENOIDS: 11,12-bis(7-drimen-11-oxy)-11,12-epoxy-7-drimene, confertifolin, drimenin, drimenol, fuegin, futronolide, isodrimenin, valdiviolide.

Kato *et al.*, *Tetrahedron Lett.*, 4257 (1972)

Aasen *et al.*, *Acta Chem. Scand.*, **31**, 51 (1977)

DROSERA (Droseraceae)

D. ramentacea.

DIQUINONE: biramentaceone.

Krishnamoorthy *et al.*, *Phytochemistry*, **8**, 1591 (1969)

D. whittakeri.

NAPHTHOQUINONES: hydroxydroserone, droserone.

Lugg *et al.*, *J. Chem. Soc.*, 1457 (1936)

DROSOPHILA

D. subatrata.

ACETYLENIC: drosophilin C.

Jones *et al.*, *J. Chem. Soc.*, 2257 (1960)

D. vestita.

ACETYLENIC: drosophilin C.

Jones *et al.*, *J. Chem. Soc.*, 2257 (1960)

DRYADODAPHNE

D. novo-guineensis.

BISBENZYLISOQUINOLINE ALKALOIDS: dryadine, dryadaphnine.

Bick *et al.*, *J. Chem. Soc., C*, 1627 (1967)

DRYMARIA (Caryophyllaceae)

D. cordata (L.) Wild.

ACIDS: capric acid, caproic acid, caprylic acid, lauric acid, linoleic acid, linolenic acid, myristic acid, oleic acid, palmitic acid, stearic acid.

ALKALOID: cordatanine.

STEROID: α -spinasterol.

(Ac, S) Hu *et al.*, *Zhongcaoyao*, **13**, 343 (1982)

(A) Chen *et al.*, *Zhiwu Xuebao*, **28**, 450 (1986); *Chem. Abstr.*, 106 15732w

D. drummondii.

TRITERPENOIDS: isoursenol.

Dominguez *et al.*, *Phytochemistry*, **14**, 815 (1975)

DRYOBALANOPS (Dipterocarpaceae)

D. aromatica Gaertn.

TRITERPENOIDS: dryobalanolide, dryobalanone, alphitolic acid, 11-oxoasiatic acid.

Cheung *et al.*, *J. Chem. Soc., C*, 1047 (1968)

Cheung *et al.*, *ibid.*, 2686 (1968)

DRYOPHANTA

D. divisa.

CYCLOHEPTANE: purpurogallin.

Barltrop *et al.*, *J. Chem. Soc.*, 116 (1948)

DRYOPTERIS(Aspidiaceae/Dryopteridace ae)

D. austriaca.

PHENOLIC: desaspidin.

Aebo *et al.*, *Helv. Chim. Acta*, **40**, 572 (1957)

D. crassirhizoma.

TRITERPENOIDS: diploptene, dryocrassol, dryocrassyl acetate, 9(11)-fernene.

Ghisalberti *et al.*, *Tetrahedron Lett.*, 3297 (1975)

D. erythrosora.

PHLOROGLUCINOLS: aspidin AB, methylene-bis-aspidinol, trisdesaspidin BBB, trisflavaspidic acid.

Widen *et al.*, *Planta Med.*, **28**, 144 (1975)

D. filix-mas (L.) Schott.

DIMER: desaspidin.

Aeib *et al.*, *Helv. Chim. Acta*, **40**, 266 (1957)

D. fragrans.

KETONE: fragrinol.

Molodozhnikova *et al.*, *Khim. Farm. Zh.*, 5, 32 (1971); *Chem. Abstr.*, 75 11585x

D. noveboracensis.

STEROIDS: 24-ethylathosterol, β -sitosterol, spinasterol.

Nes *et al.*, *Lipids*, **12**, 511 (1977)

DUBOISIA (Solanaceae)

D. hopwoodii F. Muell.

PYRIDINE ALKALOIDS: nicotine, (+)-nornicotine.

Spath, Biniecki, *Ber.*, **72**, 1809 (1939)

D. leuchhardtii F. Muell.

TROPANE ALKALOIDS: butropine, (\pm)-hyoscine, (-)-hyoscyamine, 1'-phenyl-1,2,3,4-tetralin-1,4-dicarboxylic acid discopine ester, 1-epi-1,2,3,4-tetralin-1,4-dicarboxylic acid discopine ester, α -scopadonnine, β -scopadonnine, valtropine.

Rosenblum, Taylor, *J. Pharm. Pharmacol.*, **6**, 410 (1954)

Kagai *et al.*, *J. Pharm. Soc., Japan*, **100**, 216 (1980)

D. myoporoides R. Br.

TROPANE ALKALOIDS: (-)-hyoscyamine, isoporoïdine, norhyoscyamine, poroïdine, scopolamine, tigloidine, valeroïdine.

Berger *et al.*, *J. Chem. Soc.*, 1685 (1938)

DUGALDIA

D. hoopesii.

Two sesquiterpenoids.

Bohlmann *et al.*, *J. Nat. Prod.*, **47**, 658 (1984)

DUGESIA (Compositae)

D. mexicana Gray.

SESQUITERPENOID: dugesualactone.

Bohlmann, Zdero, *Chem. Ber.*, **109**, 2651 (1976)

DUGUETIA

D. obovata.

APORPHINE ALKALOIDS: (-)-duguevanine, (-)-N-formylduguevanine, (-)-N-formylxylopine.

ISOQUINOLINE ALKALOID: probovatine.

Roblot *et al.*, *J. Nat Prod.*, **46**, 862 (1983)

D. spixiana.

APORPHINE ALKALOID: duguexpixin.

Desbourger *et al.*, *J. Nat. Prod.*, **48**, 310 (1983)

DULACEA (Olacaceae)

D. guainensis (Engl.) O. Kuntze.

SESQUITERPENE ALKALOIDS: manicolines A and B.

SESQUITERPENOID: manicol.

(A) Polonsky *et al.*, *J. Chem. Soc., Chem. Commun.*, 731 (1981)

(T) Polonsky *et al.*, *J. Chem. Soc., Perkin I*, 2065 (1980)

DUMORIA

D. heckelii.

TRITERPENOID: basic acid.

King *et al.*, *J. Chem. Soc.*, 1338 (1955)

DUNALIA (Solanaceae)

D. australis (Griseb.) Sleum.

SAPONINS: dunawithanins A and B.

STEROIDS: withanolide, 4,7,20-trihydroxy-1-oxowitha-2,5,24-trienolide.

(Sap) Adam *et al.*, *Int. Conf. Chem. Biotechnol. Biol. Act. Nat. Prod.*, **3**, 1919 (1981)

(T) Adam, Hesse, *Tetrahedron Lett.*, 1199 (1971)

DURANTA (Verbenaceae)

D. plumieri.

FLAVONOIDS: 4'-methoxyscutellarein, pectolinarigenin, pectolinarigenin 7-O-rutinoside, scutellarein, scutellarein 7-O-rhamnoside.

STEROID: β -sitosterol.

TRITERPENOID: α -amyrin.

Makboul *et al.*, *Fitoterapia*, **52**, 219 (1981)

D. repens.

IRIDOIDES: durantosides I, II, III and IV.

Rimpler, Timm, *Z. Naturforsch.*, **29C**, 11 (1974)

DYERA

D. lowii.

SACCHARIDE: dambonitol.

Comollo *et al.*, *J. Chem. Soc.*, 3319 (1953)

DYNAMENA

D. pumila.

STEROIDS: cholesterol, fucostanol.

Ando *et al.*, *Biochem. Syst Ecol.*, **3**, 247 (1975); *Chem. Abstr.*, 84 118460n

DYSOXYLON (Meliaceae)

D. acutangulum.

SESQUITERPENOID: (+)-8-hydroxycalamenene.

Nishizawa *et al.*, *Phytochemistry*, **22**, 2083 (1983)

D. alliceum.

SESQUITERPENOIDS: bicalamenene, (+)-8-hydroxycalamenene.

Nishizawa *et al.*, *Tetrahedron Lett.*, 1535 (1985)

D. binectariferum.

TRITERPENOID: dysobinin.

Singh *et al.*, *Phytochemistry*, **15**, 2001 (1976)

D. frazerianum.

SESQUITERPENOIDS: (\pm)-cadinene, dysoxylonene, δ -elemene.

Gough *et al.*, *Tetrahedron Lett.*, 763 (1961)

Herout *et al.*, *Collect. Czech. Chem. Commun.*, **19**, 118 (1954)

D. lenticullure.

HOMOERYTHRINA ALKALOID: dyshomerythrine.

Aladesenmi *et al.*, *J. Chem. Res. Synop.*, 108 (1984)

DYSSODIA

D. anthemidifolia.

ACETYLENICS: 5-(4-acetoxy-1-butynyl)-5'-methyl-2,2'-bithiophene, 5-(3,4-diacetoxy-1-butynyl)-5'-methyl-2,2'-bithiophene, 5-(4-hydroxy-1-butynyl)-5'-methyl-2,2'-bithiophene, 5-(3-hydroxy-4-isovaleryloxy-1-butynyl)-2,2'-bithiophene 3'-methoxy-2,2' 5',2"-terthiophene, 5-methyl-2,2' 5',2"-terthiophene.

Bohlmann, Zdero, *Chem. Ber.*, **109**, 901 (1976)

D. setifolia.

ACETYLENICS: 5-(4-acetoxy-1-butynyl)-5'-methyl-2,2'-bithiophene, 5-(3,4-diacetoxy-1-butynyl)-5'-methyl-2,2'-bithiophene, 5-(4-hydroxy-1-butynyl)-5'-methyl-2,2'-bithiophene, 5-(3-hydroxy-4-isovaleryloxy-1-butynyl)-2,2'-bithiophene, 3'-methoxy-2,2' 5',2"-terthiophene 5-methyl-2,2' 5',2"-terthiophene.

Bohlmann, Zdero, *Chem. Ber.*, **109**, 901 (1976)

E**ECBALLIUM (Cucurbitaceae)*****E. elaterium (L.) A.Rich.***

NAPHTHOPENTANOFURANONES: elateric acid, isoelateric acid.

HEXANORTriterpenoids: 16-deoxy-16-hexanorcucurbitacin O,
hexanorcucurbitacin I.

TRITERPENOIDS: anhydro-22-oxo-epi-isocucurbitacin D, cucurbitacin E,
cucurbitacin R.

Rao *et al.*, *J. Chem. Soc., Perkin I*, 2552 (1974)

ECHEVERIA***E. elegans.***

ACID: phorbic acid.

Kringstad, *Phytochemistry*, **14**, 2710 (1975)

ECHINACEA (Asteraceae)***E. angustifolia.***

GLYCOSIDE: echinacoside.

Becker *et al.*, *Z. Naturforsch.*, **37C**, 351 (1986)

ECHINOCEREUS (Cactaceae)

E. blanckii.

AMINES: N',N'-dimethylhistamine, 3,4-dimethoxyphenethylamine.

Wagner *et al.*, *Planta Med.*, **45**, 95 (1982)

E. cinerascens.

AMINE ALKALOIDS: N,N-dimethyl-3,4-dimethoxyphenethylamine, N-methyl-3,4-dimethoxyphenethylamine.

Bruhn *et al.*, *Phytochemistry*, **16**, 622 (1977)

E. merkeri.

AMINE ALKALOID: N,N-dimethyl-3,4-dimethoxyphenethylamine.

Agurell *et al.*, *J. Pharm. Sci.*, **58**, 1413 (1969)

ECHINOCHLOA

E. crusgalli. (L.) Beauv.

TRITERPENOID: sawamilletin.

Ito, *J. Chem. Soc., Japan*, **59**, 274 (1938)

ECHINOCYSTIS(Cactaceae/Cistaceae)

E. macrocarpa.

GIBBERELLIN: gibberellin A-43.

Beeley *et al.*, *Phytochemistry*, **14**, 779 (1975)

ECHINODONTIUM (Polyporaceae)

E. tinctorium Ellis et Ev.

TRITERPENOID: echinodol.

Bond *et al.*, *J. Am. Chem. Soc.*, **88**, 3882 (1966)

E. tsugicola.

TRITERPENOIDS: deacetoxypechinodol, deacetox-3-epi-echinodol, deacetoxypechinodone, echinodol, 3-epi-echinodol, echinodone.

Kanamatsu *et al.*, *Chem. Pharm. Bull.*, **20**, 1993 (1972)

ECHINOPS (Compositae)

E. echinatus.

FLAVANONES: echinacin, echinaticin.

Singh *et al.*, *Chem. Ind. (London)*, 713 (1986)

E. ritro L.

QUINOLINE ALKALOIDS: 4-aminoquinoline oxymethylate, echinopsine, echinorine.

UNCHARACTERIZED ALKALOIDS: echinopseine, echinopsidine, pseudoechinopsine.

FLAVONOIDS: apigenin, apigenin 7-glucuronide, apigenin 7-rhamnoglucoside, chrysoeriol, chrysoeriol 7-glucoside, luteolin, luteolin 7-glucoside, quercetin, rutin.

(A) Greshoff, *Recl. Trav. Chim. Pays-Bas*, **10**, 360 (1900)

(F) Chevrier *et al.*, *Fitoterapia*, **47**, 115 (1976)

E. sphaerocephalus L.

QUINOLINE ALKALOIDS: 4-aminoquinoline oxymethylate, echinopsidine, echinopsine, echinorine.

Greshoff, *Recl. Trav. Chim. Pays-Bas*, **19**, 360 (1900)

ECHITES

E. hirsuta.

COUMARIN: fraxetin.

Wesseye *et al.*, *Ber.*, **62**, 120 (1929)

ECHIUM (Boraginaceae)

E. plantagineum L.

PYRROLIZIDINE ALKALOID: echiumine.
Culvenor, Smith, *Aust. J. Chem.*, **19**, 1955 (1966)

E. vulgare L.

UNCHARACTERIZED ALKALOIDS: consolicine, consolitine.
Greiner, Arch. Pharm. (Weinheim, Ger.), **238**, 505 (1900)

ECHUDOSOPHORA

E. koreensis.

SPARTEINE ALKALOID: N-(3-oxobutyl)-cytisine.
Murakoshi *et al.*, *Phytochemistry*, **16**, 1460 (1977)

ECKLONIA (Phaeophyceae)

E. maxima.

PHLOROTANNINS: 7,9'-bieckol, 7,7'-bieckol-9,9'-bieckol, furodehydroeckol, phloroeckol A, phloroeckol B, tetraphloroethol C.
Glombitzka *et al.*, *Planta Med.*, 308 (1985)

ECLIPTA (Compositae)

E. alba.

PYRIDINE ALKALOID: nicotine.
Marion, *Can. J. Res.*, **23B**, 165 (1945)

E. erecta.

THIOPHENE: 2-(4-acetoxy-3-hydroxybutenyl)-5-(1,3-pentadiynyl)-thiophene.

Bohlmann *et al.*, *Chem. Ber.*, **103**, 834 (1970)

EDGEWORTHIA (Thymelacaceae)

E. papyrifera.

STEROID: 24-methylcholesta-5,8,17(20)-trien-3 β -ol.

Sugiyama *et al.*, *Chem. Abstr.*, **70** 862

EGERIA

E. densa.

ANTHOCYANIN: 5-O-methylcyanidin-3-glucoside.

Mamose *et al.*, *Phytochemistry*, **16**, 1321 (1977)

EHRETIA (Boraginaceae/Ehretiaceae)

E. aspera.

PYRROLIZIDINE ALKALOID: ehretinine.

Suri *et al.*, *Phytochemistry*, **19**, 1273 (1980)

E. microphylla Lamk. (Carmosa retusa (Vahl.) Masam.).

NAPHTHOQUINONE: microphylcone.

TRITERPENOID: bauerol.

Agarwal *et al.*, *Tetrahedron*, **36**, 1435 (1980)

EKEBERGIA

E. capensis.

COUMARIN: ekebergin.

Taylor, *Phytochemistry*, **20**, 2263 (1981)

ELAEAGNUS (Elaeagnaceae)

E. angustifolia L.

CARBOLINE ALKALOIDS: dihydroharman, elaegnine, harman, 2-methyl-1,2,3,4-tetrahydro- β -carboline, N-methyltetrahydroharmol, tetrahydroharmol.

Massagetov, *J. Gen. Chem. USSR.*, **16**, 129 (1946)

Nikolaeva, *Khim. Prir. Soedin.*, 638 (1970)

ELAEIS

E. guineensis

ACIDS: linoleic acid, myristic acid, oleic acid, palmitic acid, stearic acid.

PHENOLICS: o-cresol, 2,6-dimethoxyphenol, guaiacol, 1-ethyl-3,5-dimethoxy-4-hydroxybenzene, 1-methyl-3,5-dimethoxy-4-hydroxybenzene.

(Ac) Wuidart *et al.*, *Oleagineux*, **30**, 401 (1975); *Chem. Abstr.*, 84 147627c

(P) Chan *et al.*, *Malays. J. Sci.*, **6**, 139 (1980); *Chem. Abstr.*, 97 123920k

ELAEOCARPUS (Elaeocarpaceae)

E. archboldianus

CARBOLINE ALKALOID: elaeocarpidine.

Johns *et al.*, *J. Chem. Soc., Chem. Commun.*, 410 (1968)

E. densiflorus Kunth

CARBOLINE ALKALOID: elaeocarpidine.

Johns *et al.*, *Aust. J. Chem.*, **22**, 793 (1969)

Johns *et al.*, *ibid.*, 801 (1969)

E. dolichostylus Schl.

ALKALOIDS: elaeocarpiline, isoelaeocarpiline.

HEXANORTriterpenoid: hexanorcucurbitacin F.

(A) Johns *et al.*, *J. Chem. Soc., Chem. Commun.*, 1324 (1968)

(T) Fang *et al.*, *J. Nat. Prod.*, **47**, 988 (1984)

E. ganitrus

ALKALOID: rudrakine.

Ray *et al.*, *Phytochemistry*, **18**, 700 (1979)

***E. kaniensis* Schltr.**

ALKALOIDS: elaeokanidines A, B and C, elaeokanines A, B, C, D and E.
 Hart *et al.*, *J. Chem. Soc., Chem. Commun.*, 460 (1971)

***E. lanceofolius*.**

FLAVONOID: 4'-methylmyricetin.
 Ray *et al.*, *Phytochemistry*, **15**, 1797 (1976)

***E. polydactylus* Schl.**

ALKALOIDS: elaeocarpidine, elaeocarpine, isoelaeocarpicine, isoelaeocarpiline, isoelaeocarpine.

Johns *et al.*, *Aust J. Chem.*, **22**, 793 (1969)
 Johns *et al.*, *ibid.*, 801 (1969)

***E. sphaericus* Schl.**

ALKALOIDS: epiallo-elaeocarpiline, epi-elaeocarpiline, isoelaeocarpiline.
 Johns *et al.*, *J. Chem. Soc., Chem. Commun.*, 804 (1970)

ELAEODENDRON (Celastraceae)

***E.balae*.**

TRITERPENOIDS: 8,29-dihydroxyfriedelan-3-one, D:B-friedoolean-5-ene-3 α ,29-diol.
 Weeratunga *et al.*, *Phytochemistry*, **24**, 2369 (1985)

***E. glauca* Pers.**

SAPONINS: elaeodendrosides A, B, C, D, E, H, I and J.
 TRITERPENOIDS: 25,28-dihydroxy-3-friedelanone, 25-hydroxy-3-friedelanone-28-aldehyde.
 (Sap) Shimada *et al.*, *Heterocycles*, **15**, 335 (1981)
 (T) Weeratunga *et al.*, *Aust. J. Chem.*, **36**, 1067 (1983)

ELAEOSELENUM

***E. foetidum*.**

DITERPENOID: foetidin.
 Pinar *et al.*, *Phytochemistry*, **22**, 2775 (1983)

ELEAGIA (Restionaceae)

E. utilis.

TRITERPENOIDS:(20S)-dammar-24-ene-3 β ,20,26-triol, isofourquierol.

Biftu, Stevenson, *J. Chem. Soc., Perkin I*, 360 (1978)

ELEOCHARIS (Cyperaceae)

E. tuberosa.

ANTIBIOTIC: puchiin.

Chen *et al.*, *Nature*, **156**, 234 (1945)

ELEPHANTOPUS (Compositae)

E. carolianus.

SESQUITERPENOID: deoxyelephantopin.

Kurokawa *et al.*, *Tetrahedron Lett.*, 2863 (1970)

E. elatus.

SESQUITERPENOIDS: elephantin, elephantopin.

Kupchan *et al.*, *J. Am. Chem. Soc.*, **88**, 3674 (1966)

E. mollis.

SESQUITERPENOIDS: 1 -hydroxy-15-senecioyloxy- α -curcumene, molephantin, molelephantinin, phantomolin, phantomolin epoxide.

Lee *et al.*, *J. Pharm. Sci.*, **64**, 1077 (1975)

Bohlmann, Zdero, *Chem. Ber.*, **109**, 3956 (1976)

E. nudatus.

SESQUITERPENOID: nudaphantin.

Haruna *et al.*, *J. Nat. Prod.*, **48**, 93 (1985)

E. scaber.

SESQUITERPENOIDS: deoxyelephantopin, isodeoxyelephantopin.

Govindachari *et al.*, *Isr. J. Chem.*, **8**, 762 (1970)

E. tomentosus.

SESQUITERPENOID: dihydroelephantopin.
 Rustaiyan *et al.*, *Rev. Latinoam. Quim.*, **9**, 200 (1978)

ELEUTHERINE (Iridaceae)

E. americana Merr. et Heyne.

NAPHTHALENE: hongconin.
 Chen *et al.*, *Chem. Pharm. Bull.*, **34**, 2743 (1986)

E. bulbosa.

NAPHTHOPYRAN: eleutherin.
 SESQUITERPENOID: eleutherinol.
 (N) Schmid *et al.*, *Helv. Chim. Acta*, **33**, 1751 (1950)
 (T) Ebnother *et al.*, *ibid.*, **35**, 910 (1952)

E. subaphylla Gagnep.

BENZOQUINONES: eleutherin, isoeleutherin.
 PHENOLIC: eleutherol.
 Institut de Matiere Medicale, *Rev. Med. (Hanoi)*, 157 (1975); *Chem. Abstr.*, 85 106637h

ELMERILLIA (Magnoliaceae)

E. papuana (Scultr.) Dandy.

APORPHINE ALKALOID: elmerrillicine.
 Cleaver *et al.*, *Aust. J. Chem.*, **29**, 2003 (1976)

ELODEA (Hydrochariaceae)

E. canadensis (Michx.) L.C.H.Richard. Carotenoid.

eloxanthin Diterpenoids abieta-8(14)-en-18-oic acid 9 α ,13 α -endoperoxide, abieta-8(14)-en-18-oic acid 9 β ,13 β -endoperoxide.

(Car) Hay, *Biochem. J.*, **31**, 532 (1937)
 (T) Monaco *et al.*, *Tetrahedron Lett.*, 4609 (1987)

ELSHOLTZIA (Labiatae)

E. densa.

MONOTERPENOID: elsholtzidol.

Vashist, Atal, *Experientia*, **26**, 817 (1970)

ELVIRA

E. biflora.

PHENOLIC: 2-(1,5-dimethylhex-4-enyl)-4-methylphenol. SESQUITERPENOID: elvirol.

Bohlmann, Grenz, *Tetrahedron Lett.*, 1005 (1969)

EMBELIA

E. ribes.

ACID: embelic acid.

BENZOQUINONE: vlangin.

(A) Joshi *et al.*, *J. Chem. Soc., Perkin I*, 327 (1975)

(B) Rao *et al.*, *J. Org. Chem.*, **24**, 4529 (1961)

E. tsjeriam.

ACID: embelic acid.

Joshi *et al.*, *J. Chem. Soc., Perkin I*, 327 (1975)

EMILIA (Compositae)

E. flammea.

PYRROLIZIDINE ALKALOID: emiline.

Tomczyk, Kohlmuenzer, *Herba Pol.*, **17**, 226 (1971)

EMMENOSPERMUM (Rhamnaceae)

E. alphoniooides.

DINORTITERPENOIDS: deoxyemmolactone, emmolactone, isodeoxyemmolactone.

NORTITERPENOIDS: ceanothic acid, jungullic acid.

TRITERPENOIDS: ebelin lactone, emmolic acid.

Eade *et al.*, *J. Chem. Soc., Chem. Commun.*, 579 (1969)

Burbage, Jewers, *J. Chem. Soc., D*, 814 (1970)

E. pancherianum Baill.

TRITERPENOIDS: 24,25-dihydroebelin lactone, 24,25-dehydroebelin lactone.

Baddeley *et al.*, *Aust. J. Chem.*, **33**, 2071 (1980)

EMMOTUM

E. nitens.

SESQUITERPENOIDS: emmotins A, B, C, D, E, F, G and H.

de Oliviera *et al.*, *Phytochemistry*, **15**, 1267 (1976)

ENANTIA

E. pilosa.

APORPHINE ALKALOIDS: oliveridine, oliverine. OXOAPORPHINE ALKALOIDS: lanugosine, liriodenine, N-oxyoliveridine, N-oxyoliverine.

Nieto *et al.*, *Lloydia*, **39**, 350 (1976)

E. polycarpa.

BENZYLISOQUINOLINE ALKALOID: polycarpine.

Jossang *et al.*, *C.R. Acad. Set.*, **284C**, 467 (1977)

ENCELIA (Compositae/Heliantheae)

E. farinosa Gray.

CHROMENE: eupatoriochromene.

SESQUITERPENOIDS: encelin, farinosin.

(C) Anthonsen, *Acta Chem. Scand.*, **23**, 3605 (1969)

(T) Geissman, Mukherjee, *J. Org. Chem.*, **33**, 656 (1968)

E. virginensis.

SESQUITERPENOID: virginin.

Sims, Berryman, *Phytochemistry*, **11**, 44 (1972)

ENCELIOPSIS

E. covillei.

BENZOFURANS: 2-acetyl-5-(1-hydroxymethyl)-6-methoxybenzofuran, 2-isopropylene-5 -(1 -methoxyethyl)-6-methoxybenzofuran.

Mitsakos *et al.*, *Phytochemistry*, **15**, 2243 (1976)

ENDIANDRA (Lauraceae)

E. introrsa.

DITERPENOIDS: endiandric acid, endiandric acid lactone.

Bandaranayake *et al.*, *Aust. J. Chem.*, **34**, 1655 (1981)

ENGLERASTRUM (Labiatae)

E. scandens Alston.

DITERPENOIDS: rastronols A, B, C, D, E, F, G and H.

Nomoto *et al.*, *Helv. Chim. Acta*, **59**, 772 (1976)

ENHYDRA (Compositae/Heliantheae)

E. fluctuans Lour.

DITERPENOIDS: 15 α -angeloyloxykaur-16-en-19-oic acid, enhydrin, 17-hydroxy(-)-kaur-15-en-19-oic acid.

SESQUITERPENOIDS: fluctuadin, fluctuanin.

Ali *et al.*, Indian J. Chem., **9**, 84 (1971)

Ali *et al.*, Tetrahedron, **28**, 2285 (1972)

ENICOSTEMMA (Gentianaceae)

E. hyssopifolium.

AMINE ALKALOID: enicoflavine.

Chaudhuri *et al.*, Chem. Ind. (London), 127 (1975)

E. littorale Bl.

PYRIDINE ALKALOID: gentianine.

Plat *et al.*, Bull. Soc. Chim., 1302 (1963)

ENKIANTHUS (Ericaceae)

E. cernuus (Sieb. et Zucc.) Makino.

STEROID: β -sitosterol.

TRITERPENOIDS: α -amyrin, betulinic acid, 6-hydroxyursolic acid, lupeol, oleanolic acid, taraxerol, ursolic acid.

Sakakibara *et al.*, Phytochemistry, **22**, 2553 (1983)

E. perulatus.

FLAVONOIDS: koaburanin, lyoniside.

Ogawa *et al.*, Shoyakugaku Zasshi, **30**, 24 (1976); Chem. Abstr., 87 2389d

E. subsessilis (Miq.) Makino subsp. nudipes (Honda) Kitamura.

FLAVONOIDS: astragalin, chrysin 7-glucoside, hyperoside, maltol, quercetin.

Agawa *et al.*, Shoyakugaku Zasshi, **30**, 24 (1976); Chem. Abstr., 87 2389d

E. subsessilis (Miq.) Makino subsp. subsessilis.

FLAVONOIDS: chrysin 7-glucoside, hyperoside, nudiposide.

Ogawa *et al.*, Shoyakugaku Zasshi, **30**, 24 (1976); Chem. Abstr., 87 2389d

ENTADA

E. phaseoloides.

AMIDE: entadamide A.

TRITERPENOID: entagenic acid.

(Am) Ikegami *et al.*, *Chem. Pharm. Bull.*, **33**, 5153 (1985)

(T) Chakravarti *et al.*, *Curr. Sci.*, **20**, 199 (1954)

E. pusalthia.

TRITERPENOID: entagenic acid.

Chakravarti *et al.*, *Curr. Sci.*, **20**, 199 (1954)

E. scandens.

STEROIDS: prosapogenin, β -sitosterol.

TRITERPENOID: lupeol.

Hariharan, *Indian J. Pharm.*, **37**, 67 (1975)

ENTANDROPHRAGMA (Meliaceae)

E. angolense.

LIMONOID: gedunin.

NORTriterpenoid: angolensic acid methyl ester.

TRITERPENOID: entandrolide.

Okorie *et al.*, *Phytochemistry*, **16**, 2029 (1977)

E. bussei Harms.

LIMONOIDS: busseins A, B, C, D, E, F, G, H, I, J, K, L and M, entandrophragmin.

Guex, Tamm, *Helv. Chim. Acta*, **67**, 885 (1984)

E. caudatum.

LIMONOIDS: bussein A, bussein B, entandrophragmin, phragmalin.

Taylor, *J. Chem. Soc., C*, 3495 (1965)

E. cylindricum Sprague.

LIMONOIDS: entandrophragmin, sapelins A, B, C, D, E and F.

Chan *et al.*, *J. Chem. Soc., C*, 311 (1970)

E. spicata.

TRITERPENOID: spicatin.

Connolly *et al.*, *Phytochemistry*, **20**, 2596 (1981)

E. utile.

TRITERPENOID: utilin.

Akisanya *et al.*, *J. Chem. Soc.*, 3827 (1960)**EPANORA*****E. lecanora.***

LEUCINE ESTER: (S)-epanorin.

Zopf *et al.*, *Justus Liebigs Ann. Chem.*, **313**, 330 (1900)**EPERUA*****E. falcata.***

DITERPENOID: eperuic acid.

King, Jones, *J. Chem. Soc.*, 658 (1955)***E. purpurea.***

DITERPENOIDS: eperuic acid, eperuol.

Medina *et al.*, *J. Nat. Prod.*, **46**, 462 (1983)**EPHEDRA (Ephedraceae)*****E. ciliata SAM.***

AMINE ALKALOIDS: (+)-ephedrine, (-)-ephedrine, (+)-pseudoephedrine.

Mitchell, *J. Chem. Soc.*, 1153 (1940)***E. distachya L.***

AMINE ALKALOIDS: (-)-ephedrine, N-methylephedrine, (-)-norephedrine, (+)-pseudoephedrine.

Mitchell, *J. Chem. Soc.*, 1153 (1940)***E. equisetina Bge.***

AMINE ALKALOIDS: (-)-ephedrine, (+)-pseudoephedrine.

Mitchell, *J. Chem. Soc.*, 1153 (1940)Hoover, Hass, *J. Org. Chem.*, **12**, 506 (1947)

E. foliata Boiss.

AMINE ALKALOID: ephedrine.

Schmidt, Bumming, Arch. Pharm. (Weinheim, Ger.), 247, 141 (1909)

E. gerardiana (Stapf.) Wall.

AMINE ALKALOID: ephedrine.

Mitchell, J. Chem. Soc., 1153 (1940)

E. helvetica C.A.Meyer.

AMINE ALKALOIDS: ephedrine, N-methylephedrine, (-)-norephedrine.

Mitchell, J. Chem. Soc., 1153 (1940)

Hoover, Hass, J. Org. Chem., 12, 506 (1947)

E. intermedia Schrenk.

AMINE ALKALOIDS: (-)-ephedrine, (+)-pseudoephedrine.

MACROCYCLIC ALKALOIDS: ephedradines A, B and C.

Konno et al., Phytochemistry, 18, 697 (1979)

E. lomatolepis Schrenk.

AMINE ALKALOIDS: (-)-ephedrine, (+)-pseudoephedrine.

Chen, Schmidt, Proc. Soc. Exp. Biol. Med., 21, 351 (1924)

E. monosperma SAM.

AMINE ALKALOIDS: (-)-ephedrine, (+)-pseudoephedrine.

Schmidt, Arch. Pharm. (Weinheim, Ger.), 244, 239 (1906)

Schmidt, ibid., 244, 251 (1906)

E. nebrodensis Tineo.

AMINE ALKALOID: ephedrine.

Emde, Arch. Pharm. (Weinheim, Ger.), 245, 662 (1907)

E. pachyclada Boiss.

AMINE ALKALOID: ephedrine.

Mitchell, J. Chem. Soc., 1153 (1940)

E. procera var. chrysocarpa.

AMINE ALKALOIDS: (-)-ephedrine, pseudoephedrine.

Mitchell, J. Chem. Soc., 1153 (1940)

E. sinica Stapf. (E. flava Porter Smith).

AMINE ALKALOIDS: ephedrine, N-methylephedrine, (-)-norephedrine. Mercks Uber.

Neuer. Geb. Pharmakother., 1 (1888)

Hoover, Hass, J. Org. Chem., 12, 506 (1947)

EPIGAEA (Ericaceae)

E. asiatica Maxim.

STEROID: β -sitosterol.

TRITERPENOIDS: α -amyrin, betulinic acid, lupeol, lupeol taraxerol ursolic acid

Sando, *J. Biol. Chem.*, **56**, 457 (1973)

Kawai *et al.*, *Chem. Abstr.*, 88 34499b

EPILOBIUM (Onagraceae)

E. hirsutum L.

TRITERPENOID: 23-hydroxytormentic acid,

de Pascual Teresa *et al.*, *An. Quim.*, **75**, 135 (1979)

EPIMEDIUM

E. koreananum.

FLAVONOIDS: epimedin A, epimedin B, epimedin C.

Oshima *et al.*, *Heterocycles*, **26**, 935 (1987)

EPITHELANTHA

E. micromeris B. et R.

TRITERPENOIDS: epithelanthic acid, epithelanthic acid methyl ester.

West, McLaughlin, *Lloydia*, **40**, 499 (1977)

EQUISETUM (Equisetaceae)

E. arvense L.

ACIDS: caffeoic acid, p-coumaric acid, ferulic acid, gallic acid, p-hydroxybenzoic acid, vanillic acid.

FLAVONOIDS: dihydrokaempferol, dihydroquercetin, equisetin, naringenin.

(A) Syrchnina *et al.*, Khim. Prir. Soedin., 416 (1975)

(F) Syrchnina *et al.*, *ibid.*, 424 (1975)

E. palustre L.

MACROCYCLIC ALKALOID: palustridine.

UNCHARACTERIZED ALKALOID: palustrine.

Eugster *et al.*, *Helv. Chim. Acta*, **36**, 1387 (1953)

ERANTHIS (Ranunculaceae)

E. pinnatifida.

SESQUITERPENOID: norcimifugin.

Wada *et al.*, *Phytochemistry*, **13**, 297 (1974)

ERECHTITES

E. hieracifolia (L.) Raf.

PYRROLIZIDINE ALKALOID: hieracifoline.

Manske, *Can. J. Res.*, **17B**, 8 (1939)

E. quadridentata DC.

PYRROLIZIDINE ALKALOID: retrorsine.

Warren *et al.*, *J. Am. Chem. Soc.*, **72**, 1421 (1950)

EREMANTHUS (Compositae)

***E. elaeagnus* Schultz.-Bip.**

ALKALOID: eremanthine.

SESQUITERPENOID: eremanthin.

NORDITERPENOIDS: eremantholides A and C.

DITERPENOID: eremantholide B.

(A) Raffauf *et al.*, *J. Am. Chem. Soc.*, **97**, 6884 (1975)

(T) LeQuesne *et al.*, *J. Chem. Soc., Perkin I*, 1572 (1978)

***E. glomeratus*.**

SESQUITERPENOID: ereglomerulide.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1609 (1981)

***E. goyazensis*.**

NORDITERPENOID: eremantholide C.

SESQUITERPENOIDS: eregoyazidin, eregoyazin, goyazensolide.

Vichnewski *et al.*, *J. Org. Chem.*, **42**, 3910 (1977)

EREMOCARPUS (Euphorbiaceae)

***E. setigerus* (Hook.) Benth.**

DITERPENOID: eremone.

Jolad *et al.*, *J. Org. Chem.*, **47**, 1356 (1982)

EREMOPHILA (Myoporaceae)

***E. abietina*.**

DITERPENOIDS:cembr-4-ene-15,19,20-triol, (1R,3S,4S,8R,11Z)-3,15-epoxycembr-11-ene-18,19-dioic acid.

Ghisalberti *et al.*, *Aust. J. Chem.*, **36**, 1187 (1983)

***E. cuneifolia*.**

DITERPENOIDS: 5,14-dihydroxy-3-visciden-20-oic acid, 5-hydroxy-14-oxo-3-visciden-20-oic acid.

Ghisalberti *et al.*, *Aust. J. Chem.*, **37**, 635 (1984)

E. decipiens.

DITERPENOID: 18-hydroxydecipia-2(4),14-dien-1-oic acid.

Ghisalberti *et al.*, *Tetrahedron Lett.*, 1775 (1975)

E. dempsteri.

DITERPENOIDS: (1R,3Z,7E,11Z)-15-hydroxycembra-3,7,11-trien-19-oic acid, (1R,3Z,8,11Z)-15-hydroxycembra-3,11-dien-19-oic acid.

Ghisalberti *et al.*, *Aust. J. Chem.*, **39**, 1703 (1986)

E. drummondii.

DITERPENOID: 7,8,16-trihydroxy-19-serrulatonoic acid.

Croft *et al.*, *Aust. J. Chem.*, **34**, 1951 (1981)

E. exilifolia.

DITERPENOID: 2-(9-aldehyde-4,8-dimethyl-3,7-nonadienyl)-6-methyl-2,6-octadienoic acid, 2-(9-hydroxy-4,8-dimethyl-3,7-nonadienyl)-6-methyl-2,6-octadienoic acid.

Ghisalberti *et al.*, *Aust. J. Chem.*, **34**, 1491 (1981)

E. fraseri.

FLAVONES: 3',5,5'-trihydroxy-2',3,4',6,7-tetramethoxyflavone.

DITERPENOID: cembr-4-ene-15,19,20-triol, (1R,3S,4R,7E,11Z)-3,15-epoxy-19-oxocembra-7,11-dien-18-ol.

(F) Jefferies *et al.*, *Aust. J. Chem.*, **15**, 532 (1962)

(T) Ghisalberti *et al.*, *ibid.*, **39**, 1703 (1986)

E. freelingi.

DITERPENOID: eremolactone.

SESQUITERPENOID: freelingnite, freelingyne.

Knight, Pattenden, *Tetrahedron Lett.*, 1115 (1975)

E. georgei.

DITERPENOID: 3,15-epoxy-4-hydroxycembra-7(Z),11(Z)-diene.

SESQUITERPENOID: 7 β -hydroxyprezizaene, 2,6,6,8-tetramethyltricyclo-[6,2,1,0]-undecan-7 β -ol.

Carrol *et al.*, *Phytochemistry*, **15**, 777 (1976)

Ghisalberti *et al.*, *Tetrahedron*, **23**, 3301 (1978)

E. glutinosa.

DITERPENOID: 14S,15-dihydro-6E-formyl-2E,10Z,14Z-trimethyl-2,6,10,14-hexadecatetraenedioic acid, 6E-formyl-2E,10Z, 14Z-trimethyl-2,6,10,14-hexadecatetraenedioic acid.

Ghisalberti *et al.*, *Aust. J. Chem.*, **34**, 1491 (1981)

E. granatica.

DITERPENOIDS: (1R,3S,4S,7E,11Z)-3,15-epoxy-19-oxocembra-7,11-dien-18-oic acid, (1R,3S,4S,7Z,11Z)-3,15-epoxy-19-oxocembra-7,11-dien-19-oic acid, 14-serrulatene-2 α ,7,8,20-tetraol, 14-serrulatene-7,8,20-triol.

Ghisalberti *et al.*, *Aust. J. Chem.*, **36**, 1187 (1983)

E. latrobei.

SESQUITERPENOID: (-)-10,11-dehydromyoporone, (-)-ngajone.

Blackburne, Sutherland, *Aust. J. Chem.*, **25**, 1787 (1972)

E. maculata (Ker) F.Muell.

SESQUITERPENOID: (-)-10,11-dehydromyoporone.

Blackburne, Sutherland, *Aust. J. Chem.*, **25**, 1787 (1972)

E. mitchelli

SESQUITERPENOID: 7 α H-eremophila-1,11-dien-9-one, eremophilone, allo-eremophilone, 8 α -hydroxy-7 α H-eremophila-1,11-dien-9-one, 8 α -hydroxy-7 α H-eremophila-1(10),11-dien-9-one, 2-hydroxyeremophilone.

Chetty *et al.*, *Tetrahedron Lett.*, 307 (1969)

E. platycalyx.

DITERPENOID: (1R,3S,4R,7E,11Z)-3,15-epoxy-19-oxocembra-7,11-dien-18-ol.

Ghisalberti *et al.*, *Aust. J. Chem.*, **39**, 1703 (1986)

E. rotundifolia.

DINORSESQUITERPENOID: eremoacetal.

Dimitriadis, Massy-Westropp, *Aust. J. Chem.*, **32**, 2003 (1979)

E. scoparia.

SESQUITERPENOID: 8,11-dihydroxy-3-eudesman-2-one, 8,11-dihydroxy-3-eudesman-2-one 8-acetate, (4aR,6S,7S,8aS)-7-hydroxy-6-(1-hydroxy-1-methylethyl)-4,8a-dimethyl-4a,5,6,7,8,8a-hexahydronaphthalene-2-(1H)-one, (4aS,6S,7S,8aS)-7-hydroxy-6-(1-hydroxy-1-methylethyl)-4,8a-dimethyl-4a,5,6,7,8,8a-hexahydronaphthalene-2-(1H)-one, (2S,3S,4aR,8aS)-3-(1-hydroxy-1-methylethyl)-5,8a-dimethyl-7-oxo-1,2,3,4,4a,7,8,8a-octahydronaphthalene-2-yl-acetate.

Babidge *et al.*, *Aust. J. Chem.*, **37**, 629 (1984)

E. serrulata.

DITERPENOID: dihydroserrulatic acid.

Babidge *et al.*, *Aust. J. Chem.*, **37**, 629 (1984)

EREMOSPARTON (Leguminosae)

***E. flaccidum* Litv.**

AMINE ALKALOID: sphaerophysine.

Merlis, *J. Gen. Chem. USSR*, **22**, 347 (1952)

EREMOSTACHYS (Labiatae)

***E. molucelloides*.**

HALOGENATED ACIDS: 9,10-tetrabromostearic acid, 9,10,12,13-tetrabromostearic acid.

Gusakova, Umarov, *Khim. Prir. Soedin.*, 717 (1976)

***E. speciosa* Rupr.**

QUATERNARY ALKALOID: stachydrine. Pulatova, *Khim. Prir. Soedin.*, 62 (1969)

EREMURUS (Liliaceae)

***E. fuscus*.**

AMINE ALKALOIDS: hordenine, hordenine methyl ether.

Akramov, *Dokl. Akad. Nauk SSSR*, **2**, 34 (1961)

***E. luteus* Baker.**

AMINE ALKALOIDS: hordenine, hordenine methyl ether.

Sheveleva *et al.*, *Mat. Nauk Conf.*, 107 (1970)

***E. regelii* Vved.**

AMINE ALKALOID: hordenine.

Wilkinson, *J. Chem. Soc.*, 2079 (1958)

***E. transchanica* Vved.**

AMINE ALKALOIDS: hordenine, hordenine methyl ether.

Akramov, *Dokl. Akad. Nauk SSSR*, **2**, 34 (1961)

ERICA (Ericaceae)

E. arborea L.

TRITERPENOIDS: betulin, friedelin, lupeol, ursolic acid.

Hassan *et al.*, *Khim. Prir. Soedin.*, 119 (1977)

E. cinerea L.

TRITERPENOID: ursolic acid.

Fujii, Shimada, *J. Pharm. Soc., Japan*, **58**, 1687 (1938)

E. scoparia.

ACID: 2-hydroxyphenylacetic acid.

NITRILE: 2,4-dihydroxyphenylacetonitrile.

Ballester *et al.*, *Phytochemistry*, **14**, 1667 (1975)

ERICAMERIA

E. diffusa.

FLAVONE: 3',5,7-trihydroxy-3,4'-dimethoxyflavone.

FLAVONOIDS: kaempferol 3,5,7-trimethyl ether, quercetin 3,3',4'-trimethyl ether.

Kupchan *et al.*, *Phytochemistry*, **10**, 664 (1971)

Urbatsch *et al.*, *ibid.*, **15**, 440 (1976)

ERIGERON (Compositae)

E. khorossanicus.

DITERPENOID: erigerolide.

Orezkurdyev *et al.*, *Khim. Prir. Soedin.*, 396 (1981)

E. philadelphicus.

DITERPENOID: erigerol.

Waddell *et al.*, *J. Org. Chem.*, **48**, 4450 (1983)

ERIODERMA

E. chttense.

DEPSIDONES: norargopsin, norpannarin.

Elix *et al.*, *Aust. J. Chem.*, **39**, 719 (1986)

E. physcioides.

ALDEHYDE: eriodermin.

Connolly *et al.*, *Phytochemistry*, **23**, 857 (1984)

ERIODICTYON

E. californicum.

FLAVONE: 3',4',5,7-tetrahydroxyflavone.

Horhammer *et al.*, *Tetrahedron Lett.*, 5133 (1966)

E. glutinosum.

FLAVONE: 3',4',5,7-tetrahydroxyflavone.

Horhammer *et al.*, *Tetrahedron Lett.*, 5133 (1966)

ERIOLEANA

E. hookeriana.

STEROID: β -sitosterol.

TRITERPENOIDS: α -amyrin, β -amyrin acetate, lupeol.

Samiuddin *et al.*, *Indian J. Pharm.*, **39**, 17 (1977)

ERIOPHYLLUM (Compositae)

E. confertiflorum.

SESQUITERPENOIDS: eriofertopin, eriofertopin 2-acetate.

Kupchan *et al.*, *Phytochemistry*, **16**, 1834 (1977)

E. lanatum (Pursh.) Forbes.

SESQUITERPENOIDS: 2 α -acetoxy-8-epi-ivangustin, 1-acetyl-14-(methylpropanoyl)-6-hydroxyeriolanolide, 6-acetyl-14-(methylpropanoyl)-1-hydroxyeriolanolide, 1-acetoxy-14-(methylpropenoyloxy)-6-hydroxyeriolanolide, 6-acetoxy-14-(methylpropenoyloxy)-1-hydroxyeriolanolide.

Kupchan *et al.*, *J. Chem. Soc., Chem. Commun.*, 842 (1973)

Bohlmann *et al.*, *Phytochemistry*, **20**, 2239 (1981)

E. steachadifolium.

One sesquiterpenoid.

Bohlmann *et al.*, *Phytochemistry*, **20**, 2239 (1981)

ERIOSTEMON (Rutaceae)

E. brucei.

COUMARINS: 1-deoxybruceol, eriobrucinol, hydroxybruceol.

Jefferies, Worth, *Tetrahedron*, **29**, 903 (1973)

E. buxifolia.

FLAVONE: eriostemin.

Lassak, *Aust. J. Chem.*, **25**, 2517 (1972)

E. crowei.

MONOTERPENOID: croweacin.

Penfold *et al.*, *J. Chem. Soc.*, 756 (1938)

E. hispidulus.

FLAVONE: eriostemin.

Lassak, *Aust. J. Chem.*, **25**, 2517 (1972)

E. myoporoides.

SESQUITERPENOID: maaliol.

Hellyer, *Aust. J. Chem.*, **15**, 157 (1962)

E. trachyphyllus.

COUMARIN: trachyphillin.

Lassak *et al.*, *Aust. J. Chem.*, **22**, 2175 (1969)

ERLANGEA (Compositae)

E. cordifolia S. Moore.

SESQUITERPENOIDS: cordifene, cordifene oxide, cordifolia 31, cordifolia **P2**, 4,15-epoxy-4,15-dihydrocordifene.

Begley *et al.*, *J. Chem. Soc., Perkin I*, 819 (1984)

E. inyangama.

SESQUITERPENOIDS: EI-I and EI-II.

Bohlmann, Czerson, *Phytochemistry*, **17**, 568 (1978)

E. remifolia.

SESQUITERPENOIDS: glaucolide I, 19-hydroxyglaucolide.

Bohlmann, Czerson, *Phytochemistry*, **17**, 1190 (1978)

ERVATAMIA

E. coronaria.

INDOLE ALKALOIDS: dregamine, ervaticine, hecubine, hyderabadine, 19-(2-ketopropyl)-coronaridine, mehranine.

IMIDAZOLIDINOCARBAZOLE ALKALOID: hecubine.

Atta-ur-Rahman *et al.*, *Z. Naturforsch.*, **38B**, 1310 (1983)

Atta-ur-Rahman *et al.*, *ibid.*, **38B**, 1700 (1983)

Atta-ur-Rahman *et al.*, *Heterocycles*, **23**, 2975 (1985)

E. hainanensis.

BISINDOLE ALKALOIDS: ervahanines A, B and C.

Feng *et al.*, *J. Nat. Prod.*, **44**, 670 (1981)

E. heyneana.

ISOQUINOLINE ALKALOID: (-)-heyneatine.

Gunasekera *et al.*, *Phytochemistry*, **19**, 1212 (1980)

E. orientalis.

INDOLE ALKALOIDS: 19,20-dehydroervatamine, ervatamine, 20-epi-ervatamine.

Knox, Slobbe, *Tetrahedron Lett.*, 2149 (1971)

E. pandacaqui.

INDOLE ALKALOID: ervafoline.

Henriques *et al.*, *Tetrahedron Lett.*, 3707 (1978)

ERYMANTHUS

E. goyazensis.

SESQUITERPENOIDS: eregovazidin, eregovazin.

Vichnewski *et al.*, *J. Org. Chem.*, **42**, 3910 (1977)

ERYNGIUM (Umbelliferae)

E. amethystinum.

MONOTERPENOIDS: O-(2-angeloylmethyl)-cis-crotonyl-ferulol, O-(2-angeloylmethyl)-cis-crotonyl-isoferulol, O-(2-isovaleryloxy-cis-crotonyl)-ferulol, O-2-(2-methylbutyryloxymethyl)-cis-crotonyl-ferulol, O-2-(2-methylbutyryloxymethyl)-cis-crotonyl-isoferulol.

Bohlmann, Zdero, *Chem. Ber.*, **104**, 1957 (1971)

E. bromeliifolium.

SAPONINS: saponins A, B, C, D, E, F, G and H.

TRITERPENOIDS: betulinic acid-3-O-D-glucoside, betulinic acid-3-O-D-glucoside- β -D-glucopyranoside.

Hiller *et al.*, *Pharmazie*, **31**, 891 (1976)

E. campestre.

COUMARINS: aegelinol, aegelinol benzoate, agasyllin, grandivittin.

Erdelmeier, Sticher, *Planta Med.*, 407 (1985)

E. giganteum.

TRITERPENOIDS: giganterumgenins A, B, C, D, E, F, G, H and K.

Hiller *et al.*, *Pharmazie*, **30**, 105 (1975)

E. ilicifolium.

COUMARINS: deltoin, (-)-marmesin, prantschimgin.

Pinar, Galam, *J. Nat. Prod.*, **48**, 853 (1985)

E. planum.

FLAVONOID: kaempferol 3,7-di-O-rhamnoside.

TRITERPENOIDS: A-1-barrigenol, erynginol A.

(S) Zarnack *et al.*, *Z. Chem.*, **17**, 445 (1977)

(T) Hiller *et al.*, *Pharmazie*, **28**, 409 (1973)

E. sericum.

MONOTERPENOIDS: 9-(2-angeloylmethyl-cis-crotonyl)-ferulol, 9-O-(2-angeloylmethyl-cis-crotonyl)-isoferulol, 9-O-(2-isovaleryloxymethyl-cis-crotonyl)-isoferulol.

Bohlmann, Zdero, *Chem. Ber.*, **104**, 1957 (1971)

ERYSIMUM (Cruciferae)

E. arkansanum.

SULPHONE: cheiroline.

Schlagdenhauffer, Reeb, *C.R. Acad. Sci.*, **131**, 953 (1900)

E. aureum.

SULPHONE: cheiroline.

Schlagdenhauffer, Reeb, *C.R. Acad. Sci.*, **131**, 953 (1900)

E. canescens.

STEROIDS: eryscenoside, erysimine.

Sauer *et al.*, *Tetrahedron Lett.*, 1703 (1966)

E. carniolicum.

FLAVONOIDS: isorhamnetin kaempferol, quercetin, rhamnetin, rhamnocitrin.

STEROIDS: campesterol, cholesterol, β -sitosterol.

(F) Kozjek *et al.*, *Circ. Farm.*, 35, 8 (1977); *Chem. Abstr.*, 87 51057y

(S) Umek, Korbar-Smid, *Fitoterapia*, **52**, 277 (1982)

E. cuspidatum.

CARDENOLIDE: cheirotoxin.

STEROID: glucolocundijoside.

(C) Nagata *et al.*, *Helv. Chim. Acta*, **40**, 41 (1957)

(S) Masslenikova *et al.*, *Khim. Prir. Soedin.*, 166 (1975)

E. diffusum.

STEROID: sinapoylerysimoside.

Navruzoca *et al.*, *Khim. Prir. Soedin.*, 750 (1973)

E. marschallianum.

STEROID: sinapoylglucoerysimoside.

Matsuyina, *Khim. Prir. Soedin.*, 603 (1975)

E. perofskianum.

STEROIDS: erycorchoside, eryperoside.

Kwalewski *et al.*, *Helv. Chim. Acta*, **43**, 957 (1960)

E. repandum.

CARDENOLIDES: glucoperiplorhamnoside, periplorhamnoside.
Bochvarov *et al.*, *Khim. Prir. Soedin.*, 581 (1977)

E. suffruticosa.

STEROID: bipindogulomethyloside.
Makarevitch, *Khim. Prir. Soedin.*, 178 (1974)

ERYTHRAEA (Gentianaceae)

E. centaurium (L.) Pers.

PYRIDINE ALKALOIDS: gentianidine, gentianine.
BITTER PRINCIPLE: centapicrin.
XANTHONES: 1,8-dihydroxy-2,3,4,6-tetramethoxyxanthone, 1,8-dihydroxy-3,4,6-trimethoxyxanthone, methylbellidifolin, methylswetianin.
(A) Xioa-tian *et al.*, *Sci. Sinica, (Peking)*, 14 (1965)
(B) Sakina, Aota, *J. Pharm. Soc., Japan*, **96**, 683 (1976)
(X) Takagi *et al.*, *J. Pharm. Soc., Japan*, **102**, 546 (1982)

ERYTHRINA

E. americana Mill.

ERYTHRINA ALKALOIDS: erysodine, erythroidine.
Folkers *et al.*, *J. Am. Chem. Soc.*, **62**, 1677 (1940)

E. arborescens Roxb.

ERYTHRINA ALKALOIDS: erysotramidine, erytharbine, erythrascine, erysopinophorine.
STEROIDS: campesterol, β -sitosterol, stigmasterol.
(S) Singh, Chawla, *Indian J. Chem.*, **14B**, 388 (1976)
(A) Ali *et al.*, *J. Pharm. Soc., Japan*, **93**, 1617 (1973)
Tiwari, Masood, *Phytochemistry*, **18**, 2069 (1979)

E. bidwillii.

ALKALOID: erybidine.
Ito *et al.*, *Chem. Pharm. Bull.*, **19**, 1509 (1971)

E. brucei.

ISOQUINOLINE ALKALOID: 8-oxoerythrinine.

Dagna, Steglich, *Phytochemistry*, **23**, 449 (1984)

E. costaricensis Michel.

ERYTHRINE ALKALOID: erysonine.

Folkers *et al.*, *J. Am. Chem. Soc.*, **63**, 1544 (1941)

E. crista-galli L.

BENZOPYRAN: erycristagallin.

BENZYLISOQUINOLINE ALKALOID: cristadine.

ERYTHRINA ALKALOIDS: crystamidine, erysodine.

(B) Mitscher *et al.*, *Heterocycles*, **22**, 1673 (1984)

(A) Juichi *et al.*, *ibid.*, **19**, 849 (1982)

E. excelsa.

FLAVONE: 4',5,7-trihydroxy-6,8-diprenylisoflavone.

Fomum *et al.*, *Planta Med.*, 341 (1986)

E. falcata.

ERYTHRINA ALKALOID: erythratidine.

Deylofeu, *Ber.*, **85**, 620 (1952)

E. folkersii.

ERYTHRINA ALKALOIDS: erysosaline, erysotinone, erythrvanine.

Millington *et al.*, *J. Am. Chem. Soc.*, **96**, 1909 (1972)

E. glauca Willd.

ERYTHRINA ALKALOIDS: erysothiovine, erysothropine, erythraline, erythratine.

Folkers *et al.*, *J. Am. Chem. Soc.*, **66**, 1083 (1944)

E. indica Lam.

ERYTHRINA ALKALOID: erythrinine.

Ito *et al.*, *J. Chem. Soc., D*, 1076 (1970)

E. lithosperma Blume.

ERYTHRINA ALKALOIDS: erythrinidone, erythrinine, 3-demethoxyerythratidinone.

BENZYLISOQUINOLINE ALKALOIDS: N-norprotosinomenine, protosinomenine.

Barton *et al.*, *J. Chem. Soc., Perkin I*, 874 (1973)

E. lysistemon Hutchins.

ERYTHRINA ALKALOIDS: erysotrine, erystemine, erythristemine, 11-hydroxyerysovine, 11-methoxyerythraline.

Ito *et al.*, *J. Pharm. Soc., Japan*, **93**, 1617 (1973)

E. melanacantha.

ERYTHRINA ALKALOID: erymelanthine.

Dagne, Steglich, *Tetrahedron Lett.*, 5067 (1983)

***E. poeppigiana* (Walp.) Skeels.**

BENZYLISOQUINOLINE ALKALOID: (+)-nororientaline.

Barton *et al.*, *J. Chem. Soc., Perkin I*, 874 (1973)***E. salviiflora*.**

ERYTHRINA ALKALOIDS: erysosaline, erysotinone, erythrvavine.

Millington *et al.*, *J. Am. Chem. Soc.*, **96**, 1909 (1972)***E. sandwicensis* Deg.**

ERYTHRINA ALKALOID: erythramine.

Folker *et al.*, *J. Am. Chem. Soc.*, **61**, 1232 (1939)***E. senegalensis*.**

FLAVONES: erythrisenegalone, 4',5,7-trihydroxy-6,8-diprenylisoflavone.

Fomum *et al.*, *Planta Med.*, 341 (1986)***E. steyermarkii*.**

ERYTHRINA ALKALOID: erythrvavine.

Hargreaves *et al.*, *Lloydia*, **37**, 569 (1974)***E. sudumbrans* (Hassk.) Merrill. (*E. hypaphorus*).**

ERYTHRINA ALKALOID: erythramine.

INDOLE ALKALOID: hypaphorine.

Folkers *et al.*, *J. Am. Chem. Soc.*, **61**, 1232 (1939)***E. thollonia*.**

One uncharacterized glycoalkaloid.

Lapiere, *Bull. Soc. Chim. Biol.*, **31**, 862 (1949)***E. variegata*.**

ERYTHRINA ALKALOID: erythrartine.

ISOFLAVONES: alpinumisoflavone, dihydrooxyresveratrol, erythrinin A, erythrinin B, erythrinin C, osajin, oxyresveratrol.

(A) El-Olemy *et al.*, *Lloydia*, **41**, 343 (1978)(I) Deshpande *et al.*, *Indian J. Chem.*, **15B**, 205 (1977)

ERYTHROCHITON (Rutaceae)

***E. brasiliensis* Nees et Mart.**FURANOQUINOLINE ALKALOID: τ -fagarine.Johne *et al.*, *Pharmazie*, **32**, 415 (1977)

ERYTHRONIUM

E. sibiricum.

FLAVONOIDS: isorhamnetin, kaempferol, myricetin, quercetin.

Astankovich *et al.*, *Aktual Vopr. Bot. Resur. Sib.*, 168 (1976); *Chem. Abstr.*, 85 189200j

ERYTHROPHLEUM

E. chlorostachys.

DITERPENE ALKALOIDS: 3β -acetoxyerythrosuamine, 3β -acetyl norerythrostachaldine, N-2-hydroxyethyl-N-methylcinnamide, norcassamidine, norerythrostachaldine.

Griffen *et al.*, *Phytochemistry*, **10**, 2793 (1971)

Loder, Nearn, *Tetrahedron Lett.*, 2497 (1975)

E. couminga.

NORDITERPENE ALKALOID: norerythrosuamide.

DITERPENE ALKALOIDS: coumingidine, coumingine, 19-nor-4-dehydrocassaidine.

Cronlund, Okagawa, *Acta Pharm. Suec.*, **12**, 467 (1975)

E. fordii.

DITERPENOIDS: erythrolic acid, erythrophleadienolic acid.

Arya, *J. Sci. Ind. Res. (India)*, **21B**, 381 (1962)

E. guineense E.Don.

DITERPENE ALKALOIDS: cassaidine, cassaine, dehydrnorerythrosuamine, erythrophlamine, erythrophleguine, erythrophleine, homophleine, norcassamidine, norcassamine, norerythrosuamine.

Dalma, *Ann. Chim. Appl.*, **25**, 569 (1935)

Friedrich *et al.*, *Chem. Ber.*, **104**, 3535 (1971)

E. ivorensis.

DITERPENE ALKALOIDS: cassaide, cassamide, erythrophlamide, 19-hydridoxycassaine, ivorine.

Cronlund, Sandberg, *Acta Pharm. Suec.*, **8**, 351 (1971)

E. lasianthum.

DITERPENE ALKALOID: erythrophleine.

Laborde, *Ann. Mus. Col. Marseilles*, **5**, 305 (1907)

E. quincense G.Don.

DITERPENE ALKALOIDS: cassaidine, cassaine, cassamine.

DITERPENOIDS: cassamic acid, cassaminic acid.

(A) Dalma, *Helv. Chim. Acta*, **22**, 1497 (1939)

(T) Chapman *et al.*, *J. Chem. Soc.*, 4010 (1963)

E. suaveolens.

DITERPENE ALKALOID: 3β -acetoxy- 7α -hydroxy-N-(2-hydroxyphenyl)-N-methyl-(E)-cass-13(15)-en-16-amide.

Cronlund, *Acta Pharm. Suec.*, **10**, 373 (1973)

E. worense.

DITERPENE ALKALOID: 3-(3-methylcrotonyl)-cassamine.

Cronlund, *Acta Pharm. Suec.*, **10**, 407 (1973)

ERYTHROXYLON (Erythroxylaceae)

E. areolatum.

TROPANE ALKALOIDS: cinnamoylcocaine, β -cocaine.

Perrot, *Bull. Sci. Pharmacol.*, **42**, 266 (1935)

E. australe.

TROPANE ALKALOID: meteloidine.

DITERPENOIDS: 15,16-epoxystachan-1-one, 2-hydroxystacha-2,15-dien-1-one, 2β -hydroxystach-15-en-1-one, 19-hydroxystach-15-en-1-one, stach-15-en-1-one.

(A) Johns, Lamberton, *Aust. J. Chem.*, **20**, 1301 (1967)

(T) Connolly, Harding, *J. Chem. Soc., Perkin I*, 1996 (1972)

E. coco Lam.

PYRROLE ALKALOIDS: (-)-dihydrocuscoglyrine, hygroline.

TROPANE ALKALOIDS: cinnamoylcocaine, β -cocoaine.

Turner *et al.*, *Phytochemistry*, **20**, 1403 (1981)

E. dekindtii.

Two tropane esters.

Al-Yahya *et al.*, *J. Chem. Soc., Perkin I*, 2130 (1979)

E. laurifolium.

TROPANE ALKALOIDS: cinnamoylcocaine, β -cocaine.

Chemnitius, *J. Prakt Chem.*, **116**, 285 (1927)

E. mamacoca.

TROPANE ALKALOID: nortropacocaine.

El-Iman *et al.*, *Phytochemistry*, **24**, 2285 (1985)

E. monogynum Roxb.

TROPANE ALKALOIDS: cinnamoylcocaine, β -cocaine.

DITERPENOIDS: (+)-devadarene, (+)-devadarool, erythroxydiol A, erythroxydiol, erythroxydiol Y, erythroxydiol Z, erythroxylol A, erythroxylol A acetate epoxide, erythroxylol A epoxide, erythroxylol B, erythroxytriol P, erythroxytriol Q, (+)-hibaene epoxide, hydroxydevadarool, 4 α -hydroxy-18-norhibaene, 4 α -hydroxy-18-norhibaene, isoatisirene, (-)-pimara-8(14),15-diene, (+)-stach-15-ene-17,19-diol, (+)-stach-15-ene-17,19-diol epoxide, (+)-stach-15-en-17-ol, (+)-stach-15-en-19-ol, (+)-stach-15-en-19-ol epoxide, (+)-stach-15-en-19-ol epoxyacetate.

Martin, Murray, *J. Chem. Soc.*, 2529 (1968)

E. montanum.

TROPANE ALKALOIDS: cinnamoylcocaine, β -cocaine.

Perrot, *Bull. Sci. Pharmacol.*, **42**, 266 (1935)

E. novogranatense.

FLAVONOIDS: (+)-catechin-3-rhamnoside, ombuin-3-O-rutoside.

DITERPENOID: erythrodiol.

(F) Bonefeld *et al.*, *Phytochemistry*, **25**, 1205 (1986)

(T) Power, Tutin, *J. Chem. Soc.*, **93**, 891 (1908)

E. ovatum.

TROPANE ALKALOIDS: cinnamoylcocaine, β -cocaine.

Kovacs *et al.*, *Helv. Chim. Acta*, **37**, 892 (1954)

E. pulchrum.

TROPANE ALKALOIDS: cinnamoylcocaine, β -cocaine.

Kovacs *et al.*, *Helv. Chim. Acta*, **37**, 892 (1954)

E. retusum.

TROPANE ALKALOIDS: cinnamoylcocaine, β -cocaine.

Kovacs *et al.*, *Helv. Chim. Acta*, **37**, 892 (1954)

E. truxillense Rusby.

PYRROLE ALKALOID: cuskygrine.

TROPANE ALKALOIDS: cinnamoylcocaine, β -cocaine, (+)-pseudococaine, α -truxilline, β -truxilline.

Willstatter *et al.*, *Annalen*, **434**, 266 (1923)

E. vacciniifolium.

TROPANE ALKALOIDS: catuabines A, B and C.

Graf, Lude, *Arch. Pharm. (Weinheim, Ger.)*, **311**, 139 (1978)

ESCHSCHOLTZIA

E. californica.

CAROTENOID: eschscholtziaxanthin.
Strain, *J. Biol. Chem.*, **123**, 425 (1938)

ESCOBEDIA

E. laevis.

CAROTENOID: azafrin.
Kuhn *et al.*, *Ber.*, **64**, 333 (1931)

E. scabrifolia.

CAROTENOID: azafrin.
Kuhn *et al.*, *Ber.*, **64**, 333 (1931)

ESPELETIA (Compositae)

E. grandiflora.

DITERPENOID: grandiflorolic acid.
Piozzi *et al.*, *Gazz. Chim. Acta*, **98**, 907 (1968)

E. schultzii.

DITERPENOIDS: 15-acetoxykaur-16-en-19-oic acid, 15 α -hydroxykaur-16-en-19-oic acid, kaura-9(11),16-dien-19-oic acid.
Brieskorn, Pohlmann, *Tetrahedron Lett.*, 5661 (1968)

E. timotensis.

DITERPENOID: 15 α -hydroxykaur-16-en-19-oic acid.
Brieskorn, Pohlmann, *Tetrahedron Lett.*, 5661 (1968)

E. weddellii.

DITERPENOIDS: 15 α -hydroxykaur-16-en-19-oic acid, (-)-kaur-15-en-19-al.
Karle, *Acta Crystallogr.*, **28B**, 588 (1972)

ESPELETIOPSIS

E. guacharaca.

SESQUITERPENOIDS: copacamphor, 6-siliphilperfolen-5-one.

Bohlmann *et al.*, *Phytochemistry*, **19**, 2399 (1980)

ESPOSTOA

E. huanucensis.

AMINE ALKALOIDS: hordenine, N-methyltyramine, tyramine.

Mata *et al.*, *Lloydia*, **39**, 461 (1976)

ETHULIA

E. conyzoides.

COUMARINS: cycloethuliacoumarin, ethuliacoumarin.

Bohlmann, Zdero, *Phytochemistry*, **16**, 1092 (1977)

E. conyzoides var. gracilis Asch. et Schweinf.

COUMARINS: ethuliacoumarin A, ethuliacoumarin B, isoethuliacoumarin A, isoethuliacoumarin B, 5-methyl-4-hydroxycoumarin.

Mahmoud *et al.*, *Pharmazie*, **38**, 486 (1983)

EUCALYPTUS (Myrtaceae)

E. agglomerate.

KETONE: agglomeratone.

Hellyer, *Aust. J. Chem.*, **17**, 1419 (1967)

E. caesia.

PHENOLIC: torquatone.

Bowyer *et al.*, *Aust. J. Chem.*, **12**, 442 (1959)

E. calophylla.

BENZOPYRAN: (+)-afzelechin.

delle Monache *et al.*, *Phytochemistry*, **11**, 2333 (1972)***E. citriodora.***STEROID: β -sitosterol.

SESQUITERPENOIDS: aromadendrin, 7-O-methylaromadendrin.

TRITERPENOIDS: betulinic acid, ursolic acid.

Dayal, *J. Indian Chem. Soc.*, **59**, 1008 (1982)***E. decorticans.***

NORSESQUITERPENOID: flavescone.

Bick *et al.*, *J. Chem. Soc.*, 3690 (1965)***E. dives.***

MONOTERPENOIDS: (+)-piperitone, (-)-piperitone.

Simonsen, *J. Chem. Soc.*, 119, 1646 (1921)***E. globulus Labill.***

BENZOPYRANS: euglobals Ia, Ib, Ic, IIa, IIb, IIc, III, IVa, IVb, V, VI and VII.

FLAVONOIDS: quercetol, quercetol 3-glucoside, querцитrin, hyperoside, rutin.

DITERPENOIDS: cineole, pinocarveol, (-)-trans-pinocarveol, (-)-pinocarvone.

SESQUITERPENOIDS: alloaromadendrine, α -eudesmol, β -eudesmol, globulol.(B) Kozuka *et al.*, *Chem. Pharm. Bull.*, **30**, 1952 (1982)(F) Boukef *et al.*, *Plant Med. Phytother.*, **10**, 30 (1976)(T) Sawada *et al.*, *ibid.*, **28**, 2546 (1980)***E. grandis.***

PHENOLIC: grandinol.

Crow *et al.*, *Tetrahedron Lett.*, 1073 (1977)***E. macathuri.***

MONOTERPENOID: eucalyptol.

SESQUITERPENOIDS: aromadendrine, carissone, α -eudesmol, β -eudesmol.McQuillan *et al.*, *J. Chem. Soc.*, 2973 (1956)***E. mackiana.***

KETONE: agglomerone.

MONOTERPENOID: eucalyptol.

SESQUITERPENOID: aromadendrine.

Hellyer *et al.*, *Aust. J. Chem.*, **17**, 1419 (1967)***E. microcorys.***

TRITERPENOID: cycloeucalenol

Itoh *et al.*, *Phytochemistry*, **16**, 1448 (1977)

E. robusta.

BENZOPYRANS: robustadial A, robustadial B.
 Xu *et al.*, *J. Am. Chem. Soc.*, **106**, 734 (1984)

E. spathulata var. grandiflora.

SESQUITERPENOIDS: spathulenol.
 Bowyer, Jefferies, *Chem. Ind. (London)*, 1254 (1963)

E. tereticornis.

TRITERPENOIDS: 2 α -hydroxyursolic acid, ursolic acid, ursolic acid lactone.
 Dayal *et al.*, *Curr. Sci.*, **56**, 670 (1987)

E. torquata.

PHENOLIC: torquatone.
 Bowyer *et al.*, *Aust. J. Chem.*, **15**, 1448 (1962)

EUCHARIS (Amaryllidaceae)

E. grandiflora Blanck.

ISOQUINOLINE ALKALOID: lycorine.
 Reichert, *Arch. Pharm. (Weinheim, Ger.)*, **226**, 328 (1938)

EUCHRESTA

E. horsfeldtii.

MATRINE ALKALOID: (+)-5,9-dihydroxymatrine.
 QUINOLIZIDINE ALKALOID: cytisine.
 Ohmiya *et al.*, *Phytochemistry*, **18**, 645 (1979)

E. japonica.

FLAVANONE: euchrestaflavanone.
 Shirataki *et al.*, *Phytochemistry*, **21**, 2959 (1982)

EUCLEA

E. natalensis.

NAPHTHAQUINONES: birameutaceone, diospyrin, isodospyrin, mamegakinone, 7-methyljugone, 2-methylnaphthazarin, xylospyrin.

Ferreira *et al.*, *An. Fac. Farm. Porto*, **33**, 61 (1973); *Chem. Abstr.*, 85 2553m

EUCOMIS (Liliaceae)

E. autumnalis (Mill.) Chittenden.

BENZOPYRANS: autumnnariniol, autumnariol.

STEROID: eucosterol.

Fritz *et al.*, *Helv. Chim. Acta*, **54**, 207 (1971)

E. bicolor.

TRITERPENOID: (23S)-17,23-epoxy-3 β ,16 β ,31-trihydroxy-27-nor-5 α -lanost-8-ene-15,24-dione.

Ziegler, Tamm, *Helv. Chim. Acta*, **59**, 1997 (1976)

E. punctata.

STEROID: eucosterol.

Sidwell *et al.*, *J. Am. Chem. Soc.*, **97**, 3518 (1975)

EUCOMMIA (Eucommiaceae)

E. ulmoides Oliv.

IRIDOID: ulmoside.

LIGNANS: eucommuin A, (+)-1-hydroxypinoresinol-4,4'-glucopyranoside, (+)-medioresinol di-O- β -D-glucopyranoside, (-)-olivil 4',4"-di-O- β -D-glucopyranoside.

MONOTERPENOID: eucommiol.

(I, T) Bianco *et al.*, *Gazz. Chim. Ital.*, **108**, 17 (1978)

(L) Deyama, *Chem. Pharm. Bull.*, **33**, 3651 (1985)

EUGENIA (Myrtaceae)

***E. caryophyllata* Thunb.**

SESQUITERPENOIDS: caryophylla-3(12),6-dien-4-ol, caryophylla-3(12),7(13)-dien-6 α -ol, caryophyllene oxide.

Iwamuro *et al.*, *Agric. Biol. Chem.*, **47**, 2099 (1983)

***E. crebrinervis* (*Syzygium crebrinervis*).**

TRITERPENOIDS: arjunolic acid, asiatic acid, ellagic acid.

Bannon *et al.*, *Aust. J. Chem.*, **29**, 1135 (1976)

***E. gustavioides* (*Cleistocalyx gustavioides*).**

TRITERPENOIDS: arjunolic acid, asiatic acid crategolic acid.

Bannon *et al.*, *Aust. J. Chem.*, **29**, 1135 (1976)

***E. jambolana*.**

PHENOLICS: 2,6-dihydroxy-4-methoxyacetophenone, methylxanthoxyletin.

SAPONIN: eugenin.

(P) Linde, *Arch. Pharm. (Weinheim, Ger.)*, **316**, 971 (1983)

(Sap) Sengupta, Bikram, *J. Indian Chem. Soc.*, **42**, 266 (1965)

***E. jambos* L.**

UNCHARACTERIZED ALKALOID: jambosine.

Gerrard, *Chem. Abstr.*, **48** 396 (1885)

***E. pseudomata*.**

MONOTERPENOID: verbenone.

Banthorpe *et al.*, *Chem. Ber.*, **66**, 643 (1966)

EUGLENA (Euglenophyceae/Euglenaceae)

***E. helicorubescens*.**

CAROTENOID: astaxanthin.

Tischer, *Z. Physiol. Chem.*, **240**, 191 (1941)

EUMORPHA

***E. prostrate*.**

SESQUITERPENOIDS: eumorphistonol, 10-oxolasiosperman.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1155 (1978)

E. sericea.

SESQUITERPENOIDS: cyclouemorphinone, eumorphinone, seven furan sesquiterpenoids.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1155 (1978)

EUONYMUS (Celastraceae)

E. alatus.

STEROIDS: 6α -hydroxystigmast-4-en-3-one, β -sitosterol, stigmast-4-ene-3,6-dione, stigmast-4-en-3-one.

SESQUITERPENOIDS: alatol, euolalin.

(S) Chen *et al.*, *Zhongcaoyao*, **14**, 385 (1983); *Chem. Abstr.*, 100 3500g

(T) Sugiura *et al.*, *Tetrahedron Lett.*, 2307 (1975)

E. alatus f. alatus.

FLAVONOID: euonymin, kaempferol 3-rhamnosylxyloside-7-glucoside, kaempferol 3-xyloside.

Ishikura *et al.*, *Chem. Abstr.*, 87 114584v

E. alatus f. ciliato-dentatus.

FLAVONOID: kaempferol 3-rhamnosylxyloside.

Ishikura *et al.*, *Chem. Abstr.*, 87 114584v

E. alatus f. striatus.

MACROCYCLIC SESQUITERPENE ALKALOIDS: alatusamine, alatusinine, neolatamine.

SESQUITERPENOID: euolalin.

UNCHARACTERIZED TERPENOID: alatolin.

(A) Ishiwata *et al.*, *Phytochemistry*, **22**, 2839 (1983)

(T) Sigura *et al.*, *Tetrahedron Lett.*, 2307 (1975)

E. bungeanus.

TRITERPENOIDS: benulin, bungeanic acid, $3\beta,22\alpha$ -dihydroxyolean-12-en-29-oic acid, moronic acid, oleanolic acid, wilforlide A, wilforlide B.

Zhou *et al.*, *Chem. Abstr.*, 107 151211y, *Chem. Abstr.*, 107 194892p

E. europaeus L.

MACROCYCLIC SESQUITERPENE ALKALOIDS: 2,5-bisdiacetylevonine, 2-deacetylevonine, 4-deoxyevonine, evoeuropine, evoevoline, evomine, evonine, evonoline, evozine, isoevonine.

STEROIDS: euomonoside, euonoside.

SESQUITERPENOIDS: five uncharacterized sesquiterpene esters.

- (A) Budziekiewicz *et al.*, *Z. Naturforsch.*, **27B**, 800 (1972)
 (A) Crombie, Whiting, *Phytochemistry*, **12**, 703 (1973)
 (S) Reichstein *et al.*, *Helv. Chim. Acta*, **35**, 87 (1952)
 (T) Budziekiewicz, Romer, *Tetrahedron*, **31**, 1761 (1975)

E. medirossica.

STEROID: euonoside.

Kislichenko, Makarevich, *Khim. Prir. Soedin.*, 804 (1973)***E. sieboldiana Blume.***

MACROCYCLIC SESQUITERPENE ALKALOIDS: euonymine, evonine, neoeuonymine, neoevonine.

Sugiura *et al.*, *Tetrahedron Lett.*, **2659**, 2733 (1971)***E. tingens.***

TRITERPENOID: 20-hydroxytingenone, tingenone.

Brown *et al.*, *J. Chem. Soc., Perkin I*, 2721 (1973)***E. verrucosus.***

SESQUITERPENE ESTERS: ever-1, ever-2, ever-4, ever-6, ever-7, ever-8, ever-10.

Begley *et al.*, *J. Chem. Soc., Perkin I*, 535 (1986)

EUPATORIADELPHUS

E. fistulosus.TRITERPENOID: 3 α -tigloyloxy-6 β -hydroxytramentone.Bohlmann *et al.*, *Phytochemistry*, **17**, 2101 (1978)

EUPATORIUM (Compositae)

E. adenophorum.

SESQUITERPENOID: 5,8-epoxy-4-hydroxy-3-amorphanone.

Shukla *et al.*, *Chem. Ind. (London)*, 863 (1983)***E. album.***

SESQUITERPENOID: eupatalbin.

DITERPENOID: ent-11 α ,15 α -dihydroxykaur-16-en-19-oic acid, eupatalbin, ent-11 α -hydroxy-15-oxokaur-16-en-19-oic acid, ent-11,12,15-trihydroxykaur-16-en-19-oic acid.Herz *et al.*, *J. Org. Chem.*, **44**, 2999 (1979)

E. altissimum.

One sesquiterpenoid.

Herz *et al.*, *Phytochemistry*, **17**, 1953 (1978)

E. azureum.

TRITERPENOIDS: epi-friedelinol, taraxasterol acetate.

Nomamura, *J. Pharm. Soc., Japan*, **75**, 80 (1955)

E. bupleurifolium.

MONOTERPENOIDS: limonene, α -pinene, β -pinene.

Bauer *et al.*, *Trib. Farm.*, **42**, 37 (1974); *Chem. Abstr.*, 85 119567k

E. cannabinum L.

PYRROLIZIDINE ALKALOIDS: echinatine, supinine.

TRITERPENOIDS: dammaradienyl acetate, eucannabinolide, eupatoropicrin, taraxasterol.

(A) Pedersen, *Phytochemistry*, **14**, 2086 (1975)

(T) Drozdz *et al.*, *Collect. Czech. Chem. Commun.*, **37**, 1546 (1972)

Talapatra *et al.*, *Aust. J. Chem.*, **27**, 1137 (1974)

E. chinense var. hakonense.

SESSQUITERPENOIDS: eupachifolins A, B, C, D and E, eupahakonensin, eupahakonin A, eupahakonin B, eupasimplicin A, eupasimplicin B, peroxyeupahakonin A.

Ito *et al.*, *Phytochemistry*, **21**, 715 (1982)

E. chinense var. simplicifolium.

SESSQUITERPENOIDS: eupachifolins A, B, C, D and E.

Ito *et al.*, *Chem. Lett.*, 1473 (1979)

E. cuneifolium.

SESSQUITERPENOIDS: eupacunolin, eupatocunin, eupatocunoxin.

Kupchan *et al.*, *J. Org. Chem.*, **38**, 2189 (1973)

E. formosanum.

SESSQUITERPENOIDS: eupaformonin, eupaformosanin, eupatolide.

Lee *et al.*, *Phytochemistry*, **16**, 1068 (1977)

E. glechnophyllum Less.

CHROMENES: ethylenececalol, methylenececalol.

Becerra *et al.*, *Rev. Latinoam. Quim.*, **14** 92 (1983)

E. hookerianum.

FLAVONOIDS: acacetin, apigenin 7-rhamnoside, kaempferitrin, kaempferol 3-glucoside-7-rhamnoside, kaempferol 7-rhamnoside.

Ferraro *et al.*, *An. Asoc. Quim. Argent.*, **71**, 327 (1983) *Chem. Abstr.*, 100 20437j

E. hyssopifolium.

SESQUITERPENOIDS: eupahyssopin, eupassofilin, eupassopilin, eupassopin.
Lee et al., Tetrahedron Lett., 1051 (1976)

E. japonicum.

SESQUITERPENOID: euponin.
Nakajima et al., Agric. Biol. Chem., **44**, 2893 (1980)

E. jhanii.

DITERPENOIDS: jhanic acid, jhanidiol, jhanidiol acetate, jhanilactone, jhanol, jhanol acetate.

Gonzalez et al., An. Quim., **75**, 128 (1978)

E. inulaefolium.

FLAVONOIDS: pedalitin, 5,6,3'-trihydroxy-7,4'-dimethoxyflavone.
Ferraro et al., Phytochemistry, **16**, 1618 (1977)

E. laevigatum.

NORSESQUITERPENOID: laevigatin.
de Oliveira et al., Tetrahedron Lett., 2653 (1978)

E. ligustrinum DC.

SESQUITERPENOID: ligustrin.
Romo et al., Tetrahedron, **24**, 5087 (1968)

E. lindleyanum.

SESQUITERPENOIDS: eupalinins A, B, C and D.
Ito et al., Chem. Lett., 1469 (1979)

E. macrocephalum.

MONOTERPENOID: p-menth-1-ene-3,6-diol.
Gonzalez et al., An. Quim., **68**, 319 (1972)

E. maculatum L.

PYRROLIZIDINE ALKALOIDS: echinatine, trachelantimidine.
Tsuda, Marion, Can. J. Chem., **41**, 1919 (1963)

E. micranthum.

FLAVONOIDS: 7-methylgaramodendrin, rhamnocitrin.
Sagareishvili et al., Khim. Prir. Soedin., 710 (1985)

E. microphyllum.

FLAVONOIDS: 5-hydroxy-6,7,3',4'-tetramethoxyflavone, quercetin, rutin.
Torrenegra et al., Rev. Latinoam. Quim., **16**, 64 (1985)

E. mikanioides.

SESQUITERPENOIDS: deacetyleupaserrin, 2,8-dihydroxy-1(10),4,11(13)-germacratrien-12,6-olide, mollisorin A.
Herz et al., J. Org. Chem., 45, 489 (1980)

E. mohrii.

SESQUITERPENOID: anomalide.
Cox et al., Tetrahedron Lett., 3569 (1979)

E. odoratum.

CHALCONE: 2',3',4,4',6'-pentahydroxychalcone.
TRITERPENOID: epoxylupeol.
Bose et al., Phytochemistry, 12, 667 (1973)
Talapatra et al., Indian J. Chem., 15B, 806 (1977)

E. perfoliatum.

SESQUITERPENOIDS: 8 β -angeloyloxyeupatundin, 11,13 α -dihydroeuperfolide, eufoliatin, eufoliatorin, euperfolide, euperfolin, euperfolitin, 7-hydroxy-7-hydro-6-dehydro-3,4(Z)- α -farnesene.
TRITERPENOID: urs-20-en-3 β -ol.
Bohlmann et al., Phytochemistry, 16, 1973 (1977)
Herz et al., J. Org. Chem., 42, 2264 (1977)

E. recurvens.

SESQUITERPENOID: eupecurvin.
Herz et al., J. Org. Chem., 43, 3559 (1978)

E. riparium.

CHROMENES: acetovanillochromene, ripariochromene A.
TRITERPENOID: taraxasterol palmitate.
(C) *Tsukayama et al., Bull., Chem. Soc., Japan, 48, 80 (1975)*
(C) *Bohlmann et al., Chem. Ber., 110, 301 (1977)*
(T) *Talapatra et al., J. Indian Chem. Soc., 55, 296 (1978)*

E. rotundifolium.

SESQUITERPENOIDS: eupachlorin, eupachloroxin, euparotin, euparotin acetate, eupatoroxin, 10-epi-eupatoroxin, eupatundin.
Kupchan et al., Tetrahedron Lett, 3517 (1968)

E. sachalinense.

SESQUITERPENOIDS: hiyodorilactones A, B, C, D, E and F, peroxy sachalinin, sachalin, sachalinin.
Ito et al., Chem. Lett., 1503 (1979)
Takahashi et al., Chem. Pharm. Bull., 27, 2539 (1979)

E. semiserratum DC.

FLAVONES: eupatilin, eupatorin.

SESQUITERPENOIDS: deacetylepasperrin, eupasperrin.

(F) Kupchan *et al.*, *Tetrahedron*, **25**, 1603 (1969)

(T) Kupchan *et al.*, *J. Org. Chem.*, **38**, 1260 (1973)

E. serotinum.

SESQUITERPENOIDS: 8 β -angeloyloxy-15-hydroxyparthenolide, 7 β -hydroxy-1-oxolongipinene, 8 β -(3-methylpent-2E-enoyloxy)-elemacroquistanthus acid, 8 β -(3-methylpent-2E-enoyloxy)-15-hydroxyparthenolide, 8 β -tigloyloxy-15-hydroxyparthenolide, euserotin.

Herz *et al.*, *J. Org. Chem.*, **44**, 2784 (1979)

Bohlmann *et al.*, *Planta Med.*, **76** (1985)

E. sessilifolium.

SESQUITERPENOIDS: eupasessifolides A and B.

Bohlmann *et al.*, *Phytochemistry*, **18**, 1401 (1979)

E. tashiroi Hayata.

MONOTERPENOID: eupatriol.

Wu *et al.*, *Chem. Pharm. Bull.*, **33**, 4025 (1985)

E. tinifolium H.B.K.

MONOTERPENOID: tinifoline, tinifolinediol.

delle Monache *et al.*, *Farmaco Ed. Sci.*, **36**, 960 (1981)

E. villosum.

DITERPENOID: evillosin.

Manchand *et al.*, *J. Org. Chem.*, **44**, 1322 (1979)

EUPHORBIA (Euphorbiaceae)

E. acaulis.

DITERPENOID: caudicifolin.

Satti *et al.*, *Phytochemistry*, **25**, 1441 (1986)

E. antiquorum.

DITERPENOID: 3-O-angeloylingenol.

Adolf *et al.*, *J. Sci. Soc. Thailand*, **9**, 81 (1983)

E. atoto.

PIPERIDINE ALKALOID: (+)-aza-1-methylbicyclo-[3,3,1]-nonan-3-one.

Beecham *et al.*, *Aust. J. Chem.*, **20**, 2291 (1967)

E. balsamifera.

TRITERPENOID: germanicol.

Russel *et al.*, *Phytochemistry*, **15**, 1933 (1976)***E. biglandulosa Desf.***

DITERPENOID: 20-O-acetyl-13-O-isobutyryl-12-O-(2E)-2,4-octadienyl-4deoxyphorbol, 20-O-acetyl-12-(Z,E)-2,4-octadienyl-13-O-propionyl-4deoxyphorbol, 1,20-O-diacetyl-12-O-(Z,E)-2,4-octadienyl-4-deoxyphorbol.

Falcone, Crea, *Justus Liebigs Ann. Chem.*, 1116 (1979)***E. caudicifolia.***

DITERPENOID: candicifolin.

Ahmad *et al.*, *Phytochemistry*, **16**, 1844 (1977)***E. characais L.***

DITERPENOID: characiol, characiol-5,6-epoxide.

Seip *et al.*, *Phytochemistry*, **23**, 1689 (1984)***E. coerulescens.***DITERPENOID: 12-deoxy-4 β -hydroxyphorbol 13-dodecanoate-20-acetate, 12-deoxy-4-hydroxyphorbol 13-undecanoate-20-acetate.Evans, Kinghorn, *Phytochemistry*, **14**, 1669 (1975)***E. condylocarpon.***

FLAVONOID: trifolin.

Roshchin, *Khim. Prir. Soedin.*, 576 (1977)***E. cooperi.***SESQUITERPENOID: 4 β ,9 α ,13 α ,16,20-pentahydroxytiglia-1,6-dien-3-one 16-isobutyrate-13-(2-methylbut-2-enoate).Gschwendt, Hecker, *Tetrahedron Lett.*, 567 (1970)***E. corollata.***

TRITERPENOID: corollatadiol.

Piatak, Riemann, *Tetrahedron Lett.*, 4525 (1972)***E. cyparissias L.***

DITERPENOID: 12-deoxy-16,19-dihydroxyingenol, 13-hydroxyingenol.

TRITERPENOID: 5-gluten-3 α -ol.Hecker, *Pure Appl. Chem.*, **49**, 1423 (1977)***E. echinus.***

TRITERPENOID: obtusifoldienol.

Gonzalez, Breton, *An. Quim.*, **55B**, 93 (1959)***E. esula L.***

DITERPENOID: ingenol-3,20-dibenzoate.

Kupchan *et al.*, *Science*, **191**, 571 (1976)

E. fischeriana.

AMIDE ALKALOID: aurantiamide O-acetate.

Maiti *et al.*, *Experientia*, **32**, 1166 (1976)

E. fortissima.

DITERPENOIDS: 12-deoxy-4-hydroxyphorbol 13-dodecanoate-20-acetate, 12-deoxy-4 β -hydroxyphorbol 13-dodecanoate 20-acetate, 12-deoxy-4 β -hydroxyphorbol 13-octenoate 20-acetate.

Evans, Kinghorn, *Phytochemistry*, **14**, 1669 (1975)

E. geniculata.

FLAVONOIDs: kaempferol, kaempferol 3-rutinoside, quercetin, quercetin 3-ramnoside.

Ismail *et al.*, *Pharmazie*, **32**, 538 (1977)

E. helioscopia L.

DITERPENOIDs: euphohelins A, B, C and D, euphohelioscopin A, euphohelioscopin B, euphoscopins A, B and C, helioscopinolides A, B and C.

Shizuri *et al.*, *Chem. Lett.*, 65 (1983)

Kosemura *et al.*, *Bull. Chem. Soc., Japan*, **58**, 3112 (1985)

E. hermentiana.

DITERPENOIDs: four methoxyingenol esters.

Lin *et al.*, *Phytochemistry*, **22**, 2795 (1983)

E. heterophylla.

AMINOACIDS: alanine, aspartic acid, cysteine, glutamic acid, methionine, proline, serine.

Kumar *et al.*, *J. Inst. Chem. (India)*, **48**, 192 (1976); *Chem. Abstr.*, 86 68376h

E. indica.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

TRITERPENOID: taraxerol.

Rizk *et al.*, *Planta Med.*, **32**, 177 (1977)

E. ingens E. Mey ex Boiss.

DITERPENOIDs: 16-hydroxyingenol, ingol 3,7,12-triacetate-8-nicotinate.

Opferkuch, Hecker, *Tetrahedron Lett.*, 3611 (1973)

E. jacquionontii.

AMINOACIDS: alanine, aspartic acid, glutamic acid, leucine, norvaline.

Kumar *et al.*, *J. Inst. Chem. (India)*, **48**, 192 (1976); *Chem. Abstr.*, 86 68376h

E. jaxartica.

DITERPENOID: euphorbol hexacosonate.

Azimov *et al.*, *Khim. Prir. Soedin.*, 136 (1970)

E. jolkini.

DITERPENOIDS: ingenol-2,4,6,8,10-tetradecapentaenoate, jolkinols A, B, C and D, jolkinolides A, B, C, D and E.

Uemura *et al.*, *Tetrahedron Lett.*, 4593 (1976)

E. kamerunica.

Six diterpenoids.

Abo *et al.*, *Planta Med.*, **43**, 392 (1981)

E. kansui.

DITERPENOIDS: 20-deoxyingenol, 20-deoxyingenol 3-benzoate, 20-deoxyingenol 5-benzoate, 13-hydroxyingenol, 13-oxyingenol 13-dodecanoate-20-pentanoate.

Uemura *et al.*, *Tetrahedron Lett.*, 2527 (1974)

E. kansui lioii.

DITERPENOIDS: kansuine A, kansuine B.

Adolf, Hecker, *Experientia*, **27**, 1393 (1971)

E. lactea Ham.

DITERPENOIDS: 12-deoxyphorbol 13,20-diacetate, euphorbol hexacosonate, tinyatoxin.

TRITERPENOID: 24-methylenecycloartenol.

Baslas *et al.*, *Herba Hung.*, **75**, 49 (1986); *Chem. Abstr.*, 107 151204y

E. lathyris L.

DITERPENOIDS: 6,20-epoxylathyrol-5,10-diacetate-3-phenylacetate, euphorbiasteroid, 16-hydroxyingenol, 7-hydroxylathyrol, lathyrol.

Sahai *et al.*, *Phytochemistry*, **20**, 1660 (1981)

E. maddeni.

DITERPENOID: euphorinin.

Sahai *et al.*, *Phytochemistry*, **20**, 1660 (1981)

E. marginata.

DITERPENOID: 16-hydroxyingenol.

Hecker, in: Handbook of General Pathology, New York: Springer Verlag, 1975, vol 6, p 651.

E. millii Ch. des Moulins.

DITERPENOID ALKALOIDS: milliamines A, B, C, D, E, F, G, H and I.

Marston *et al.*, *Planta Med.*, **50**, 319 (1984)

E. nerifolia.

TRITERPENOID: glut-6(10)-en-1-one.

Anjeneyulu *et al.*, *Tetrahedron*, **29**, 3909 (1973)

E. obtusifolia.

TRITERPENOID: obtusifoldienol.

Gonzalez, Breton, *An. Quim.*, **55B**, 93 (1959)

E. paralias.

STEROID-, β -sitosterol.

TRITERPENOIDS: β -amyrin, betulin, oleanolic acid, ursolic acid, uvaol.

Khafagy *et al.*, *Planta Med.*, **29**, 301 (1976)

E. poisonii.

SESQUITERPENOID: euphorbia compound D.

DITERPENOIDS: lethalis A, candletoxin B, resiniferotoxin, tingatoxin.

Schmidt, Evans, *Experientia*, **33**, 1197 (1977)

Fakunle *et al.*, *Tetrahedron Lett.*, 2119 (1978)

E. polyacantha.

DITERPENOIDS: 12-deoxy-4 β -hydroxyphorbol 13-dodecanoate-20-acetate, 12-deoxy-4 β -hydroxyphorbol 13-dodecenoate-20-acetate, 12-deoxy-4 β -hydroxyphorbol 13-octenoate-20-acetate.

Evans, Kinghorn., *Phytochemistry*, **14**, 1669 (1975)

E. prostrata.

FLAVONOIDS: cosmoisin, kaempferol, quercetin, quercetin 3-rhamnoside, rhamnetin 3-galactoside.

Ismail *et al.*, *Pharmazie*, **32**, 538 (1977)

E. pulcherrima.

ACID: deca-2,4,6-trienoic acid.

ANTHRAQUINONE: 2-methylanthraquinone.

ESTERS: germanicyl acetate, epi-germanicyl acetate, germanicyl behenate, germanicyl tetracosanoate.

STEROID: β -sitosterol.

TRITERPENOID: pulcherrol.

(Ac) Warnaar, *Lipids*, **12**, 707 (1977)

(An, E) Mahato *et al.*, *J. Indian Chem. Soc.*, **54**, 388 (1977)

(T) Dominguez, Bruer, *Rev. Latinoam. Quim.*, **1**, 68 (1970)

E. regis-tubae.

TRITERPENOID: obtusifoldienol.

Gonzalez, Breton, *An. Quim.*, **55B**, 93 (1959)

E. resinifera.

DITERPENOIDS: 12,20-dideoxyphorbol-13-angelate, 12,20-dideoxyphorbol 13-isobutyrate, α -euphol, preresiniferotoxin, resiniferol, resiniferotoxin.

Hargenhahn *et al.*, *Tetrahedron Lett.*, 1595 (1975)

E. royleana.

TRITERPENOID: cycloroylenol, cycloroylenol acetate, glut-5-en-3 β -ol.

Bhat *et al.*, *Tetrahedron Lett.*, 5207 (1982)

E. segieriana.

DITERPENOID: ingenol.

Upadhyay *et al.*, *Planta Med.*, **30**, 32 (1976)

E. splendens.

MACROLIDE: lasiodiplodin.

Lee *et al.*, *Phytochemistry*, **21**, 1119 (1982)

Matsunaga *et al.*, *J. Chem. Soc., Chem. Commun.*, 1128 (1984)

E. supina.

TRITERPENOID: spirosupinanonediol.

Matsunaga *et al.*, *J. Chem. Soc., Chem. Commun.*, 1128 (1984)

E. thymifolia.

Three uncharacterized alkaloids.

Jabber Khan, *Pakistan J. Sci. Ind. Res.*, **8**, 293 (1965)

E. tirucalli L.

ANTHOCYANINS: cyanidin 3,5-diglucoside, tulipandin 3-rhamnoglucoside.

PHENOLIC: 3,4,3'-tri-O-methylellagic acid.

STEROID: β -sitosterol.

DITERPENOIDS: 20-O-acetykesiniferonol-9,13,14-orthophenylacetate, cycloeuphorbol, 4-deoxyphorbol, 12-deoxyphorbol 13-isobutyrate-20-acetate, euphorbinol, euphorbia factors Ti-1, Ti-2, Ti-3, Ti-4, α Ti-1 and α Ti-2.

TRITERPENOID: euphorbol, euphorbol hexacosonoate, taraxasterol, taraxerone, tinyatoxin, tirucallol.

(An, T) Baslas *et al.*, *Herba Hung.*, **22**, 35 (1983); *Chem. Abstr.*, 100 64928z

(T) Furstenberger, Hecker, *Planta Med.*, **22**, 241 (1972)

(T) Afza *et al.*, *Pakistan J. Sci. Ind. Res.*, **22**, 173 (1979)

E. triaculeata.

DITERPENOID: triaculetin.

Ahmad *et al.*, *Arab Gulf J. Sci. Res.*, **1**, 99 (1983)

E. unispina.

DITERPENOID: resiniferotoxin.

Hergenhahn *et al.*, *Tetrahedron Lett.*, 1595 (1975)

EUPHRASIA (Scrophulariaceae)

E. rostkoviana Hayne.

GLYCOSIDE: eukovoside.

IRIDOID: erostoside.

(Gl) Sticher *et al.*, *Helv. Chim. Acta*, **65**, 1538 (1982)

(I) Salama *et al.*, *Planta Med.*, **47**, 90 (1983)

E. salisbergensis Funck.

IRIDOID: euphrroside.

Sticher *et al.*, *Helv. Chim. Acta*, **64**, 78 (1981)

EUPOMATIA (Eupomatiaceae)

E. laurina R.Br.

AZAPHENANTHRENE ALKALOID: eupolauramine.

Bowden *et al.*, *J. Chem. Soc., Perkin 2*, 658 (1976)

EUPTELEA (Eupteleaceae)

E. polyandra (Sieb. et Zucc.)

SAPONINS: epteleosides A and B.

Goto *et al.*, *Chem. Pharm. Bull.*, **12**, 516 (1964)

EURYCLES (Amaryllidaceae)

E. sylvestris Salisb.

ISOQUINOLINE ALKALOID: lycorine.

Greathouse, Rigler, *Amer. J. Bot.*, **28**, 702 (1941)

EURYCOMA

E. longifolia.

DITERPENOIDS: 3,4-dihydroeurycomalactone, eurycomalactone, eurycomanol, eurycomanone, laurycolactones A and B.

Darise *et al.*, *Phytochemistry*, **21**, 2091 (1981)

EURYOPS (Compositae)

E. abrotanifolius.

SESQUITERPENOIDS: 6 α -angeloyloxy-1,10-epoxy-4-hydroxyeremophilane, 17,18-epoxy-17,18-dihydronoeadenostylone, 4 α -hydroxy-6 β -isovaleryloxy-9-oxofuranoeremophilane, 10 β -hydroxy-2 β -(2-methylacryloyloxy)-furanoeremophilane, 4 α -hydroxy-6 β -senecioyloxy-9-oxofuranoeremophilane.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 2730 (1974)

E. acraeus.

SESQUITERPENOIDS: 3 β -angeloyloxy-1,10-epoxufuranoeremophilane, 10 β -hydroxy-1 α -(3-methylpent-2c-enoyloxy)-furanoeremophilane, 10 β -hydroxy-1 α -(3-methylpent-2t-enoyloxy)-furanoeremophilane, 3 α -tigloyloxy-1 β ,10 β -epoxyfuranoeremophilane.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. annae.

SESQUITERPENOIDS: 9 α -acetoxyl-8 α -angeloyloxy-2-oxo-10 β H-eremophil-11(12)ene, 8 α -angeloyloxy-9 α -hydroxy-2-oxo-10 β H-eremophil-11(12)-ene, 9 α -angeloyloxy-8 α -hydroxy-2-oxo-10 β H-eremophil-11(12)-ene, 8 α -hydroxy-2-oxo-10 β H-eremophil-11(12)-ene, 6 β -(2-methyl-2,3-epoxybutyryloxy)-10 α H-furanoeremophil-9-one, 9 α -(3-methylpent-3-enoyloxy)-10 α H-furanoeremophilone.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. brevilibus.

SESQUITERPENOIDS: 1 α -angeloyloxy-6 β -acetoxyl-10 β -hydroxyfuranoeremophilane, 3 α -3-methylpent-2-cis-enoyloxy)-9 α -hydroxyeremophil-8-on-11(12)-ene.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. brevipappus.

SESQUITERPENOIDS: 6 β -acetoxyligularenolide, 1 β , 10 β -epoxy-6 β -tigloyloxyfuranoeremophilane, 13-hydroxycacalol methyl ether, 9 α -hydroxy-6 β -(2-methylacryloyloxy)-euryopsin, 9 α -hydroxy-6 β -senecioyloxyeuryopsin 6 β -(2-methylacrylyl)-9-euryopsin, 6 β -senecioyloxyeuryopsin, 6 β -tigloyloxyeuryopsin.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. chrysanthemoides.

SESQUITERPENOIDS: 6 β -angeloyloxy-4,5-didehydro-5,6-secoeuryopsin, 10 β -angeloyloxy-2 β -hydroxyfuranoeremophilane, 2,9-dioxoeuryopsin.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 2730 (1974)

E. empetifolius.

SESQUITERPENOIDS: 3 β -acetoxy-6 β -angeloyloxyeuryopsin, 3 β -acetoxy-6 β -senecioyloxyeuryopsin, 3 β -acetoxy-6 β -tigloyloxyeuryopsin, 3 β -hydroxy-6 β -angeloyloxyeuryopsin, 3 β -hydroxy-6 β -(3-methylpent-2-enoyloxy)-euryopsin, 3 β -hydroxy-6 β -senecioyloxyeuryopsin, 3 β -hydroxy-6 β -tigloyloxyeuryopsin, 3 β -(2-methylacryloxy)-bicyclogermacrene, 6 β -tigloyloxyeuryopsin.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. evansi.

SESQUITERPENOID: 1 β , 10 β -epoxy-6 β -tigloyloxufuranoeremophilane.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. floribundus.

SESQUITERPENOIDS: euryopsol, euryopsonol, 4 α -hydroxy-6 β -(2-methylacryloyloxy)-1 β ,10 β -epoxyfuranoeremophilane,

Rivett *et al.*, *Tetrahedron*, **23**, 2431 (1967)

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. galpinii.

SESQUITERPENOID: 6 β -isobutyryloxy-10-furanoeremophil-9-one.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. hebecarpus.

SESQUITERPENOIDS: 6-angeloyloxy-4,5-didehydro-5,6-secoeuryopsin, angeloyloxyeuryopsonol 6 β -angeloyloxy-4 β -hydroxyeuryopsin, 6 β -angeloyloxy-4 α -hydroxy-9-oxofuranoeremophilane, 3 α -angeloyloxy-9-oxofuranoeremophilane, 1,4:3,14-diepoxy-4-hydroxy-5,6,9,10-tetrahydro-4,5-secofuranoeremophilane, 1,10-epoxy-4 α -hydroxy-6 β -isobutyryloxyfuranoeremophilane, 6-hydroxy-4,5-didehydro-5,6-secoeuryopsin-2-methacrylate, 4 α -hydroxy-6 β -isobutyryloxyeuryopsin, 4 α -hydroxy-6 β -isobutyryloxy-9-oxofuranoeremophilane, 4 α -hydroxy-6 β -isovaleryloxyeuryopsin, 9-oxoeuryopsin, 4-oxo-5,6,9,10-tetrahydro-4,5-secofuraneremophilane-5,1-carbolactone, 5,6,9,10-tetrahydro-1,4,3,14-diepoxy-4-hydroxy-4,5-secofuraneremophilane.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 2730 (1974)

E. imbricatus.

SESQUITERPENOID: lateriflorol-9-(2-methylpent-2-cis-enoate), lateriflorol-9-(2-methylpent-2-trans-enoate).

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. lateriflorus.

SESQUITERPENOIDS: 3β -angeloyloxy-6-isobutyryloxyeuryopsin-9-one, 3β -angeloyloxy- 6β -propionyloxyeuryopsin-9-one, 3β , 6β -dipropionyloxyeuryopsin-9-one, 3β -hydroxy- 6β -angeloyloxyeuryopsin, lateriflorol-9-angelate-2-acetate, lateriflorol-9-senecionate, lateriflorol-2-one-8,9-ditiglate.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. linifolius.

BENZOFURAN: 1,2-dihydrocacalohastin.

SESQUITERPENOIDS: 1,10-epoxy- 6β -(2-methylacryloyloxy)-9-oxofuranoeremophilane, 2-methylacrylyloxyeuryopsinol.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 2730 (1974)

E. multifidus.

SESQUITERPENOIDS: 9α -hydroxy- 6β -angeloyloxy- 1β , 11β -epoxyfuranoeremophilane, 9α -hydroxy- 6β -senecioyloxy- 1β , 10β -epoxyfuranoeremophilane, 9α -hydroxy- 6β - 6β -(2-methylacryloyloxy)- 10β H-furanoeremophil-9-one, 6β -senecioyloxy- 10β H-furanoeremophilan-9-one, 6β -tigloyloxy- 10β H-furanoeremophilan-9-one.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. oligoglossus.

SESQUITERPENOID: 1α , 10α -epoxy-tigloyloxyfuranoeremophilane,

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. oligoglossus subsp. oligoglossus.

SESQUITERPENOIDS: 3β -acetoxy-6-(2,3-epoxy-2-methylbutyryloxy)- 10α H-furanoeremophil-9-one, 9α -hydroxy- 6β -angeloyloxy- 1β , 11β -epoxyfuranoeremophilane, 9α -hydroxy- 6β -isobutyryloxy- 1β , 10β -epoxy furanoeremophilane, 9α -hydroxy- 6β -isovaleryloxy- 1β , 10β -epoxy furanoeremophilane, 9α -hydroxy- 6β -(3-methylpent-3-enoxyloxy)- 1β , 10β -epoxy furanoeremophilane, 9α -hydroxy- 6β -senecioyloxy- 1β , 10β -epoxy furanoeremophilane, 9α -hydroxy- 6β -tigloyloxy- 1β , 10β -epoxyfuranoeremophilane.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. othonnoides.

SESQUITERPENOIDS: 6β -angeloyloxy- 1α , 10α -epoxyeuryopsin, 6β -angeloyloxeuryopsin, 6β -angeloyloxy-9-oxo-1,10-epoxyeuryopsin, 10-hydroxy-1-angeloyloxyfuranoeremophilane, 3-hydroxy-4-isobutyryloxy-9-oxoeuryopsin, 3-hydroxy-6-isovaleryloxy-9-oxoeuryopsin, 10-hydroxy-1-senecioyloxyfuranoeremophilane, 6β -isobutyryloxy-9-oxo-1,10-epoxyeuryopsin, 6β -isovaleryloxy-9-oxo-1, 10-epoxyeuryopsin.

Bohlmann *et al.*, *Chem. Ber.*, **105**, 3523 (1972)

E. pectinatus.

SESQUITERPENOIDS: 6β -(2,3-epoxy-2-methylbutyryloxy)- 1β , 10β -furanoeremophil-9-one, 4α -hydroxy- 6β -isovaleryloxy- 10α H-furanoeremophilan-9-one.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. pectinatus x chrysanthemoides.SESQUITERPENOID: 3 β -angeloyloxyeuryopsin.Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)***E. pedunculatus.***SESQUITERPENOIDS: 3 β -acetoxy-6 β -angeloyloxyeuryopsin, 3 α -angeloyloxy-1 β ,10 β -epoxyfuranoeremophilane, anhydrooplopanone, 3 β -hydroxy-6 β -(3-methylpentanoyloxy)-1 β ,10 β -epoxy furanoeremophilane, 3 β -(3-methylpentanoyloxy)-euryopsin, 3 α -(3-methylpent-2-cis-enoyloxy)-1 β ,10 β -epoxy furanoeremophilane, 3 α -(3-methylpent-2-trans-enoyloxy)-1 β ,10 β -epoxy furanoeremophilane, 3 α -3-methylpent-2-cis-enoyloxy)euryopsin.Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)***E. rehmanni.***SESQUITERPENOIDS: 9 α -hydroxy-6 β -angeloyloxyeuryopsin, 3 β -(2-methylacrylyloxy)-6 β -angeloyloxy-10 α H-furanoeremophil-9-one, 3 β -(2-methylacrylyloxy)-6 β -(2-methylacrylyloxy)-10 α H-furanoeremophilan-9-one, 3 β -(2-methylacrylyloxy)-6 β -tigloyloxy-10 α H-furanoeremophilan-9-one.Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)***E. rupestris var. rupestris.***

SESQUITERPENOIDS: 2-dehydrorupestrol-9-angelate, eurupestrol 9-angelate,

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)***E. spathaceus.***SESQUITERPENOIDS: 6 β -angeloyloxy-3 β -hydroxy-9-oxoeuryopsin, 6 β -angeloyloxy-3 β -(2-methacryloxy)-9-oxoeuryopsin, 6 β -angeloyloxy-9-oxo-2,3-didehydroeuryopsin, 3 β ,6 β -bis(2-methylacryloxy)-9-oxoeuryopsin, 3 β -hydroxy-6 β -(2-methylacryloxy)-9-oxoeuryopsin, 3 β -hydroxy-6 β -(2-methyl-2,3-epoxy-butyroloxy)-euryopsin-9-one, 6 β -(2-methylacryloxy)-9-oxo-2,3-didehydroeuryopsin, 6 β -(2-methylacryloxy)-9-oxoeuryopsin, 6 β -(2-methylacryloxy)-9-oxofuranoeremophilane.Bohlmann *et al.*, *Chem. Ber.*, **107**, 2730 (1974)***E. speciosissimum.***SESQUITERPENOIDS: 6 β -angeloyloxy-9-oxo-1 α ,10 α -epoxyeuryopsin, 2-hydroxymethylcrotonyleuryopsonol, euryopsonol isobutyrate, euryopsonol isovalerate, 6 β -isobutyryloxy-9-oxo-1,10-epoxyeuryopsin, 6 β -isovaleryloxy-9-oxo-1,10-epoxyeuryopsin.Bohlmann *et al.*, *Chem. Ber.*, **105**, 3523 (1972)***E. sulcatus.***SESQUITERPENOIDS: 3 β -acetoxy-6 β -angeloyloxyeuryopsin, 4 α -hydroxy-6 β -tigloyloxyeuryopsin.Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)***E. tenuisissimus.***

SESQUITERPENOIDS: 6 β -angeloyloxy-4,5-didehydro-5,6-secoeuryopsin, 6 β -angeloyloxy-4 β -hydroxyeuryopsin, 1,10-epoxy-4 α -hydroxy-6 β -isobutyryloxyfuranoeremophilane.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 2730 (1974)

E. tysonii.

SESQUITERPENOIDS: 6 β -acetoxyl-12-hydroxy-8,12H 1(10),9-dehydrofuranoeremophilane, 10 β -hydroxy-1 α -tigloyloxyfuranoeremophilane, 6 β -(2-methylacrylyloxy)-12-hydroxy-8,12 1(10),9-furanoeremophilane, 6 β -tigloyloxy-10 α H-furanoeremophilane-9-one.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

E. virginicus.

SESQUITERPENOIDS: 4 α -hydroxy-9-oxo-6 β -tigloyloxyfuranoeremophilane, 4 α -hydroxy-6 β -tigloyloxyeuryopsin.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 2730 (1974)

Bohlmann *et al.*, *ibid.*, **107**, 2912 (1974)

E. wagneri.

SESQUITERPENOID: 4 α -hydroxy-6 β -(2-methyl-2,3-epoxybutyryloxy)-10 α H-furanoeremophil-9-one.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1135 (1978)

EUSCAPHIS (Staphyleaceae)

E. japonica.

TRITERPENOID: euscaphic acid.

Takahashi *et al.*, *Chem. Pharm. Bull.*, **22**, 650 (1974)

EUSTOMA

E. grandiflorum (Raf.) Shinners.

XANTHONES: eustomin, 1-hydroxy-3,7-dimethoxyxanthone, 1-hydroxy-3,5,6,7,8-pentamethoxyxanthone, 1 -hydroxy-3,7,8-trimethoxyxanthone.

Sullivan *et al.*, *J. Pharm. Sci.*, **66**, 828 (1977)

EUTREPTIELLA

E. gymnastica.

CAROTENOID: eutreptiellanone.

Fiksdahl *et al.*, *Phytochemistry*, **23**, 649 (1984)

EUXYLOPHORA (Rutaceae)

E. paraensis Hub.

CARBOLINE ALKALOIDS: euxylophoricines A, B and C, euxylophorine A, euxylophorine B, paraensine.

QUINOLONE ALKALOIDS: paraensidimerines A, B, C, D, E, F and G.

Danieli *et al.*, *Phytochemistry*, **11**, 1833 (1972)

Jurd, Wong, *Aust. J. Chem.*, **34**, 1635 (1981)

EVERNIA (Lichenes)

E. prunastri (L.) Ach.

DEPSIDE: evernin.

Nicollier *et al.*, *Helv. Chim. Acta*, **59**, 2979 (1976)

EVODIA (Rutaceae)

E. alata.

ACRIDONE ALKALOIDS: arborinine, evoprenine, normelicopidine.

FURANOQUINOLINE ALKALOID: evolatine.

Gell *et al.*, *Aust. J. Chem.*, **8**, 114 (1955)

E. celata F.Muell.

ACRIDONE ALKALOID: melicopine.

Gell *et al.*, *Aust. J. Chem.*, **8**, 114 (1955)

E. evelleryana F.Muell.

FURANOQUINOLINE ALKALOID: evellerine.

Johns *et al.*, *Aust. J. Chem.*, **24**, 1897 (1968)

E. floribunda.

DITERPENOIDS: floribundic acid, floridiolic acid, floridiolide A, floridiolide B.

Billet *et al.*, *Tetrahedron Lett.*, 3825 (1975)

Billet *et al.*, *J. Chem. Res.*, 1475 (1978)

E. fraxinifolia.

TRITERPENOID: isobauerenol.

Lahey, Leeding, *Proc. Chem. Soc. (London)*, 342 (1958)

E. grauca.

NORTRITERPENOIDS: graucins A, B and C.

Nakatani *et al.*, *Tennen Yuki Kagobutsu Toronkai Koen Yoshishu*, **26**, 9 (1983)

E. hortensis.

MONOTERPENOID: evodone.

Stetter *et al.*, *Chem. Ber.*, **93**, 603 (1960)

E. hupehensis.

COUMARIN: xanthotoxol.

Spath *et al.*, *Ber.*, **69**, 767 (1936)

E. littoralis.

FURANOQUINOLINE ALKALOID: evolitrine.

Cooke, Haynes, *Aust. J. Chem.*, **7**, 273 (1954)

E. meliifolia Benth.

PROTOBERBERINE ALKALOID: berberine.

Gupta, Spenser, *Can. J. Chem.*, **43**, 133 (1965)

E. rutaecarpa Benth. et Hook.

CARBOLINE ALKALOIDS: dehydroevodiamine, evodiamine, rhetsinine, rutaecarpine.

QUINOLINE ALKALOIDS: evocarpine, wuchuyine.

LIMONOID: rutaevin.

(A) Nakasato *et al.*, *J. Pharm. Soc., Japan*, **82**, 619 (1962)

(T) Dreyer, *J. Org. Chem.*, **32**, 3442 (1967)

E. xanthoxyloides F.Muell.

ACRIDONE ALKALOIDS: evoxanthidine, evoxanthine, melicopine, xanthoxoline.

FUROQUINOLINE ALKALOIDS: anhydroevoxine, evoxine, evoxoidine.

UNCHARACTERIZED ALKALOID: xanthevolide.
Hughes *et al.*, *Austral. J. Sci. Res.*, **5A**, 401 (1952)

EXCOECARIA (Euphorbiaceae)

E. agallocha L.

One nortriterpenoid.

Ohigashi *et al.*, *Agric. Biol. Chem.*, **38**, 1093 (1974)

F

FABIANA (Solanaceae)

F. imbricata Hort.

QUINOLINE ALKALOID: fabianine.

Edwards, Elmore, *Can. J. Chem.*, **40**, 256 (1962)

FAGARA (Fagaraceae)

F. angolensis.

NAPHTHOISOQUINOLINE ALKALOID: angoline.

Palmer, Paris, *Ann. Pharm. Fr.*, **13**, 657 (1955)

F. coca (Gill) England.

FURANOQUINOLINE ALKALOID: τ -fagarine.

OXOPROTOBERBERINE ALKALOIDS: α -fagarine, fagarine II, fagarine III.

QUATERNARY ALKALOID: N-methylisocorydine.

Giacopello *et al.*, *Tetrahedron*, **20**, 2971 (1964)

F. hymelis (St.Hill) England.

AMIDE ALKALOIDS: (\pm)-tembamide, (+)-tembamide.

Albonico *et al.*, *J. Chem. Soc., C*, 1327 (1967)

F. lepreurii.

ACRIDONE ALKALOID: 1-hydroxy-2,3-dimethoxy-N-acridone.

NAPHTHOISOQUINOLINE ALKALOID: angoline.

Calderwood, Fish, *J. Pharm. Pharmacol.*, **18**, 1195 (1966)

F. macrophylla.

BENZOPHENANTHRIDINE ALKALOID: xanthofagarine.

Torto *et al.*, *Ghana J. Sci.*, **8**, 3 (1969)

F. mayu. One naphthoisoquinoline alkaloid.

COUMARINS: bergapten, isopimpinellin, psoralen, xanthotoxin.

(A) Assem *et al.*, *Phytochemistry*, **18**, 511 (1979)

(C) Torres *et al.*, *An. Asoc. Quim. Argent.*, **63**, 187 (1975); *Chem. Abstr.*, 85 139724n

F. naranjillo (Griseb.) Engl.

APORPHINE ALKALOID: tembetarine.

Albonico *et al.*, *Chem. Ind. (London)*, 1580 (1964)

F. nigrescens Fries.

APORPHINE ALKALOID: (+)-N-methylcorydine.

Kuck, *Chem. Ind. (London)*, 118 (1966)

F. officinalis L.

PROTIBERBERINE ALKALOIDS: (\pm)-sinactine, (-)-sinactine.

Goto, Kitasato, *J. Chem. Soc.*, 1234 (1930)

F. parvifolia A.Chev.

UNCHARACTERIZED ALKALOID: parvifagarine.

Paris *et al.*, *Ann. Pharm. Fr.*, **6**, 409 (1948)

F. rhoifolia Lam.

OXOPROTOBERBERINE ALKALOID: α -cryptopine.

PROTOBERBERINE ALKALOIDS: (-)-canadine, N-methylcanadine.

Calderwood, Fish, *Chem. Ind. (London)*, **6**, 237 (1966)

F. rubescens.

ACRIDONE ALKALOIDS: 1-hydroxy-2,3-dimethoxy-N-methylacridone, 1-hydroxy-3-methoxy-10-methylacridone.

AMIDE ALKALOID: rubesamide.

Dadson *et al.*, *J. Chem. Soc., Perkin I*, 146 (1976)

F. semiarticulata.

NAPHTHOISOQUINOLINE ALKALOID: chelerythrine.

Manske, *Can. J. Res.*, **21B**, 140 (1943)

F. tessmannii.

AMIDE ALKALOID: fagaramide.

Okorie, *Phytochemistry*, **15**, 1799 (1976)

F. tinguassoiaba Hoehn.

APORPHINE ALKALOID: 1-hydroxy-2,9,10-trimethoxy-N-methylaporphine.

Riggs *et al.*, *Can. J. Chem.*, **39**, 1330 (1961)

F. xanthoxyloides.

ISOQUINOLINE ALKALOID: fagaronine.

LIGNAN: fagarol.

(A) Messmer *et al.*, *J. Pharm. Sci.*, **61**, 1858 (1972)

(L) Abe *et al.*, *Chem. Pharm. Bull.*, **22**, 2650 (1974)

FAGAROPSIS

F. glabra.

LIMONOID: isofraxinellone.

Blaise *et al.*, *Phytochemistry*, **24**, 2379 (1985)

FAGONIA (Zygophyllaceae)

F.alba.

FLAVONOIDS: herbacetin, herbacetin 8-methylether 3,7-diglucoside, herbacetin 8-methyl ether 3-rutinoside, herbacetin 8-methyl ether 3-rutinoside-7-glucoside, isorhamnetin 3-glucoside, isorhamnetin 3-rutinoside.

El-Negoumy *et al.*, *Phytochemistry*, **25**, 2423 (1986)

F. cretica.

TRITERPENOIDS: chinovic acid, fagogenin, fagogenin A, fagogenin B.

Hussein *et al.*, *Pakistan J. Sci. Ind. Res.*, **9**, 269 (1966)

Ali, Hameed, *ibid.*, **10**, 140 (1967)

F. indica.

SAPOGENIN: nahogenin.

Atta-ur-Rahman *et al.*, *Heterocycles*, **19**, 217 (1982)

F. taeckholmiana.

FLAVONOIDS: herbacetin, herbacetin 8-methyl ether 3,7-diglucoside, herbacetin 8-methyl ether 3-rutinoside, herbacetin 8-methyl ether 3-rutinoside-7-glucoside, isorhamnetin 3-glucoside, isorhamnetin 3-rutinoside.

El-Negoumy *et al.*, *Phytochemistry*, **25**, 2423 (1986)

FAGOPYRUM (Polygonaceae)

F. esculentum Moench.

PIPERIDINE ALKALOID: 3,4-dihydroxy-2-piperidinomethanol.

PIGMENT: fagopyrin.

(A) Koyama, Sakamura, *Agric. Biol. Chem.*, **38**, 1111 (1974)

(P) Brockmann *et al.*, *Tetrahedron Lett.*, 1575 (1979)

FAGUS (Fagaceae)

F. crenata.

HYDROCARBONS: ditriacontane, heptacosane, hexacosane, monotriacontane, nonacosane, octacosane, pentacosane, triacontane, tritriacontane.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelanol, epi-friedelanol, friedelin, glutinol.

Tachi *et al.*, *J. Pharm. Soc., Japan*, **98**, 349 (1978)

F. japonica.

HYDROCARBONS: ditriacontane, heptacosane, hexacosane, monotriacontane, nonacosane, octacosane, pentacosane, triacontane, tritriacontane.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelanol, epi-friedelanol, friedelin, glutinol.

Tachi *et al.*, *J. Pharm. Soc., Japan*, **98**, 349 (1978)

FALCARIA

F. vulgaris.

ACETYLENIC: 1,9-heptadecadiene-4,6-diyn-3-one.

COUMARINS: scopoletin, umbelliferone.

PHENOLICS: caffeic acid, chlorogenic acid, p-coumaric acid, ferulic acid, p-hydroxybenzoic acid, p-hydroxyphenylacetic acid, protocatechuic acid, salicylic acid, syringic acid, vanillic acid.

MONOTERPENOIDS: anethole, bisabolene, borneol, camphene, carvene, 1,8-cineole, p-cymene, fenchol, fenchone, isoborneol, isobornyl acetate, limonene, α -phellandrene, α -pinene, β -pinene.

(Acet) Bohlmann *et al.*, *Chem. Ber.*, **94**, 958 (1961)

(A, C, T) Gudej *et al.*, *Acta Pol. Pharm.*, **34**, 299, 305 (1977); *Chem. Abstr.*, 88 60130u

FALKENBERGIA (Rhodophyceae/Bonnemaisoniaceae)

F. rufolansa (Harv.) Smith.

STEROID: cholesta-5,25-diene-3 β ,24-diol.

Francisco *et al.*, *Steroids*, **34**, 163 (1979)

FARADAYA (Verbenaceae)

F. splendida F.Muell.

TRITERPENOID: faradoic acid.

Eade *et al.*, *Aust. J. Chem.*, **27**, 2289 (1974)

FARAMEA

F. cyanea.

NAPHTHOPYRANS: faramol, 7-methoxyfaramol.

Ferrari *et al.*, *Phytochemistry*, **24**, 2753 (1985)

FARFUGIUM (Compositae)

F. hiberniflorum (Makino) Kitam.

ACIDS: linoleic acid, linolenic acid, palmitic acid.

STEROID: β -sitosterol.

SESQUITERPENOIDS: 6 β -acetoxyfuranoeremophilan-3 α -yl angelate, 3-acetyl-6-angeloyloxyfuranofukinol, 6 β -hydroxyfuranoeremophilan-3 α -ol.

(Ac, S) Ito *et al.*, *J. Pharm. Soc., Japan*, **97**, 1374 (1977)

(T) Nagano, Takahashi, *Bull. Chem. Soc., Japan*, **45**, 1935 (1972)

***F. japonicum* Kitamura.**

DIMERIC SESQUITERPENOID: 12,12'-bi(3-angeloyloxyfuranoeremophila-7,11-diene). Sesquiterpenoids 3 β -angeloyloxy-8 β ,10 β -dihydroxyeremophilenolide, 3 β -angeloyloxyfuranoeremophilane, 3 β -angeloyloxy-9 β -hydroxyfuranoeremophilane, 3 β -angeloyloxy-10 β -hydroxyfuranoeremophilane, 3 β -angeloyloxy-10 β -hydroxy-9 β -senecioyloxyfuranoeremophilane, 3 β -angeloyloxy-9 β -senecioyloxyfuranoeremophilane, farfugin A, farfugin B, 8 β -hydroxyeremophilenolide. 6 β -senecioyloxyfuranoeremophilane

Kurihara *et al.*, *J. Pharm. Soc., Japan*, **101**, 35 (1981)

***F. japonicum* Kitamura var. *formosanum*.**

SESQUITERPENOIDS: farformolide A, farformolide B.

Ito *et al.*, *J. Pharm. Soc., Japan*, **98**, 1592 (1978)

***F. japonicum* Kitamura var. *luchnense*.**

SESQUITERPENOID: 8 β -hydroxyeremophilenolide.

Ito *et al.*, *J. Pharm. Soc., Japan*, **100**, 69 (1980)

FATSIA (Araliaceae)

***F. japonica*.**

SAPONINS: fatsiaside A, fatsiaside B, fatsiaside C, fatsiaside D, fatsiaside E, fatsiaside F, fatsiaside G, α -fatsin, β -fatsin, β -2-fatsin, β -3-fatsin, β -4-fatsin, 3-O-[β -glucopyranosyl- β -L-arabinopyranosyl]-oleanic acid, 3-O-[β -glucopyranosyl- β -D-glucopyranosyl]-hederagenin.

Tanamura, Takamura, *J. Pharm. Soc., Japan*, **95**, 1 (1975)

Aoki *et al.*, *Phytochemistry*, **15**, 781 (1976)

Gabadadze *et al.*, *Izv. Akad. Nauk Gruz SSR*, **3**, 243 (1977); *Chem. Abstr.*, 88 148969k

FELICIA

***F. uliginosa*.**

ESTER: tetradeca-5,7,9,11-tetraenoic acid methyl ester.

Bohlmann, Zdero, *Phytochemistry*, **15**, 1318 (1976)

***F. wrightii*.**

ISOCOUMARINS: eugenol isovalerate, 3-propylisocoumarin.

Bohlmann, Zdero, *Phytochemistry*, **15**, 1318 (1976)

FERETIA

F. apodanthera.

IRIDOIDS: 10-ethylapodanthoside, apodanthoside, 11-methylixoside, ixoside.

Bailleul *et al.*, *Planta Med.*, **37**, 316 (1979)

FERREIRA

F. spectabilis.

PIGMENT: chrysarobin.

Grundon *et al.*, *J. Chem. Soc.*, 4580 (1952)

FERREYANTHUS

F. verbascifolium.

SESQUITERPENOID: ferreyanthuslactone.

Bohlmann *et al.*, *Phytochemistry*, **16**, 285 (1977)

FERULA (Umbelliferae)

F. aitchisonii.

COUMARINS: karatavic acid, karatavikinol, tavicone, umbelliprenin.

Veselovskaya *et al.*, *Khim. Prir. Soedin.*, 397 (1982)

F. akitschkensis.

SESQUITERPENOIDS: akiferidin, akiferidinin, akiferinin, akitschenin, akitschenol.

Kushmuradov *et al.*, *Khim. Prir. Soedin.*, **137**, 725 (1978)

F. alliacea.

BENZOPYRAN: phellopterin.

Chatterjee *et al.*, *Arch. Pharm. (Weinheim, Ger.)*, **295**, 248 (1962)

F. asafoetida.

COUMARIN SESQUITERPENOID: kamolonol.
Hafer *et al.*, *Monatsh. Chem.*, **115**, 1207 (1984)

F. badkhyisi.

SESQUITERPENOIDS: badkhysidin, badkhysinin.
Serkerov *et al.*, *Khim. Prir. Soedin.*, 176 (1972)

F. ceratophylla.

SESQUITERPENOIDS: fecerol, fecerin, ferocin, ferolinin.
Golivina, Saidkhodzhaev, *Khim. Prir. Soedin.*, 796 (1977)

F. communis.

COUMARIN: ferulenol.
SESQUITERPENOID: α -ferulene.
Carboni *et al.*, *Tetrahedron Lett.*, 3017 (1965)

F. communis subsp. communis.

ESTER: fercomin.
LACTONE: fercolide.
Miski, Mabry, *Phytochemistry*, **25**, 1673 (1986)

F. communis var. genuina.

COUMARINS: ferulenol, hydroxyferulenol.
Lamnaouer *et al.*, *Phytochemistry*, **26**, 1613 (1987)

F. conocaula.

COUMARIN SESQUITERPENOIDS: cauferinin, conferdione, conferin, conferol, conferone, dihydroconferin, ferocolidin, ferocolin, ferocolinin, kauferidin, kauferin.
Vandychev *et al.*, *Khim. Prir. Soedin.*, 658 (1974)
Kuliev *et al.*, *ibid.*, 151 (1979)

F. diversivittata.

COUMARINS: diversine, diversinine, diversoside, umbelliferone.
COUMARIN SESQUITERPENOIDS: pheselol, pheselol acetate.
SESQUITERPENOID: diversolide.
STEROID: β -sitosterol.
Nabiev *et al.*, *Khim. Prir. Soedin.*, 517 (1978)

F. dshaudshamyr.

KETONE: dshamirone.
Kamilov, Nikonorov, *Khim. Prir. Soedin.*, 817 (1976)

F. fedtschenkoana.

SESQUITERPENOID: federin.
Kamilov *et al.*, *Khim. Prir. Soedin.*, 527 (1974)

F. feganensis.

COUMARINS: chimganidin, ferolin.

Kadyrov *et al.*, *Khim. Prir. Soedin.*, 704 (1977)***F. foetidissima.***

COUMARINS: conferol, conferone.

COUMARIN SESQUITERPENOID: ferukrinone.

Kir'yanova, Skylar, *Khim. Prir. Soedin.*, 652 (1984)***F. foliosa.***

COUMARINS: kamolol, kamolone.

COUMARIN SESQUITERPENOID: foliferin.

(C) Kadyrov *et al.*, *Khim. Prir. Soedin.*, 704 (1977)(T) Kadyrov *et al.*, *ibid.*, **178**, 518 (1978)***F. galbaniflora.***

SESQUITERPENOID: 10-epi-junenol.

Thomas *et al.*, *Tetrahedron*, **32**, 2261 (1976)***F. gigantea.***

SESQUITERPENOIDS: feguolide, giferolide.

Savina *et al.*, *Khim. Prir. Soedin.*, 490 (1979)***F. grigorjevii.***

DITERPENOID: grilactone.

Kir'yalova *et al.*, *Khim. Prir. Soedin.*, 446 (1972)***F. iliensis.***MONOTERPENOID: bisabolene, β -calocorene, camphene, copaene, ar-curcumene, β -myrcene, cis-ocimene, trans- β -ocimene, α -pinene, β -pinene.

COUMARIN SESQUITERPENOID: ferilin.

SESQUITERPENOIDS: α -bisabolol, α -cadinol.Veselovskya, Skylar, *Khim. Prir. Soedin.*, 387 (1984)Dembitskii *et al.*, *Izv. Akad. Nauk Kaz. SSR*, 63 (1985); *Chem. Abstr.*, 103 19866d***F. involucrata.***

ESTERS: involucrin, involucrinin, ugaferin, ugaferinin.

Potapov *et al.*, *Chem. Abstr.*, 87 2357s***F. jaeschkeana.***

SESQUITERPENOIDS: jaeschferin, jaeschkeanadiol.

Srivaman *et al.*, *Tetrahedron*, **29**, 985 (1973)***F. juniperina.***

SESQUITERPENOIDS: juniferdin, juniferin, juniferidin, juniferinin.

PHENOLICS: juniperin, juniperinin, juperin.

(P) Sagitdinova *et al.*, *Khim. Prir. Soedin.*, 547 (1976)
 (T) Sagitdinova, Saidkhodzhaev, *ibid.*, 790 (1977)

F. karatavica.

COUMARIN SESQUITERPENOID: karatavikinol.

SEQUITERPENOID: karatavin.

Bagirov, *Khim. Prir. Soedin.*, 655 (1978)

F. kelleri.

COUMARIN SESQUITERPENOIDS: ferukrin, kellerin.

Adrianova *et al.*, *Khim. Prir. Soedin.*, 795 (1978)

F. kokanica.

COUMARIN SESQUITERPENOID: kokanidin.

Nabiev *et al.*, *Khim. Prir. Soedin.*, 578 (1982)

F. kopetdagensis.

COUMARIN SESQUITERPENOIDS: acetylferukrin, fekolin, fekolone, kopedin, kopeoside, kopetdaghin, kopeolone.

Nabiev *et al.*, *Khim. Prir. Soedin.*, 48 (1982)

F. korshinskyi.

COUMARIN SESQUITERPENOID: feroside.

SEQUITERPENOIDS: fekorin, fekorin A.

Kadyrov *et al.*, *Khim. Prir. Soedin.*, 152 (1975)

F. krylovii.

COUMARIN SESQUITERPENOIDS: fekrol, ferukrin.

Veselovskaya *et al.*, *Khim. Prir. Soedin.*, 851 (1979)

F. kumistanica.

SEQUITERPENOID: ferutidin.

Saidkhodzdaev, Nikonorov, *Khim. Prir. Soedin.*, 525 (1974)

F. lancerottensis.

SEQUITERPENOIDS: epoxyjaeschkeanadiol p-hydroxybenzoate, jaeschkeanadiol p-hydroxybenzoate, lancerodiol, lancerodiol p-hydroxybenzoate, lancerodiol p-methoxybenzoate, lancerotriol, lancerotriol p-hydroxybenzoate.

Fraga *et al.*, *Phytochemistry*, 24, 501 (1985)

F. lapidosa.

SEQUITERPENOIDS: lapidolin, lapiferinin, lapidin.

Golovina *et al.*, *Khim. Prir. Soedin.*, 318 (1981)

F. lehmanni.

UNCHARACTERIZED TERPENOIDS: lehmferidin, lehmferin.

Sagitdinova *et al.*, *Khim. Prir. Soedin.*, 709 (1983)

F. linkiis.

SESQUITERPENOIDS: felikiol 3-angelate, ferutriol 5-isovalerate, lancerotol p-hydroxybenzoate, lancerotol p-methoxybenzoate, lancerotol veratrate, linkiol, webiol angelate, webiol epoxyangelate.

Diaz *et al.*, *Phytochemistry*, **25**, 1161 (1986)

F. loscosii.

COUMARINS: coladin, coladonin, isovalerylcoladonin, umbelliprenin.

Pinar *et al.*, *Phytochemistry*, **16**, 1987 (1977)

F. marmarica L.

COUMARIN SESQUITERPENOID: marmarin.

Dawidar *et al.*, *Chem. Pharm. Bull.*, **27**, 3153 (1979)

F. microcarpa.

COUMARIN SESQUITERPENOIDS: fecarpin, microferin, microferinin.

Golovina *et al.*, *Khim. Prir. Soedin.*, 566 (1978)

F. microloba.

COUMARIN SESQUITERPENOIDS: galbanic acid methyl ester, microlobin.

Nabiev *et al.*, *Khim. Prir. Soedin.*, 781 (1983)

F. mogoltarica.

COUMARIN SESQUITERPENOIDS: mogoltadin, mogoltadone, mogoltavin, mogoltavinin, mogoltavitsin, mogoltin, mogolton.

Khasanov *et al.*, *Khim. Prir. Soedin.*, **10**, 25 (1974)

F. moschata.

COUMARIN SESQUITERPENOID: conferol.

Vandyshev *et al.*, *Khim. Prir. Soedin.*, 670 (1972)

F. nevskii.

COUMARIN SESQUITERPENOID: nevkone.

Bagirov *et al.*, *Khim. Prir. Soedin.*, 652 (1978)

F. olgae.

IRIDOID: lamioside.

SESQUITERPENOIDS: laferin, laferinin, olgin, olgoferin, talasin A, talasin B.

Konovalova *et al.*, *Khim. Prir. Soedin.*, 590 (1975)

F. oopoda.

COUMARIN SESQUITERPENOIDS: feropolol, feropolidin, feropolin.

SESQUITERPENOIDS: badkhysidin, badkhysinin, 11,13-dihydroopodin, grillactone, feropodin, oopodin, semopodin.

Serkerov *et al.*, *Khim. Prir. Soedin.*, 392 (1976)
 Malone *et al.*, *J. Chem. Soc., Perkin 2*, 1683 (1980)

F. pallida.

SESQUITERPENOIDS: angrendiol, ferolin, palliferidin, palliferin, palliferinin, pallinin.

UNCHARACTERIZED TERPENOIDS: taufedin, taufedinin, tauferin, taulin.

Kushmuradov *et al.*, *Khim. Prir. Soedin.*, 53 (1986)

F. penninerva.

COUMARIN SESQUITERPENOIDS: kamolol, kamolone.

SESQUITERPENOID: ferolide.

Nurukhamedova *et al.*, *Khim. Prir. Soedin.*, 533 (1980)

F. persica.

COUMARIN: farnesiferol C.

Caglioti *et al.*, *Helv. Chim. Acta*, 42, 2557 (1959)

F. polyantha.

COUMARIN SESQUITERPENOIDS: polyanthin, polyanthinin.

Khasanov *et al.*, *Khim. Prir. Soedin.*, 517 (1974)

F. pseudooreoselinum.

COUMARIN SESQUITERPENOIDS: fezolol, epi-fezolol, fezelone.

LACTONES: α -reolone, β -reolone.

SESQUITERPENOID: roseolin.

(C, T) Kir'yamlov, Buk'reeva, *Khim. Prir. Soedin.*, 425 (1973)

(L) Bukreeva *et al.*, *ibid.*, 30 (1977)

F. rigidula.

KETONE: crocatone.

Sadykov *et al.*, *Khim. Prir. Soedin.*, 107 (1973)

F. rubroarenosa.

MONOTERPENOID: rubaferin.

SESQUITERPENOIDS: rubaferidin, rubaferinin.

Golovina *et al.*, *Khim. Prir. Soedin.*, 712 (1978)

F. samarcandia.

SESQUITERPENOID: mogolton.

Khasanov *et al.*, *Khim. Prir. Soedin.*, 617 (1973)

F. schschorowskiana.

COUMARIN SESQUITERPENOID: feshurin.

Kadyrov *et al.*, *Khim. Prir. Soedin.*, 228 (1979)

F. stylosa.

MONOTERPENOID: stylosidin.

Bagirov, Aliev, *Khim. Prir. Soedin.*, 99 (1981)

F. syreitschikowii.

COUMARINS: imperatorin, oxypeucedanin, oxypeucedanin hydrate, pranchimgin, saxalin.

Bizhanova, Nikonov, *Khim. Prir. Soedin.*, 278 (1977)

F. szovitsiana DC.

COUMARINS: aurapten, farnesiferol C, umbelliferone.

Caglioti *et al.*, *Helv. Chim. Acta*, **42**, 2557 (1959)

Gashimov *et al.*, *Chem. Abstr.*, 85 189214s

F. tadshikorum.

COUMARIN SESQUITERPENOIDS: tadshiferin, tadshikorin.

Perel'son *et al.*, *Khim. Prir. Soedin.*, 593 (1976)

F. tenuisecta.

MONOTERPENOID: feroferin.

SESQUITERPENOIDS: ferolin, ferolinicin, fertenidin, ferutin, ferutinin, fetinin, teferidin, teferin, tenuferidin, tenuferin, tenuferinin.

TERPENE ESTER: ferutinine.

Potapov *et al.*, *Izv. Akad. Nauk Kaz. SSR.*, 63 (1980)

F. tetterina.

COUMARIN SESQUITERPENOID: feterin.

Perel'son *et al.*, *Khim. Prir. Soedin.*, 318 (1978)

F. tingitana.

SESQUITERPENOIDS: acetyldesoxodihydrolaserpilin, acetyltingitanol, 14-p-anisoyloxydauc-4,8-diene, 4 β -hydroxy-6 α -p-hydroxybenzoyloxy-10 α -angeloyloxydauc-8-ene, tingitanol.

Ulubelen *et al.*, *Tetrahedron*, **40**, 5197 (1984)

Miski, Mabry, *J. Nat. Prod.*, **49**, 657 (1986)

F. tschatcalensis.

SESQUITERPENOID: chatferin.

Sagitdinova *et al.*, *Khim. Prir. Soedin.*, 721 (1983)

F. tschimganica.

SESQUITERPENOIDS: angrendiol, ferolin.

Saidkhodzhaev *et al.*, *Khim. Prir. Soedin.*, 519 (1977)

F. ungamica.

KETONE: crocatone.

Serkerov *et al.*, *Khim. Prir. Soedin.*, 539 (1975)

F. xeromorpha.

COUMARINS: 3'-(α -methylbutyryloxy)-4'-acetoxydihydroselin, xanthogallol.

SESQUITERPENOIDS: fecseridin, fecserinin, fecserin, xeroferin.

(C) Aminov *et al.*, *Khim. Prir. Soedin.*, 283 (1977)

(T) Bizhanova *et al.*, *ibid.*, 576 (1978)

FERULAGO

F. turcomanica.

COUMARINS: furocoumarin, isoimperatorin, isooxypeucedanin, osthole, oxypeucedanin.

Adrianova *et al.*, *Khim. Prir. Soedin.*, 514 (1975)

Serkarov *et al.*, *ibid.*, 94 (1976)

FESTUCA (Gramineae)

F. arundinacea Schreb.

PYRROLIZIDINE ALKALOID: festucine.

Yates, Tookey, *Aust. J. Chem. (Weinheim, Ger.)*, **18**, 53 (1965)

FIBRAURIA (Menispermaceae)

F. chloroleuca Miers.

PROTOBERBERINE ALKALOIDS: jatrorrhizine, palmatine.

DITERPENOIDS: fibleucin, fibraurin, 6-hydroxyfibraurin.

(A) Orekhov, *Arch. Pharm. (Weinheim, Ger.)*, **271**, 323 (1933)

(T) Ito, Furukawa, *J. Chem. Soc., Chem. Commun.*, 653 (1969)

F. tinctoria.

UNCHARACTERIZED ALKALOIDS: fibraminine, fibranine.

Chu *et al.*, *Hua Hsueh Hsueh Pao.*, **28**, 59 (1962)

FICARIA

F. verna Hudson.

TRITERPENOIDS: hederagenin, oleanolic acid.

Figurkin, Figurkina, *Rastit. Resur.*, **12**, 557 (1976); *Chem. Abstr.*, 86 27654d

FICUS (Moraceae)

F. bengalensis.

AMINE ALKALOID: (R)-synephrine.

COUMARIN: bergapten.

LEUCOANTHOCYANINS: delphinidin 3-O- α -L-rhamnoside, leucocyanidin 3-O- β -D-galactosylcellobiose, pelargonidin 3-O- α -L-rhamnoside.

STEROID: β -sitosterol.

(A) Stewart *et al.*, *J. Biol. Chem.*, **239**, 930 (1964)

(C, S) Ahmad, *J. Indian Chem. Soc.*, **53**, 1165 (1976)

(L) Subramanian *et al.*, *Indian J. Chem.*, **15B**, 762 (1977)

F. cunninghamii.

COUMARINS: herniarin, isopimpinellin, marmesin, umbelliferone.

El-Khrisy *et al.*, *Fitoterapia*, **56**, 184 (1985)

F. eriobotryoides.

COUMARINS: bergapten, marmesin.

STEROID: β -sitosterol.

TRITERPENOID: β -amyrin.

El-Khrisy *et al.*, *Fitoterapia*, **56**, 184 (1985)

F. lacor.

AMINOACIDS: alanine, asparagine, threonine, tyrosine, valine.

Ali *et al.*, *J. Indian Chem. Soc.*, **64**, 230 (1987)

F. macrophyllus.

TRITERPENOID: moretenol

Galbraith *et al.*, *Aust. J. Chem.*, **18**, 226 (1965)

F. nitida.

TRITERPENOIDS: acetoxynitidiol, nitidiol.

Elgamel *et al.*, *Naturwissenschaften*, **62**, 486 (1975)

F. palmata.

COUMARIN: bergapten.

STEROID: β -sitosterol.

Ahmad *et al.*, *J. Indian Chem. Soc.*, **53**, 1165 (1976)

***F. pantoniana* King.**

COUMARIN ALKALOIDS: ficine, isoficine.

Johns *et al.*, *Tetrahedron Lett.*, 1987 (1965)

***F. racemosa*.**

TRITERPENOID: lupeol.

Agrawal, *Rocz. Chem.*, **51**, 1265 (1977)

***F. religiosa*.**

AMINOACIDS: alanine, asparagine, threonine, tyrosine, valine.

Ali *et al.*, *J. Indian Chem. Soc.*, **64**, 230 (1987)

***F. septica*.**

PHENANTHROINDOLIZIDINE ALKALOIDS: septicine, tylocrebine, tylophorine.

Russell, *Naturwissenschaften*, **50**, 443 (1963)

***F. sycomorus*.**

COUMARINS: bergapten, marmesin, psoralen.

El-Khrisy *et al.*, *Fitoterapia*, **56**, 184 (1985)

FILIFOLIUM

***F. sibiricum* (L.) Kitam.**

FLAVONOIDS: 3,6-dimethoxyquercetagenin, eriodictyol, filifolin.

Wang, *Yaoxue Xuebao*, **19**, 441 (1984); *Chem. Abstr.*, 103 3679j

FILIREA

***F. media*.**

IRIDOIDS: deoxysyringoxide, hydroxyneuzhenide, igustroside, nuezhenide, oleuropein, syringoxide.

Marekov *et al.*, *Khim. Ind.*, (Sofia), **58**, 132 (1986); *Chem. Abstr.*, 105 160854s

FIMBRISTYLIS (Cyperaceae)

F. dichotoma.

FURANOQUINONE: dihydrocyperoquinone.

Allen *et al.*, *Tetrahedron Lett.*, 4669 (1969)

FISSISTIGMA

F. oldhami.

APORPHINE ALKALOID: fisostigmine A.

Zu *et al.*, *Zhongcaoyao*, **14**, 148 (1983)

FITZROYA (Cupressaceae)

F. patagonica Hook.F.

FLAVONOIDS: isocryptomerin, podocarpusflavone.

Naqvi *et al.*, *Curr. Sci.*, **56**, 480 (1987)

FLACOURTIA (Flacourtiaceae)

F. jangomas.

SESQUITERPENOID: jangomolide.

Ahmad *et al.*, *Phytochemistry*, **23**, 1269 (1984)

FLAVERIA

F. bidentis.

FLAVONOID: isorhamnetin 3,7-disulphate.

Cabrera *et al.*, *Phytochemistry*, **16**, 400 (1977)

F. brownii.

FLAVONOID: 6-ethoxykaempferol 3-O-glucoside.

Al-Khubaizi *et al.*, *Phytochemistry*, **17**, 163 (1978)

F. chloraeifolia.

FLAVONOIDS: patuletin 3-sulphate, quercetin 3-sulphate.

Barron *et al.*, *Phytochemistry*, **25**, 1719 (1986)

FLEISCHMANNIA (Compositae/Eupatoreae)

F. pycnocephala.

LIGNAN: 2-epi-fargesin.

Kakisawa *et al.*, *Phytochemistry*, **11**, 2289 (1972)

F. sinclairia.

DITERPENOIDS: 13,14H-kolaveninic acid, 13,14Z-kolaveninic acid.

Bohlmann *et al.*, *Phytochemistry*, **17**, 2101 (1978)

F. viscidipes.

Two caryophyllane terpenoids.

Bohlmann *et al.*, *Rev. Latinoam. Quim.*, **15**, 1 (1984)

FLEMINGIA (MOGHANIA) (Leguminosae)

F. chappar.

PTEROCARPINS: flemichapparin A, flemichapparin B.

Adityachaudhury, *J. Indian Chem. Soc.*, **47**, 1023 (1970)

F. congesta.

BENZOPYRANS: flemingins A, B, C, D, E and F.

FLAVONOID: myricitrin.

(B) Cardillo *et al.*, *Phytochemistry*, **12**, 2027 (1973)

(F) Morita *et al.*, *Chem. Abstr.*, 88 148947b

F. macrophylla.

FLAVONOID: fleminone.

Rao *et al.*, *Phytochemistry*, **22**, 2287 (1983)

F. rhodocarpa.

BENZOPYRANS: flemingins A, B, C, D, E and F.

Cardillo *et al.*, *Phytochemistry*, **12**, 2027 (1973)

F. stricta.

BENZOPYRANS: flemistrictins A, B, C and D.

Rao, *Indian J. Chem.*, **14B**, 339 (1976)

F. wallichii.

PIGMENTS: flemichins A, B and C, flemiwallichin A.

Rao *et al.*, *Indian J. Chem.*, **13**, 1000 (1975)

FLINDERSIA (Rutaceae)

F. australis.

QUINOLINE ALKALOID: flindersine.

Matthews, Schreiber, *Ber. Dtsch. Pharm. Ges.*, **24**, 385 (1914)

F. bourjotiana.

TRITERPENOIDS: bourjotinolones A, B and C, bourjotone.

Breen *et al.*, *Aust. J. Chem.*, **19**, 455 (1966)

F. brassii.

LIGNANS: brassilignan, flinderbrassin.

Nimgirawath *et al.*, *Aust. J. Chem.*, **30**, 451 (1977)

F. brayleana.

COUMARINS: brayleyanin, braylin.

Anet *et al.*, *Aust. J. Sci. Res.*, **2A**, 608 (1949)

F. dissosperma.

FURANOQUINOLINE ALKALOID: maculine.

Brown *et al.*, *Aust. J. Chem.*, **7**, 180 (1954)

F. fournieri Panch. et Seb.

DIMERIC INDOLE ALKALOIDS: borreverine, 15'-hydroxy-14',15'-dihydroborreverine, isoborreverine.

Tilliquin, Koch, *Phytochemistry*, **18**, 1559 (1979)

Tilliquin, Koch, *ibid.*, **2066** (1979)

F. iffiaiana.

FURANOQUINOLINE ALKALOID: iffiaiamine.

TRITERPENOID: iffiaionic acid.

(A) Brown *et al.*, *Aust. J. Chem.*, **16**, 480 (1963)

(T) Brown *et al.*, *ibid.*, **16**, 491 (1963)

F. laevicarpa C.T.White et Francis.

ACID: salicylic acid.

CHROMENES: carpachromene, flindersiachromanone.

FURANOQUINOLINE ALKALOID: skimmianine.

BENZOPYRANS: flindercarpins 1, 2 and 3.

PENTANES: (-)-erythro-1,5-diphenylpentane-1,3-diol, 1,5-diphenylpentan-3-ol.

STEROIDS: hesperidin, β -sitosterol.

TRITERPENOID: lupeol.

Roy, *Indian J. Chem.*, **16B**, 463 (1970)

Picher *et al.*, *Aust. J. Chem.*, **29**, 2023 (1976)

F. maculosa.

FURANOQUINOLINE ALKALOIDS: flindersiamine, maculine, maculosidine.

Anet *et al.*, *Aust. J. Sci. Res.*, **5A**, 412 (1952)

Brown *et al.*, *Aust J. Chem.*, **7**, 180 (1954)

F. pimenteliana.

BENZOPYRAN: seselin.

Gupta *et al.*, *J. Indian Chem. Soc.*, **51**, 904 (1974)

FLOURENSIA (Compositae)

F. campestris.

FLAVONOID: galetin 3,6-dimethyl ether.

Dillon *et al.*, *Phytochemistry*, **16**, 1318 (1977)

F. cernua DC.

ACETOPHENONE: 4'-hydroxy-3'-isovalerylacetophenone.

CHROMENE: 6-acetyl-2,2-dimethyl-8-(3-methyl-2-butenyl)-2H-1-benzopyran.

SESQUITERPENOIDS: flourensadiol, flourensic acid.

(Acet, C) Bohlmann *et al.*, *Chem. Ber.*, **108**, 26 (1975)

(T) Kingston *et al.*, *Phytochemistry*, **14**, 2033 (1975)

F. hirsuta.

FLAVONOIDS: axillarin, jaceidin, kaempferol 3-methyl ether, pinocembrin.

Dillon *et al.*, *Phytochemistry*, **16**, 1318 (1977)

F. ilicifolia.

FLAVONES: galetin 3,6-dimethyl ether, galetin 6-methyl ether, jaceidin, kaempferol 3-methyl ether, pinocembrin.

Dillon *et al.*, *Phytochemistry*, **16**, 1318 (1977)

F. macrophylla.

ACIDS: 8 β ,9 β -dihydroxycostic acid, 1 β ,9 β -dihydroxycostic acid, 9 α -hydroxy-4(15),11(13)-eudesmadien-13-oic acid, 9 β -hydroxy-4(15),11(13)-eudesmadien-13-oic acid, 9-oxocostic acid.

Bowekar *et al.*, *Tetrahedron*, **21**, 1521 (1965)

F. oolepis.

SESQUITERPENOID: ilicol.

Guerreiro *et al.*, *Phytochemistry*, **18**, 1235 (1979)

F. resinosa.

FLAVONES: chrysins, 5,7-dihydroxyflavone.

TRITERPENOID: resinone.

(F) Asakawa *et al.*, *Bull. Chem. Soc., Japan*, **44**, 2761 (1971)

(T) Rodriguez-Hahn, Rodriguez, *Rev. Latinoam. Quim.*, **3**, 148 (1973)

F. retinophylla.

FLAVONOIDS: kumatakenin, pinocembrin.

Dillon *et al.*, *Phytochemistry*, **16**, 1318 (1977)

FLUEGGEA

F. microcarpa.

ALIPHATIC: hexacosane.

CARBOLINE ALKALOID: N(b)-methyltetrahydro- β -carboline.

FLAVONOIDS: bergenin, quercetin.

PHENOLIC: ellagic acid.

STEROIDS: β -sitosterol, β -sitosterol β -D-glucoside.

TRITERPENOIDS: friedelanol, friedelin.

Kumar *et al.*, *Planta Med.*, 466 (1985)

FOENICULUM (Umbelliferae)

F. vulgare L.

COUMARINS: bergapten, umbelliferone.

Abyshev *et al.*, Azerb. Med. Zh., **53**, 34 (1976); Chem. Abstr., 86 2357w

FOKIENIA (Cupressaceae)

F. hodginsii.

SESQUITERPENOIDS: cryptomeriol, fokienol.

Vig *et al.*, Indian J. Chem., **14B**, 926 (1976)

FOMES

F. fomentarius.

BENZOTROPOLONES: anhydrodehydrofomentariol, anhydrofomentariol.

Favre-Bonvin *et al.*, Phytochemistry, **16**, 495, 1852 (1977)

FOMITOPSIS (Basidiomycetae)

F. insularis.

Two sesquiterpenoids.

Nozoe *et al.*, Tetrahedron Lett., 3125 (1971)

FONTANESIA (Oleaceae)

F. phillyreoides Labill.

PYRIDINE ALKALOID: fontaphilline.

Budzikiewicz *et al.*, Chem. Ber., **100**, 2798 (1967)

FORSYTHIA (Oleaceae)

F. japonica.

PHTHALIDE: 3-ethyl-7-hydroxyphthalide.

Kameoka *et al.*, *Phytochemistry*, **14**, 1676 (1975)

F. koreana.

LIGNANS: arctiin, phyllygenin, phyllyrin, (+)-pioresinol.

COUMARIN: rutin. Triterpenoids betulinic acid, oleanolic acid.

Nishibe *et al.*, *J. Pharm. Soc., Japan*, **97**, 1134 (1977)

F. suspensa.

COUMARIN: rutin.

LIGNANS: phyllygenin, phyllyrin, (+)-pioresinol.

TRITERPENOIDS: betulinic acid, oleanolic acid.

Nishibe *et al.*, *J. Pharm. Soc., Japan*, **97**, 1134 (1977)

F. viridissima.

IRIDOID: forsythide, forsythide methyl ester.

Inouye, Nishioka, *Chem. Pharm. Bull.*, **21**, 497 (1973)

FOUQUIERA (Fouquieriaceae)

F. splendens.

TRITERPENOIDS: fourquierol, isofourquierol, ocotillol II.

Butruille, Dominguez, *Tetrahedron Lett.*, 639 (1974)

FRANSERA (Compositae)

F. ambrosioides Cav.

SESQUITERPENOID: franserin.

Romo *et al.*, *Can. J. Chem.*, **46**, 1535 (1968)

FRASERA (Gentianaceae)

***F. albicaulis* Dougl. et Griseb.**

XANTHONES: 1-hydroxy-2,3,5-trimethoxyxanthone, 2-hydroxy-1,3,4,7-tetramethoxyxanthone, 2-hydroxy-1,3,7-trimethoxyxanthone, 1,2,3,4,5-pentamethoxyxanthone, swerchirin, 1,2,3,5-tetrahydroxyxanthone, 1,2,3,7-tetramethoxyxanthone, 1,3,4,5-tetramethoxyxanthone, 1,3,4,7-tetramethoxyxanthone, 1,3,5-trimethoxyxanthone, 1,3,7-trimethoxyxanthone.

Stout *et al.*, *Tetrahedron*, **25**, 1947 (1969)

Stout *et al.*, *ibid.*, **25**, 1961 (1969)

Ghosal *et al.*, *Phytochemistry*, **15**, 1041 (1976)

***F. carolinensis* Walt.**

XANTHONES: 1,3-dihydroxy-4,5-dimethoxyxanthone, 1-hydroxy-2,3,4,5-tetramethoxyxanthone, 1-hydroxy-2,3,5-trimethoxyxanthone, 1-hydroxy-2,3,7-trimethoxyxanthone, 1,2,3,5-tetrahydroxyxanthone, 1,2,3,7-tetrahydroxyxanthone.

Stout *et al.*, *Tetrahedron*, **25**, 1947 (1969)

Stout *et al.*, *ibid.*, **25**, 1961 (1969)

FRAXINUS (Oleaceae)

***F. excelsior* L.**

COUMARINS: fraxidin 8-O- β -D-glucoside, fraxin 7-methyl ether. IRIDOID: deoxysyringoxide, 10-hydroxyligustroside, hydroxynuezhenide, ligustroside, nuezhenide, oleuropein, syringoxide.

(C) de Almeida *et al.*, *Phytochemistry*, **13**, 1225 (1974)

(C) Jensen *et al.*, *Phytochemistry*, **15** 221 (1976)

(I) Marekov *et al.*, *Khim. Ind. (Sofia)*, **58**, 132 (1986); *Chem. Abstr.*, 105 168854s

***F. griffithii*.**

GLUCOSIDE: syringin.

Rao *et al.*, *Lloydia*, **41**, 56 (1978)

***F. malacophylla* Hemsl.**

QUINOLOZIDINE ALKALOID: sinine.

Tonkin, Work, *Nature*, **156**, 630 (1945)

***F. ornus*.**

COUMARIN: fraxetin.

Wessely *et al.*, *Ber*, **62**, 120 (1929)

FRITILLARIA (Liliaceae)

F. camtschatcensis (L.) Ker.

STEROIDAL ALKALOIDS: camtschatcanidine, hapepunine.

Kaneko *et al.*, *Phytochemistry*, **20**, 327 (1981)

F. collicola.

UNCHARACTERIZED ALKALOID: peimunine.

Li, *J. Chin. Pharm. Assoc.*, **2**, 235 (1940)

F. delavayi.

STEROIDAL ALKALOID: chuanbeinone.

Kaneko *et al.*, *Tetrahedron Lett.*, 2387 (1986)

F. harenlinii.

STEROIDAL ALKALOIDS: harepermine, hareperminiside.

Min *et al.*, *Phytochemistry*, **25**, 2008 (1986)

F. hupehensis (Hsiao et K.C. Hsia).

STEROIDAL ALKALOIDS: hepehenine, hupehenisine.

Wu *et al.*, *Yaoxue Xuebao*, **21**, 546 (1986); *Chem. Abstr.*, 106 15699r

F. imperialis L.

STEROIDAL ALKALOIDS: cevacine, cevanine, imperialine, isobaimonidine.

Sun, Ram, *Indian J. Chem.*, **7**, 1057 (1969)

Masterova *et al.*, *Arch. Pharm. (Weinheim, Ger.)*, **315**, 157 (1982)

F. raddeana.

UNCHARACTERIZED ALKALOIDS: alvanidine, alvanine, raddeanine.

Aslanov, Sadykov, *J. Gen. Chem. USSR*, **26**, 579 (1956)

F. roylei Hook.

STEROIDAL ALKALOIDS: fritimine, peimidine, peimine, peiminine, peimiphine, peimisine, peimitidine, peimitine.

Chou, Chen, *Chin. J. Physiol.*, **7**, 41 (1933)

Chou, *J. Am. Pharm. Assoc.*, **36**, 215 (1947)

F. sewerzowii (Korolkowia sewerzowii).

UNCHARACTERIZED ALKALOID: alginine.

Yunusov *et al.*, *J. Gen. Chem. USSR*, **9**, 1911 (1939)

F. thunbergii Miq.

UNCHARACTERIZED ALKALOID: peimunine.

DITERPENOIDS: ent-(16)-atisan-13,17-oxide, ent-15,16-epoxykauran-17-ol, ent-16-hydroxykaura-17-yl-ent-15,16-epoxykauran-17-ol, ent-16-hydroxykaura-17-yl-ent-laur-15-en-17-oate, isopimaracran-19-ol.

(A) Li, *J. Chin. Pharm. Assoc.*, **2**, 235 (1940)

(T) Kitajima *et al.*, *Chem. Pharm. Bull.*, **30**, 3922 (1982)

***F. ussuriensis* Maxim.**

STEROIDAL ALKALOIDS: pingpeimines A and B, sipeimine-3- β -D-glucoside.

Xu, *Zhongcaoyao*, **14**, 55 (1983)

***F. verticillata* Willd.**

STEROIDAL ALKALOID: fritillarizine.

Kaneko *et al.*, *Chem. Pharm. Bull.*, **28**, 3711 (1980)

***F. verticillata* Willd. var. *thunbergii* Bak.**

STEROIDAL ALKALOIDS: fritillarine, peimunine, verticine, verticinone, vertine.

UNCHARACTERIZED ALKALOID: vertitilline.

Chou, Chen, *Chin. J. Physiol.*, **6**, 265 (1932)

Chi *et al.*, *J. Am. Chem. Soc.*, **62**, 1778 (1944)

***F. walujewii*.**

STEROIDAL ALKALOIDS: imperialine, sinpeinine A.

Liu *et al.*, *Yaoxuye Xuebao*, **19**, 894 (1985); *Chem. Abstr.*, 103 19851v

FRITSCHIELLA (Chlorophyceae/Chaetophoraceae)

***F. tuberosa*.**

CAROTENOID: fritschiellaxanthin.

Buchecker *et al.*, *Helv. Chim. Acta*, **61**, 1962 (1978)

FRUCTUS

***F. momordicae*.**

SAPONINS: mogrosides I, II, III and IV.

TERPENOID: mogrol.

Takemoto *et al.*, *J. Pharm. Soc., Japan*, **103**, 1155, (1983)

Takemoto *et al.*, *ibid.*, **103**, 1167 (1983)

FRULLANIA (Hepaticae)

***F. brittoniae* subsp. *truncatifolia*.**

STILBENES: brittonin A, brittonin B.

Asakawa *et al.*, *Phytochemistry*, **15**, 1057 (1976)

***F. brotheri* Stapf.**

NORSESQUITERPENOIDS: (+)-brothenolide.

SESQUITERPENOIDS: (+)- α -frullanolide.

Takeda *et al.*, *Bull. Chem. Soc., Japan*, **56**, 1120 (1983)

***F. dilatata* (L.) Dum.**

FLAVONOIDS: 6-hydroxyluteolin 7,4'-diglucoside, 6-hydroxyluteolin 7-glucoside, luteolin, luteolin 7-diglucoside, luteolin 7,4'-diglucoside, luteolin 7-glucoside, pedalitin.

SESQUITERPENOIDS: cis- α -cyclocostumolide, dihydroeremofrullanolide, eremofrullanolide, (+)-frullanolide, (-)-frullanolide, oxofrullanolide.

(F) Mues *et al.*, *Cryptogram.: Bryol. Lichenol.*, **4**, 111 (1983); *Chem. Abstr.*, 100 48524j

(T) Asakawa *et al.*, *Bull. Soc. Chim. Fr.*, 1465 (1977)

***F. tamarisci* (L.) Dum.**

FLAVONOIDS: acylatedluteolin 7-diglucoside, acylatedluteolin 7-glucoside, luteolin.

SESQUITERPENOIDS: (+)-frullanolide, tamariscol.

(F) Mues *et al.*, *Cryptogram.: Bryol. Lichenol.*, **4**, 111 (1983); *Chem. Abstr.*, 100 48524j

(T) Connolly *et al.*, *Tetrahedron Lett.*, 1401 (1984)

***F. tamarisci* (L.) Dum. var. *obscura*.**

SESQUITERPENOIDS: cis- α -cyclocostunolide.

Asakawa *et al.*, *Tetrahedron Lett.*, 3957 (1975)

FUCHSIA (Onagraceae)

***F. boliviense* var. *luxurians*.**

FLAVONOIDS: kaempferol 3-galactoside, quercetin 3-galactoside.

Williams *et al.*, *Phytochemistry*, **22**, 1953 (1983)

***F. excorticata*.**

FLAVONOIDS: apigenin 7-glucuronide, apigenin 7-glucuronidesulphate, diosmetin 7-glucuronide, eriodictyol 7-glucoside, luteolin 7-glucuronide, luteolin 7-glucuronidesulphate.

Williams *et al.*, *Phytochemistry*, **22**, 1953 (1983)

F. fulgens.

FLAVONOIDS: quercetin 3-glucuronide, quercetin 3-rhamnoside, quercetin 3-rutinoside.

Williams *et al.*, *Phytochemistry*, **22**, 1953 (1983)

F. procumbens.

FLAVONOIDS: apigenin 7-glucuronide, apigenin 7-glucuronidesulphate, luteolin 7-glucuronide, luteolin 7-glucuronidesulphate.

Williams *et al.*, *Phytochemistry*, **22**, 1953 (1983)

F. splendens.

FLAVONOID: luteolin 7-glucoside.

Williams *et al.*, *Phytochemistry*, **22**, 1953 (1983)

F. triphylla.

PHENOLIC: galloylglucoside.

Williams *et al.*, *Phytochemistry*, **22**, 1953 (1983)

FUCUS (Phaeophyceae/Fucaceae)

F. vesiculosus (L.).

BIPHENYL: 4-(2",4",6"-trihydroxyphenyl)-4",6"-dihydroxyphenoxy-2,2',4',6,6'-pentahydroxybiphenyl,
4-(2",4",6"-trihydroxyphenoxy)-2,2',4',6,6'-pentahydroxybiphenyl.

Craigie *et al.*, *Can. J. Chem.*, **55**, 1575 (1977)

FULGENSIA

F. fulgida (Nyl.) Szat.

ANTHRAQUINONE: fragilin.

DEPSIDONES: fulgidin, fulgoicin.

Mahandru, Gilbert, *J. Chem. Soc., Perkin I*, 2249 (1983)

FUMARIA (Fumariaceae/Papaveraceae)

F. indica.

AMINE ALKALOIDS: narceimine, narlumidine.

NAPHTHOISOQUINOLINE ALKALOID: (-)-8-methoxydihydrosanguinarine.

Seth *et al.*, *Chem. Ind. (London)*, 744 (1979)

Pandey *et al.*, *Phytochemistry*, **18**, 695 (1979)

F. judaica.

UNCHARACTERIZED ALKALOID: fumjudaine.

Saleh, Gabr, *J. Pharm. Sci. Arab Repub.*, **6**, 61 (1965)

F. kralikii.

SPIROISOQUINOLINE ALKALOIDS: fumaritine N-oxide, norfumaritine.

Colton *et al.*, *J. Nat. Prod.*, **48**, 846 (1985)

F. micrantha Lag.

OXOQUINOLIZIDINE ALKALOIDS: fumaramine, protopine.

Platonova *et al.*, *J. Gen. Chem. USSR.*, **26**, 181 (1956)

F. microcarpa.

HOMOISOQUINOLINE ALKALOID: fumarofine.

Blasko *et al.*, *Tetrahedron Lett.*, 3175 (1981)

F. officinalis L.

OXOPROTOBERBERINE ALKALOIDS: cryptocavine, cryptopine.

OXOQUINOLIZIDINE ALKALOID: protopine.

PROTOBERBERINE ALKALOIDS: N-methylsinactine, (-)-sinactine.

SPIROISOQUINOLINE ALKALOIDS: dihydrofumariline, fumaricine, fumariline, fumarophycine.

UNCHARACTERIZED ALKALOIDS: aurotensine, fumaritine.

Mollov *et al.*, *C.R. Acad. Bulg. Sci.*, **20**, 557 (1967)

Madirossica *et al.*, *Phytochemistry*, **22**, 759 (1983)

F. parviflora Lam.

AMINE ALKALOIDS: fumariflorine, fumariflorine ethyl ester.

HOMOISOQUINOLINE ALKALOIDS: lahoramine, lahorine.

ISOQUINOLINE LACTONE ALKALOIDS: (-)-adlumine, (+)-bicuculline, hydrastine.

OXOPROTOBERBERINE ALKALOIDS: cryptopine, izmirine.

OXOQUINOLIZIDINE ALKALOIDS: fumaramine, fumaridine, protopine, Spiroisoquinoline alkaloids parfumidine, parfumine, parviflorine.

Israilov *et al.*, *Khim. Prir. Soedin.*, 588 (1970)

Guinaudeau *et al.*, *J. Nat. Prod.*, **46**, 934 (1983)

F. schleicheri Soy-Will.

OXOQUINOLIZIDINE ALKALOIDS: fumaramine, fumaridine, protopine.

SPIROISOQUINOLINE ALKALOID: fumaritrine.

TERTIARY AMINE: (+)-fumschleicherine.

UNCHARACTERIZED ALKALOIDS: fumarinine, fumaritine.

Israilov *et al.*, *Khim. Prir. Soedin.*, 588 (1970)

Kir'yakov *et al.*, *Phytochemistry*, **19**, 2507 (1980)

F. schrammii.

AMINE ALKALOIDS: bucucullinidine, (+)-fumschleicherine.

Kir'yakov *et al.*, *Phytochemistry*, **20**, 1721 (1981)

F. vaillantii Loisl.

ISOQUINOLINE ALKALOIDS: egerine, norjuziphine.

ISOQUINOLINE LACTONE ALKALOIDS: adlumine, bicuculline, hydrastine.

OXOQUINOLIZIDINE ALKALOIDS: fumaramine, fumaridine, fumvailine, protopine, vaillantine.

Alimova *et al.*, *Khim. Prir. Soedin.*, 874 (1979)

Gozler *et al.*, *Tetrahedron*, **39**, 577 (1983)

FUNARIA

F. hygrometrica.

PIGMENT: bracteatin.

Wetz *et al.*, *Phytochemistry*, **16**, 1108 (1977)

FUNKIA (Liliaceae)

F. ovata.

SAPONINS: funkiosides A, B, C, D, E, F, G and L.

Kintya *et al.*, *Khim. Prir. Soedin.*, 69 (1977)

FUNTUMIA (Apocynaceae)

F. africana.

STEROIDAL ALKALOIDS: funtumufrine B, funtuphyllamines A, B and C.

Janot *et al.*, *C.R. Acad. Sci.*, **250**, 2445 (1960)

***F. elastica* (Preuss) Stapf.**

STEROIDAL ALKALOIDS: irehamine, irehidiamine A, irehidiamine B, irehine.

STEROID: cyclofuntumenol.

(A) Truong-Ho *et al.*, *Bull. Soc. Chim. Fr.*, **594**, 2332 (1963)

(S) Mukam *et al.*, *Tetrahedron Lett.*, 2779 (1973)

***F. latifolia* Stapf.**

STEROIDAL ALKALOIDS: funtadienine, funtessine, funtuline, funtumine, funtumufrine C, latifoline, latifolinine.

STEROIDS: 5,24-cholestadien-3-ol, 4 α -methyl-5 α -cholesta-7,24-dien-3 β -ol, 29-norlanosterol.

(A) Janot *et al.*, *Bull. Soc. Chim. Fr.*, 2169 (1964)

(S) Charles *et al.*, *C.R. Acad. Sci.*, **268**, 2105 (1968)

FURCELLARIA (Rhodophyceae)

***F. fastigiata*.**

STEROIDS: cholesterol, 22-trans-dehydrocholesterol, desmosterol, fucosterol, isofucosterol, 24-methylenecholesterol β -sitosterol.

Chandler *et al.*, *Can. J. Pharm. Sci.*, **12**, 92 (1977); *Chem. Abstr.*, 88 133242u

FURCRAEA

***F. elegans* Tod.**

STEROIDS: hecogenin, tigogenin.

Dixit *et al.*, *Indian J. Chem.*, **15B**, 582 (1977)

***F. selloa*.**

STEROID: furcogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

FUSARIUM

***F. culmorium*.**

SESQUITERPENOID: cyclonerotriol.

Hanson *et al.*, *J. Chem. Soc., Perkin I*, 1586 (1975)

F. diversispernum.

SESQUITERPENOIDS: diacetoxyscirpenol, diacetoxyscirpenone.

Flury *et al.*, *J. Chem. Soc., Chem. Commun.*, **26**, 27 (1965)

F. moniliforme.

AZA-ANTHRAQUINONE ALKALOID: 8-O-methylbostrycoidine.

NORDITERPENOID: gibberellenic acid.

(A) Steyn *et al.*, *Tetrahedron*, **35**, 1551 (1979)

(T) Gerzon *et al.*, *Experientia*, **13**, 487 (1957)

F. nivale.

SESQUITERPENOIDS: nivalenol, novalenol 4,15-diacetate.

Tatsumo *et al.*, *Chem. Pharm. Bull.*, **16**, 2519 (1968)

F. roseum.

SESQUITERPENOID: 4-acetoxyscirpendiol.

Ishii *et al.*, *J. Agric. Food Chem.*, **26**, 649 (1978)

F. sambusinum.

SESQUITERPENOIDS: diacetoxyscirpenol, diacetoxyscirpenone.

Flury *et al.*, *J. Chem. Soc., Chem. Commun.*, **26**, 27 (1965)

F. tricinctum.

SESQUITERPENOID: 4,8-diacetoxyl-12,13-epoxytrichothec-9-ene-2,15-diol.

Ilus *et al.*, *Phytochemistry*, **16**, 1839 (1977)

FUSCUS

F. evanescens.

STEROIDS: stigmasta-5,24(25)-diene-3 β ,7 α -diol, stigmasta-5,24(25)-diene-3 β ,7 β -diol, stigmasta-3,5,24(28)-trien-7-one.

Itakawa *et al.*, *Phytochemistry*, **11**, 2317 (1972)

F. vesiculosus.

ETHYLENIC: 1,6,9,12,15,18-henicosahexaene.

CAROTENOIDS: fucoxanthin, neoxanthin, zeaxanthin.

(C) Galasko *et al.*, *J. Chem. Soc., C*, 1264 (1969)

(E) Halsall *et al.*, *J. Chem. Soc., Chem. Commun.*, 448 (1971)

FUSIDIUM (Polyporaceae)

F. coccineum K. Tubaki.

NORTRITERPENOID: 9,11-dehydro-12-hydroxyfusidic acid.

Godtfredson *et al.*, *Tetrahedron*, **35**, 2419 (1979)

G

GABNERIA

G. fulgens.

PIGMENT: gesnerin.

Crowden *et al.*, *Phytochemistry*, **13**, 1947 (1974)

GABUNIA (Apocynaceae)

G. eglandulosa Stapf.

HOMOCARBOLINE ALKALOID: 19-hydroxycoronaridine.

INDOLE ALKALOIDS: eglandine, eglandulosine, (-)-19-hydroxyisovoacangine.

Agwada *et al.*, *Helv. Chim. Acta*, **58**, 1001 (1978)

G. odoratissima Stapf.

DIMERIC INDOLE ALKALOID: gabunine.

CARBOLINE ALKALOID: pericyclivine,

Cava *et al.*, *Tetrahedron Lett.*, 931 (1965)

GAILLARDIA (Compositae)

G. amblyodon.

SESQUITERPENOIDS: amblyodin, amblyodiol, deacetylgaillardipinnatin.

Herz *et al.*, *Phytochemistry*, **13**, 1187 (1974)

Herz *et al.*, *ibid.*, 1189 (1974)

G. aristata Pursh.

FLAVONOIDS: apigenin, apigenin 6-hexoside-7-glucoarabinoside-8-rhamnoside, 6-C-glucoarabinoglucosyl-5,3'4'-trihydroxy-7-methoxyflavone, isoquercitrin, swertisin.

MONOTERPENOID: 5-hydroxymethyl-2-isopropyltenol diisobutyrate.

SESSQUITERPENOID: 3-epi-isotelekin.

(C) Zielinska-Stasiak, Gill, *Rocz. Chem.*, **51**, 921 (1977)

(T) Bohlmann *et al.*, *Chem. Ber.*, **102**, 864 (1969)

G. arizonica.

SESSQUITERPENOIDS: fastigilins A, B and C, gaillardilin.

Herz *et al.*, *Tetrahedron*, **22**, 693 (1966)

G. fastigiata.

SESSQUITERPENOIDS: bigelovin, fastigilins A, B and C.

Parker *et al.*, *J. Org. Chem.*, **27**, 4127 (1962)

Herz *et al.*, *Tetrahedron*, **22**, 1907 (1966)

G. jasminoides forma grandiflora.

IRIDOIDS: gardenoside, gardoside.

Inouye *et al.*, *Phytochemistry*, **13**, 2219 (1974)

G. mexicana.

SESSQUITERPENOID: neoleonine.

Dominguez *et al.*, *Rev. Latinoam. Quim.*, **1**, 136 (1970)

G. pinnatifida.

SESSQUITERPENOIDS: gaillardilin, gaillardpinnatin, mexicanin I.

Herz *et al.*, *Tetrahedron*, **22**, 693 (1966)

G. pulchella Foug.

BENZOPYRAN: swertisin.

SESSQUITERPENE ALKALOID: neopulchellidine, pulchellidine.

SESSQUITERPENOIDS: gaillardin, isogaillardin, neogaillardin, pulchellins A, B, C, D, E and F, pulchelloids A, B and C.

(A) Yamagita *et al.*, *Tetrahedron Lett.*, 3007 (1970)

(B) Wagner *et al.*, *Phytochemistry*, **11**, 851 (1972)

(B) Wagner *et al.*, *ibid.*, **11**, 1857 (1972)

(T) Inayama *et al.*, *Heterocycles*, **17**, 219 (1982)

G. pulchella Foug. var. japonica.

SESSQUITERPENOID: neogaillardin.

Inayama *et al.*, *Phytochem.*, **12**, 1741 (1973)

G. spathulata.

SESSQUITERPENOID: spathulin.

Herz *et al.*, *J. Org. Chem.*, **32**, 1042 (1967)

GALANTHUS (Amaryllidaceae)

G. caucasicus (Bak.) Grossh.

BENZINDOLE ALKALOIDS: demethylhomolycorine, galanthamine, galanthine, galanthinine, galanthusine, lycorine, tazettine.

FLAVONOIDS: hyperoside, rutin.

(A) Taskadze *et al.*, *Khim. Prir. Soedin.*, 773 (1970)

(F) Taskadze *et al.*, *ibid*, 116 (1977)

G. elwesii Hook.

BENZINDOLE ALKALOID: galanthamine.

BENZISOQUINOLINE ALKALOIDS: elwesine, epi-elwesine.

Boit, Dopke, *Naturwissenschaften*, **48**, 406 (1961)

G. nivalis.

BENZIOSQUINOLINE ALKALOID: lycorine.

DIPHENYL ALKALOIDS: galanthamine, narvedine, nivalidine, tazettine.

METHYLINDOLE ALKALOID: hippeastrine.

Kalashnikov *et al.*, *Khim. Prir. Soedin.*, 380 (1970)

G. nivalis var. gracilis.

DIBENZAZAOCOTANE ALKALOID: nivalidine.

Kalashnikov *et al.*, *Khim. Prir. Soedin.*, 380 (1970)

G. woronowii Losinsk.

DIPHENYL ALKALOIDS: galanthamidine, galanthamine, galanthidine, galanthine.

BENZISOQUINOLINE ALKALOID: lycorine.

Barton, Kirby, *J. Chem. Soc.*, 806 (1962)

Yakovleva *et al.*, *J. Gen. Chem., USSR*, **33**, 1691 (1963)

GALEGA (Leguminosae)

G. officinalis L.

GUANIDINE ALKALOID: galegine.

QUINAZOLINE ALKALOID: (\pm)-peganine.

Tanret, *Acad.Sci.*, **158**, 1182 (1914)

Tanret, *Acad.Sci.*, **158**, 1182 (1914)

GALEOPSIS (Labiatae)

G. agallocha.

SESQUITERPENOID: pregaleopsin.

Rodriguez, Savona, *Phytochemistry*, **19**, 1805 (1980)

G. angustifolia Hoffm.

SESQUITERPENOIDS: galeolone, galeopsin, galeopsinolone, galeopsitirione, pregaleopsin.

G. pubescens.

IRIDOID: glucoside VII, glurosido.

Rodriguez, Savona, *Phytochemistry*, **19**, 1805 (1980)

Perez-Sirvent *et al.*, *ibid.*, **22**, 527 (1983)

G. reuteri.

SESQUITERPENOIDS: galeuterone, pregaleuterone.

Savona *et al.*, *Phytochemistry*, **23**, 2958 (1984)

G. tetrahit L.

IRIDOID: galiridoside, glurosido.

Sticher, *Tetrahedron Lett.*, 3197 (1970)

Sticher, Weisflog, *Pharm. Acta Helv.*, **50**, 394 (1975)

GALIPEA

G. officinalis Hancock (Cusparia trifoliata Engl.).

QUINOLINE ALKALOIDS: cuspareine, cusparine, galipidine, galipoidine, galipoline.

Schlager, Leeb, *Monatsh. Chem.*, **81**, 714 (1950)

GALIUM (Rubiaceae)

G. album.

IRIDOID: secogalioside.

Bock *et al.*, *Acta Chem. Scand.*, **30B**, 743 (1976)

G. asparine L.

IRIDOID: asperuloside.

Briggs *et al.*, *J. Chem. Soc.*, 3940 (1954)

Briggs *et al.*, *ibid.*, 4182 (1954)

G. glaucum.

IRIDOID: monotropein.

Bridel, *Acad. Sci.*, **176**, 1742 (1923)

G. mollugo L.

FURAN: furomollugin.

IRIDOIDS: galioside, gardenosidic acid, mollugoside.

(F) Schildknecht *et al.*, *Justus Liebigs Ann. Chem.*, 1772 (1976)

(I) Iavarone *et al.*, *Phytochemistry*, **22**, 175 (1983)

G. verum L.

IRIDOIDS: iridoids V-1, V-2 and V-3.

Boejthe-Horvath *et al.*, *Phytochemistry*, **21**, 2917 (1982)

GANARIUM

G. schweinfurthii.

TRITERPENOIDS: elemadienolic acid, elemadienonic acid.

Ruzicka *et al.*, *Helv. Chim. Acta*, **25**, 439 (1942)

GANODERMA (Polyporaceae)

G. applanatum.

STEROIDS: ergosta-7,22-dien-3 β -ol, ergosta-7,22-dien-3-one, ergosterol peroxide.

Ripperger *et al.*, *Phytochemistry*, **14**, 2297 (1975)

Sviridov, Strigina, *Khim. Prir. Soedin.*, 669 (1976)

G. australie. (G. adspermum).

STEROIDS: 5,8-epidioxyergosta-6,22-dien-3 β -ol, 5,8-epidioxyergosta-6,9(11),22-trien-3 β 0-ol, ergosta-7,22-dien-3 β -ol, ergosta-7,22-dien-3-one, ergosta-4,6,8(14),22-tetraen-3-one, ergost-7-en-3 β -ol.

Gonzalez *et al.*, *An. Quim.*, **82C**, 149 (1986)

G. lucidum (Fr.) Karst.

TRITERPENOIDS: 3,7-dihydroxy-11,15,23-trioxo-8-lanosten-26-oic acid, 7,15-dihydroxy-3,11,23-trioxo-8-lanosten-26-oic acid, ganoderic acids A, B, C, D, E, F, T, V, W, X, Y and Z, ganoderic acid C2, ganoderic acid E, ganoderic acid I, ganoderic acid K, lucidenic acid F.

Hirotani, Furuya, *Phytochemistry*, **25**, 1189 (1986)

Kikuchi *et al.*, *Chem. Pharm. Bull.*, **34**, 3695 (1986)

GARCINIA (Guttiferae)

G. atroviridis.

ACID: garcinic acid.

Lewis *et al.*, *Phytochemistry*, **4**, 619 (1965)

G. conrauana.

Lactones and biflavonoids.

Hussain, Waterman, *Phytochemistry*, **21**, 1393 (1982)

G. G. cowa.

XANTHONE:

1,3,6-trihydroxy-7-methoxy-8-(3,7-dimethyl-2,6-octadienyl)-xanthone.

Lee *et al.*, *Phytochemistry*, **16**, 2038 (1977)

G. echinocarpa.

FLAVONES: norelloflavone, volkensiflavone.

STEROID: β -sitosterol.

Bandaranayake *et al.*, *Phytochemistry*, **14**, 1878 (1975)

G. eugenifolia.

XANTHONES: 1,4,7-trihydroxy-3-methoxyxanthone, 1,6,7-trihydroxyxanthone.

Jackson *et al.*, *J. Chem. Soc., C*, 2201 (1969)

G. homobroniana.

TERPENOID: bronianone.

Ollis *et al.*, *J. Chem. Soc., Chem. Commun.*, 879 (1969)

G. indica.

ACID: garcinic acid.

FLAVONES: morelloflavone, volkensiflavone.

XANTHONE: 1,7-dihydroxyxanthone.

(Ac) Lewis *et al.*, *Phytochemistry*, **4**, 619 (1965)

(F, X) Cotterill *et al.*, *ibid.*, **16**, 148 (1977)

G. livingstonii.

FLAVONE: podocarpusflavone A.

Rizvi *et al.*, *Phytochemistry*, **13**, 1990 (1974)***G. mangostana L.***

ANTHOCYANINS: cyanidin 3-glucoside, cyanidin sophoroside.

FLAVONES: norelloflavone, volkensiflavone.

STEROID: β -sitosterol.

XANTHONE: 1,5-dihydroxy-3-(3-methyl-2-butenyl)-3-methoxyxanthone.

(An) Du *et al.*, *J. Food Sci.*, **42**, 1667 (1977); *Chem. Abstr.* 87 180740u(F,S) Bandaranayake *et al.*, *Phytochemistry*, **14**, 1878 (1975)(X) Sen *et al.*, *Phytochemistry*, **20**, 183 (1981)***G. morella.***TERPENOIDS: α -gambogic acid, β -gambogic acid, isomorellin, morreollin, morellin.Rao *et al.*, *Proc. Indian Acad. Sci.*, **87A**, 75 (1978)***G. multiflora.***

BENZOPYRAN: xanthochymusside.

Konoshima *et al.*, *Tetrahedron Lett.*, 4203 (1970)***G. nervosa.***

XANTHONES: isocowanin, isocowanol, nervosaxanthone.

Ampofo *et al.*, *Phytochemistry*, **25**, 2351 (1986)***G. pedunculata.***

XANTHONE: 1,3,5,7-tetrahydroxyxanthone.

Rao *et al.*, *Phytochem*, **13**, 1241 (1974)***G. polyantha.***

XANTHONES: isocowamin, isocowanol, nervosaxanthone.

Ampofo *et al.*, *Phytochemistry*, **25**, 2351 (1986)***G. pyrifera.***

XANTHONES: isocowanin, isocowanol, nervosaxanthone.

Ampofo *et al.*, *Phytochemistry*, **25**, 2351 (1986)***G. spicata.***

DIPYRAN: isochapelieric acid.

Gunatilaka *et al.*, *Phytochemistry*, **23**, 323 (1984)***G. terpnophylla.***

FLAVONES: norelloflavone, volkensiflavone.

STEROID: β -sitosterol.Bandaranayake *et al.*, *Phytochemistry*, **14**, 1878 (1975)

G. xanthochymus.

BENZOPYRAN: xanthochymusside.

SESQUITERPENOIDS: isoxanthochymol, xanthochymol.

(B) Konoshima *et al.*, *Tetrahedron Lett.*, 4203 (1970)

(T) Karanjoaker *et al.*, *ibid.*, 4977 (1973)

GARDENIA (Rubiaceae)

G. gummifera.

TRITERPENOID: 19 α -hydroxyerythrodiol.

Reddy *et al.*, *Planta Med.*, **32**, 206 (1977)

G. jasminoides.

GLUCOSIDE: crocin, picrocrocinic acid.

IRIDOIDS: genipin 1- β -D-glucoside, geniposide, scandoside methyl ether.

(G) Takeda *et al.*, *Chem. Pharm. Bull.*, **24**, 2644 (1976)

(I) Inouye *et al.*, *Phytochemistry*, **13**, 2219 (1974)

G. jasminoides forma grandiflora.

IRIDOID: methyl deacetylasperulosate.

Inouye *et al.*, *J. Pharm. Soc., Japan*, **94**, 577 (1974)

G. latifolia.

TRITERPENOIDS: 3-O-acetylspinosic acid methyl ester, 3-epi-siaresinolic acid,

Reddy *et al.*, *Phytochemistry*, **14**, 307 (1975)

G. shimada.

Three uncharacterized alkaloids.

Haginawa *et al.*, *J. Pharm. Soc., Japan*, **90**, 219 (1970)

GARDNERIA (Loganiaceae)

G. multiflora Mak.

HYDROINDOLE ALKALOIDS: demethylgarneramine, gardfloramine, gardmultine.

SPIROINDOLONE ALKALOID: chitosenine.

Haginawa *et al.*, *J. Pharm. Soc., Japan*, **90**, 219 (1970)

Sakai *et al.*, *Tetrahedron Lett.*, 715 (1975)

G. nutans Sieb. et Zucc.

HYDROINDOLE ALKALOIDS: gardmultine, gardneramine, gardnerine, gardnutine, hydroxygardnutine.

Sakai *et al.*, *Tetrahedron Lett.*, 1485 (1969)

GARRYA (Garryaceae)

G. laurifolia Hartw.

DITERPENOID ALKALOIDS: cuachicicine, carryfoline.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **77**, 4801 (1955)

Djerassi *et al.*, *ibid.*, **77**, 6633 (1955)

G. longifolia.

DITERPENE ALKALOID: carryfoline.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **77**, 4801 (1955)

G. ovata.

DITERPENE ALKALOID: lingheimerine.

Pelletier *et al.*, *Heterocycles*, **9**, 1409 (1978)

G. ovata var. *lingheimeri*.

DITERPENE ALKALOIDS: lingheimerine, ovatine.

Pelletier *et al.*, *Heterocycles*, **9**, 1409 (1978)

G. veatchii.

DITERPENE ALKALOIDS: carryine, veatchine.

Oneto, *J. Am. Pharm. Assoc.*, **35**, 204 (1946)

GARULEUM (Calendulaceae)

G. bipinnatifidum DC.

DITERPENOIDS: 14 β -acetoxy-9,11-didehydroatisiren-20-oic acid, 6 β -acetoxy sandaracopimar-15-ene-8 β , 11 α -diol, 11 α -acetoxy sandaracopimar-15-ene-8 β , 12 β -diol, 6 β -acetoxy sandaracopimar-15-en-8 β -ol, 12 β -acetoxy sandaracopimar-15-en-8 β -ol, 12 β -(p-hydroxycinnamoyloxy)-sandaracopimar-15-ene-8 β , 11 α -diol, sandaracopimar-15-en-8 β , 11 α -diol, sandaracopimar-15-en-6 β , 8 β , 11 α -triol, sandaracopimar-15-en-8 β , 11 α , 12 β -triol 12-p-hydroxycinnamate.

Bohlmann, Grenz, *Ber.*, **111**, 1509 (1978)

G. fruticosum.

DITERPENOIDS: sandaracopimar-15-en-8 β ,12 α -diol, sandaracopimar-15-en-8 β , 12 β -diol, sandaracopimar-15-en-8 β ,18-diol, sandaracopimar-15-en-8 β ,11 α ,12 β -triol, sandaracopimar-15-en-6 β ,8 β ,11 α -triol-6-acetate, sandaracopimar-15-en-8 β ,11 α ,12 β -triol-12-acetate.

Bohlmann *et al.*, *Chem. Ber.*, **106**, 826 (1973)

G. sonchifolium.

DITERPENOIDS: 11 α -acetoxyatisiren-20-oic acid, 7 α -acetoxy-9,11 -didehydroatisiren-20-oic acid, 14 β -acetoxy-9,11 -didehydroatisiren-20-oic acid.

Bohlmann, Grenz, *Ber.*, **111**, 1509 (1978)

GASCARDIA

G. madagascariensis.

SESTERTERPENOID: gascardic acid.

Boekman *et al.*, *J. Am. Chem. Soc.*, **101**, 5060 (1979)

GASTROLOBIUM

G. callistachys.

INDOLE ALKALOID: S(+)-N(b)-methyltryptophan methyl ester.

Johns *et al.*, *Aust J. Chem.*, **24**, 439 (1971)

G. calycinum Benth.

ALKALOID: cygnine.

Mann, Ince, *Proc. R. Soc. London*, **79B**, 488 (1907)

GAULTHERIA (Ericaceae)

G. adenothrix.

STEROID: β -sitosterol.

TRITERPENOIDS: α -amyrin, betulinic acid, lupeol, oleanolic acid, taraxerol, ursolic acid.

Kawai *et al.*, *Chem. Abstr.* 88 34499b

G. miqueliana.STEROID: β -sitosterol.TRITERPENOIDS: α -amyrin, betulinic acid, lupeol, oleanolic acid, taraxerol, ursolic acid.Kawai *et al.*, *Chem. Abstr.* 88 34499b

GAZANIA (Compositae)

G. krebsiana.

SESQUITERPENOIDS: gazaniolide, isovaleryloxygazaniolide.

Bohlmann, Zdero, *Phytochemistry*, **18**, 322 (1979)***G. rigens (L.) Gaertn.***

CAROTENOID: gazaniaxanthin.

Schon, *Biochem. J.*, **32**, 1566 (1938)

GEIJERA

G. africana.

SESQUITERPENOIDS: dihydrogrisein, gafrinin, griesenin, vermeerin.

de Villiers *et al.*, *J. Chem. Soc.*, 2049 (1961)De Kock *et al.*, *Tetrahedron*, **24**, 6037 (1968)De Kock *et al.*, *ibid.*, **24**, 6045 (1968)***G. aspera.***

SESQUITERPENOIDS: aspergeijeric acid methyl ester, geijerin, geijerinin, vermeerin.

Anderson *et al.*, *Tetrahedron*, **23**, 4153 (1967)***G. balansae.***

ALKALOID: O-acetylbalansine.

Ahond *et al.*, *Phytochemistry*, **18**, 1415 (1979)***G. parviflora.***

COUMARINS: dehydrogeijerin, dihydrogeiparvarin, geiparvarin.

MONOTERPENOIDS: cogeigerene, pregeigerene.

(C) Dreyer *et al.*, *Phytochemistry*, **11**, 763 (1972)(T) Gough *et al.*, *Tetrahedron Lett.*, 763 (1961)***G. salicifolia Schott.***

FURANOISOQUINOLINE ALKALOIDS: acetylplatydesmine, platydesmine.
 Johns, Lamberton, *Aust J. Chem.*, **19**, 1991 (1966)

GEISSOSPERMUM

G. laeve (Vellezo) Baill.

CARBOLINE ALKALOID: flavopereirine.
 Bejar *et al.*, *Acad. Sci.*, **244**, 2066 (1957)

G. vellosii.

CARBOLINE ALKALOIDS: flavopereirine, geissolosimine, geissoschizine, geissospermine, geissovelline, pereirine, tombozine, velbsimine, vellosine.
 CARBAZOLE ALKALOID: geissoschizoline.
 Moore, Rapoport, *J. Org. Chem.*, **38**, 215 (1973)

GELONIUM

G. multiflorum.

TRITERPENOIDS: 7-bauren-3-ol, multiflorenol, epi-mulflorenol.
 Fukuoka *et al.*, *Chem. Pharm. Bull.*, **20**, 974 (1971)

GELSEMIUM (Loganiaceae)

G. elegans Benth.

INDOLONE ALKALOIDS: humantidine, humantenidine, humantenine, humantenirine, humantenmine, koumine, kouminicine, kouminidine, kouminine.

Yang, Chen, *Yaoxue Xuebao*, **17**, 633 (1982)
 Yang, Chen, *ibid.*, **18**, 104 (1983)

G. sempervirens (L.) Ait.

SPIROINDOLONE ALKALOIDS: gelsedine, gelsemicine, gelsemidine, gelsemine, gelseminine, gelseverine, 1-methoxygelsemine.

PYRIDOINDOLE ALKALOID: sempervirine.
 COUMARIN: fabiatin.

IRIDOIDs: gelsemide, gelsemide 7-glucoside, gelsemiol, gelsemiol 1-glucoside, gelsemiol 3-glucoside, 9-hydroxysemperoside, semperoside.

(A) Schwartz, Marion, *Can. J. Chem.*, **31**, 958 (1953)

(A) Wichtl *et al.*, *Monatsh. Chem.*, **104**, 87 (1973)

(C,I) Jensen *et al.*, *Phytochemistry*, **26**, 1725 (1987)

GENIPA

G. americana.

IRIDOID: geniposidic acid.

Guarneccia *et al.*, *Tetrahedron Lett.*, 5125 (1972)

GENISTA (Leguminosae)

G. abchasica DC.

QUINOLINE ALKALOID: cytisine.

QUINOLIZIDINE ALKALOID: pachycarpine.

Bostogonashvili, *Farm. An. Gruz SSR*, **10**, 196 (1967)

G. aetnensis DC.

QUINOLINE ALKALOID: cytisine.

QUINOLIZIDINE ALKALOID: retamine.

Bohlmann *et al.*, *Ber.*, **98**, 659 (1965)

G. cinerea (Vill.) DC.

QUINOLIZIDINE ALKALOIDS: cinegalleine, cinegalline, cinevanine, cineverine, formylcinegalline.

Faugeras, Paris, *Acad. Sci.*, **270D**, 203 (1970)

G. hystrix.

DIPYRIDYL ALKALOID: hystrine.

Steinegger *et al.*, *Phytochemistry*, **7**, 849 (1968)

G. ispanica L.

QUINOLINE ALKALOID: cytisine.

Sckiladze, Tbilsk. Med., **22**, 400 (1065)

G. lucida.

QUINOLIZIDINE ALKALOIDS: anagyrine, cineverine, cytisine, 13-hydroxylupanine, lupanine, N-methylcytisine, retamine, sparteine.

ACIDS: caffeic acid, p-coumaric acid, gallic acid, p-hydroxybenzoic acid, protocatechuic acid, salicylic acid, vanillic acid.

Adzet *et al.*, *Trans. Soc. Pharm. Montpellier*, **35**, 237 (1975); *Chem. Abstr.* 84 102282v

G. lusitanica.

UNCHARACTERIZED ALKALOID: lusitanine.

Steinagger, Vicky, *Pharm. Acta Helv.*, **40**, 610 (1965)

G. lydia.

One uncharacterized alkaloid.

Ulubelen, Dogue, *Planta Med.*, **26**, 338 (1974)

G. ramossissima.

QUINOLIZIDINE ALKALOIDS: anagyrine, cineverine, cytisine, 13-hydroxylupanine, lupanine, N-methylcytisine, retamine, sparteine.

ACIDS: caffeic acid, p-coumaric acid, gallic acid, vanillic acid, p-hydroxybenzoic acid, protocatechuic acid, salicylic acid,

Adzet *et al.*, *Trans. Soc. Pharm. Montpellier*, **35**, 237 (1975); *Chem. Abstr.* 84 101181v

G. spariooides.

QUINOLIZIDINE ALKALOIDS: anagyrine, cineverine, cytisine, 13-hydroxylupanine, lupanine, retamine, sparteine.

ACIDS: caffeic acid, p-coumaric acid, gallic acid, p-hydroxybenzoic acid, protocatechuic acid, salicylic acid, vanillic acid.

Adzet *et al.*, *Trans. Soc. Pharm. Montpellier*, **35**, 237 (1975); *Chem. Abstr.* 84 102282v

G. tinctoria L.

QUINOLINE ALKALOIDS: cytisine, methylcytisine, tinctorine.

LUPINE ALKALOID: anagyrine.

Knoefel, Schuette, *J. Prakt. Chem.*, **312**, 887 (1971)

G. transcaucasica Schischk.

QUINOLINE ALKALOIDS: cytisine, methylcytisine.

LUPINE ALKALOID: anagyrine.

Bostogonashvili, *Farm. Akad. Nauk Gruz. SSR*, **10**, 196 (1967)

G. valentina.

QUINOLIZIDINE ALKALOIDS: anagyrine, cineverine, cytisine, 13-hydroxylupanine, lupanine, N-methylcytisine, retamine, sparteine, Acids caffeic acid, p-coumaric acid, gallic acid, p-hydroxybenzoic acid, protocatechuic acid, salicylic acid, vanillic acid.

Adzet *et al.*, *Trans. Soc. Pharm. Montpellier*, **35**, 237 (1975); *Chem. Abstr.* 84 102282v

GENTIANA (Gentianaceae)

G. argentea.

FLAVONOIDS: apigenin O-glucoside, isoorientin, isovitexin, luteolin, luteolin O-glucoside.

Chulia *et al.*, *Plant Med. Phytother.*, **11**, 112 (1977)

G. asclepiadea.

PYRIDINE ALKALOIDS: gentianidine, gentiolutine.

FLAVONOIDS: isoorientin, isoorientin 4'-O-glucoside, isoorientin 2"-O-glucoside, isovitexin, isovitexin 4'-O-glucoside, isovitexin 2"-O-glucoside, mangiferin, mangiferin 6-O- β -D-glucoside, mangiferin 7-O- β -D-glucoside, saponarin.

(A) Marekov, *Acad. Bulg. Sci.*, **23**, 803 (1970)

(F) Goetz *et al.*, *Helv. Chim. Acta*, **60**, 2104 (1977)

G. bavarica L.

FLAVONOID: gentiabavarurinoside.

Hostettmann *et al.*, *Helv. Chim. Acta*, **59**, 2592 (1976)

G. bellidifolia.

XANTHONES: bellidifolin, swerchirin, 1,3,5,8-tetrahydroxyxanthone.

Markham *et al.*, *Tetrahedron*, **21**, 1449 (1965)

G. bulgarica L.

One uncharacterized alkaloid.

Marekov *et al.*, *Acad. Bulg. Sci.*, **18**, 999 (1965)

G. burseri Lapeyr.

FLAVONOIDS: trans-feruloyl-2"-isoorientin, trans-feruloyl-2"-isoorientin 4'-O- β -D-glucoside.

Luong Minh Duc *et al.*, *Helv. Chim. Acta*, **59**, 1294 (1976)

G. campestris (L.) Börner.

FLAVONES: corymbiferin, mangiferin, swertisin.

GLUCOSIDE: campestroside.

XANTHONES: 4,5-dimethoxy-3,8-dihydroxyxanthone 1 -O- β -D-glucopyranoside, 1,3,5,8-tetrahydroxyxanthone-9-O- β -D-glucoside.

(F) Kaldas *et al.*, *Helv. Chim. Acta*, **58**, 2188 (1975)

(G) Kaldas *et al.*, *Phytochemistry*, **17**, 295 (1978)

(X) Kaldas *et al.*, *Helv. Chim. Acta*, **57**, 2557 (1974)

***G. caucasica* MB.**

PYRIDINE ALKALOIDS: gentianine, gentinamine.

Rakhmatullaev *et al.*, *Khim. Prir. Soedin.*, 32 (1969)

***G. cruciata*.**

PYRIDINE ALKALOID: gentianine.

Kurinnaya, *Farmatsiya* (Kiev), 197 (1956)

***G. depressa*.**

FLAVONOIDS: apigenin O-glucoside, isoorientin, isovitexin, luteolin, luteolin O-glucoside.

IRIDOID: depressoside.

(F) Chulia *et al.*, *Plant Med. Phytother.*, **11**, 112 (1977)

(I) Chulia *et al.*, *J. Nat. Prod.*, **48**, 54 (1985)

***G. elwesii*.**

FLAVONOIDS: apigenin O-glucoside, isoorientin, isovitexin, luteolin, luteolin O-glucoside.

Chulia *et al.*, *Plant Med. Phytother.*, **11**, 112 (1977)

***G. kaufmanniana* Rgl. et Schmalh.**

PYRIDINE ALKALOIDS: gentianamine, gentianine, gentianinine.

Rakhmatullaev *et al.*, *Khim. Prir. Soedin.*, 32 (1969)

***G. germanica* (Willd.) Börner.**

BENZOPYRAN: swertiajaponin.

Bouillant *et al.*, *Phytochemistry*, **11**, 1858 (1972)

***G. kirilomi* Tur.**

PYRIDINE ALKALOID: gentianine.

Proskernina, *J. Gen. Chem. USSR*, **14**, 1148 (1944)

***G. lutea*.**

XANTHONES: gentisein, gentisin, 1-hydroxy-3,7-dimethoxyxanthone.

Atkinson *et al.*, *Tetrahedron*, **25**, 1509 (1969)

***G. olgae* Rgl. et Schmalh.**

PYRIDINE ALKALOIDS: gentianadine, gentiananine.

Rakhmatullaev *et al.*, *Khim. Prir. Soedin.*, 32 (1969)

***G. olivieri* Griseb.**

PYRIDINE ALKALOIDS: gentianaine, gentiananine, gentianidine, gentianine, gentioflavine, gentiotibetine, oliveramine, oliveridine, oliverine.

Rakhmatullaev *et al.*, *Khim. Prir. Soedin.*, 608 (1969)

***G. panonica* Scop.**

GLUCOSIDES: amarapanin, amaroswerin, desoxymarogentin.

Wagner *et al.*, *Phytochemistry*, **13**, 615 (1974)***G. pedicellata*.**

FLAVONOIDS: apigenin O-glucoside, isoorientin, isovitexin, luteolin, luteolin O-glucoside.

IRIDOID: 2'-caffeoylelloganin, 2'-p-coumaroylloganin, 2'-feruloylloganin, loganin.

(F) Chulia *et al.*, *Plant Med. Phytother.*, **11**, 112 (1977)(I) Garcia *et al.*, *Planta Med.*, 327 (1986)***G. pneumonanthe* L.**

No alkaloids present.

Kurinnaya, *Aptechn. Delo*, 4 (1954)***G. prolata*.**

FLAVONOIDS: apigenin O-glucoside, isoorientin, isovitexin, luteolin, luteolin O-glucoside.

Chulia *et al.*, *Plant Med. Phytother.*, **11**, 112 (1977)***G. punctata* L. Four uncharacterized alkaloids.**FLAVONOIDS: 2"-trans-caffeoylelsoorientin 4'-O- β -D-glucoside, 2"-trans-feruloylisoorientin 4'-O- β -D-glucoside, 2:-trans-feruloylisisovitexin, 2:-trans-isoorientin 4'-O- β -D-glucoside, isoscoparin.

IRIDOID: gentioflavoside.

(A) Marekov *et al.*, *Akad. Bulg. Sci.*, **18**, 999 (1965)(F) Luong *et al.*, *Helv. Chim. Acta*, **60**, 2099 (1977)(I) Popov, Marekov, *Chem. Ind. (London)*, 655 (1971)***G. purpurea* L.**

MONOTERPENOID: gentiolactone.

Suhr *et al.*, *Phytochemistry*, **17**, 135 (1978)***G. pyrenaica* L.**

FLAVONOIDS: isocytisoside 7-O-glucoside, isopyrenin, isopyrenin 7-O-glucoside, isoquercetin, isoscoparin 7-O-glucoside, isovitexin 7-O-glucoside.

Marston *et al.*, *Helv. Chim. Acta*, **59**, 2596 (1976)***G. ramosa*.**

BENZOPYRAN: swertiajaponin.

Bouillant *et al.*, *Phytochemistry*, **11**, 1858 (1972)***G. scabra* var. *buergeri*.**

DIPYRAN: gentiopicriside.

Hayashi *et al.*, *J. Pharm. Soc., Japan*, **96**, 679 (1976)

G. sikkimensis.

FLAVONOIDs: apigenin O-glucoside, isoorientin, isovitexin, luteolin, luteolin O-glucoside.

Chulia *et al.*, *Plant Med. Phytother.*, **11**, 112 (1977)

G. tibetica King.

PYRIDINE ALKALOID: gentialutine.

Rulko *et al.*, *Pol. J. Pharmacol. Pharm.*, **26**, 561 (1974)

G. triflora var. japonica.

DIPYRAN: gentiopicrin.

MONOTERPENE GLYCOSIDE: trifloroside.

(D) Hayashi *et al.*, *J. Pharm. Soc., Japan*, **96**, 679 (1976)

(T) Inouye *et al.*, *Tetrahedron*, **30**, 571 (1974)

G. turkestanorum Gand.

PYRIDINE ALKALOIDS: gentianaine, gentianamine, gentiananine, gentianidine, gentianine. Samatov *et al.*, *Khim. Prir.*

Soedin., 182 (1967)

G. verna L.

XANTHONE: 1-hydroxy-3-methoxy-7-glucosylxanthone.

Hostettmann *et al.*, *Helv. Chim. Acta*, **57**, 1155 (1974)

GERAEA

G. viscosa.

SESQUITERPENOID: gerin.

Rodriguez *et al.*, *Phytochemistry*, **18**, 1741 (1979)

GERANIUM (Geraniaceae)

G. bourbon.

MONOTERPENOIDs: (+)- β -citronellol, (-) β -citronellol.

SESQUITERPENOIDs: α -bourbonene, β -bourbonene, eupelargones A, B, C and D, guia-6,9-dione, 11-norbourbonan-1-one, norbourbonone.

Krepinsky *et al.*, *Tetrahedron Lett.*, 359 (1966)

Gianotti, Schwang, *Bull. Soc. Chim. Fr.*, 2452 (1968)

G. macrorrhizum L.

FLAVONOIDs: acetovanillon, ermanin, isokaempferide, kumatakenin, quercetin, retusin, rhamnosin.

ACID: gallic acid, Phenolics glucogallin.

STEROIDS: β -sitosterol, β -sitosterol- β -D-glucoside.

SESQUITERPENOIDS: germacrone, germazone.

(F, P, S) Ivancheva *et al.*, *Dokl. Bolg. Akad. Nauk.*, **29**, 205 (1976); *Chem. Abstr.* 85 30659u

(T) Ognayanov *et al.*, *Collect Czech. Chem. Common.*, **23**, 2033 (1958)

(T) Tsankova, Ognyanov, *Tetrahedron Lett.*, 3833 (1976)

G. phaeum.

FLAVONOID: quercetin.

PHENOLICS: caffeoic acid, chebulagic acid, chlorogenic acid, ellagic acid, gallic acid. Lufertova *et al.*, *Chem. Abstr.* 86 152629a

G. thunbergii.

TANNINS: elaeocarpusin, geraniin.

PHENOLS: brevifolin, corilagin, ellagic acid, ellagitannin, gallic acid, pyrogallol.

(P) Okuda *et al.*, *Phytochemistry*, **14**, 1877 (1975)

(T) Nonaka *et al.*, *Chem. Pharm. Bull.*, **34**, 941 (1986)

GEOFFROEA

G. surinamensis.

TYROSINE ALKALOID: geoffroyine.

Goldschmeidt, *Monatsh. Chem.*, **34**, 659 (1913)

GERBERA (Compositae/Arctotideae)

G. crocea.

SESQUITERPENOID: isogerberacumarin.

Boglmann *et al.*, *Chem. Ber.*, **106**, 382 (1973)

G. jamesonii var. hybrida.

COUMARINS: 4 β -D-glucopyranosyloxy-5-methylcoumarin, rutinosylcoumarin, prunasin.

5-methyl-4-

GLYCOSIDES: amygdalin, vicianin.

Nagumo *et al.*, *Chem. Pharm. Bull.*, **33**, 4803 (1985)

***G. piloselloides* Cass.**

CHROMENE: 6-acetyl-2,2-dimethyl-8-(3-methyl-2-butenyl)-2H-1-benzopyran.

Bohlmann *et al.*, *Chem. Ber.*, **108**, 26 (1975)**GEUM (Rosaceae)*****G. japonicum* Thunb.**

ELLAGITANNINS: gemin A, gemin B, gemin C.

Yoshida *et al.*, *J. Chem. Soc., Perkin I*, 315 (1985)**GIGARTINA (Rhodophyceae)*****G. stellata*.**CAROTENOIDS: α -carotene, β -carotene, α -cryptoxanthin, β -cryptoxanthin, lutein, zeaxanthin.Bjoernland *et al.*, *Phytochemistry*, **15**, 291 (1976)**GILMANIELLA*****G. humicola* Barron.**

NORSESQUITERPENOID: gilmacolin.

Chexal *et al.*, *Helv. Chim. Acta*, **62**, 1129 (1979)**GINKGO (Ginkgoaceae)*****G. biloba* L.**

ESTER: 6-(pentadec-8-enyl)-2,4-dihydroxybenzoic acid.

FLAVONES: bilobetin, ginkgetin.

SESQUITERPENOIDS: bilobalide A, bilobanone, 10,11-(E)-dihydroatlantone, 10,11-(Z)-dihydroatlantone.

DITERPENOIDS: ginkgolides A, B, C and M.

STEROIDS: 24 α -ethylathosterol, β -sitosterol, spinasterol.

(E) Gellerman *et al.*, *Phytochemistry*, **15**, 1959 (1976)

(F) Beckmann *et al.*, *Phytochemistry*, **10**, 2465 (1971)

(S) Nes *et al.*, *Lipids*, **12**, 511 (1977)

(T) Maruyama *et al.*, *Tetrahedron Lett.*, 299 *et seq.* (1967)

(T) Plattier *et al.*, *Recherche*, **19**, 131 (1974)

GINSENG

G. radix.

GLYCOSIDES: malonylginsenoside Rb-1, malonylginsenoside Rb-2, malonylginsenoside Rc, malonylginsenoside Rd.

Kitagawa *et al.*, *Chem. Pharm. Bull.*, **31**, 3353 (1983)

GIRGENSOHNIA (Chenopodiaceae)

G. diptera Bge.

INDOLE ALKALOID: dipterine.

PIPERIDINE ALKALOID: N-methylpiperidine.

Juraschevski, Stepanova, *J. Gen. Chem., USSR*, **9**, 203 (1939)

G. oppositifolia (Pall.) Fenzl.

PIPERIDINE ALKALOIDS: girgensohnin, N-methylpiperine.

Juraschevski, Stepanova, *J. Gen. Chem., USSR*, **16**, 141 (1946)

GLAUCIDIUM (Podophyllaceae)

G. palmatum Sieb. et Zucc.

SESQUITERPENOID: glaupalol.

Itie *et al.*, *J. Chem. Soc., Chem. Commun.*, 547 (1967)

GLAUCIUM (Papaveraceae)

***G. controruplicatum* Boiss.**

APORPHINE ALKALOID: sinoacutine.

Tin-Wa *et al.*, *J. Pharm. Sci.*, **65**, 755 (1976)

***G. corniculatum* (L.) Curt.**

APORPHINE ALKALOID: norbracteoline.

BENZOQUINOLIZIDINE ALKALOID: protopine.

NAPHTHOISOQUINOLINE ALKALOID: (-)-chelidonine.

PROTOBERBERINE ALKALOID: α -allocryptopine.

Israilov *et al.*, *Khim. Prir. Soedin.*, 751 (1983)

***G. corniculatum* (L.) Curt. subsp. *refractum*.**

APORPHINE ALKALOIDS: bulbocapnine, corydine, dicentrine, glaucine, isocorydine.

OXOPROTOBERBERINE ALKALOIDS: α -allocryptopine, protopine.

PHENANTHRENE ALKALOID: (-)-methylflavinantine.

Shafiee *et al.*, *J. Nat. Prod.*, **48** 855 (1985)

***G. elegans* Fisch et Mey.**

APORPHINE ALKALOID: glaucine.

NAPHTHOISOQUINOLINE ALKALOID: dihydrochelerythrine.

NORAPORPHINE ALKALOID: O-methylatheroline.

Sonnet, Jacobson, *J. Pharm. Sci.*, **60**, 1254 (1971)

***G. fimbrielligerum* Boiss.**

APORPHINE ALKALOIDS: (-)-corydine, corytuberine, epi-glaufidine, glaufine, glaufinine, glaunidine, glaunine, isocorydine.

BENZOQUINOLIZIDINE ALKALOID: protopine.

NAPHTHOISOQUINOLINE ALKALOIDS: α -allocryptopine, chelerythrine, sanguinarine.

Konovalova *et al.*, *J. Gen. Chem., USSR*, **9**, 1939 (1939)

Karimova, Yunusov, *Khim. Prir. Soedin.*, 250 (1986)

***G. flavum* Crantz.**

APORPHINE ALKALOIDS: aurotensine, cataline, dehydroglaucine, glaucine, isoboldine, isocorydine.

BENZOQUINOLIZIDINE ALKALOID: protopine.

NORAPORPHINE ALKALOID: O-methylatheroline.

PROTOBERBERINE ALKALOID: sinactine.

Yakhontova *et al.*, *Khim. Prir. Soedin.*, 214 (1972)

***G. flavum* Crantz var. *leucarpum*.**

One aporphine alkaloid.

Kiryakov, Panov, *Dokl. Akad. Nauk Bolg.*, **22**, 1019 (1969)

***G. flavum* Crantz var. *vestitum*.**

NAPHTHOISOQUINOLINE ALKALOID: 6-iminosanguinarine.
 OXOAPORPHINE ALKALOIDS: arosine, arosinine, corunnine.
 Castedo *et al.*, *Heterocycles*, **16**, 533 (1981)

***G. grandiflorum* Boiss. et Huet.**

APORPHINE ALKALOIDS: glaucine, glauvine, isoboldine, thalicmidine.
 BENZOQUINOLIZIDINE ALKALOID: protopine.
 NAPHTHOISOQUINOLINE ALKALOID: sanguinarine.
 OXOAPORPHINE ALKALOID: pontevedrine.
 NORAPORPHINE ALKALOID: O-methylatheroline.
 Ribas *et al.*, *Tetrahedron Lett.*, 3093 (1971)

***G. nana*.**

IRIDOID: lytanthosalin.
 Chaudhuri *et al.*, *Helv. Chim. Acta*, **64**, 2401 (1981)

***G. serpieri* Heldr.**

APORPHINE ALKALOIDS: aurotensine, glaucine.
 Manske, *Can. J. Res.*, **16**, 81 (1938)

***G. squamigerum* K. et K.**

APORPHINE ALKALOID: corydine.
 BENZOQUINOLIZIDINE ALKALOID: protopine.
 NAPHTHOISOQUINOLINE ALKALOIDS: α -allocryptopine, chelerythrine, sanguinarine.
 Platonova *et al.*, *J. Gen. Chem., USSR*, **26**, 173 (1956)

***G. vitellinum*.**

APORPHINE ALKALOID: 4α -hydroxybulbocapnine.
 Shafiel *et al.*, *Lloydia*, **42**, 174 (1979)

GLEDTISIA (Leguminosae)

***G. japonica* Miquel.**

FLAVONOIDS: homoorientin, isoorientin, isoquercitrin, isovitexin, luteolin 7-glucoside, vitexin.

Yoshizaki *et al.*, *Chem. Pharm. Bull.*, **25**, 3408 (1977)

***G. sinensis* Lam.**

FLAVONOIDS: homoorientin, isoorientin, isoquercitrin, isovitexin, luteolin 7-glucoside, orientin, vitexin.

Yoshizaki *et al.*, *Chem. Pharm. Bull.*, **25**, 3408 (1977)

G. triacanthos L.

PURINE ALKALOID: triacanthine.

TRITERPENE GLYCOSIDES: gleditschiosides A, B, C, D and E, triacanthoside A, triacanthoside C, triacanthoside G.

(A) Belikov *et al.*, *J. Gen. Chem., USSR*, **24**, 919 (1954)

(G) Badelbaeva *et al.*, *Khim. Prir. Soedin.*, 635 (1973)

GLIRICIDIA

G. sepium.

FLAVONOIDS: 2'-O-methylsepiol, robinetin, sepiol, 7,3',4'-trihydroxyflavanone.

Jurd, Manners, *J. Agric. Food Chem.*, **25**, 723 (1977); *Chem. Abstr.* 87 35858j

(Globulariaceae) GLOBULARIA

G. alypum.

IRIDOIDS: globularicisin, globularidin, globularimin, globularin, globularinin.

Chaudhuri *et al.*, *Helv. Chim. Acta*, **64**, 3 (1981)

G. cordifolia.

IRIDOID: globularifolin.

Chaudhuri, Sticher, *Helv. Chim. Acta*, **63**, 117 (1980)

G. virescens.

COLCHICINE ALKALOIDS: O-acetylcolchicine, N-acetyldemecolcine, 2-acetyl-2-demethylcolchicine, 3-acetyl-3-demethylcolchicine, N-acetylisdodemecolcine.

Potesilova *et al.*, *Collect. Czech. Chem. Commun.*, **32**, 141 (1967)

GLOCHIDON (Euphorbiaceae)

G. eriocarpum.

TRITERPENOID: glochidol.

Hui *et al.*, *Phytochemistry*, **15**, 561 (1976)

***G. ferdinandii* Muell.-Arg.**

No alkaloids present.

Johns, Lamberton, *Aust J. Chem.*, **20**, 555 (1967)***G. hohenackeri*.**TRITERPENOIDS: glochidiol, glochidone, epi-lupeol, lup-20(29)-ene- $\beta,3\beta$ -diol, lup-20(29)-ene-1,3-dione.Ganguly *et al.*, *Tetrahedron*, **22**, 1513 (1966)Hui, Li, *Phytochemistry*, **17**, 156 (1978)***G. macrophylla*.**TRITERPENOIDS: glochilocudiol, lup-20(29)-ene- $\beta,3\beta$ -diol, lup-20(29)-ene- $3\alpha,23$ -diol, lup-20(29)-ene-1,3-dione, methylbetulinate.Hui, Lee, *Phytochemistry*, **17**, 156 (1978)***G. multiloculare*.**

TRITERPENOIDS: glochidiol, glochilocudiol.

Ganguly *et al.*, *Tetrahedron*, **22**, 1513 (1966)***G. philippicum* (Cav.) C.B.Rob.**

ALKALOIDS: cinnamoylhistidine, glochidicine, glochidine, N(a)-(4'-oxodecanoyl)-histamine.

Johns, Lamberton, *Aust. J. Chem.*, **20**, 555 (1967)***G. puberum*.**STEROID: β -sitosterol.TRITERPENOIDS: friedelan- 3β -ol, friedelin, glochidiol, glochidone, glochidonol, lup-20(29)-ene- $\beta,3\beta$ -diol, lup-20(29)-ene-1,3-dione, luponone, lupeol.Hui *et al.*, *Phytochemistry*, **17**, 156 (1978)***G. wrightii*.**

TRITERPENOID: glochidonol.

Hui, Lee, *J. Chem. Soc., C*, 1710 (1969)

GLOMERIS

***G. marginata*.**

QUINAZOLONE ALKALOIDS: glomerine, homoglomerine.

Schildknecht *et al.*, *Z. Naturforsch.*, **21B**, 121 (1966)

GLORIOSA (Liliaceae)

G. superba L.

COLCHICINE ALKALOIDS: 2-demethyl- β -lumicolchicine, N-formyl-deacetyl- β -lumicolchicine, N-formyldeacetyl- β -lumicolchinine, N-fonnyldeacetyl-O(2)-demethyl- β -lumicolchinine.

Canonica *et al.*, *Chem. Ind. (Milan)*, **49**, 1304 (1967)

Dvorackova *et al.*, *Collect. Czech. Chem. Common.*, **49**, 1536 (1984)

G. virescens.

COLCHICINE ALKALOIDS: O-acetylcolchicine, N-acetyldemecolcine, 2-acetyl-2-demethylcolchicine, 3-acetyl-3-demethylcolchicine, N-acetylisdodemecolcine.

Potesilova *et al.*, *Collect. Czech. Chem. Commun.*, **32**, 141 (1967)

GLOSSOCALYX

G. brevipes.

APORPHINE ALKALOID: (+)-N-methyllaurotetanine β -N-oxide.

Montgomery *et al.*, *J. Nat. Prod.*, **48**, 833 (1985)

GLOSSOGYNE

G. ternuifolia (Labill.) Cass.

FLAVONOIDS: luteolin, luteolin 7-O- β -D-glucopyranoside.

Lin *et al.*, *Chem. Abstr.* 86 13812a

GLYCINE (Leguminosae)

G. max Merrill.

SAPONINS: glyceollins I, II, III and IV, soyasaponin I, II, III and A1, A2.

Lyne *et al.*, *Tetrahedron Lett.*, 3127 (1978)

Kitagawa *et al.*, *Chem. Pharm. Bull.*, **33**, 1069 (1985)

GLYCOSMIS (Rutaceae)

G. arborea (Roxb.) DC.

QUINAZOLONE ALKALOIDS: arborine, glycerine, glycosmicine, glycosminine.

ACRIDONE ALKALOID: arborinine.

TRITERPENOIDS: arborinol, isoarborinol.

(A) Chakravarti *et al.*, *Tetrahedron*, **16**, 224 (1961)

(T) Vorbruggen *et al.*, *Justus Liebigs Ann. Chem.*, **668**, 57 (1963)

G. bilocularis.

ACRIDONE ALKALOID: hydroxyarborinine.

Bowen *et al.*, *Phytochemistry*, **19**, 1566 (1980)

G. citrifolia (Willd.) Lindl. (G. cochinchinensis Pierre).

ACRIDONE ALKALOIDS: furofolines I and II, glycobismine A, glycocitrine I, glycocitrine II, glycofoline, glyfoline, 3-O-methylglycocitrine I, 3-O-methylglycocitrine II, pyranofoline.

Wu *et al.*, *J. Chem. Soc., Perkin I*, 1681 (1983)

G. cyanocarpa.

FURANOACRIDONE ALKALOID: glycarpine.

Sarkar *et al.*, *Phytochemistry*, **17**, 2145 (1978)

G. mauritiana.

One acridone and one quinolone alkaloid.

Rastogi *et al.*, *Phytochemistry*, **9**, 945 (1980)

G. pentaphylla (Retz.) Correa.

ACRIDONE ALKALOIDS: N-desmethylnoracronycine, des-N-methylacronycine, noracronycine.

AMIDE ALKALOID: glycomide.

CARBAZOLE ALKALOIDS: glycozolidine, glycozoline.

QUINAZOLINE ALKALOID: glycophymoline.

QUINAZOLONE ALKALOID: glycophymine.

QUINOLONE ALKALOID: glycosolone.

Sarkar, Chakraborty, *Phytochemistry*, **18**, 694 (1979)

GLYCYRRHIZA (Papilionaceae)

G. glabra L.

CHALCONE: licochalcone.

COUMARIN: liquoumarin.

FLAVONOIDS: 7-acetoxy-2-methylisoflavone, 2,7-dihydroxy-3',4'-dimethoxyisoflavone, 7,4'-dihydroxyflavone, echinatin, formononetin, glabridin, glabrol, glycyrol, glyzarin, 7-hydroxy-2-methylisoflavone, isoliquiritigenin, kumatakenin, licoflavonol, licoisoflavanone, licoisoflavone A, licoisoflavone B, licoricone, 7-methoxy-2-methylisoflavone.

TRITERPENOIDS: deoxoglabrolide, glabralonic acid, glabrolide, glycyrrhetic acid, glycyrrhetol, 24-hydroxy-11-deoxyglycyrrhetic acid, 18 α -hydroxyglycyrrhetic acid, 23-hydroxyglycyrrhetic acid, 28-hydroxyglycyrrhetic acid, 21 α -hydroxyisoglabrolide, 24-hydroxyliquiretic acid, isoglabrolide, liquiridiolic acid, liquorice acid.

(C) Saito, *Tetrahedron Lett.*, 4661 (1975)

(Cou) Bhardwaj *et al.*, *Phytochemistry*, **15**, 1182 (1976)

(F) Bhardwaj *et al.*, *Phytochemistry*, **15**, 352 (1976)

(F) Saito *et al.*, *Chem. Pharm. Bull.*, **24**, 752 (1976)

(F) Saito *et al.*, *ibid.*, **24** 1242 (1976)

Ingham, *Phytochemistry*, **16**, 1457 (1977)

(I) Bhardwaj *et al.*, *ibid.*, **16**, 402 (1977)

(T) Canonica *et al.*, *Gazz. Chim. Ital.*, **98**, 712 (1968)

(T) Elgamel, El-Tawil, *Planta Med.*, **27**, 159 (1975)

G. macedonica

SAPONINS: saponins A and B.

TRITERPENOIDS: isomacedonic acid, macedonic acid.

(S) Senchenko *et al.*, *Aktual Vopr. Farm.*, **2**, 65 (1974); *Chem. Abstr.* **84** 132598v

(T) Kir'yalov, Naugol'naya, *J. Gen. Chem., USSR*, **33**, 697 (1963)

G. pallidiflora

TRITERPENOID: meriestrotrophic acid.

Kir'yalov, Naugol'naya, *J. Gen. Chem., USSR*, **33**, 694 (1963)

G. uralensis

TRITERPENOID: uralenic acid.

Kir'yalov, Naugol'naya, *J. Gen. Chem., USSR*, **34**, 2814 (1964)

GMELINA

G. arborea.

LIGNAN: 4,8-dihydroxysesamin.. Sesquiterpenoids arboreol, arboreol 1-ethyl ether, arboreol 1-methyl ether, gmelofuran.

- (L) Anjaneyulu *et al.*, *Tetrahedron*, **33**, 133 (1977)
 (T) Joshi *et al.*, *Tetrahedron Lett.*, 4719 (1978)

G. leuchhardtii.

LIGNAN: gmelinol.

- Birch *et al.*, *Aust. J. Chem.*, **7**, 83 (1954)

GNAPHALIUM (Compositae)

G. affine.

FLAVONOIDS: apigenin, apigenin 4'- β -D-glucoside, dehydro-p-asebolin, luteolin, luteolin 4'- β -D-glucoside, quercetin, quercetin 4'- β -D-glucoside.

- Itakura *et al.*, *Agric. Biol. Chem.*, **39**, 2237 (1975)

G. pellitum.

FLAVONOID: 5-hydroxy-7,8-dimethoxyflavone.

STEROID: β -sitosterol.

- Escarria *et al.*, *Phytochemistry*, **16**, 1618 (1977)

G. undulatum.

DITERPENOID: 8,13-gnaphalenediol.

- Bohlmann *et al.*, *Phytochemistry*, **19**, 71 (1980)

GNETUM (Gnetaceae)

G. gnemon.

BENZOPYRAN: swertijaponin.

- Valiant *et al.*, *Phytochemistry*, **17**, 2136 (1978)

G. scandens.

ACIDS: malvalic acid, sterculic acid.

- Mustafa *et al.*, *J. Am. Oil Chem. Soc.*, **63**, 1191 (1986); *Chem. Abstr.* **105** 206282p

G. ula.

STILBENES: gnetin, 2,3',5',6-stilbenetetraol.

Zyman *et al.*, *Indian. J. Chem.*, **22B**, 101 (1983)

Prakash *et al.*, *Phytochemistry*, **24**, 622 (1985)

GNIDIA (Thymelaeaceae)

G. lamprantha.

DITERPENOIDS: gnidicin, gnididin, gniditrin.

Kupchan *et al.*, *J. Am. Chem. Soc.*, **97**, 672 (1975)

G. latifolia Gilg.

DITERPENOIDS: glndiglaucin, gnidilatin.

SESQUITERPENOID: gnididione.

Kupchan *et al.*, *J. Org. Chem.*, **42**, 348 (1977)

GNOXYS

G. psilophylla.

One sesquiterpenoid.

Bohlmann, Zdero, *Phytochemistry*, **18**, 339 (1979)

G. sancto-antonii.

SESQUITERPENOIDS: 6 β -acetoxy-3-angeloyloxyeremophilane, 6 β -acetoxy-3 β -senecioyloxyfuranoeremophilane, 6 β -acetoxy-3 β -tigloyloxyfuranoeremophilane, 6 β -angeloyloxy-3 β -senecioyloxyfuranoeremophilane, 3 β ,6 β -diangeloyloxyfuranoeremophilane.

Bohlmann *et al.*, *Phytochemistry*, **16**, 774 (1977)

GOCHNATIA

G. paniculata.

NORDITERPENOIDS: 17 α -acetoxy-6 α , 15-dihydroxy-3-kolavene-18-ol, 17 α -acetoxy-3-kolavene-69 α , 15,18-triol, 17-phenylacetoxy-6 α , 15-dihydroxy-3-kolaven-18-ol, 17-phenylacetoxy-3-kolavene-6 α , 15,18-triol.

TRITERPENOIDS: gochnatiolides A and B, gochnatol 17-acetate.
 Bohlmann *et al.*, *Phytochemistry*, **22**, 191 (1983)

G. polymorpha.

Two bisabolenes, four guaianolides and two dimeric guaianolides.
 Bohlmann *et al.*, *Phytochemistry*, **25**, 1175 (1986)

G. smithii.

Two guaianolides.
 Ortega *et al.*, *Phytochemistry*, **23**, 1507 (1984)

GOBBELIA

G. pachycarpa.

QUINOLIZIDINE ALKALOID: sophorbenzamine.
 Abdusalamov *et al.*, *Khim. Prir. Soedin.*, 71 (1976)

GOMPHIDIUS (Basidiomycetae)

G. glutinosus.

PHENOLIC: xercomic acid.
 Edwards *et al.*, *J. Chem. Soc.*, 2582 (1971)

G. rutilus.

PHENOLIC: xercomic acid.
 Edwards *et al.*, *J. Chem. Soc.*, 2582 (1971)

GOMPHOCARPUS (Asclepiadaceae)

G. fruticosus R.Br.

STEROIDS: frugoside, gofruside, gomphogenin.
 Lardon *et al.*, *Helv. Chim. Acta*, **52**, 1940 (1969)

GONIOMA

G. kamasii.

UNCHARACTERIZED ALKALOID: rhazidine.

Markey *et al.*, *Tetrahedron Lett.*, 157 (1967)

G. malagasy.

ALKALOID: goniomine.

Chaironi *et al.*, *J. Am. Chem. Soc.*, **102**, 6920 (1980)

GONOTHALAMUS (Annoniaceae)

G. macrophyllus (Bl.) Hook. f. et Thomas.

PHENOLICS: goniothalamin, goniothalamin oxide.

Sam *et al.*, *Tetrahedron Lett.*, 2541 (1987)

GONOCARYUM

G. pyriforme.

CAROTENOIDS: δ -carotene, τ -carotene.

Winterstein, *Z. Physiol. Chem.*, **219**, 249 (1933)

GONOCLINIOPSIS

G. prasiifolia.

Four sesquiterpenoids.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1509 (1984)

GONYAULAX (Pyrrhophyceae/Gonyaulacaceae)

G. foliaceum.

STEROID: 4-methylgorgostanol.

Alam *et al.*, *J. Org. Chem.*, **44**, 4466 (1979)***G. tamarensis.***

STEROID: dinosterol.

Shimizu *et al.*, *J. Am. Chem. Soc.*, **98**, 1059 (1976)

GOODENIA (Goodeniaceae)

G. rameii.DITERPENOIDS: 8 β ,13-epoxyperu-14,15,18-triol, 19-(β -carboxypropionyloxy)-(-)-kaur-16-en-3 β -ol.Coates *et al.*, *Tetrahedron*, **24**, 795 (1968)***G. strophiolata.***DITERPENOID: 19-(β -carboxypropionyloxy)-(-)-kaur-16-en-3 β -ol.Coates *et al.*, *Tetrahedron*, **24**, 795 (1968)

GOSSYPIUM (Malvaceae)

G. barbadense.

FLAVONOIDS: astragalin, isoquercitrin.

PHENOLICS: caffeic acid, chlorogenic acid.

SESQUITERPENOIDS: helioside A, helioside B, 6-deoxyhemigossypol, hemigossypol, para-hemigossypol.

TRITERPENOIDS: 6,6'-dimethoxygossypol, 6-methoxygossypol.

(F, P) Ishak *et al.*, *Egypt. J. Chem.*, **17**, 135 (1974); *Chem. Abstr.* 86 117611s(T) Stipanovic *et al.*, *Phytochemistry*, **14**, 1077 (1975)(T) Bell *et al.*, *ibid.*, **17**, 1297 (1978)***G. hirsutum.***

SESQUITERPENOIDS: (+)(S)-abscicic acid, bisabolene oxide, lacinilenes A, B and C.

NORDITERPENOID: strigol.

SESTERTERPENOIDS: heliocides H-1, H-2, H-3 and H-4.

TRITERPENOIDS: 6,6'-dimethoxygossypol, 6-methoxygossypol.

Stipanovic *et al.*, *J. Agric. Food Chem.*, **28**, 115 (1978)Stipanovic *et al.*, *Phytochemistry*, **17**, 151 (1978)

G. raimondii.

SESQUITERPENOID: raimondal.

Stipanovic *et al.*, *Phytochemistry*, **19**, 1735 (1980)**GOYAZIANTHUS***G. tetrastichus.*

DITERPENOID: 3,4-epoxy-13-kolavene-2,15-diol.

Bohlmann *et al.*, *Phytochemistry*, **21**, 939 (1982)**GRANGEA***G. maderaspatana.*

DITERPENOID: stricic acid.

Iyer *et al.*, *Indian J. Chem.*, **18B**, 529 (1979)**GRATIOLA (Scrophulariaceae)***G. officinalis L.*

SAPONIN: gratoside.

TRITERPENOIDS: gratiogenin, gratiogenin glucoside, 16-hydroxygratiogenin.

Tschesche *et al.*, *Justus Liebigs Ann. Chem.*, **674**, 196 (1964)**GRAZELIS***G. intermedia.*

DITERPENOID: grazielic acid.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1069 (1981)

GREVILLEA (Proteaceae)

G. robusta.

MACROCYCLIC: robustol.

PHENOLICS: bis-norstriatol, norstrictol.

(M) Cannon *et al.*, *Aust. J. Chem.*, **26**, 2257 (1973)

(M) Cannon *et al.*, *ibid.*, **26**, 2277 (1973)

(P) Varma *et al.*, *Phytochemistry*, **15**, 1418 (1976)

GREWIA (Tiliaceae)

G. asiatica.

BENZOPYRAN: tetrahydro-6-(2-hydroxy-16,19-dimethylhexacosyl)-4-methyl-2H-pyran-2-one.

KETOALCOHOL: grewinol.

(B) Lakshmi *et al.*, *Phytochemistry*, **15**, 1397 (1976)

(K) Lakshmi *et al.*, *Lloydia*, **39**, 372 (1976)

G. tomentosa.

BENZOPYRAN: tilarioside.

Lin, *J. Chin. Chem. Soc.*, **22**, 383 (1975); *Chem. Abstr.* 84 147653

GRIFFONIA

G. simplicifolia.

GLYCOSIDE: griffonin.

LACTONE: griffonilide.

Dwuma-Badu *et v Lloydia*, **39**, 385 (1976)

GRIFOLIA (Basidiomycetae)

G. confluens.

PHENOLIC: grifolin.

Goto *et al.*, *Tetrahedron*, **19**, 2079 (1963)

GRINDELIA (Compositae/Astereae)

G. acutifolia.

DITERPENOIDS: 6 α -hydroxy-17-acetoxygrindelic acid, 6 α -hydroxy-17-isovaleroxygrindelic acid, 6 α -hydroxy-17-(α -methylbutyroxy)-grindelic acid, 6-oxo-17-acetoxygrindelic acid, 6-oxo-17-isobutyroxygrindelic acid.

Timmermann *et al.*, *Phytochemistry*, **26**, 467 (1987)

G. aphanactis Rydb.

FLAVONOIDS: luteolol, 3-methylquercetol, quercetol.

PHENOLIC: vanillic acid.

Torck *et al.*, *Plant Med. Phytother.*, **10**, 188 (1976)

G. camporum.

12 diterpenoids.

Timmermann *et al.*, *Phytochemistry*, **22**, 523 (1983)

G. havardii.

ACIDS: havardic acids A, B, C, D, E and F.

DIOL: havardiol.

Jolad *et al.*, *Phytochemistry*, **26**, 483 (1987)

G. humilis.

DITERPENOID: 6-hydroxygrindelic acid.

Rose *et al.*, *Phytochemistry*, **20**, 2249 (1981)

G. paludosa.

TERPENOIDS: 1,2-dihydropalutropone, palutropone.

Bohlmann *et al.*, *Phytochemistry*, **21**, 167 (1982)

G. robusta.

DITERPENOIDS: 7,8-epoxy-7,8-dihydrogrindelic acid, grindelic acid, 6-oxogrindelic acid.

Panizzi *et al.*, *Tetrahedron Lett.*, 376 (1961)

G. squarrosa.

FLAVONOIDS: luteolol, 3-methylkaempferol, 3-methylquercetol, quercetol.

DITERPENOIDS: grindelic acid, oxygrindelic acid.

(F) Torck *et al.*, *Acad. Sci.*, **282**, 1453 (1976)

(T) Bruun *et al.*, *Acta Chem. Scand.*, **76**, 1675 (1962)

G. stricta.

DINORDITERPENOID: grindelistrictoic acid.

DITERPENOID: strictanonoic acid.

Bohlmann *et al.*, *Phytochemistry*, **21**, 167 (1982)

GRISELINIA (Cornaceae)

G. littoralis.

IRIDOID: griselinoside.

Jensen *et al.*, *Phytochemistry*, **19**, 2685 (1980)

GROSSHEIMIA

G. macrocephala.

SESQUITERPENOIDS: cynaropicrin, 4'-deoxycynaropicrin, grossheimin, grossheimol, 4'-nor-2'-methoxycynaropicrin.

Daniewski *et al.*, *Collect. Czech. Chem. Commun.*, **47**, 3160 (1982)

Barbetti *et al.*, *Farmaco Ed. Sci.*, **40**, 755 (1985)

GROSSWEILERODENDRON

G. balsamiferum.

DITERPENOIDS: agbanindiol A, agbanindiol B, agbaninol, kolavic acid methyl ester.

Ekong, Okogun, *J. Chem. Soc., C*, 2153 (1969)

GUAIACUM (Zygophyllaceae)

G. officinale L.

FURAN: furoguaiacidin.

PHENOLIC: furoguiaoxidin.

SAPOGENIN: 24-O- β -D-glucopyranosylofficigenin.

NORTRITERPENOID: 3 β ,20-dihydroxy-30-norolean-12-en-28-oic acid.

TRITERPENOID: officigenin.

(F, P) Majumder *et al.*, *Chem. Ind. (London)*, 77 (1974)

(Sap) Ahmad *et al.*, *J. Nat. Prod.*, **48**, 826 (1985)

(T) Ahmad *et al.*, *Phytochemistry*, **23**, 2613 (1984)

GUAREA (Meliaceae)

G. cedrata.

STEROID: 3,4-seco-4(28),7,24-tirucallatriene-3,21-dioic acid methyl ester.

Connolly *et al.*, *J. Chem. Res. Synop.*, 256 (1978)

G. glabra.

LIMONOIDS: glabretal, glabretal acrylate, glabretal angelate, glabretal α -hydroxyisovalerate, glabretalone, glabretal tiglate.

Ferguson *et al.*, *J. Chem. Soc., Chem. Commun.*, 159 (1973)

G. thompsonii.

LIMONOIDS: 6,12 β -diacetoxyangolensic acid methyl ester, dihydrogedunin.

SESQUITERPENOID: angolensic acid methyl ester.

SESTERTERPENOIDS: fuarealactones B and C.

Connolly *et al.*, *J. Chem. Res. Synop.*, 256 (1978)

G. trichiliooides.

TERPENOID: fissinolide.

Zelnik, Rosito, *Tetrahedron Lett.*, 6441 (1966)

GUATTERIA (Annonaceae)

G. dielsiana.

AZAFLUORENONE ALKALOIDS: dielsine, dielsinol, 6-methoxyonychine, onychine.

OXOAPORPHINE ALKALOIDS: isomoschatoline, liriodenine, O-methylmoschatoline.

QUINONE: dielsiquinone.

Goulart *et al.*, *Phytochemistry*, **25**, 1691 (1986)

G. discolor.

NORAPOPHINE ALKALOIDS: guadiscine, guadiscoline.

Hocquemiller *et al.*, *Tetrahedron Lett.*, 4247 (1982)

G. elata.

APORPHINE ALKALOID: puterine.
Hsu *et al.*, *Lloydia*, **40**, 505 (1977)

G. gaumeri.

BISBENZYLISOQUINOLINE ALKALOID: guattagaumerine.
Dehaussy *et al.*, *Planta Med.*, **49**, 25 (1983)

G. megalophylla Diels.

BISBENZYLISOQUINOLINE ALKALOID: (R,R)-(-,-)-O,O-dimethylcurine.
Galeffi *et al.*, *Gazz. Chim. Ital.*, **105**, 1207 (1975)

G. melosma.

APORPHINE ALKALOIDS: 3-hydroxynornuciferine, melosmidine, melosmine.
OXOAPORPHINE ALKALOIDS: isomoschatoline, oxoanolobine.
Abd-el-Atti *et al.*, *J. Nat. Prod.*, **45**, 476 (1982)

G. ouregou.

APORPHINE ALKALOID: pentouregine.
Cortes *et al.*, *Phytochemistry*, **24**, 2776 (1985)

G. psilopus.

OXOAPORPHINE ALKALOID: atherospermidine.
Bick, Douglas, *Aust. J. Chem.*, **18**, 1997 (1965)

G. scandens.

APORPHINE ALKALOIDS: guattescidine, guattescine.
Hocquemiller *et al.*, *J. Nat. Prod.*, **46**, 335 (1983)

G. schomburgkiana.

APORPHINE ALKALOIDS: belemine, dehydroguattescine.
Cortes *et al.*, *J. Nat. Prod.*, **48**, 254 (1985)

G. subsessilis.

OXOAPORPHINE ALKALOID: subsessiline.
Hasegawa *et al.*, *Acta Cient. Venez.*, **23**, 165 (1972)

GUAZUMA

G. tomentosa Kunth.

STEROID: β -sitosterol.
TRITERPENOIDS: friedelin 3 α -acetate, friedelin-3 α -ol.

Anjaneyulu *et al.*, *Curr. Sci.*, **46**, 776 (1977)

GUETTARDA (Rubiaceae)

G. angelica.

TRITERPENOID: 3,23-dihydroxy-12-ursen-28-oic acid.

Sousa *et al.*, *Phytochemistry*, **23**, 2589 (1984)

G. eximia.

One carboline alkaloid.

Kan-Fan, Husson, *J. Chem. Soc., Chem. Commun.*, 618 (1978)

G. heterosepala.

INDOLE ALKALOID: guettardine.

Brillanceau *et al.*, *Tetrahedron Lett.*, 2767 (1984)

GUEVARIA

G. sodiroi.

SESQUITERPENOID: guevariolide.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1144 (1981)

GUIBORTIA

G. coleosperma.

FLAVAN: guibourtacacidin.

Roux *et al.*, *Biochem. J.*, **87**, 439 (1963)

GUILLONEA

G. scabra.

SESQUITERPENOIDS: guillonein, shairidin.

Pinar *et al.*, *Phytochemistry*, **22**, 987 (1983)

GUMMIPHORA

G. mukul.

DITERPENOID: allylcembrol.

Ruecker *et al.*, *Arch. Pharm. (Weinberg, Ger.)*, **305**, 486 (1972)

GUTIERREZIA

G. dracunuloides.

DITERPENOID: gutierolide.

Cruse *et al.*, *J. Chem. Soc., Chem. Commun.*, 1278 (1971)

G. gymnospermoides.

MONOTERPENOID: 2-trans-6-trans-8-trans-2,6,8-decatriene-4-yn-1-ol.

Bohlmann *et al.*, *Chem. Ber.*, **98**, 369 (1965)

G. microcephala.

FLAVONOIDS: 5,2'-dihydroxy-3,6,7,8,4',5'-hexamethoxyflavone, 5,7,2',4'-tetrahydroxy-3,6,8,5'-tetramethoxyflavone, 5,7,2',5'-tetrahydroxy-3,6,8,4'-tetramethoxyflavone, 5,7,2',4'-tetrahydroxy-3,8,5'-trimethoxyflavone, 5,7,2'-trihydroxy-3,6,8,4',5'-pentamethoxyflavone, 5,7,2'-trihydroxy-3,6,4',5'-tetramethoxyflavone.

Fang *et al.*, *Phytochemistry*, **24**, 3029 (1985)

G. sarotirae.

DITERPENOIDS: articulin, articulin acetate, gutierrezial.

Bohlmann *et al.*, *Phytochemistry*, **23**, 2007 (1984)

G. wrightii.

FLAVONOIDS: chrysoeriol, 5,7-dihydroxy-3,4,6,8-tetramethoxyflavone, isorhamnetin, isorhamnetin 3-O- β -D-glucoside, kaempferol, kaempferol 3-O-D-glucoside, luteolin, quercetin, quercetin 3-O- α -D-glucuronide, quercetin 3-O- β -D-glucoside, 3,5,7,3',4'-

pentahydroxy-6-methoxyflavone, 3,5,7,4'-tetrahydroxy-6,3'-dimethoxyflavone, 5,7,4'-trihydroxy-3,6-dimethoxyflavone, 5,7,4'-trihydroxy-3,6,8,3'-tetramethoxyflavone, 5,7,4'-trihydroxy-3,6,8-trimethoxyflavone.

Fang *et al.*, *J. Nat. Prod.*, **49**, 738 (1986)

GYMINDA

G. costaricensis Standl.

DITERPENOIDS: gymindone, 14-hydroxyabieto-8,11,13-trien-19-oic acid, 14-hydroxyabieto-8,11,13-trien-7-one, hydroxymethoxyabieto-8,11,13-trien-19-oic acid.

Castro *et al.*, *Ing. Cienc. Quim.*, **10**, 5 (1986); *Chem. Abstr.* **106** 30032m

GYMNACRANTHERA (Myristacaceae)

G. paniculata (A.DC.) var. zippeliana (Miq.) Sinclair.

INDOLE ALKALOID: 3-demethylaminoethyl-1,5-dimethoxyindole.

Johns *et al.*, *Aust. J. Chem.*, **30**, 1737 (1967)

GYMNEMA (Asclepiadaceae)

G. sylvestre R.Br.

QUINOLINE ALKALOID: gymnamine.

TRITERPENOIDS: gymnemagenin, gymnemic acid, gymnemic acid A-1, gymnestrogenin.

(A) Rao *et al.*, *Chem. Ind. (London)*, 537 (1972)

(T) Stocklin *et al.*, *Helv. Chim. Acta*, **51**, 1235 (1968)

GYMNOCARPIUM

G. robertianum Newn. (G. jessoense Koidz.).

XANTHONES: gymnocarpaside, mangiferin, 1,3,6,7-tetrahydroxyxanthone.

Murakami *et al.*, *J. Pharm. Soc., Japan*, **106**, 378 (1986)

GYMNOCLADA (Leguminosae)

G. dioica.

STEROID: 8(14),22-stigmastadien-3-ol.

Abramson, Su Kim, *Phytochemistry*, **12**, 951 (1973)

GYMNOCOLEA (Musci)

G. inflata (Hudson) Dum.

DITERPENOID: gymnocolin.

Huneck *et al.*, *Tetrahedron Lett.*, 115 (1983)

GYMNOGONGRUS (Rhodophyceae)

G. flabelliformis.

COUMARIN: gongrine.

Ito *et al.*, *Agric. Biol. Chem.*, **29**, 832 (1965)

GYMNOMITRION

G. obtusa.

SESQUITERPENOIDS: gynomitrene, gynomitrol, gynomitrol acetate, 8-hydroxymethyl-1,2,6-trimethyltricyclo-[5,3,1,0]-undec-8-en-11-yl acetate, 1,2,6-trimethyl-8-methylenetricyclo-[5,3,1,0]-undecane-5,11-diyI diacetate, 1,2,6-trimethyl-8,8-oxymethylenetricyclo-[5,3,1,0]-undecane-11-yl acetate.

Connolly *et al.*, *J. Chem. Soc., Perkin I*, 2847 (1974)

GYMNOSPERMA

G. glutinosa.

DITERPENOID: gymnospermin.

TRITERPENOID: olean-12-ene-3,11-dione.

Miyakado *et al.*, *Phytochemistry*, **13**, 189 (1974)

GYMNOSPERMIUM

G. alberti (Regel) Takht.

QUINOLIZIDINE ALKALOIDS: darmasine, darvasamine, N-methylcytisine.

Kurbanov *et al.*, *Rastit. Resur.*, **18**, 372 (1982)

GYMNOSPORIA

S. rothiana.

TRITERPENOIDS: gymnosporol olean-12-ene-3,11-dione.

Govindachari *et al.*, *Indian J. Chem.*, **8**, 395 (1970)

G. wallichiana.

TRITERPENOIDS: gymnosporic acid, wallichianic acid, wallichianol.

Kulshreshtha, *Phytochemistry*, **16**, 1783 (1977)

GYMNOSTEMMA (Cucurbitaceae)

G. pentaphyllum Makino.

SAPONINS: gymnosaponins E, G, I and K, gypenosides XV, XVI, XVII, XVIII, XIX, XX, XXI, XXXVI, XXXVIII, XLII, XLIII, XLIV, XLV, XLVI, LIII and LIV.

STEROIDS: (24E)-dimethyl-5 α -cholesta-7,22-dien-3 β -ol, 24,24-dimethyl-5 α -cholesta-7,25-dien-3 β -ol, 24,24-dimethyl-5 α -cholest-7-en-3 β -ol, 14 α -methyl-5 α -ergosta-9(11),24(28)-dien-3 β -ol.

(Sap) Takemoto *et al.*, *J. Pharm. Soc., Japan*, **104**, 939, 1043 (1984)

(S) Akihara *et al.*, *Phytochemistry*, **26**, 2412 (1987)

GYMNOSTROMA

G. missouriensis.

MONOTERPENOID: nectriapyrone.

Nair, Carey, *Tetrahedron Lett.*, 1655 (1975)

GYNANDROPSIS

G. adenocarpa.

GLUCOSINOLATES: glucobrassicin, glucocapparine, glucoiberine, neoglucobrassicin.

Saleh *et al.*, *Pharmazie*, **31**, 818 (1976)

G. grandiflora.

GLUCOSINOLATES: glucobrassicin, glucocapparine, glucoiberine, neoglucobrassicin.

Saleh *et al.*, *Pharmazie*, **31**, 818 (1976)

G. gynandra.

GLUCOSINOLATES: glucobrassicin, glucocapparine, glucoiberine, neoglucobrassicin.

Saleh *et al.*, *Pharmazie*, **31**, 818 (1976)

G. macrophylla.

GLUCOSINOLATES: glucobrassicin, glucocapparine, glucoiberine, neoglucobrassicin.

Saleh *et al.*, *Pharmazie*, **31**, 818 (1976)

G. speciosa.

GLUCOSINOLATES: glucobrassicin, glucocapparine, glucoiberine, neoglucobrassicin.

Saleh *et al.*, *Pharmazie*, **31**, 818 (1976)

G. tricopus.

GLUCOSINOLATES: glucobrassicin, glucocapparine, glucoiberine, neoglucobrassicin.

Saleh *et al.*, *Pharmazie*, **31**, 818 (1976)

GYNOCARDIA (Flacourtiaceae)

G. odorata.

CARBONITRILE: gynocardin.

TRITERPENOIDS: O-acetylodollactone, odolactone, odollactone.

(C) Coburn *et al.*, *J. Org. Chem.*, **31**, 4312 (1966)
 (T) Pradhan *et al.*, *Tetrahedron Lett.*, 865 (1984)

GYNURA (Compositae)

G. crepoides.

COUMARIN TERPENOID: gynurone.
 Bohlmann *et al.*, *Phytochemistry*, **16**, 494 (1977)

G. japonica Makino.

SAPONIN: ophiopogonin.
 STEROIDS: 3-epi-diosgenin-3-O- β -D-glucopyranoside, 3-epi-ruscogenin, 3-epi-scepstrumgenin-3-O- β -glucopyranoside.
 Takahara *et al.*, *Tetrahedron Lett.*, 3647 (1977)

GYROMITRA (Ascomycetae)

G. esculenta (Pers.) Fr.

TOXINS: gynomitrin, hexylidene, 3-methylbutylidene, pentylidene.
 List *et al.*, *Arch. Pharm. (Weinreim, Ger.)*, **38**, 294 (1968)
 Pyysalo, *Naturwissenschaften*, **62**, 395 (1975)

GYPSOPHILA (Caryophyllaceae)

G. acutifolia.

SAPONIN: acutifolioside.
 Chirva *et al.*, *Khim. Prir. Soedin.*, 330 (1974)

G. pacifica.

SAPONIN: gypsoside.
 TRITERPENOIDS: 12,13-dihydro-13-hydroxygypsogenin, gypsogenin.
 (Sap) Kochetkov *et al.*, *Tetrahedron Lett.*, 477 (1963)
 (T) Khorlin *et al.*, *J. Gen. Chem., USSR*, **32**, 782 (1962)

G. paniculata.

SAPONIN: gypsoside.

Kochetkov *et al.*, *Tetrahedron Lett.*, 477 (1963)

G. patrinii.

SAPONIN: philoside B.

Bikharov *et al.*, *Khim. Prir. Soedin.*, 603 (1974)

G. struthium.

STEROIDS: 24R-ergosta-6,22-dien-5 α -acetoxy-3- β -D-glucoside, 24R-ergosta-5,22-dien-7 α -ol 3- β -D-O-glucoside, spinasterol, spinasteryl-3- β -O-D-glucoside, 24-stigmast-22-en-3 β -ol, 24R-stigmast-22-en-3 β - β -D-O-glucoside.

TRITERPENOIDS: betulinic acid, oleanolic acid, 3 β -hydroxylup-20(29)-en-27-oic acid.

Del Castillo *et al.*, *Fitoterapia*, 57, 61 (1986)

GYROCARPUS (Hernandiaceae)

G. americanus Jacq.

QUATERNARY ALKALOID: (+)(S)-magnocurarine.

McKenzie, Price, *Aust. J. Chem.*, 6, 180 (1953)

H**HABRANTHUS (Amaryllidaceae)*****H. brachyandrus.***

BENZHOMOISOQUINOLINE ALKALOID: habranthine.

Wildman, Brown, *Tetrahedron Lett.*, 4573 (1968)**HABROPETALUM*****H. dawei.***

TRINORSESQUITERPENOID: isoshinanolone.

Hanson *et al.*, *Phytochemistry*, **20**, 1161 (1981)**HAEMANTHUS (Amaryllidaceae)*****H. albomaculatus.***

LACTONE ALKALOID: albomaculine.

Briggs *et al.*, *J. Am. Chem. Soc.*, **78**, 2899 (1956)***H. amaryloides Jacq.***

HOMOACRIDINE ALKALOID: manthine.

Wildman, Kaufman, *J. Am. Chem. Soc.*, **77**, 1248 (1955)***H. katherinae.***

BENZOISOQUINOLINE ALKALOID: epi-haemanthamine.

Nogueiras *et al.*, *Tetrahedron Lett.*, 2743 (1971)***H. montanus Baker.***

HOMOACRIDINE ALKALOID: montanine.

Wildman, Kaufman, *J. Am. Chem. Soc.*, **77**, 1248 (1955)

H. natalensis.

BENZOISOQUINOLINE ALKALOID: epi-haemanthidine.

Goosen *et al.*, *J Chem. Soc.*, 1088 (1960)

H. puniceus x katherinae.

ISOQUINOLINE ALKALOIDS: haemanthamine, haemanthidine.

Fales *et al.*, *J. Am. Chem. Soc.*, **82**, 197 (1960)

Fales *et al.*, *ibid.*, **82**, 3368 (1960)

H. tigrinus.

ANTHRACENE ALKALOID: coccinine.

Wildman, Kaufman, *J. Am. Chem. Soc.*, **77**, 1248 (1955)

HAEMODORUM (Haemodoraceae)

H. distichophyllum (Hook).

PIGMENT: haemodorin.

Bick *et al.*, *Aust J. Chem.*, **26**, 1377 (1973)

HAEMATOMMA (Lecanoraceae)

H. coccineum (Dicks.) Korb.

TRITERPENOID: zeorin.

Huneck, Lehn, *Bull. Soc. Chim.*, 1702 (1963)

H. erythromma (L.) Massal.

PHENOLIC: thamnolic acid.

Wachtmeister *et al.*, *Acta Chem. Scand.*, **9**, 1395 (1955)

H. ventosum (L.) Massal.

STEROID: 5,8-peroxyergosterol divaricatinate.

Bruun, Motzfeldt, *Acta Chem. Scand.*, **29**, 274 (1975)

HAEMATOXYLON

H. compechianum.

INDENOPYRAN: haematoxylin.

Parkin *et al.*, *J. Chem. Soc.*, **93**, 489 (1908)

HALFORDIA (Rutaceae)

H. kendack.

ISOQUINOLINE ALKALOID: halfordamine.

COUMARIN: halkendin.

(A) Crow, Hodgkin, *Aust. J. Chem.*, **21**, 2075 (1968)

(C) Nakayama *et al.*, *ibid.*, **24**, 209 (1971)

H. scleroxyla.

PYRIDINE ALKALOIDS: halfordanine, halfordine, halfordinine, halfordinol, halfordisone, N-methylhalfordine.

Crow, Hodgkin, *Aust. J. Chem.*, **21**, 3075 (1971)

HALIDONA (Rhodophyceae)

H. longley.

STEROID: haliclonasterol.

Bergman *et al.*, *J. Org. Chem.*, **14**, 1078 (1949)

HALIDRYS (Phaeophyceae)

H. siliquosa.

DINORTRITERPENOIDS: (6'E,11'R,12'R)-12-hydroxy-5,13-dioxohalidrol,
 (6'Z,11'R,12'R)-12-hydroxy-5,13-dioxohalidrol, (6'E,11'R,12'S)-12-hydroxy-5,13-dioxohalidrol.

Higgs *et al.*, *Tetrahedron*, **37**, 3209 (1981)

HALIMEDA (Chlorophyceae/Codiaceae)

Halimeda sp. (unclassified).

DITERPENOIDS: halimedalactone halimestrial

Paul *et al.*, *Science*, **221**, 747 (1983)

HALIMIUM (Cistaceae)

***H. viscosum*.**

DITERPENOIDS: O-acetylhydrohaliminic acid, 15-acetoxy-7,13E-labdadien-17-oic acid, 14,15-dinor-13-oxo-7-labden-17-oic acid, hydrohaliminic acid, 2 β -hydroxyhydrohaliminic acid, 15-hydroxy-7,13E-labdadien-17-oic acid.

de Pascual Teresa *et al.*, *Phytochemistry*, **25**, 711 (1986)

HALLERIA

***H. lucida*.**

QUINONES: halleridone, hallerone.

Messana *et al.*, *Phytochemistry*, **23**, 2617 (1984)

HALMIUM

***H. umbellatum*.**

Two diterpenoids.

de Pascual Teresa *et al.*, *An. Quim.*, **71**, 112 (1975)

HALOSTACHYS (Chenopodiaceae)

***H. caspica* (Pall.) SAM.**

AMINE ALKALOID: halostachine.

Man'shikov, Rubinshtein, *J. Gen. Chem., USSR*, **13**, 801 (1943)

HALOZYLON (Chenopodiaceae)

***H. articulatum*.**

ISOQUINOLINE ALKALOID: N-methylisosalsoline.

Calling, Sandberg, *Acta Pharm. Suec.*, **7**, 285 (1970)

***H. salicornicum*.**

PIPERIDINE ALKALOID: halosaline.

ISOQUINOLINE ALKALOID: carnegine. Two uncharacterized alkaloids.

Michel *et al.*, *Acta Pharm. Suec.*, **4**, 97 (1967)

Brown *et al.*, *J. Org. Chem.*, **37**, 1825 (1972)

***H. wakhanicum* Eug. Kor. (*Arthrophytum wakhanicum* Pauls. Eug. Kor).**

AMINE ALKALOID: N-methyl- β -phenethylamine.

Camp, Norvell, *Econ. Bot.*, **20**, 274 (1966)

HAMAMELIS (Hamamelidaceae)

***H. virginiana* L.**

TANNIN: hamamelitannin.

Mayer *et al.*, *Justus Liebigs Ann. Chem.*, **688**, 232 (1965)

HAMELIA

***H. patens* Jacq.**

OXINDOLE ALKALOIDS: isomaruquine, isopteropodine, maruquine, palmirine, pteropodine, rumberine, seneciophylline.

STEROID: stigmas-4-ene-3,6-dione.

(A) Nroges *et al.*, *Tetrahedron Lett.*, 3197 (1979)

(A) Borges del Castillo *et al.*, *Chem. Abstr.*, 97 123849e

(S) Ripperger, *Pharmazie*, **33**, 82 (1978)

HAMMARBYA (Orchidaceae)

H. paludosa (L.) Kuntze. (*Malaxis paludosa* L.).

PYRROLIZIDINE ALKALOIDS: hammarbine, paludosine.

Lindstrom, Luning, *Acta Chem. Scand.*, **26**, 2963 (1972)

HANDELIA

H. trichophylla.

SESQUITERPENOIDS: chrysartenin B, handelin, hanphyllin.

Tarasov *et al.*, *Khim. Prir. Soedin.*, 667 (1976)

HANNOA

H. klaineana.

DITERPENOIDS: chaparrinone, glaucarubolone, kleineanone.

Polansky, Bourguignon-Zylber, *Bull. Soc. Chim. Fr.*, 2793 (1965)

Moron, Polansky, *Tetrahedron Lett.*, 385 (1968)

H. undulata (Guillen et Perr.) Planch.

QUASSINOIDS: ailanthinone, undulatone.

Wani *et al.*, *Tetrahedron*, **35**, 17 (1979)

HAPLOCARPHA

H. lyrata.

SESQUITERPENOIDS: 13-acetoxyesquisabinene, 12-sesquisabienal, 12-sesquisabienol, 12-sesquisabienol acetate.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1157 (1982)

H. scaposa.

SESQUITERPENOIDS: 13-acetoxyesquisabinene, 12-sesquisabienal, sesquisabienol, sesquisabienol acetate.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1157 (1982)

HAPLOPAPPUS (Compositae)

H. angustifolius.

DITERPENOID: haplopappic acid.

Silva, Sammes, *Phytochemistry*, **12**, 1755 (1973)

H. ciliatus.

DITERPENOID: haplociliatic acid.

Bittner *et al.*, *Phytochemistry*, **17**, 1797 (1978)

H. foliosus.

FLAVONOIDS: esculetin, isorhamnetin, isorhamnetin 3-O- β -D-glucoside, kaempferol, kaempferol 3-O- β -D-glucoside, kaempferol methyl ether, quercetin, quercetin 3-O- β -D-galactoside, quercetin 3-O- β -D-glucoside, quercetin methyl ether.

DITERPENOID: haplopappic acid.

(F) Ulubelen *et al.*, *J. Nat. Prod.*, **45**, 363 (1982)

(T) Silva, Sammes, *Phytochemistry*, **12**, 1755 (1973)

H. fremontii.

SESQUITERPENOIDS: 1 β -hydroxy- β -cyperone, 12(13)-hydroxy- β -cyperone, 8-oxo- β -cyperone.

Jakupovic *et al.*, *Planta Med.*, 411 (1986)

H. myrtifolium.

LIGNANS: (-)-haplomyrflolin, haplopyrtin.

Evcum *et al.*, *Phytochemistry*, **25**, 1949 (1986)

H. obtusifolium.

COUMARINS: obtusidin, obtusiprenin, scopoletin.

Matkarimov *et al.*, *Khim. Prir. Soedin.*, 173 (1982)

H. tenuisectus.

SESQUITERPENOIDS: isosesquicarene.

Bohlmann *et al.*, *Phytochemistry*, **18**, 1749 (1979)

HAPLOPHYLLUM (Rutaceae)

H. acutifolium.

ISOQUINOLINE ALKALOID: acutine.

FURANOQUINOLINE ALKALOID: skimmianine.

Razzakova *et al.*, *Khim. Prir. Soedin.*, 206 (1973)

H. alberti-regelii.

LIGNAN: diphyllin.

Nesmelova *et al.*, *Khim. Prir. Soedin.*, 643 (1983)

H. bucharicum Litv.

FURANOQUINOLINE ALKALOIDS: bucharamine, dictamnine, haplopine, robustine, skimmianine.

PROTOBERBERINE ALKALOID: α -fagarine.

QUINOLONE ALKALOIDS: bucharaine, buchahdine, folifidine.

PYRANOQUINOLINE ALKALOID: haplobucharine.

LIGNAN: diphyllin.

(A) Sharafutdinova, Yunusov, *Khim. Prir. Soedin.*, 394 (1969)

(A) Nasmalova *et al.*, *ibid.*, 815 (1975)

(L) Nesmelova *et al.*, *Khim. Prir. Soedin.*, 643 (1983)

H. bungei Trautv.

FURANOQUINOLINE ALKALOIDS: dictamnine, skimmianine.

QUINOLONE ALKALOID: robustinine.

Kurbanov, Yunusov, *Khim. Prir. Soedin.*, 289 (1967)

H. cimicidum.

DIMERIC ALKALOID: haplophytine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: haplocidine, haplocine.

Yates *et al.*, *J. Am. Chem. Soc.*, **95**, 7842 (1973)

H. dauricum.

COUMARIN: daurosides D.

Vdovin *et al.*, *Khim. Prir. Soedin.*, 441 (1983)

H. dubium Eug. Kor.

DIMERIC ALKALOID: haplophytine.

FURANOQUINOLINE ALKALOIDS: dubinidine, dubinine, evoxine, skimmianine.

QUINOLINE ALKALOIDS: dubamine, foliosidine, foliosine.

QUINOLONE ALKALOIDS: graveoline, norgraveoline.

Yunusov, Sidyakov, *Dokl. Akad. Nauk SSSR*, **12**, 15 (1950)

Razzakova *et al.*, *Khim. Prir. Soedin.*, 810 (1979)

***H. foliosum* Vved.**

FURANOQUINOLINE ALKALOIDS: dubinidine, folifinine, foliminine, folizine, haplofoline.

PYRANOQUINOLINE ALKALOIDS: folifine, haplopholine.

QUINOLINE ALKALOIDS: folifosidine, folimidine, folimine, foliosidine, foliosidine acetonide, foliozidine, graveoline, robustinine.

Razzakova *et al.*, *Khim. Prir. Soedin.*, **133**, 755 (1972)

Bessonova *et al.*, *ibid.*, 52 (1974)

***H. hispanicum*.**

FURANOQUINOLINE ALKALOID: haplatine.

Gonzalez *et al.*, *An. Quim.*, **68**, 1133 (1972)

***H. latifolium*.**

AMIDE ALKALOID: haplamidine.

FURANOQUINOLINE ALKALOID: haplatine.

Masmalova *et al.*, *Khim. Prir. Soedin.*, 666 (1975)

Nesmalova *et al.*, *ibid.*, 427 (1977)

***H. obtusifolium* Ldb.**

FURANOQUINOLINE ALKALOIDS: evoxine, skimmianine.

Ubaidullaev *et al.*, *Khim. Prir. Soedin.*, 343 (1972)

***H. pedicellatum* Bge.**

FURANOQUINOLINE ALKALOIDS: α -fagarine, robustine, skimmianine.

Ubaidullaev *et al.*, *Khim. Prir. Soedin.*, 343 (1972)

***H. perforation* (MB.) Kar. et Kir.**

FURANOQUINOLINE ALKALOIDS: evoxine, haplophylline, haplophytine, haplopine, perforine, skimmianine, triacetylglucoperine.

QUINOLONE ALKALOID: haplamine.

LIGNAN: diphyllin.

(A) Bessonova *et al.*, *Khim. Prir. Soedin.*, 360 (1968)

(A) Abdullaev *et al.*, *ibid.*, 425 (1977)

(L) Nesmelova *et al.*, *ibid.*, 643 (1983)

***H. popovii* Eug. Kor.**

FURANOQUINOLINE ALKALOIDS: evoxine, skimmianine.

QUINOLONE ALKALOID: hapovine.

Razzakova *et al.*, *Khim. Prir. Soedin.*, 528 (1981)

***H. ramosissimum* Vved.**

FURANOQUINOLINE ALKALOIDS: dictamnine, evoxine, skimmianine.

Kurbanov *et al.*, *Khim. Prir. Soedin.*, **67**, 289 (1967)

***H. robustum* Bge.**

FURANOQUINOLINE ALKALOIDS: dictamnine, α -fagarine, haplopine, robustine.

QUINOLONE ALKALOID: robustinine.

Narasimhan *et al.*, *Tetrahedron*, **27**, 1351 (1971)

H. tuberculatum.

QUINOLONE ALKALOID: 3-dimethylallyl-4-dimethylallyloxy-2-quinolone.

Lavie *et al.*, *Tetrahedron*, **23**, 3011 (1968)

HAPLOPHYTON (Apocynaceae)

H. cimicidum A.DC.

CARBOLINE ALKALOIDS: eburaamine, methyleburnamine.

DIMERIC ALKALOIDS: cimiciphytine, cimilophytine, haplophytine, methyleburnamine, norcimiciphytine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: cimicidine, cimicine, haplocidine, haplocine.

Bartlett *et al.*, *C.R. Acad. Sci.*, **249**, 1259 (1959)

Adesomoju *et al.*, *J. Org. Chem.*, **48**, 3015 (1983)

HAPLORMOSIA

H. monophylla.

ISOFLAVONES: dehydroferreirin, ferreirin.

King *et al.*, *J. Chem. Soc.*, 4580 (1952)

King et al. *ibid.*, **4752** (1952)

HARDWICKIA

H. pinnata Roxb.

SESQUITERPENOID: τ -cadinene.

DITERPENOIDS: (-)-hardwickiic acid, kolavelool, kolavenic acid, kolavenol, kolavenolic acid, kolavonic acid, kolovic acid.

Misra *et al.*, *Tetrahedron*, **35**, **979**, 985 (1979)

HARPAGOPHYTUM (Pedaliaceae)

H. procumbens (Burchell) DC.

IRIDOIDS: harpagoside, procumbide.

Lichti, Wartburg, *Tetrahedron Lett.*, 835 (1964)

HARPEPHYLLUM

H. caffrum.

FLAVONOIDS: apigenin 7-glucoside, kaempferol 3-galactoside, kaempferol 3-rhamnoside, quercetin 3-arabinoside, quercetin 3-glucoside, quercetin 3-rhamnoside.

PHENOLICS: gallic acid, protocatechuic acid.

Sherbeiny *et al.*, *Planta Med.*, **29**, 129 (1976)

HARPULLIA (Sapindaceae)

H. pendula Planch.

TRITERPENOID: A-1-barrigenol 22-angelate.

Lewis, Khong, *Aust. J. Chem.*, **29**, 1351 (1976)

HARRINGTONIA

H. abyssinica.

CHROMONE: 2-hydroxymethylalloptaeroxylin.

Balde *et al.*, *Phytochemistry*, **26**, 2415 (1987)

HARRISONIA

H. abyssinica.

TETRANORTRITERPENOIDS: harrisonin, obacunone, pedonin.

Kubo *et al.*, *Heterocycles*, **5**, 485 (1976) Hassanali *et al.*, *Phytochemistry*, **26**, 573 (1987)

HARTWRIGHTIA

H. floridana.

DITERPENOID: hartwrightic acid.

Bohlmann *et al.*, *Phytochemistry*, **20**, 843 (1981)

HARUNGANA (Guttiferae/Clusiaceae)

H. madagascariensis.

ANTHRONE: haronginanthrone.

TRITERPENOID: harunganin.

XANTHONE: 1,7-dihydroxyxanthone.

Ritchie *et al.*, *Tetrahedron Lett.*, 1431 (1964)

HAZUNTA

H. costata.

DIMERIC CARBOLINE ALKALOID: (19R)-19-hydroxy-tabernaelegantine A.

Urrea *et al.*, *Bull. Soc. Chim. Fr.*, 147 (1981)

H. modesta var. brevituba.

INDOLE ALKALOIDS: 16-epi-methuenine, methuenine.

Bui *et al.*, *Phytochemistry*, **16**, 703 (1977)

H. modesta var. divaricata.

INDOLE ALKALOIDS: 16epi-methuenine, methuenine.

Bui *et al.*, *Phytochemistry*, **18**, 1329 (1979)

H. modesta var. modesta subvar. divaricata.

DIMERIC CARBAZOLE ALKALOID: hazuntiphylline.

Bui *et al.*, *J. Nat. Prod.*, **49**, 321 (1986)

H. silicicola* Pichon.**INDOLE ALKALOID: (\pm)-oxo-6-silicine.Reis *et al.*, *Tetrahedron Lett.*, 1085 (1976)**HEBECLINIUM**H. macrophyllum*.**

DITERPENOID: hebeclinolide.

Bohlmann, Grenz, *Chem. Ber.*, **110**, 1321 (1977)**HEBELOMA*****H. crustuleniforme*.**TRITERPENOIDS: 3β -acetyl- 2α -(3'-hydroxy-3'-methylglutamyl)-crustulinol, crustulinol.de Bernardi *et al.*, *Tetrahedron Lett.*, 1630 (1983)***H. sinapizens*.**

TRITERPENOID: crustulinol.

de Bernardi *et al.*, *Tetrahedron Lett.*, 1630 (1983)***H. vinosophyllum*.**

SAPONINS: hebevinosides I, II and III.

Fujimoto *et al.*, *Tennen Yuti Kagobutsu Toronkai Koen Yoshishu*, **26**, 62 (1983)**HECHTIA*****H. texensis*.**

STEROID: bacogenin.

Callow *et al.*, *Chem. Ind. (London)*, 699 (1951)

HEDERA (Araliaceae)

H. helix L.

SAPONIN: hederin.

Van der Haar, Arch. Pharm. (Weinheim, Ger.) **250**, 424 (1912)

H. nepalensis K.Koch.

GLYCOSIDES: campesterol β -D-glucopranoside, hederagenin β -D-glucoside, hederagenin 3-O- β -D-glucuronopyranoside, oleanolic acid 3-O- α -L-rhamnopyranosyl- α -L-arabinopyranoside, β -sitosterol β -D-glucoside, stigmasterol β -D-glucoside.

SAPONINS: HN-saponins A, D, D-1, D-2, E, F, H, I, K, M, N and P.

Kizu *et al.*, Chem. Pharm. Bull., **33**, 3324 (1985)

H. rhombea.

SAPONINS: kizuta saponin K-8, kizuta saponin K-11.

Kizu *et al.*, Chem. Pharm. Bull., **33**, 3473 (1985)

HEDERANTHERA (Apocynaceae)

H. barteri (Hook.f.) Pichon.

DIIMIDAZOLIDINOCARBAZOLE ALKALOIDS: amataine, demethylvobtusine, goziline, overreine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: hederantherine, 17-hydroxyhederantherine.

Agwada *et al.*, Helv. Chim. Acta, **53**, 1567 (1970)

Narango *et al.*, ibid., **55**, 1849 (1972)

HEDLOMA

H. pulegoides.

MONOTERPENOID: (+)-pulegone.

Baeyer, Henrich, Ber., **28**, 652 (1895)

HEDWIGIA

H. ciliata.

FLAVONOIDS: lucenin-2, luteolin 7-O-neohesperidoside-4'-sophoroside, vicenin-2.
 Osterdahl *et al.*, *Acta Chem. Scand., B* **32**, 93 (1978)

HEDYCARYA

H. angustifolia.

SESQUITERPENOID: hedycaryol.
 Jones, Sutherland, *J. Chem. Soc., Chem. Commun.*, 1229 (1968)

HEDICHIUM (Zingeriberaceae)

H. spicatum Buch.-Ham. ex Sm.

DITERPENOIDS: 7-hydroxyhedychenone, hedychenone.
 Sharma *et al.*, *Phytochemistry*, **15**, 827 (1976)

HEDYOTIS

H. acutangula.

TRITERPENOIDS: olean-12-ene-3 β ,28,29-triol, olean-12-ene-3 β ,28,29-triacetate.
 Hui, Li, *J. Chem. Soc., Perkin I*, 23 (1976)

H. auriculata L.

UNCHARACTERIZED ALKALOIDS: auricularine, hedyotine.
 Ratnagiriswaran, Venkatachalam, *J. Indian Chem. Soc.*, **19**, 389 (1942)

H. diffusa.

IRIDOIDS: 6-O-p-coumaroylscandoside methyl ester, 6-O-feruloylscandoside methyl ester, 6-O-p-methoxycinnamoylscandoside methyl ester.
 Nishinama *et al.*, *Planta Med.*, **43**, 28 (1981)

HEDYSARUM (Leguminosae)

H. caucasicum.

FLAVONOIDS: antioside, kaempferol, quercetin.

Alaniya, *Khim. Prir. Soedin.*, 646 (1983)

H. coronarium.

ANTHOCYANINS: malvidin 3,5-diglucoside, paeonidin 3,5-diglucoside, paeonidin 3-glucoside.

Chriki, Harborne, *Phytochemistry*, **22**, 2322 (1983)

H. denticulatum.

XANTHONES: isomangiferin, mangiferin.

Glyzin *et al.*, *Khim. Prir. Soedin.*, 283 (1977)

H. polybotrys Hand-Mazz.

ACIDS: lignoceric acid, stearic acid.

ESTER: lignoceryl ferulate.

PTEROCARPAN: 3-hydroxy-9-methoxypterocarpan.

STEROID: β -sitosterol.

TRITERPENOID: ursolic acid.

Pan *et al.*, *Chem. Abstr.*, 105 187579x

H. sericeum.

FLAVONOIDS: antioside, hyperoside, isoquercitrin, kaempferol, mangiferin, quercetin.

Alaniya, *Khim. Prir. Soedin.*, 646 (1983)

HEIMIA (Lythraceae)

H. myrtifolia Cham. et Schlecht.

QUINOLIZIDINE ALKALOID: lythridine.

Douglas *et al.*, *Lloydia*, **27**, 25 (1964)

H. salicifolia Link et Otto.

QUINOLIZIDINE ALKALOIDS: dehydrodecodine, demethylsubin I, demethylsubine II, heimine, lyfoline, lythridine, lythrine, nesodine, sinicuichine, vertine.

Horhammer *et al.*, *Z. Naturforsch.*, **26B**, 970 (1971)

Rother, *J. Nat. Prod.*, **48**, 33 (1985)

HELENIUM (Compositae)

H. alternifolium.

SESQUITERPENOIDS: alternilin, brevilin A, linifolin A, linifolin B.
 Herz *et al.*, *J. Org. Chem.*, **33**, 2780 (1969)
 Herz *et al.*, *J. Am. Chem. Soc.*, **81**, 1481 (1969)

H. amarum.

SESQUITERPENOIDS: amaralin, aromaticin, heleniamarin.
 Romo *et al.*, *Tetrahedron* **20**, 79 (1964)
 Ottersen *et al.*, *Acta Chem. Scand.*, **32B**, 79 (1978)

H. arenarium (L.) Moench.

α -PYRONES: arenol, homoarenol.
 Vrkoc *et al.*, *Tetrahedron Lett.*, 247 (1971)

H. arizonicum.

SESQUITERPENOID: isotenulin.
 Herz *et al.*, *J. Org. Chem.*, **27**, 4043 (1962)

H. aromaticum.

SESQUITERPENOIDS: aromaticin, aromatin, mexicanin I.
 Romo *et al.*, *Chem. Ind. (London)*, 1839 (1963)

H. autumnale L.

CAROTENOID: helenien.
 SESQUITERPENOIDS: akihalin, autumnolide, carolenalin, carolenin, carolenalone, dihydroflorilenalin, florilenalin, halshalin, helenalin, helenalin lactone, 2-methoxydihydrohelenin, picrohelenin, plenolin, sulferalin, 4-O-tigloyl-11,13 -dihydroautumnolide.

Kondo *et al.*, *Tetrahedron Lett.*, 2155 (1977)
 Furukawa *et al.*, *Chem. Pharm. Bull.*, **26**, 1335 (1978)

H. brevifolium.

SESQUITERPENOID: brevilin A.
 Herz *et al.*, *J. Am. Chem. Soc.*, **81**, 1481 (1969)

H. coclinium.

SESQUITERPENOIDS: neohelenin.
 Herz *et al.*, *J. Org. Chem.*, **27**, 4043 (1962)

H. elegans.

SESQUITERPENOIDS: helenalin, tenulin.
 Herz *et al.*, *J. Org. Chem.*, **27**, 4043 (1962)

H. flexuosum.

SESQUITERPENOIDS: flexuosin A, flexuosin B.
 Herz *et al.*, *J. Am. Chem. Soc.*, **82**, 2276 (1960)

H. laciniatum.

SESQUITERPENOID: helenalin.

Herz *et al.*, *J. Org. Chem.*, **27**, 4043 (1962)***H. linifolium.***

SESQUITERPENOIDS: linifolin A, linifolin B.

Herz *et al.*, *J. Org. Chem.*, **27**, 4043 (1962)***H. mexicanum.***

SESQUITERPENOIDS: helenalin, mexicanins A, B, C, D, E, F, G, H and I.

Romo *et al.*, *Tetrahedron Lett.*, 579 (1985)***H. microcephalum.***

SESQUITERPENOIDS: helenalin, isohelenol, mexicanin E, microhelenins A, B and C, micrololenin.

Lee *et al.*, *Phytochemistry*, **16**, 393 (1977)Imakura *et al.*, *J. Pharm. Sci.*, **67**, 1228 (1978)***H. pinnatifidum.***

SESQUITERPENOID: pinnatifidin.

Herz *et al.*, *J. Am. Chem. Soc.*, **81**, 1481 (1958)***H. puberulum.***

SESQUITERPENOIDS: desacetylisobigelovin, helepuberic acid, puberolide.

Bohlmann, Jakupovic, *Phytochemistry*, **18**, 131 (1979)***H. quadridentatum.***

SESQUITERPENOIDS: quadridenin, quadridentin.

Watanabe *et al.*, *J. Agric. Food Chem.*, **33**, 83 (1985).***H. tenuifolium.***

SESQUITERPENOID: tenulin,

dark, *J. Am. Chem Soc.*, **61**, 1836 (1939)***H. thurberi.***

SESQUITERPENOID: thurberilin.

Herz *et al.*, *Tetrahedron*, **21**, 1711 (1965)***H. virginicum.***

SESQUITERPENOID: virginolide,

Herz, Santhaman, *J. Org. Chem.*, **32**, 507 (1967)**HELIABRAVOA (Cactaceae)**

H. chende.

TRITERPENOID: oleanic aldehyde.

Shamma, Rosenstock, *J. Org. Chem.*, **24**, 726 (1959)**HELIANTHELLA (Compositae)*****H. uniflora.***

CHROMENES: 6-acetyl-2,2-dimethyl-2H-1-benzopyran, eupatoriochromene.

Bohlmann *et al.*, *Phytochemistry*, **17**, 566, 1677 (1978)**HELIANTHUS (Compositae)*****H. annuus L.***STEROID: 7,24-stigmastadien-3 β -ol.

CAROTENOID: lutein.

SESQUITERPENOIDS: annuithrin.

DITERPENOIDS: (-)-kaur-16-en-19-oic acid, trachyloban-19-oic acid.

TRITERPENOIDS: grandiflorolic acid, heliantriols B-0, B-1 and B-2, heliantriols C and F.

(C) Karrer, Eugster, *Helv. Chim. Acta*, **33**, 300 (1950)(S) Hamberg *et al.*, *Phytochemistry*, **12**, 1767 (1973)(T) Spring *et al.*, *ibid.*, **20**, 1883 (1981)(T) Mitscher *et al.*, *J. Nat. Prod.*, **46**, 745 (1983)***H. argophyllus.***

SESQUITERPENOIDS: argophyllins A and B, argophyllone B.

Stipanovic *et al.*, *Phytochemistry*, **24**, 358 (1985)***H. ciliaris.***

DITERPENOIDS: ciliaric acid.

SESQUITERPENOIDS: calaxin, ciliarin.

Nabin *et al.*, *J. Org. Chem.*, **44**, 1831 (1979)***H. debilis.***

DITERPENOIDS: tetrachrysin.

Ohno *et al.*, *Phytochemistry*, **18**, 1687 (1979)***H. decapetalus.***DITERPENOIDS: ent-11 β -acetoxy-16-atisen-19-oic acid.

Bohlmann *et al.*, *Phytochemistry*, **19**, 863 (1980)

H. heterophyllus.

BENZOQUINONE: 2,6-dimethoxybenzoquinone.

CAROTENOID: lutein.

COUMARIN: (-)-8-methoxyobliquin.

DINORSESQUITERPENOIDS: dehydrovomifoliol, 9-hydroxy-4-megastigmen-3-one, (\pm)-vomifoliol.

SESQUITERPENOIDS: 2',3'-dihydroleptocarpin, 2',3'-dihydronivensin.

(B, C, T) Herz, Bruno, *Phytochemistry*, **25**, 1913 (1986)

(Car.) Karrer, Eughtser, *Helv. Chim. Acta*, **33**, 300 (1950)

H. hirsutus.

Two pimaranes.

Herz *et al.*, *Phytochemistry*, **23**, 1453 (1984)

H. mollis.

SESQUITERPENOIDS: mollisorin A, mollisorin B.

Ohno, Mabry, *Phytochemistry*, **18**, 1003 (1979)

H. niveus subsp. canescens.

SESQUITERPENOIDS: niveusins A, B and C.

Ohno, Mabry, *Phytochemistry*, **19**, 609 (1980)

H. occidentalis.

DITERPENOID: occidentalic acid.

Herz *et al.*, *Phytochemistry*, **22**, 2021 (1983)

H. occidentalis var. dowellianus.

MONOTERPENOID: 10-hydroxyverbenone.

Bohlmann *et al.*, *Planta Med.*, **50**, 202 (1984)

H. schweinitzii.

SESQUITERPENOID: 4,15-isoatricipliciolide tiglate.

Gershenzon, Mabry, *Phytochemistry*, **23**, 2557 (1984)

H. strumosus.

Two ent-pimaranes and one heliangolide.

Herz *et al.*, *Phytochemistry*, **23**, 1453 (1984)

H. tuberosus L.

DITERPENOID: ent-12-acetoxy-16-kauren-19-oic acid.

SESQUITERPENOIDS: 2,7(14),9-bisabolatrien-11-ol, heliangine.

Miyazawa *et al.*, *Phytochemistry*, **22**, 1040 (1983)

HELICHRYSUM (Compositae)

H. arenarium.

BENZOFURAN: arenopitalide.

ISOCOUMARIN: floribundaside.

PIGMENT: arenol.

PYRAN: helipyrone diacetate.

(B, P) Budesinsky *et al.*, *Phytochemistry*, **14**, 1383 (1985)

(B, P) Budesinsky *et al.*, *ibid.*, **14**, 1845 (1985)

(I) Hansel, Arch. Pharm. (Weinheim, Ger.) **292**, 398 (1959)

(Pyran) Hansel *et al.*, *Tetrahedron Lett.*, 3369 (1970)

H. aureo-nitens.

TERPENOID: aureonitol.

Bohlmann *et al.*, *Phytochemistry*, **18**, 664 (1979)

H. bracteatum (Vent.) Andr.

FLAVONOIDS: eriodictyol, naringenin, 5,7,3',4',5'-pentahydroxyflavanone.

DINORSESQUITERPENOID: 4-formyl-1-methoxycarboxyazuleine.

(F) Forkmann, *Z. Naturforsch.*, **38C**, 891 (1983)

(T) Bohlmann *et al.*, *Chem. Ber.*, **106**, 1337 (1973)

H. caespititium.

PHLOROGLUCINOL: caespin.

Dekker *et al.*, *S. Afr. J. Chem.*, **36**, 114 (1983)

B. chionosphaerum.

DITERPENOIDS: 19-helifulvanoic acid; 19-helifulvanol;

SESQUITERPENOIDS: helifulvanic acid; humulen-14-ol;

Bohlmann *et al.*, *Phytochemistry*, **19**, 869 (1980)

H. dendroioideum.

DITERPENOIDS: ent-kaur-15-ene-17,19-diol, (-)-kaur-16-ene-3,18-diol, erythroxydiol A, stach-15-ene-3 α ,17-diol, stach-15-ene-3 β ,17-diol, stach-15-ene-3 α ,19-diol, stach-15-ene-17,19-diol.

Lloyd, Fales, *Tetrahedron Lett.*, 4891 (1967)

H. fulvum.

DITERPENOID: helifulvanolic acid.

Bohlmann *et al.*, *Phytochemistry*, **18**, 1359 (1979)

H. graveolens.

FLAVONES: apigenin, apigenin-4'-glucoside, apigenin-7-glucoside, astragalin, 3,5-dihydroxy-6,7,8-trimethoxyflavone, galangin 3-methyl ether, helichrysin B, luteolin,

luteolin-4'-glucoside, luteolin-7-glucoside, kaempferol, isosalipurposide, naringenin, naringenin-4'-glucoside.

Cubukcu, Damadyan, *Fitoterapia*, **57**, 124 (1986)

H. heterolasicum.

DITERPENOIDS: 14,15-dihydro-16-helicallenoic acid, 16-helicallenal.

Bohlmann *et al.*, *Phytochemistry*, **18**, 889 (1979)

H. italicum.

PYRAN: helipyrone.

Hansel *et al.*, *Tetrahedron Lett.*, 3369 (1970)

H. kraussii.

BENZOPYRAN: helichrysoside.

Candy *et al.*, *Tetrahedron Lett.*, 1211 (1975)

H. orientale (L.) Gaertn.

FLAVONOIDS: astrogalin, 3,5-dihydroxy-6,7,8-trimethoxyflavone, kaempferol, quercetin, scopoletin, tiliroside.

Cubukcu, *Plant Med. Phytother.*, **10**, 44 (1976)

H. splendidum.

SESQUITERPENOID: helisplendiolide

Bohlmann *et al.*, *Phytochemistry*, **18**, 885 (1979)

HELICIA

H. erratica.

GLYCOSIDE: helicide.

Wei-Shin *et al.*, *Justus Liebigs Ann. Chem.*, 1893 (1981)

HELICOBASIDIUM

H. mompa.

PIGMENTS: helicobasidin, helicobasin.

Nishikawa *et al.*, *Agric. Biol. Chem.*, **26**, 696 (1962)

HELIETTA

H. longifoliata.

QUINOLONE ALKALOID: isodictamnine.

NORDITERPENOID: heliettin.

(A) Mammarella, Comin, *An. Asoc. Quim. Argentina*, **59**, 239 (1971)

(T) Piozzi *et al.*, *Tetrahedron*, **23**, 1129 (1967)

H. parviflora.

FURANOQUINOLINE ALKALOID: heliparvifoline.

Chang *et al.*, *J. Pharm. Sci.*, **65**, 561 (1975)

HELIOPSIS (Compositae)

H. buphthalmoides.

SESQUITERPENOIDS: dehydrohelio**buphthalmin**, heliobuphthalmin.

Bohlmann *et al.*, *Phytochemistry*, **17**, 330 (1978)

H. scabra Dunal.

LIGNAN: helianthoidin.

NAPHTHODIOXOLONE: helioxanthin.

(L) Burden *et al.*, *Tetrahedron Lett.*, 1035 (1968)

(N) Burden *et al.*, *J. Chem. Soc., C*, 693 (1969)

HELIOTROPIUM (Boraginaceae)

H. acutiflorum Kit. et Kar.

PYRROLIZIDINE ALKALOIDS: heliotrine, heliotrine N-oxide.

Culvenor *et al.*, *Aust. J. Chem.*, **7**, 277 (1954)

H. arguzoides Kit. et Kar.

PYRROLIZIDINE ALKALOIDS: trichodesmine, trichodesmine N-oxide.

Akramov *et al.*, *Dokl. Akad. Nauk SSSR*, **4**, 30 (1961)

H. curassavicum.

PYRROLIZIDINE ALKALOIDS: 7-angelylheliotridine, 7-angelylheliotrine N-oxide, heliotrine, heliotrine N-oxide, lasiocarpine.

Rajagapalan *et al.*, *Indian J. Chem.*, **15B**, 494 (1977)

H. dasycarpum Ldb.

PYRROLIZIDINE ALKALOIDS: heliotrine, heliotrine N-oxide.

Rajagapalan *et al.*, *Indian J. Chem.*, **15B**, 494 (1977)

H. eichwaldii.

PYRROLIZIDINE ALKALOID: 7-angeloylheliotrine.

Suri *et al.*, *Indian J. Chem.*, **13**, 505 (1975)

H. europeum.

PYRROLIZIDINE ALKALOIDS: acetyl lasiocarpine, heliotrine N-oxide, lasiocarpine N-oxide.

UNCHARACTERIZED ALKALOID: isoheliotrine.

Culvenor *et al.*, *Aust. J. Chem.*, **28**, 2319 (1975)

H. indicum.

PYRROLIZIDINE ALKALOIDS: acetylindicine, indicine, indicine N-oxide, indicinine.

STEROIDS: campesterol, chalinarsterol, β -sitosterol, stigmasterol.

(A) Mattocks, *J. Chem. Soc., C*, 329 (1967)

(S) Andhiwal *et al.*, *Indian Drugs*, **22**, 567 (1985); *Chem. Abstr.*, 104 3416s

H. lasiocarpum F. et M.

PYRROLIZIDINE ALKALOIDS: heliotrine, heliotrine N-oxide, lasiocarpine, lasiocarpine N-oxide.

Yunusov, Sidyakin, *Dokl. Akad. Nauk SSSR*, **1**, 3 (1950)

H. olgae Bge.

PYRROLIZIDINE ALKALOIDS: heliotrine, heliotrine N-oxide, incanine, incanine N-oxide, lasiocarpine, lasiocarpine N-oxide.

Kiyamitdinova *et al.*, *Khim. Prir. Soedin.*, 411 (1967)

H. ovalifolium.

PYRROLIZIDINE ALKALOID: heliofoline.

Subramanian *et al.*, *Phytochemistry*, **20**, 1991 (1981)

H. ramosissimum.

PYRROLIZIDINE ALKALOID: heliotrine.

Habib, *Bull. Fac. Sci. Riyadh Univ.*, **7**, 67 (1975); *Chem. Abstr.*, 85 119597v

H. strigosum.

PYRROLIZIDINE ALKALOID: strigosine.

Mattocks, *J. Chem. Soc.*, 1974 (1964)

H. supinum L.

PYRROLIZIDINE ALKALOIDS: heliosupine, supinine.

Men'shikov *et al.*, *J. Gen. Chem., USSR*, **19**, 1382 (1949)

H. transoxanum Bge.

PYRROLIZIDINE ALKALOIDS: heliotrine, heliotrine N-oxide.

Akramov *et al.*, *Khim. Prir. Soedin.*, 258 (1968)

HELLEBORUS (Ranunculaceae)

H. dumetorum Waldst. et Kit.

STEROID: 14-hydroxy-3-oxo-1,4,20,22-bufatetraenolide.

Wissner, *Planta Med.*, **24**, 201 (1973)

H. dumetorum var. atrorubens (Waldst. et Kit.) Merxm. et Podlech.

STEROID: helleborogenone.

Petricis *et al.*, *Acta Pharm. Jugosl.*, **220**, 158 (1972)

H. niger L.

STEROID: spirosta-5,25(27)-diene-1,3,11-triol.

Linde *et al.*, *Helv. Chim. Acta*, **54**, 1703 (1971)

H. occidentalis.

STEROIDS: 14-hydroxy-3-oxo-1,4,20,22-bufatetraenolide, helleborogenone.

Wissner, *Planta Med.*, **24**, 201 (1973)

H. odorus (L.) Waldst. et Kit.

STEROIDS: bufalone, 11 α -hydroxydesglucohellebrin, 14-hydroxy-3-oxo-5,14-bufo-20,22-dienolide, spirosta-5,25(27)-diene-1,3,11 -triol.

Hauser *et al.*, *Helv. Chim. Acta*, **55**, 2625 (1972)

Kissmer *et al.*, *Planta Med.*, 152 (1986)

H. viridis L.

UNCHARACTERIZED ALKALOIDS: sprintillamine, sprintilline.

STEROIDS: helleborogenone, 14-hydroxy-3-oxo-1,4,20,22-bufotetraenolide.

(A) Keller, Schobel, Arch. Pharm. (Weinheim, Ger.) **265**, 238 (1927)

(S) Wissner, *Planta Med.*, **24**, 201 (1973)

H. viridis L. var. occidentalis (Reuter) Schiffner.

STEROID: 14-hydroxy-3-oxo-1,4,20,22-bufotetraenolide.

Wissner, *Planta Med.*, **24**, 201 (1973)

HELMINTHOSPORIUM

H. laersii.

TRITERPENOID: alboleersin.

Ashley, Raistrick, *Biochem. J.*, **32**, 449 (1938)

H. oryzae.

SESTERTERPENOIDS: ophiobolins A and B.

Canonica *et al.*, *Tetrahedron Lett.*, 2211 (1966)

H. sativum.

SESQUITERPENOID: helminthogermacrene, helminthosporal, helminthosporol.

Winter *et al.*, *J. Org. Chem.*, **45**, 4786 (1980)

H. siccans.

ACID: presiccanochromenic acid.

Nozoe *et al.*, *Tetrahedron Lett.*, 3643 (1968)

H. zizaniae.

SESTERTERPENOID: ophiobolins A and B.

Nozoe *et al.*, *J. Am. Chem. Soc.*, **87**, 4968 (1967)

HELMINTHOSTACHYS

H. zeylanica.

BENZOPYRANS: ugonins A, B and C.

Murakami *et al.*, *Chem. Pharm. Bull.*, **21**, 1849 (1973)

Murakami *et al.*, *ibid.*, **21**, 1851 (1973)

HELVELLA

H. esculenta.

One uncharacterized alkaloid.

Awe, Arch. Pharm. (Weinheim, Ger.) **271**, 537 (1933)

HEMANDIA

H. ovigera.

BENZODIOXOLE: epi-aschantin.

Nishino *et al.*, *Tetrahedron Lett.*, **335** (1973)

HEMEROCALLUS (Liliaceae)

H. fulva.

ALDEHYDES: dotriacontanal, octacosanal, triacontanal.

GLUTAMINE: pinnatanine.

(Al) Isono *et al.*, *J. Pharm. Soc., Japan*, **96**, 86 (1976)

(G) Grove *et al.*, *Tetrahedron*, **29**, 2715 (1973)

H. minor Mill.

FLAVONOIDS: chrysophanol, hemerocallin, hemerocallone, rhein.

STEROIDS: β -sitosterol, τ -sitosterol.

Xiu *et al.*, *Zhongcaoyao*, **13**, 1 (1982); *Chem. Abstr.*, 97 107026t

HEMIARIA

H. glabra.

FLAVONE: narcissin.

Rahman *et al.*, *J. Org. Chem.*, **27**, 153 (1962)

HEMIDESMUS

H. indicus.

SAPONIN: desinine.

TRITERPENOIDS: α -amyrin, β -amyrin.

(Sap) Oberai *et al.*, *Phytochemistry*, **24**, 2395 (1985)

(T) Ruzicka, Wurz, *Helv. Chim. Acta*, **22**, 948 (1939)

HEMISELMIS (Cryptophyceae/Hemiselmidaceae)

H. virescens.

CAROTENOIDS: crocoxanthin, alloxanthin.

Chapman, *Phytochemistry*, **5**, 1331 (1966)

HEMIZONIA

H. congesta.

SESQUITERPENOID: 11-hydroxycubebol.

Bohlmann *et al.*, *Phytochemistry*, **20**, 2383 (1981)

H. lutescens.

DITERPENOID: 14,15-epoxy-8(17)-labden-15-ol.

Bohlmann *et al.*, *Phytochemistry*, **20**, 2383 (1981)

HEMSLEYA

H. graciliflora.

TRITERPENOIDS: cucurbitacin Ia, 23,24-dihydrocucurbitacin F, 23,24-dihydrocucurbitacin F 25-acetate.

Meng *et al.*, *Yaoxue Xuebao*, **20**, 446 (1985); *Chem. Abstr.*, 104 17642z

HERACLEUM (Umbelliferae/Pastinaceae)

H. asperum.

COUMARINS: bergapten, byakangelicin, heraclesol, imperatorin, isobergapten, isopimpinellin, phellopterin, pimpinellin, xanthotoxin.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 446 (1987)

H. candicans.

BENZOPYRONE: 8-geranylpsoralen.

COUMARIN: prangenin.

DITERPENOID: candicopimarc acid.

(B) Stanley, Vannier, *J. Am. Chem. Soc.*, **79**, 3488 (1957)

(C) Kidwai *et al.*, *Tetrahedron*, **20**, 87 (1964)

(T) Bandopadhyay *et al.*, *Indian J. Chem.*, **11**, 1097 (1973)

H. canescens.

COUMARINS: 8-geranoxypsoralin, heraclemin, imperatorin, isobergapten, osthole, xanthotoxin.

Kumar *et al.*, *Planta Med.*, **30**, 291 (1976)

H. dissectum.

COUMARINS: bergapten, imperatorin, isobergapten, 7-isopentenylxycoumarin, isopimpinellin, pimpinellin, sphondin, umbelliferone.

Belenočskaya *et al.*, *Khim. Prir. Soedin.*, 574 (1977)

Gusak *et al.*, *Chem. Abstr.*, 86 68378k

H. granatense Boiss. et Elench.

COUMARINS: bergapten, byakangelicin, byakangelicin acetonide, 8-(3-chloro-2-hydroxy-3-methylbutyryloxy)psoralen, heraclenol, heraclenol acetonide, 8-(2-hydroxy-3-butenoxy)psoralen, imperatorin, isobergapten, isoheraclenin, isopimpinellin,isorhamnetin 7-rhamnoglucoside, phellopterin, scopoletin, sphondin, umbelliferone, umbelliprenin, xanthotoxin.

STEROIDS: β -sitosterol, β -sitosterol β -D-glucoside.

TRITERPENOID: ursolic acid.

Kutney *et al.*, *Tetrahedron*, **28**, 5091 (1972)

Gonzalez *et al.*, *An. Quim.*, **73**, 858 (1977)

H. grandiflorum.

COUMARINS: bergapten, isobergapten, isopimpinellin, pimpinellin, xanthotoxin.

Kerimov *et al.*, *Khim. Prir. Soedin.*, 253 (1976)

H. lehmannianum Bunge.

COUMARINS: angelicin, antoside, bergapten, flavantaside, isobergapten, isopimpinellin, pimpinellin, epi-rutin, sphondin.

Temirbekov *et al.*, *Rastit. Resur.*, **13**, 342 (1977); *Chem. Abstr.*, 87 2382w

H. levshovii.

CHROMENE: psoralen.

Austin *et al.*, *Phytochemistry*, **12**, 1657 (1973)

H. mantegazzianum Sommier et Levier.

BENZOPYRANS: apertin, phellopterin.

Fischer *et al.*, *Phytochemistry*, **15**, 1079 (1976)

H. moellendorffii Hance.

COUMARINS: bergapten, byakangelicin, heraclesol, imperatorin, isobergapten, isopimpinellin, phellopterin, pimpinellin, xanthotoxin.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 446 (1987)

H. moellendorffii Hance var. paucivitatum.

COUMARINS: bergapten, byakangelicin, heraclesol, imperatorin, isobergapten, isopimpinellin, pimpinellin, xanthotoxin.

Wu *et al.*, *Yaoxue Xuebao*, 21, 599 (1986); *Chem. Abstr.*, 105 18724h

H. nepalense.

COUMARINS: bergapten, isobergapten, isopimpinellin, sphondin.

Gupta *et al.*, *Phytochemistry*, 14, 2533 (1975)

H. pinnatum.

COUMARINS: 8-geranoxypsoralin, heraclenin, imperatorin, isobergapten, osthole, xanthotoxin.

Jumar *et al.*, *Planta Med.*, B 30, 291 (1976)

H. ponticum.

COUMARINS: bergapten, byakangelicin, heraclesol, imperatorin, isobergapten, isopimpinellin, phellopterin, pimpinellin, xanthotoxin.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 446 (1987)

H. pyrenaicum Lam.

COUMARINS: apiol 8-(3-chloro-2-hydroxy-3-methylbutyloxy)-5-metoxyxpsoralen, 8-(3-chloro-2-hydroxy-3-methylbutyryloxy)-psoralen, isoheraclenin, isopimpinellin, scopoletin,

Gonzalez *et al.*, *An. Quim.*, 72, 584 (1976)

Sethi *et al.*, *Phytochemistry*, 15, 1773 (1976)

H. sibiricum.

COUMARINS: bergapten, imperatorin, isobergapten, isopimpinellin, pimpinellin, sphondin, umbelliferone.

Gusak *et al.*, *Chem. Abstr.*, 86 68378k

H. sosnowskyi.

COUMARINS: angelicin, bergapten, isobergapten, pimpinellin, sphondin, umbelliferone.

Muradyan *et al.*, *Biol. Zh. Arm.*, 29, 97 (1976); *Chem. Abstr.*, 86 68363b

H. sphondylium L.

COUMARINS: bergapten, byakangelicin, heraclesol, imperatorin, isobergapten, isopimpinellin, phellopterin, pimpinellin, xanthotoxin.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 446 (1987)

H. thomsoni.

COUMARINS: apterin, 5-hydroxyangelicin, 5-hydroxy-8-(1',1'-dimethylallyl)psoralen, vaginidiol.

Fischer *et al.*, *Phytochemistry*, **15**, 1079 (1976)

Gupta *et al.*, *Indian J. Chem.*, **16B**, 38 (1978)

H. trachyloma.

COUMARINS: angelicin, bergapten, isobergapten, pimpinellin, sphondin, umbelliferone.

Muradyan *et al.*, *Biol. Zh. Arm.*, **29**, 97 (1976); *Chem. Abstr.*, 86 68363b

H. wallichii.

BISBENZYLISOQUINOLINE ALKALOID: cycleanine.

COUMARINS: bergapten, columbianetin, isobergapten, isopimpinellin, marmesin, sphondin, vaginidiol.

STEROID: stigmasterol.

Gupta *et al.*, *Phytochemistry*, **15**, 576 (1976)

H. woroschiklowii.

COUMARINS: bergapten, byakangelicin, heraclesol, imperatorin, isobergapten, isopimpinellin, phellopterin, pimpinellin, xanthotoxin.

Komissarenko *et al.*, *Khim. Prir Soedin.*, 446 (1987)

HERBA

H. rutae.

COUMARIN: rutaretin.

Garg *et al.*, *Phytochemistry*, **17**, 2135 (1978)

HERNANDIA(Lauraceae/Hernandiaceae)

H. bivalvis Benth.

APORPHINE ALKALOID: hernandine.

Greenhalgh, Lahey, *in: Current Trends in Heterocyclic Chemistry London, Butterworth*, 100 (1966)

H. nymphaefolia.

APORPHINE ALKALOID: hernagine.

PYRIDINE ALKALOID: 3-cyano-4-methoxypyridine. Yakushijin *et al.*, *Phytochemistry*, **19**, 161 (1980)

H. ovigera L.

APORPHINE ALKALOIDS: hernandeline, hernovine, N-methylhernangerine, N-methylhernovine, N-methylnandigerine, N-methylovigerine, nandigerine, ovigerine.

OXOAPORPHINE ALKALOID: hernandonine.

Ito, Furukawa, *Tetrahedron Lett.*, 3023 (1970)

H. peltata

BISBENZYLISOQUINOLINE ALKALOIDS: (+)-malekulatine, (+)-vanuatine, (+)-vateamine.

Bruneton *et al.*, *J. Org. Chem.*, **48**, 3957 (1983)

HERNIARIA (Caryophyllaceae/Illecebraceae)

H. glabra L.

SAPONINS: hernaria saponins A and B.

Bucharov, Scherbak, *Khim. Prir. Soedin.*, 307 (1970)

HESPERATHUSA

H. crenulata (Roxb.) M.Roem.

QUINOLONE ALKALOID: 4-methoxy-1-methyl-2-quinolone.

COUMARINS: 6-formyl-7-methoxycoumarin, 7-methoxycoumarin, suberosin.

(A) Nayar *et al.*, *Phytochemistry*, **10**, 2843 (1971)

(C) Ubaev *et al.*, *Khim. Prir. Soedin.*, 248 (1974)

(C) Basa *et al.*, *J. Nat. Prod.*, **45**, 503 (1982)

HESPERIS (Cruciferae)

H. matronalis L.

QUATERNARY ALKALOID: hesperaline.

Gmelin, Mohrrie, *Arch. Pharm. (Weinheim, Ger.)* **300**, 176 (1967)

HETEROCHORDARIA

H. abietina.

IMINOACID: L-1,4-thiazane-3-carboxylic acid.

Kawauchi *et al.*, *Chem. Abstr.*, 88 71433W

HETEROCONDYLUS

H. vitalbe.

SESQUITERPENOID:

epi-9-angeloyloxy-10,11 -epoxydihydrobrickelliol.

Bohlmann, Grenz, *Chem. Ber.*, **110**, 1321 (1977)

HTERODEA (Lichenes)

H. beagleholei.

DEPSIDE: nordivaricatic acid.

Elix *et al.*, *Aust J. Chem.*, **30**, 2333 (1977)

HETERODENDRON (Sapindaceae)

H. oleaeifolium.

CYANOGLYCOSIDES: cardiospermin, dihydroacacipetalin.

Huebel *et al.*, *Phytochemistry*, **14**, 2723 (1975)

HETEROSMILAX

H. japonica Kunth.

ACIDS: palmitic acid, stearic acid.

STEROID: β -sitosterol.

Chen *et al.*, *Chem. Abstr.*, 86 27676n

HETEROTHALAMUS

H. spartoides.

STEROIDS: sitosterol, stigmasterol.

UMBELLIFERONES: aurapten, aurapten-6',7'-epoxide, 5'-ketoaurapten 5'-oxo-2',3',6',7'-tetrahydroaurapten-6',7'-epoxide.

Boeker *et al.*, *Rev. Latinoam. Quim.*, **17**, 47 (1986)

HETEROTHECA (Compositae/Asteraceae)

H. grandiflora.

SESQUITERPENOID: 1(10),4-cadinadien-9-one, α -calacoren-3-ol, iso-epi-cubenol.

Bohlmann *et al.*, *Phytochemistry*, **18**, 1675 (1979)

H. inuloides Cass.

SESQUITERPENOID:dihydro-7-hydroxycadalene.

Bohlmann, Zdero, *Chem. Ber.*, **109**, 2021 (1976)

H. latifolia.

SESQUITERPENOID: 3-acetoxy-1(10),4-cadinadien-15-oic acid, 10-hydroxycalamen-15-oic acid.

Bohlmann *et al.*, *Phytochemistry*, **21**, 2982 (1982)

H. subaxillaris.

SESQUITERPENOID: 1(10),4-cadinadien-9ol 9-angelate, 3,9-calamenediol, 3,14-calamenediol.

Bohlmann *et al.*, *Phytochemistry*, **18**, 1185 (1979)

HETEROTROPHA (Aristolochiaceae)

H. curvistigma.

SESQUITERPENOIDS: asatone, elemicin, heterocurvistone, safrol.

Niwa *et al.*, *Phytochemistry*, **20**, 1137 (1981)

H. hexaloba.

SESQUITERPENOIDS: asatone, elemicin, safrol.

Yamamura *et al.*, *Phytochemistry*, **15**, 426 (1976)

H. nipponica.

SESQUITERPENOIDS: asatone, elemicin, safrol.

Yamamura *et al.*, *Phytochemistry*, **15**, 426 (1976)

H. takaoi.

NEOLIGNAN: heterotropanone.

SESQUITERPENOIDS: asatone, elemicin, safrol.

Niwa *et al.*, *Tetrahedron Lett.*, 4891 (1978)

HEVEA (Euphorbiaceae)

H. brasiliensis.

CHROMAN: plastochromanol 8.

Whittle *et al.*, *Biochem. J.*, **96**, 17 (1965)

HEXALOBUS

H. crispiflorus.

APORPHINE ALKALOIDS: N-carbamoylanonaine, N-carbamoylasimilobine, N-formylanonaine, 3-hydroxy-6 α ,7-dehydronuciferine, 3-hydroxynornuciferine.

Achenbach *et al.*, *Justus Liebigs Ann. Chem.*, 1623 (1982)

HEYNEA

H. trijuga Roxb.

HOMOTRITERPENOID: heynic acid.

Purushothaman *et al.*, Indian J. Chem., **22B**, 820 (1983)**HIBISCUS (Malvaceae)*****H. abelmoschus.***

SESQUITERPENOIDS: trans-trans-faniesol.

Bates *et al.*, J. Org. Chem., **28**, 1086 (1963)***H. cannabinus.***

ACID: hibiscus acid.

FLAVONOIDS: kaempferol 3- β -C-rhainnopyranoside-7- α -L-rhamnofuranoside, myricetin 3'- α -D-glucoside.

PHENOLICS: proanthocyanidin B-5, proanthocyanidin B-6.

(Ac) Lewis *et al.*, Phytochemistry, **4**, 619 (1975)(F) Padukina *et al.*, Khim. Prir. Soedin., **257**, 388 (1976)(P) Pham Van Thinh *et al.*, ibid, 336 (1982)***H. elatus.***

SESQUITERPENOIDS: hibiscones A, B, C and D, hibiscoquinones A, B, C and D.

Ferreira *et al.*, J. Chem. Soc., Perkin I, 249 (1980)Ferreira *et al.*, ibid., 257, (1980)***H. furcatus.***

ACID: hibiscus acid.

Lewis *et al.*, Phytochemistry, **4**, 619 (1975)***H. mutabilis f. versicolor.***

FLAVONOID: guaijaverin, hyperin, isoquercitrin, quercetin 3-sambubioside.

Ishikura *et al.*, Agric. Biol. Chem., **46**, 1705 (1982)***H. rosa-sinensis L.***

ACETYLENIC ESTERS: methyl-8-oxo-9-octadecenoate, methyl-10-oxo-11-octadecenoate.

ALIPHATIC: hentriaccontane.

ANTHOCYANIN: cyanin chloride.

FLAVONOID: quercetin.

(Ac) Nakatani *et al.*, Phytochemistry, **25**, 449 (1986)(An, Al, F) Srivastava *et al.*, J. Res. Indian Med., **9**, 103 (1974); Chem. Abstr., 85 2557r

H. subdariffa.

SAPONIN: β -sitosterol- β -D-galactopyranoside.

Osman *et al.*, *Aust. J. Chem.*, **28**, 217 (1975)

H. tiliaceus.

SESQUITERPENOIDS: hibiscones A, B, C and D, hibiscoquinones A, B, C and D.

Ferreira *et al.*, *J. Chem. Soc., Perkin* **1**, 249 (1980)

Ferreira *et al.*, *ibid.*, 257, (1980)

HIERACIUM (Compositae)

H. irazuensis.

SESQUITERPENOID: irazuolide.

Hasbun *et al.*, *J. Nat. Prod.*, **45**, 749 (1982)

HIMANTANDRA (Magnoliaceae)

H. baccata (Galbulimina baccata).

ALKALOIDS: himandrelidine, himandridine, himandrine, himbacine, himbadine, himbosine, himgaline, himgravine.

FURAN: galbacin.

NAPHTHALENES: (-)-galbulin, galcalin.

(A) Brown *et al.*, *Aust. J. Chem.*, **9**, 283 (1956)

(F, N) Tanaoka *et al.*, *Bull. Chem. Soc., Japan*, **49**, 3564 (1976)

H. belgraveana F. Muell. (Galbulimina belgraveana).

ALKALOIDS: himandravine, himandrine, himbacine, himbeline, himdreline, himgaline, himgrine.

Brown *et al.*, *Aust. J. Chem.*, **9**, 283 (1956)

HIMANTHALIA(Phaeophyceae/Himantha liaceae)

H. elongata.

PHLOROTANNIN: bisfucopentaphlorethol A.
 Grosse-Damius et al., *Phytochemistry*, **22**, 2043 (1983)

HINTERHUBERA (Compositae/Asteraceae)

***H. imbricata* Cuatr.**

DITERPENOIDS: 18-angeloyloxy-3-hydroxyimbricatol,
 hydroxyimbricatol, 18-methylbutyryloxy-3-hydroxyimbricatol.
 18-isovaleryloxy-3-
 Bohlmann et al., *Chem. Ber.*, **106**, 2479 (1975)

HIPPEASTRUM (Amaryllidaceae)

***H. ananua* Phil.**

BENZOISOQUINOLINE ALKALOID: hippeastidine.
 LACTONE ALKALOID: epi-homolycorine.
 Pacheco et al., *Rev. Latinoam. Quim.*, **9**, 28 (1978)

***H. aulicum*.**

BENZOISOQUINOLINE ALKALOID: galanthine.
 Proskurnina et al., *J. Gen. Chem., USSR*, **26**, 172 (1956)

***H. candidum*.**

ALKALOID: candimine.
 Dopke, *Arch. Pharm. (Weinheim, Ger.)* **295**, 920 (1962)

***H. caubium* var. *robustum*.**

ALKALOID: chlidanthine.
 Boit, *Chem. Ber.*, **89**, 1129 (1956)

***H. punecium*.**

BENZOISOQUINOLINE ALKALOID: cavinine.
 Samuel, *Org. Mass Spectra*, **10**, 427 (1975)

***H. vittatum*.**

INDANONE ALKALOIDS: hippocine, hippadine, hippafine, hippagine, hippeastrine, lycorine, tazettine, vittatine.

El Mohgazi et al., *Planta Med.*, **28**, 336 (1975)

HIPPOCRATEA

H. mucronata.

FLAVONOIDs: 5-hydroxy-7,3',4'-trimethoxyflavone, isorhamnetin 3-O- α -D-glucoside, kaempferol, kaempferol 7-O- α -D-glucoside.

Alyas *et al.*, *Niger. J. Pharm. Sci.*, **2**, 99 (1986); *Chem. Abstr.*, 105 222749b

HIPPOMANE (Euphorbiaceae)

H. mancinella.

DITERPENOID: mancinellin.

Adolf, Hecker, *Tetrahedron Lett.*, 1587 (1975)

HIPPOPHAE (Elaeagnaceae)

H. rhamnoides.

ACIDS: gallic acid, linoleic acid, linolenic acid, palmitic acid, palmitoleic acid.

INDOLE ALKALOID: serotonin.

FLAVONOIDs: isorhamnetin, kaempferol, myricetin, quercetin.

(Ac) Zham'yanson, *Khim. Prir. Soedin.*, 133 (1978)

(A) Petrova, Men'shikov, *J. Gen. Chem., USSR*, **31**, 2413 (1961)

(A, F) Chumbalov *et al.*, *Khim. Prir. Soedin.*, 663 (1976)

HIRSCHFELDIA

H. incana.

FLAVONOIDs: kaempferol 3-O-glucoside, quercetin 3,7-di-O-glucoside.

PHENOLIC: caffeic acid rhamnoglucoside.

Souleles, Philianos, *J. Nat. Prod.*, **46**, 751 (1983)

HISTIOPTERIS

H. incisa.

NORSESQUITERPENOIDS: pterosin Q, pterosin Q 3 β -L-arabinopyranoside.

Murakami *et al.*, *Chem. Pharm. Bull.*, **23**, 936 (1975)

HODGKINSONIA (Rubiaceae)

H. frutescens F.Muell.

TETRAMERIC ALKALOIDS: quadrigemine A, quadrigemine B.

TRIMERIC ALKALOID: hodkinsine.

Perry, Smith, *J. Chem. Soc., Perkin I*, 1671 (1978)

HOLARRHENA

H. africana A.DC.

STEROIDAL ALKALOIDS: conessine, holafrine, holarrhetine.

Rostock, Seebeck, *Helv. Chim. Acta*, **41**, 11 (1958)

H. antidyserterica Wall.

STEROIDAL ALKALOIDS: conamine, conarrhimine, conessimine, conessine, holadysamine, holadysine, holantosines A, B, C, D, E and F, holarosine A, holarrhessimine, holarrhidine, holarrhimine, holarrhine, holonamine, 12-hydroxyconessimine, hydroxyconessine, 7 α -hydroxyconessine, isoconessimine, kurchiline, kurchine, kurchiphyllamine, kurchiphylline, norconessine, N,N,N',N'-tetramethylholarrhenine.

UNCHARACTERIZED ALKALOID: lettocine.

STEROID: 5,23-stigmastadien-3-ol.

(A) Janot *et al.*, *Tetrahedron*, **26**, 1695 (1970)

(A) Khuong-Huu *et al.*, *Bull. Soc. Chim. Fr.*, 804 (1971)

(S) Steiner *et al.*, *Helv. Chim. Acta*, **60**, 475 (1977)

H. congolensis Stapf.

STEROIDAL ALKALOIDS: conessine, holarrhenine.

Stork *et al.*, *J. Am. Chem. Soc.*, **84**, 2018 (1962)

H. crassifolia.

STEROIDAL ALKALOID: N-formylkonkurchine.

Einhorn *et al.*, *Phytochemistry*, **11**, 769 (1972)

H. curtisii King et Gamble.

STEROIDAL ALKALOIDS: N-demethylholacurtine, holacurtine.

Cannon *et al.*, *J. Chem. Soc., Thailand*, **6**, 81 (1980)

H. febrifuga Klotsch.

STEROIDAL ALKALOIDS: conessine, dimethylfuntumine, holafebrine, N-methylfuntumine, methylholamine.

Cave *et al.*, *Phytochemistry*, **12**, 923 (1973)

H. floribunda (G.Don.) Dur. et Schinz.

STEROIDAL ALKALOIDS: dihydroholaphyllamine, holaline, holamine, holaphyllamine, holaphylline, holarrhesine.

PURINE ALKALOID: triacanthine.

STEROID: holathurin B-1.

(A) Hoyer *et al.*, *Planta Med.*, **34**, 47 (1978)

(S) Kuznetsova *et al.*, *Khim. Prir. Soedin.*, 482 (1982)

H. mitis.

STEROIDAL ALKALOID: N(3)-methylholarrhimine.

Wannigama *et al.*, *Ann. Pharm. Fr.*, **30**, 535 (1972)

H. wulfsbergii.

STEROIDAL ALKALOID: conessine.

Marshall, Johnson, *J. Am. Chem. Soc.*, **84**, 1485 (1962)

HOLODEIMA

H. grisea.

TRITERPENOID: griseogenin.

Tursch *et al.*, *Tetrahedron*, **23**, 761 (1967).

HOLOPTELEA

H. integrifolia.

TRITERPENOID: 2 α ,3 α -dihydroxyolean-12-en-28-oic acid.

Cheung, Van, *J. Chem. Soc., Chem. Commun.*, 369 (1970)

HOLOSTACHYS (Chenopodiaceae)

H. caspica (Pall.) SAM.

AMINE ALKALOID: holostachine.

Men'shikov, Rubinshtein, *J. Gen. Chem., USSR*, **13**, 801 (1943)

HOLOTHURIA

H. leucospilota.

SAPONINS: holothurin A holothurin B.

Matsuma, Yamanouchi, *Nature*, **191**, 75 (1961)

H. lubrica.

SAPONINS: holothurins A and B.

Matsuma, Yamanouchi, *Nature*, **191**, 75 (1961)

H. polii.

TRITERPENOID: 17-deoxyholothurinogenin.

Hebermehl, Volkwein, *Justus Liebigs Ann. Chem.*, **731**, 53 (1970)

H. vagabunda.

TRITERPENOID: holothurinogenin.

Yasumoto *et al.*, *Agric. Biol. Chem.*, **31**, 7 (1967)

HOMALIUM (Flacourtiaceae)

H. pornyense Guill.

SPERMINE ALKALOIDS: homaline, hopromalinol, hopromine, hoprominol.

Pais *et al.*, *Tetrahedron*, **29**, 1001 (1973)

HOMERIA

H. glauca (Wood et Evans).

STEROID: 1 α ,2 α -epoxyscillaroside.

Maude, Potgeister, *J. S. Afr. Vet. Med. Assoc.*, **37**, 73 (1966)

HOMOGYNE (Compositae)

H. alpina (L.) Cass.

SESQUITERPENOID: 3 β -tigloyloxybakkenolide A.

Harmatha *et al.*, *Collect. Czech. Chem. Commun.*, **41**, 2047 (1976)

HOPEA (Dipterocarpaceae)

H. jucunda Thw.

POLYPHENOL: balanocarpol.

Diyasena *et al.*, *J. Chem. Soc., Perkin I*, 1807 (1985)

H. parviflora.

One sesquiterpenoid.

Purushothaman *et al.*, *Indian Drugs*, **21**, 516 (1984)

HORDEUM (Gramineae)

H. vulgare.

QUATERNARY AMINE: candicine.

Rabtzsch, *Planta Med.*, **6**, 103 (1958)

HORTIA

H. arborea.

BENZOPYRAN: clausinidin.

Joshi *et al.*, *J. Chem. Soc., Perkin I*, 1561 (1974)

H. badinii.

CARBOLINE ALKALOIDS: hortiacine, rutaecarpine.

COUMARIN: coumurrayin.

PHENOLICS: methyl-3-[2,4-dimethoxy-3-prenylphenyl]-propionate, methyl-3-[2-methoxy-6',6'-dimethylpyrano-(2',3' 3,4-phenyl)]-propionate.

(A, P) Correa *et al.*, *Phytochemistry*, **14**, 2059 (1975)

(C) Ramstad *et al.*, *Tetrahedron Lett.*, 811 (1968)

H. longifolia.

COUMARIN: coumurrayin.

Ramstad *et al.*, *Tetrahedron Lett.*, 811 (1968)

H. regia.

TETRANORTriterpenoid: guyanin.

Jacobs *et al.*, *Tetrahedron Lett.*, 1453 (1986)

HOSTA (Liliaceae)

H. kiyosumiensis F.Maek.

STEROIDS: 25,27-gitogenin, 5,22-spirost-25(27)-ene-2 α ,3 β -diol.

Takeda *et al.*, *Tetrahedron*, **21**, 2089, 2742 (1965)

H. undulata.

ALDEHYDES: dotriacontanal, octacosanal, triacontanal.

Isono *et al.*, *J. Pharm. Soc., Japan*, **96**, 86 (1975)

HOVEA (Leguminosae)

H. linearis.

ALKALOIDS: (+)-16-epi-ormosanine, (\pm)-piptanthine.

Lamberton *et al.*, *Tetrahedron Lett.*, 3875 (1975)

HOVENIA (Rhamnaceae)

H. dulcis Thunb.

PEPTIDE ALKALOID: hovenine A.

SAPONINS: hovenosides A, B, C, D, G and I.

TRITERPENOIDS: hovenalactone, hovenic acid.

(A) Yakai *et al.*, *Phytochemistry*, **12**, 2985 (1973)

(Sap) Kawai *et al.*, *ibid.*, **13**, 2829 (1974)

(T) Kimura *et al.*, *J. Chem. Soc., Perkin I*, 1923 (1981)

H. tomentilla.

PEPTIDE ALKALOID: hovenine A.

Yakai *et al.*, *Phytochemistry*, **12**, 2985 (1973)

HOYA (Asclepiadaceae)

H. australis.

NORTRITERPENOID: 3,4-seco-3-norolean-12-en-1-ol.

Baas, *Z. Naturforsch.*, **38**, 487 (1983)

HUMBERTIA

H. madagascariensis.

SESQUITERPENOID: himbertiol.

Raulais, *C.R. Acad. Sci.*, **256**, 3369 (1963)

HUMIRIANTHERA

H. rupestris.

TERPENOIDS: humirianthenolides A, B, C, D, E and F.

Zoghbi *et al.*, *Phytochemistry*, **20**, 1669 (1981)

HUMULUS (Cannabinaceae)

H. lupulus L.

PHENOLIC: xanthohumol.

SESQUITERPENOIDS: α -coracalene, τ -calocorene, humulol.

DITERPENOIDS: adhulupone, adhumulone, adlupulone, cohumulone, colupdox a, colupdox b, colupdox c, colupox b, colupulone, 4-deoxyhumulone, helupone, hulupinic acid, humuladienone, humulene epoxide I, humulene epoxide II, humulinone, humulone, metacamphorene, selina-4(14),7(11)-diene, selina-3,7(11)-diene, 4,5-epithiocaryophyllene.

TRITERPENOIDS: luparenol, luparol, luparone.

(P) Verzele *et al.*, Bull. Soc. Chim. Belg., **66**, 452 (1957)

(T) Spetsig *et al.*, J. Inst. Brewing, **65**, 413 (1960)

(T) Naya *et al.*, Bull. Chem. Soc., Japan, **42**, 2083 (1969)

(T) Sharpe, Peppard, Chem. Ind. (London), 664 (1977)

H. lupulus var. Hersbrucken.

SESQUITERPENOID: aromadendrene epoxide.

Tressl *et al.*, J. Agric. Food Chem., **31**, 892 (1983)

HUNNEMANNIA

H. fumariaefolia Sweet.

ISOQUINOLINE ALKALOID: oxyhydrastinine.

OXOPROTOBERBERINE ALKALOID: hunnemannine.

OXOQUINOLIZIDINE ALKALOID: protopine.

El-Shanawany *et al.*, J. Nat. Prod., **46**, 753 (1983)

HUNTERIA (Apocynaceae)

H. attenuate.

CARBOLINE ALKALOID: eppiallo-corynantheine.

Phillipson, Hemingway, Phytochemistry, **14**, 1855 (1975)

H. congolense.

ALKALOIDS: 17-hydroxypseudoakammicine, 17-hydroxypseudoakuammigine, lanceomigine.

LeMen *et al.*, *Tetrahedron Lett.*, 2871 (1981)

H. corymbosa.

INDOLE ALKALOID: corymine.

Kiang, Smith, *Proc. Chem. Soc. London*, 298 (1962)

H. eburnea Pichon.

CARBOLINE ALKALOIDS: antirhine methochloride, eburnamenine, eburnamine, eburnamonine, (\pm)-eburnamonine, eburnaphylline, hunterburnine, hunterburnine α -methochloride, hunterburnine β -methochloride, hunteriamine, hunterine, isoeburnamine, pleiocarpamine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: ebuncine, eburine.

INDOLE ALKALOID: ericinine.

OXOCARBOUNE ALKALOID: burnamicine.

QUATERNARY ALKALOID: hunteracine.

Bartlett *et al.*, *J. Org. Chem.*, **28**, 2197 (1963)

Bartlett, Taylor, *J. Am. Chem. Soc.*, **85**, 1203 (1963)

H. elliotii.

CARBOLINE ALKALOID: hunterburnine α -methochloride.

Soendergaard, Nartney, *Phytochemistry*, **15**, 1322 (1976)

H. umbellata (K.Schum.) Stapf.

INDOLE ALKALOIDS: erinicicine, erinine, eripine, isocorymine.

DIMERIC INDOLE ALKALOID: umbellamine.

Morita *et al.*, *Helv. Chim. Acta*, **51**, 138 (1968)

H. zeylanica.

INDOLE ALKALOID: 3-epi-dihydrocorymine 17-acetate.

Levaud *et al.*, *Phytochemistry*, **21**, 445 (1982)

HUPERZIA (Lycopodiaceae)

H. selago.

FLAVONE: selagin.

Voirin *et al.*, *Phytochemistry*, **15**, 840 (1976)

H. serrata (Thunb.) Trev.

LYCOPODIUM ALKALOIDS: huperzine A, huperzine B.

Liu *et al.*, *Can. J. Chem.*, **64**, 837 (1986)

HURA

H. creptians.

TOXIN: huratoxin.

Sabata *et al.*, *Agric. Biol. Chem.*, **35**, 2113 (1971)

HYBANTHUS (Violaceae)

H. enneasperma.

AMIDE ALKALOID: aurantiamide.

Banerji *et al.*, *Indian J. Chem.*, **13**, 1234 (1975)

HYDNOCARPA

H. octandra.

TRITERPENOIDS: octandrolal, octandrolic acid, octandrolool, octandronal, octandronic acid, octandronol, polpunonic acid.

Gunasekera, Sultanbawa, *Chem. Ind. (London)*, 790 (1973)

HYDRANGEA (Hydrangeaceae/Saxifragaceae)

H. heteromalla.

STEROID: β -sitosterol.

TRITERPENOID: ursolic acid.

Talapatra *et al.*, *J. Indian Chem. Soc.*, **52**, 1222 (1975)

H. macrophylla Ser.

IRIDOID: hydrangenosides A, B, C, D, E, F, G and H.

Uesato *et al.*, *Chem. Pharm. Bull.*, **29**, 3421 (1981)

H. macrophylla Ser. var. thunbergii Makino.

COUMARINS: hydrangeol, umbelliferone.

GLYCOSIDE: phyllodulcin 8-O- β -D-glucoside.
 (C) Suzuki *et al.*, Agric. Biol. Chem., **41**, 205 (1977)
 (Gly) Suzuki *et al.*, *ibid.*, **41**, 1815 (1977)

H. vestita.

FLAVONOIDS: daphnetin 8-methyl ether, fraxetin, umbelliferone.
 Talapatra *et al.*, J. Indian Chem. Soc., **52**, 1222 (1975)

HYDRASTIS

H. canadensis L.

ISOQUINOLINE ALKALOIDS: canadaline, hydrastidine, (-)-hydrastine.
 PROTOBERBERINE ALKALOIDS: berberastine, (-)-canadine.
 Gleye *et al.*, Phytochemistry, **13**, 675 (1974)
 Messana *et al.*, Gazz. Chim. Ital., **110**, 539 (1980)

HYDROCOTYLE (Umbelliferae)

H. vulgaris L.

TRITERPENOIDS: hydrocotylegenins A, B, C, D, E and F.
 Kieper *et al.*, Pharmazie, **30**, 619 (1975)

HYELLA (Cyanophyceae)

H. caespitosa.

CARBAZOLE ALKALOIDS: chlorohyellazole, hyellazole.
 Cordellina II *et al.*, Tetrahedron Lett., 4915 (1979)

HYAENANCHE

H. globosa.

SESQUITERPENOIDS: dihydroisohyenanchin, hyenanchin, isodihydrohyenanchin.

DINORDITERPENOID: capensin.

SPIROTERPENOID: lambicin.

Corbella *et al.*, *Tetrahedron*, **25**, 4835 (1969)

HYGROPHOROPSIS

H. aurantiaca (Wulfen et Fr.).

ESTERS: methylvariegatae, methylvariegatae pentamethyl ether.

Edwards, *J. Chem. Res. Synop.*, 276 (1977)

HYLOCOMIUM

H. splendens (Hedw.) Br.

FLAVONOID: apigenin 7-rhamnoglucoside.

Vandekerkhove, *Z. Pflanzenphysiol.*, **85**, 135 (1977); *Chem. Abstr.*, 87 197317j

HYMENAEA

H. coubaril.

DITERPENOIDS: copalic acid, eperua-7,13-dien-15-oic acid, labdan-8 β -ol-15-oic acid, labd-13-en-8 β -ol-15-oic acid.

Cunningham *et al.*, *Phytochemistry*, **13**, 294 (1974)

H. oblongifolia.

DITERPENOIDS: guamaic acid, enantio-pinifolic acid, (-)-pinifolic acid.

Cunningham *et al.*, *Phytochemistry*, **12**, 633 (1973)

H. verrucosa.

DITERPENOID: 8(17),13(16),14-labdatrien-18-oic acid.

Martin, Langenheim, *Phytochemistry*, **13**, 523 (1974)

HYMENOCALLIS (Amaryllidaceae)

H. amanacea.

BENZOISOQUINOLINE ALKALOID: narcissidine.

Boit, Slender, *Chem. Ber.*, **87**, 624 (1954)

H. arenicola.

BENZOISOQUINOLINE ALKALOIDS: caribine, havanine, zaidine.

Dopke *et al.*, *Z. Chem.*, **20**, 26 (1980)

HYMENOCARDIA

H. acida Tul.

PEPTIDE ALKALOID: hymenocardine.

Pais *et al.*, *Bull. Soc. Chim. Fr.*, **29**, 79 (1968)

HYMENOCLEA

H. salsola.

SESQUITERPENOIDS: neoambrosin, salsolin.

Geissman, Toribio, *Phytochemistry*, **6**, 1563 (1967)

H. subola.

SESQUITERPENOID: ambrosin.

Torrence *et al.*, *J. Pharm. Sci.*, **64**, 887 (1975)

HYMENODICTYON (Rubiaceae)

H. excelsum.

PIGMENTS: 6-methylalizarin, morindone, nordamnacanthal.
 Roberts *et al.*, *Aust. J. Chem.*, **30**, 1553 (1977)

HYMENOXYNS

H. anthemoides.

SESQUITERPENOIDS: anthemoidin, themoidin.
 Herz *et al.*, *J. Org. Chem.*, **35**, 2611 (1970)

H. grandiflora (T. et G.) Parker.

SESQUITERPENOIDS: hymenoflorin, hymenograndin.
 DITERPENOID: perigrandin.
 Herz *et al.*, *J. Org. Chem.*, **39**, 2013 (1974)

H. greenei.

SESQUITERPENOIDS: greenein, psilotropin.
 de Silva, Geissman, *Phytochemistry*, **9**, 59 (1970)

H. insignis.

SESQUITERPENOID: acetylhymenograndin, hymenograndin.
 Herz *et al.*, *J. Org. Chem.*, **45**, 493 (1980)

H. odorata.

SESQUITERPENOIDS: hymenolide, hymenolone, hymenovin, hymenoxon, hymenoxy nin, odoratin.
 Petterson, Kim, *J. Chem. Soc., Perkin 2*, 1399 (1976)

H. richardsonii.

SESQUITERPENOID: psilotropin.
 de Silva, Geissman, *Phytochemistry*, **9**, 59 (1970)

H. scaposa.

FLAVONE: scaposin.
 Mabry *et al.*, *Tetrahedron*, **24**, 3675 (1968)

HYOSCYAMUS (Solanaceae)

H. albus L.

TROPANE ALKALOID: (-)-hyoscyamine.

Bremner, Cannon, *Aust. J. Chem.*, **21**, 1369 (1968)

H. muticus.

TROPANE ALKALOID: (-)-hyoscyamine.

Marion, Thomas, *Can. J. Chem.*, **33**, 1853 (1955)

H. niger L.

TROPANE ALKALOIDS: (-)-hyoscyamine, scopolamine.

Marion, Thomas, *Can. J. Chem.*, **33**, 1853 (1955)

H. orientalis.

TROPANE ALKALOIDS: atropamine, belladonnine, cuskhygrine, hyoscyamine, scopolamine.

AMINES: betaine, choline.

Telezhko, *Aktual. Vopr. Farm.*, **2**, 45 (1974); *Chem. Abstr.*, 84 102349x

H. reticulatus.

TROPANE ALKALOID: (-)-hyoscyamine.

Marion, Thomas, *Can. J. Chem.*, **33**, 1853 (1955)

HYPECOUM (Papaveraceae)

H. erectum L.

SPIROISOQUINOLINE ALKALOIDS: hypecoridine, hypecorine, hypecorinine, protopine.

Yakhontova *et al.*, *Khim. Prir. Soedin.*, 624 (1972)

H. parviflorum L.

AMINE ALKALOID: (-)-peshwarine.

Shamma *et al.*, *Tetrahedron*, **34**, 635 (1978)

H. pendulum L.

OXOQUINOLIZIDINE ALKALOID: protopine.

Mottus *et al.*, *Can. J. Chem.*, **31**, 1144 (1953)

H. procumbens L.

OXOQUINOLIZIDINE ALKALOID: protopine.

ISOQUINOLINE ALKALOID: (-)-corydalisol.

SPIROALKALOID: turkiyenine.

Gozler *et al.*, *J. Am. Chem. Soc.*, **106**, 6101 (1984)

H. trilobum Trautv.

NAPHTHOISOQUINOLINE ALKALOIDS: chelerythrine, sanguinarine.

OXOQUINOLIZIDINE ALKALOID: protopine.

Mottus *et al.*, *Can. J. Chem.*, **31**, 1144 (1953)

HYPERICUM (Guttiferae/Hypericaceae)

H. androsaemum L.

XANTHONE: toxyloxoanthrone B.

Deshpande *et al.*, *Indian J. Chem.*, **71**, 518 (1973)

H. chinense L.

PHENOLICS: chinesin I, chinesin II.

Nagai *et al.*, *Chem. Lett.*, 1337 (1987)

H. japonicum Thunb.

FLAVONOIDS: 3,5,7,3',4'-pentahydroxyflavone-7-O-rhamnoside, quercetin.

STEROID: sitosterol.

Chen *et al.*, *Chem. Abstr.*, 86 27678q

Gu *et al.*, *Zhongcaoyao*, **14**, 347 (1983); *Chem. Abstr.*, 100 3473a

H. mysorense Heyne.

PYRANS: 3-(1,1-dimethyl-2-propenyl)-6-phenyl-4H-pyran-4-one, 3-(1,1,-dimethyl-2-propenyl)-6-phenyl-2,4(3H)-dioxopyran, hyperenone, mysorenone.

Vishwakarma *et al.*, *Indian J. Chem.*, **25B**, 466 (1986)

H. perforatum.

FLAVONOIDS: hyperoside, isoquercitrin, rutin.

Dorosiev, *Pharmazie*, **40**, 585 (1985)

H. sampsonii.

XANTHONES: 2-hydroxy-3,4-dimethoxyxanthone, hyperxanthone, isomangiferin, mangiferin, toxyloxoanthrone B.

Chen *et al.*, *Heterocycles*, **23**, 2543 (1985)

H. uliginosum.

PHENOLICS: uliginosin A, uliginosin B.

Parker *et al.*, *J. Am. Chem. Soc.*, **90**, 4716 (1968)

Parker *et al.*, *ibid.*, **90**, 4723 (1968)

HYPHOLOMA (Agaricales)

H. fascicuklare.

PIGMENTS: fasciculin A, fasciculin B, hypholomin A, hypholomin B.

Fiasson *et al.*, *Chem. Ber.*, **110**, 1047 (1977)

HYPNEA (Rhodophyceae)

H. japonica.

STEROIDS: cholesta-5,22-dien-3 β -ol, cholesta-5,25-dien-3 β -ol, 22-dehydrocholesterol.

Tsuda *et v* *Chem. Pharm. Bull.*, **7**, 747 (1959)

HYPOCHOERIS (Compositae)

H. cretensis.

SESQUITERPENOIDS: hypocretenoic acid methyl ester, hypocretenolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 2119 (1982)

H. retosus.

SESQUITERPENOID: hypochaerin.

Gonzalez *et al.*, *Phytochemistry*, **15**, 991 (1976)

HYPODEMATIUM

H. crenata Kuhn.

FLAVONOIDS: iriflophenone 3-C- β -D-glucoside, kaempferol 3-C- β -D-glucoside.

XANTHONE: mangiferin.

Murakami *et al.*, *J. Pharm. Soc., Japan*, **106**, 378 (1986)

H. fauriei Tagawa.

FLAVONOIDS: iriflophenone 3-C- β -D-glucoside, kaempferol 3-C- β -D-glucoside.

XANTHONE: mangiferin.

Murakami *et al.*, *J. Pharm. Soc., Japan*, **106**, 378 (1986)

HYPOESTES (Acanthaceae)

H. rosea.

DITERPENOIDS: hypoestoxide, roseadione, roseanolone.

TETRATERPENOID: dihypoestoxide.

Adesomoju *et al.*, *J. Nat. Prod.*, **47**, 308 (1984)

HYPOGYMNIA (Hepaticae)

H. vittata.

ACID: vittatolic acid.

Hirayama *et al.*, *Chem. Pharm. Bull.*, **23**, 693 (1975)

HYPOLEPIS

H. punctata (Thunb.) Mett.

INDANONES: 3S-pteroside D, 3R-pterosin D, 3S-pterosin D, 2R,3R-pterosin L 2'-O- β -D-glucoside, 2S,3R-pterosin L 2'-O- β -D-glucoside.

SESQUITERPENOIDS: hypolepins A, B and C.

(I) Murakami *et al.*, *Chem. Pharm. Bull.*, **24**, 2241 (1976)

(T) Hayashi *et al.*, *Chem. Lett.*, 63 (1973)

HYPOXIS(Amaryllidaceae/Hypoxidaceae)

H. nyasica Bak.

GLUCOSIDES: hypoxoside, nyasoside.

Marini-Bettolo *et al.*, *Tetrahedron*, **41**, 665 (1985)

H. obtusa Busch.

GLYCOSIDE: hypoxoside.

Marini-Bettolo *et al.*, *Tetrahedron*, **38**, 1683 (1982)

HYPOXYLON (Xylariaceae)

H. fragiforme.

COUMARIN: isoochracein.

Anderson *et al.*, *J. Chem. Soc., Perkin I*, 2185 (1983)

H. haematostroma.

COUMARINS: isoochracein, mellein, ramulosin.

Anderson *et al.*, *J. Chem. Soc., Perkin I*, 2185 (1983)

H. howeianum.

COUMARIN: 4-hydroxyisoochracein.

Anderson *et al.*, *J. Chem. Soc., Perkin I*, 2185 (1983)

H. mammatum (Vahl.) Miller.

DITERPENOID: hymatoxin A.

Bodo *et al.*, *Tetrahedron Lett.*, 2355 (1987)

H. venustuissimum.

COUMARINS: isoochracein, mellein, ramulosin.

Anderson *et al.*, *J. Chem. Soc., Perkin I*, 2185 (1983)

HYSSOPUS (Labiatae)

H. ferganensis.

ACIDS: caffeic acid, p-coumaric acid, ferulic acid, gallic acid, sinapic acid, vanillic acid.

Zotov *et al.*, *Chem. Abstr.*, 88 71448e

H. officinalis L.

MONOTERPENOID: (1S,2R,5R)-3-pinanone.

Banthorpe *et al.*, *Chem. Rev.*, **66**, 643 (1966)

H. seravshamicus.

ACIDS: caffeic acid, p-coumaric acid, ferulic acid, gallic acid, sinapic acid, vanillic acid.

Zotov *et al.*, *Chem. Abstr.*, 88 71448e

HYPTIS (Labiatae)

H. fruticosa.

DITERPENOIDS: hyptol, 14-methoxytaxadione.

Marlette *et al.*, *Gazz. Chim. Ital.*, **106**, 119 (1976)

H. suaveolens.

DITERPENOIDS: suaveolic acid, suaveolol.

Manchand *et al.*, *J. Org. Chem.*, **39**, 2706 (1974)

HYSTEROIPSIS

H. incisa.

GLUCOSIDE: pteroside Q.

Kurakami *et al.*, *Chem. Pharm. Bull.*, **22**, 2758 (1974)

I**IANTHELLA*****I. ardis.***

HALOGENATED TERPENOIDS: (-)-aeroplysinin-1, (\pm)-aeroplysinin-2.
 Fattorusso *et al.*, *J. Chem. Soc., Chem. Common.*, 751 (1970)

I. basta.

CAROTENOID: bastaxanthin.
 Herzberg *et al.*, *Acta Chem. Scand., B* **27**, 267 (1983)

IBERIS (Cruciferae)***I. amara L.***

THIO COMPOUNDS: (R)-3-methylsulfinylpropylamine, 3-methylthiopropylamine.
 TRITERPENOIDS: cucurbitacin E, cucurbitacin I.
 (T) Nielsen *et al.*, *Phytochemistry*, **16**, 1519 (1977)
 (Th) Dalgaard *et al.*, *ibid.*, **16**, 931 (1977)

IBOZA (Labiatae)***I. riparia (Hochst.) N.E.Br.***

DITERPENOIDS: ibozol, 8(14),15-isopimaradiene-7,18-diol, 8(14),15-sandaracopimaradiene-7 α ,18-diol.
 Zelnik *et al.*, *Phytochemistry*, **17**, 1795 (1978)
 Van Puyvelde *et al.*, *J. Org. Chem.*, **47**, 3628 (1982)

ICACINA (Icacinaceae)

I. chaessensis.

DITERPENOID: icacinol.

Onokoko *et al.*, *Tetrahedron*, **41**, 745 (1985)

I. guesfeldtii.

STEROIDAL ALKALOIDS: icaceine, icacine.

Onokoko, Vanhaelen, *Phytochemistry*, **19**, 303 (1980)

I. mannii.

DITERPENOID: icacenone.

On'okoko *et al.*, *Phytochemistry*, **24**, 2452 (1985)

ICHTHYOTHERE

I. terminalis.

DITERPENOIDS: ent-3 α -acetoxy-9(11),16-kauradien-19-oic acid, 9,15-dihydroxy-16-kauren-19-oic acid, ent-2-hydroxy-9(11),16-kauradien-19-oic acid, ent-3-hydroxy-9(11),16-kauradien-19-oic acid, 7-hydroxy-9(11),16-kauradien-19-oic acid, ichthyotherminolide.

TRITERPENOID: terminolic acid.

Bohlmann *et al.*, *Phytochemistry*, **21**, 2317 (1982)

I. ulei.

DITERPENOIDS: 19-acetoxyichthyoluteolide, ichthyoluteolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 2317 (1982)

IGNATIA

I. amara L.

STRYCHNINE ALKALOID: brucine.

Robinson, *Prog. Org. Chem.*, **1**, 1 (1952)

ILEX (AQUIFOLIACEAE)

I. asprella Champ.

Numerous alkanes.

Chen *et al.*, *Chem. Abstr.*, 86 27677p

I. cornuta.

SAPONIN: 3-O- β -D-glucopyranosyl- α -L-arabinopyranosylpomolic acid.

Otsuka Pharmaceuticals Ltd, Japanese Patent, 83 146 600

I. goshiensis.

TRITERPENOID: neoilexonol.

Yagashita, Nishimura, *Agric. Biol. Chem.*, 25, 517 (1961)

I. hainanensis.

TRITERPENE GLUCOSIDE: hainanenside.

Min *et al.*, *Yaoxue Xuebao*, 19, 691 (1984)

I. oldhami.

TRITERPENE GLUCOSIDE: pedunculoside.

Hase *et al.*, *Nippon Kogaku Kaishi*, 778 (1973)

I. paraguaiensis.

PURINE ALKALOID: theophylline.

Blout *et al.*, *J. Am. Chem. Soc.*, 72, 479 (1950)

I. pedunculosa.

TRITERPENE GLUCOSIDE: pedunculoside.

Hase *et al.*, *Nippon Kogaku Kaishi*, 778 (1973)

I. perado.

PURINE ALKALOID: theobromine.

Bohinc *et al.*, *Planta Med.*, 28, 374 (1975)

I. pubescens Hook et Arn.

TRITERPENE GLYCOSIDES: ilexasaponin, ilexoside A.

Qin *et al.*, *Huaxue Xuebao*, 45, 249 (1987); *Chem. Abstr.*, 107 4283v

I. rotunda Thunb.

TRITERPENOID: rotundic acid.

TRITERPENE GLUCOSIDE: pedunculoside.

Hase *et al.*, *Nippon Kogaku Kaishi*, 778 (1973)

ILLICIUM (Illiciaceae)

I. anisatum L.

SESQUITERPENOIDS: anisatin, anisotin, neoanisatin, pseudoanisitin.

Yamada *et al.*, *Tetrahedron Lett.*, 4797 (1965)

I. religiosum.

ACID: shikimic acid.

SESQUITERPENOIDS: anisatin, neoanisatin.

Hamada *et al.*, *Tetrahedron Lett.*, 4797 (1965)

I. verum Hook.

MONOTERPENOID: trans-anethole.

Li *et al.*, *Chem. Abstr.*, 104 3421q

ILLIGERA

I. pentaphylla.

PHENANTHRENE ALKALOID: thaliporphinemethine.

Ross *et al.*, *J. Nat. Prod.*, **48**, 835 (1985)

IMPATIENS (Balsaminaceae)

I. balsamina.

TRITERPENOID: hosenkol A.

Shoji *et al.*, *J. Chem. Soc., Chem. Commun.*, 871 (1983)

IMPERATA (Gramineae)

I. cylindrica Beauv.

TRITERPENOIDS: arborinol methyl ether, arundoin, 9(11)-fernén-3-ol.

Ogunkoya *et al.*, *Phytochemistry*, **16**, 1606 (1977)

I. cylindrica Beauv. var. koenigii Durand et Schinz.

TRITERPENOIDS: arborinione, arundoin, cylindrin.

Hui, Lam, *Phytochemistry*, **4**, 333 (1965)Nishimoto *et al.*, *Tetrahedron*, **24**, 735 (1968)***I. cylindrica var. media.***

TRITERPENOID: arundoin.

Hui, Lam, *Phytochemistry*, **4**, 333 (1965)**INCARVILLEA (Bignoniaceae)*****I. olgae Rgl.***

PYRIDINE ALKALOIDS: indicaine, (-)-plantagonine.

Danilova, Konovalova, *J. Gen. Chem., USSR*, **22**, 2237 (1952)**INDIGOFERA (Leguminosae)*****I. suffruticosa.***

TERPENOID: louisfieserone.

Dominguez *et al.*, *Tetrahedron Lett*, 429 (1978)***I. tetrantha.***

FLAVONOIDS: acacetin, apigenin, isoquercitrin.

STEROID: β -sitosterol.

TRITERPENOID: ursolic acid.

Thusoo *et al.*, *J. Indian Chem. Soc.*, **59**, 1007 (1982)**INERTIA*****I. hypoleuca.***TRITERPENOID: α -amyrenone.Lou-Cam *et al.*, *Phytochemistry*, **12**, 475 (1973)

INEZIA

I. integrifolia.

SESQUITERPENOID: 1 α ,2 α -diacetoxyalantolactone.

Bohlmann *et al.*, *Phytochemistry*, **21**, 2743 (1982)

INOLOMA (Basidiomycetae)

I. traganum.

ANTIBIOTIC: inolomin.

Fragner, *Experientia*, **5**, 167 (1949)

INONOTUS (Basidiomycetae)

I. obliquus.

TRITERPENOIDS: 3 β -hydroxylanosta-8,24-dien-21-al, inotodiol, trametenolic acid.

Kahlos *et al.*, *Planta Med.*, **50**, 197 (1984)

INULA (Compositae)

I. aschersoniana.

SESQUITERPENOID: 8 β -hydroxydihydroeremanthin.

Papano *et al.*, *Phytochemistry*, **19**, 152 (1980)

I. bifrons.

MONOTERPENOID: 2-methoxythymol isobutyrate.

Bohlmann *et al.*, *Phytochemistry*, **17**, 1163 (1978)

I. britannica.

MONOTERPENOIDS: 7,10-diisobutyryloxythymol isobutyrate, 10-hydroxy-8,9-epoxythymol isobutyrate. SESQUITERPENOIDS: 12-acetoxyeremophilene britannin, 15-desoxy-cis, cis-artemisisifolin, 3-hydroxy-2-senecioyloxy-isovalantolactone, methyleremophilene-12-oic acid.

Bohlmann *et al.*, *Phytochemistry*, **16**, 1243 (1977)
 Bohlmann *et al.*, *ibid.*, **16**, 1302 (1977)

I. caspica.

SESQUITERPENOID: incaspin.

Adekenov *et al.*, *Khim. Prir. Soedin.*, 797 (1984)

I. crititnoides L.

SESQUITERPENOID: inucrithniolide.

Mahmoud *et al.*, *Phytochemistry*, **20**, 735 (1981)

I. cuspidata.

SESQUITERPENOIDS: 4(15),5E,10(14)-germacratrien-1-ol, incapitolide A.

Bohlmann *et al.*, *Phytochemistry*, **21**, 157 (1981)

I. eupatorioides.

SESQUITERPENOIDS: ineupatolde, ineupatorolide A, ineupatorolide B.

THIOPHENE: ineupatoriol.

Baruch *et al.*, *Phytochemistry*, **21**, 665 (1982)

I. germanica.

SESQUITERPENOIDS: germanin A, germanin B.

Konovalova *et al.*, *Khim. Prir. Soedin.*, 578 (1974)

Baruch *et al.*, *J. Org. Chem.*, **45**, 4838 (1980)

I. grandis Schrenk.

ALKALOID: one uncharacterized base. Flavone 4',5,6-trihydroxy-3,7-dimethoxyflavone.

SESQUITERPENOIDS: alantolactone, granilin, grandicin, grandulin, igalan.

(A) Zabolotnaya *et al.*, *Tr. Vlrl. XI*, 152 (1959)

(F) Nikanova *et al.*, *Khim. Prir. Soedin.*, 96 (1975)

(T) Maruyama *et al.*, *Phytochemistry*, **14**, 2247 (1975)

I. graveolens.

SESQUITERPENOID: graveolide.

d'Alcantres *et al.*, *Gazz. Chim. Ital.*, **103**, 239 (1973)

I. helenium L.

COUMARINS: scopoletin, umbelliferone.

SESQUITERPENOIDS: 4 α -H-confertin, 1-deoxy-8-epi-ivangustin, dihydroalantolactone, dihydroisoalantolactone, 1 β ,10 α -epoxy-1,10-H-cis-inunolide, 4 β ,5 α -epoxy-4,5-cis-inunolide, germacrene D-lactose, 1 β -hydroxyalantolactone, 9 β -hydroxycostunolide, isoalantolactone, 9-isobutyryloxy-costunolide, 4-epi-isoinuvisolide, 8-epi-isoivangustin, 9-ivaleryloxy-costunolide, 9 β -(2-methylbutyryloxy)-costunolide, 2-oxoalantolactone, 4H-tomentosin, 8-epi-tomentosin.

TRITERPENOID: dammaradienol.

(C) Khvorost, Komissarenko, *Khim. Prir. Soedin.*, 820 (1976)

(T) Bohlmann *et al.*, *Phytochemistry*, **17**, 1163 (1978)

I. heterolepis.

SESQUITERPENOIDS: 1,10-epoxyhaageanolide, 9-hydroxyartemorin.

Bohlmann *et al.*, *Phytochemistry*, **21**, 116, 1357 (1982)

I. indica.

SESQUITERPENOID: inuolide.

Dhaneshwar *et al.*, *Acta Crystallogr., C* **39**, 462 (1983)

I. japonica.

SESQUITERPENOID: deacetylinalulinicin.

Evstratova *et al.*, *Khim. Prir. Soedin.*, 730 (1974)

I. racemosa.

SESQUITERPENOIDS: alloalantolactone, dihydroinunolide, inunolide, neotsantolactone.

Bhandar, Rastogi, *Indian J. Chem.*, **22B**, 286 (1983)

I. royleana.

UNCHARACTERIZED ALKALOID: roylene.

SESQUITERPENOIDS: dehydroroyleanone, 1-deoxy-8-epi-ivangustin, 4 β ,5 α -epoxy-4,5-cis-inunolide, 2 α -hydroxyalantolactone, 9 β -hydroxycostunolide, inuroleanone, 4-epi-isoinuvicsolide, 8-epi-isoivangustin, ivalin acetate, 8-epi-ivangustin, 7-ketorooleanone, 9 β -(2-methylbutyryloxy)-costunolide, 2-oxoalantolactone, 3 β -propionoyloxcostunolide, rooleanone, 4H-tomentosin.

(A) Chopra *et al.*, *Indian J. Med. Res.*, **33**, 139 (1945)

(T) Bhat *et al.*, *Tetrahedron*, **31**, 1001 (1975)

(T) Bohlmann *et al.*, *Phytochemistry*, **17**, 1163 (1978)

I. spiraeifolia.

MONOTERPENOID: 7,10-diisobutyryloxythymol isobutyrate.

Bohlmann, Zdero, *Phytochemistry*, **16**, 1243 (1977)

I. viscosa.

SESQUITERPENOID: inuviscolide.

Bohlmann *et al.*, *Chem. Ber.*, **110**, 1330 (1977)

IPHIGENIA (Wurmbaeoideae)

I. stellata.

COLCHICINE ALKALOIDS: colchicine, colchicoside, cornigerine, 3-demethylcolchicine, 3-demethyl-N-deacetylcolchicine, N-formyl-N-deacetylcolchicine, β -lumicolchicine.

HOMOAPORPHINE ALKALOIDS: S-(+)-bechuanine, kreysiginine, multifloramine.
Potesilova *et al.*, *Planta Med.*, **72** (1985)

IPHIONA

I. mucronata.

Thymol derivatives.

Metwally *et al.*, *Z. Naturforsch.*, **40B**, 1597 (1985)

I. scabra.

SESQUITERPENOIDS: iphionane, isoiphionane.

El-Ghazouly *et al.*, *Phytochemistry*, **26**, 439 (1987)

IPOMOEA (Convolvulaceae)

I. alba L.

INDOLIZIDINE ALKALOIDS: dihydroipalbidine, ipalbidine.

Gourley *et al.*, *J. Chem. Soc., Chem. Commun.*, 709 (1969)

I. calonyction.

STEROIDS: calonysterone, muristerone, muristerone A.

Canonica *et al.*, *J. Chem. Soc., Chem. Commun.*, 1060 (1972)

I. dichroa.

GLYCOSIDES: dichrosides A, B, C and D

Harrison *et al.*, *Carbohydr. Res.*, **143**, 207 (1985); *Chem. Abstr.*, 104 65842r

I. hildebrandii Vatke.

ERGOT ALKALOID: cycloclavine.

Stauffacher *et al.*, *Tetrahedron*, **25**, 5879 (1969)

I. muricata.

GLYCOALKALOID: ipomine.

GLYCOSIDES: glycosides Mb-1, Mb-2, Mb-3, Mb-4 and Mb-5
(A) Dawidar *et al.*, *Tetrahedron*, **33**, 1733 (1977)

(Gly) Noda *et al.*, *Tennen Yulki Kagobutsu Toronkai Koen Yoshishu*, **27**, 427 (1985)

I. orizabensis.

GLYCOSIDES: glycosides Oc-1, Oc-2, Oc-3 and Oc-4

Noda *et al.*, *Tennen Yulki Kagobutsu Toronkai Koen Yoshishu*, *27th*, 427 (1985)

I. tricolor.

ANTHOCYANIN: heavenly blue anthocyanin.

Kondo *et al.*, *Tetrahedron Lett.*, 2273 (1987)

I. violacea.

ERGOT ALKALOID: chanoclavine 1-carboxylic acid.

Choong, Shough, *Tetrahedron Lett.*, 3137 (1977)

IRESINE (Amarantaceae)

I. celosioides.

SESQUITERPENOIDS: dihydroiresin, dihydroiresone, iresin, iresone, isoiresin.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **76**, 2966 (1954)

Rabbe *et al.*, *Bull. Soc. Chim. Belg.*, **67**, 632 (1958)

IRIS (Iridaceae)

I. florentina.

ISOFLAVONES: iridin, irifloroside, irigenin.

NORSESQUITERPENOIDS: irone, β -irone, τ -irone.

XANTHONES: irisxanthone, isomangiferin, isoswertiajaponin, isoswertisin, mangiferin, swertisin.

(I) Arisawa *et al.*, *Chem. Pharm. Bull.*, **21**, 2323 (1973)

(T) Ruzicka *et al.*, *Helv. Chim. Acta*, **30**, 1807 (1947)

(T) Ruzicka *et al.*, *ibid.*, **30**, 1810 (1947)

(X) Fujita *et al.*, *Chem. Pharm. Bull.*, **30**, 2342 (1982)

I. germanica L.

ISOFLAVONES: irilone, 4',5,7-trihydroxy-3',6-dimethoxyisoflavone, 3',4',5'-trihydroxy-6,7-dimethoxyisoflavone, 3',4',5'-trihydroxy-6,7-methylenedioxyisoflavone.

PHENOLICS: acetovanillone, irigenin, irisolidone.

STEROID: β -sitosterol.

TRITERPENOIDS: α -amyrin, β -amyrin, iridogermanal, α -iridogermanal, τ -iridogermanal, δ -iridogermanal.

(I) Pailer *et al.*, *Monatsh. Chem.*, **104**, 1394 (1973)

(I) Dhar *et al.*, *Phytochemistry*, **12**, 734 (1973)

(P, S) Ali *et al.*, *ibid.*, **22**, 2061 (1983)

(T) Marner *et al.*, *J. Org. Chem.*, **47**, 2531 (1982)

I. hollandica.

ISOPRENOID QUINONES: 3-demethylplastoquinone 8, 3-demethylplastoquinone 9, phylloquinone, plasto chromanol 8, plastoquinone 9.

STEROID: tocopherol.

Etman-Gervais, *C.R. Acad. Sci.*, **282**, 1171 (1976)

Etman-Gervais *et al.*, *Nouv. J. Chim.*, **1**, 323 (1977); *Chem. Abstr.*, 87 180695h

I. hookeriana.

ISOFLAVONOIDS: iridin, irigenin, iris florentin, junipigenin A.

Shawl *et al.*, *J. Nat. Prod.*, **48**, 849 (1985)

I. kashmiriana.

FLAVONE: irisolidone.

Dhar *et al.*, *J. Indian Chem. Soc.*, **52**, 784 (1975)

I. kumanonensis.

ISOFLAVONE: irigenin.

Dhar *et al.*, *Phytochemistry*, **11**, 3097 (1972)

I. pallida.

TERPENOID: iriflorental, iripallidal.

Krick *et al.*, *Z. Naturforsch.*, **38C**, 179 (1983)

I. tectorum.

ISOFLAVONES: iristectorigenin, iristectorin A, tectoridin.

Khara *et al.*, *Indian J. Chem.*, **16B**, 78 (1978)

I. tingitana.

AMINOACIDS: τ -glutamyl- β -alanine, τ -glutamyl- β -aminoisobutyric acid.

Larsen, *Acta Chem. Scand.*, **16**, 1511 (1962)

I. unguicularis Poir.

FLAVONES: irigenin, iristectorigenin A, kanzakiflavone 1, kanzakiflavone 2.

Arisawa *et al.*, *Chem. Pharm. Bull.*, **24**, 815 (1976)

Arisawa *et al.*, *ibid.*, **24**, 1609 (1976)

IRYANTHERA

I. grandis.

CHALCONE: 2',4'-dihydroxy-4,6'-dimethoxydihydrochalcone.

CHROMAN: 2,8-dimethyl-2-(4,12-dimethyl-8-carboxy-3,7,11-tridecatrienyl)-6-chromanol.

FLAVANS:(±)-7,4'-dihydroxy-3'-methoxyflavan, (+)-5,7-dimethoxy-4'-hydroxyflavan.

PHENOLICS: 1-(2'-hydroxy-4',6'-dimethoxyphenyl)3-(3'-methoxy-4"-methylenedioxyphenyl)-propane, 1-(2'-hydroxy-4',6'-dimethoxyphenyl)-3-(3",4"-methylenedioxyphenyl)-propane.

(Chal, Chr) Vieira *et al.*, *Phytochemistry*, **22**, 2281 (1983)

(F, P) Diaz *et al.*, *ibid.*, **25**, 1395 (1986)

I. juruensis.

LACTONE: juruenolide.

Vieira *et al.*, *Phytochemistry*, **22**, 711 (1983)

I. ulei.

LACTONE: juruenolide.

Vieira *et al.*, *Phytochemistry*, **22**, 711 (1983)

ISMENE (Amaryllidaceae)

I. calithina.

ERYTHRINA ALKALOID: pretazettine.

Wildman *et al.*, *J. Am. Chem. Soc.*, **89**, 5514 (1967)

ISOCARPHA

I. atriplicifolia.

SESQUITERPENOIDS: atripliciolide isobutyrate, atripliciolide isovalerate, atripliciolide methacrylate, atripliciolide tiglate.

Bohlmann *et al.*, *Phytochemistry*, **17**, 471 (1978)

I. oppositifolia.

AGERATONE: dihydroageratone-O-methyl ether.

Bohlmann *et al.*, *Phytochemistry*, **16**, 768 (1977)

ISOCOMA

I. wrightii. (Haplopappus heterophyllus).

SESQUITERPENOIDS: comene, isocomene, 1,2,3,4-tetrahydro-1,1,5,6-tetramethylnaphthalene.

TRITERPENOIDS: friedelan-3 α -ol, friedelin.

Zalkow *et al.*, *Lloydia*, **41**, 96 (1979)

ISODON (Labiatae)

I. amethystoides.

DITERPENOID: wangzoazine A.

Wang *et al.*, *Zhongcaoyao*, **13**, 11 (1982)

I. emarginatus.

TERPENOID: emarginatoside.

Row, Rukamini, *Indian J. Chem.*, **4**, 149 (1966)

I. inflexus.

DITERPENOID: inflexin.

Kubo *et al.*, *Chem. Lett.*, 99 (1977)

I. japonicus Hara.

DITERPENOIDS: enmein, enmein 3-acetate, isodoacetal, isodocarpin, isodonal, isodopodin, nodosin, epi-nodosin, nodosinin, nodosinol, epi-nodosinol, odonicin, oridonin, poncidin.

Kubo *et al.*, *Tetrahedron*, **30**, 615 (1974)

I. kameba.

DITERPENOIDS: kamebamacetals A and B, kamebanin.

Kubo *et al.*, *Chem. Lett.*, 1289 (1977)

I. lasiocarpus.

DITERPENOIDS: isolasiokaurin, lasiodonin, lasiokaurin, lasiokaurinol.

Fujita *et al.*, *Chem. Pharm. Bull.*, **22**, 280 (1974)

I. okuyama.

DITERPENOID: mebadonin.

Isobe *et al.*, *Nippon Kagaku Kaishi*, 2143 (1972)

I. shikokianus var. intermedium.

DITERPENOIDS: isodomedin, shikokianin.

Kubota, Kubo, Bull. Chem. Soc., *Japan*, **42**, 1778 (1969)

I. trichocarpus.

DITERPENOIDS: ememodin, ememofin, ememogin, ememonin, ememosin, enmedol, enmenol, isodocarpin, isodonol, isodotricin, nodosin, oridonin.

Kubo *et al.*, *Tetrahedron*, **30**, 615 (1974)

ISOLONA

I. pilosa.

APORPHINE ALKALOID: isopiline.

Hocquemiller *et al.*, *J. Chem. Soc., Chem. Commun.*, 447 (1977)

I. zenkeri.

APORPHINE ALKALOID: zenkerine.

Hocquemiller *et al.*, *Planta Med.*, **50**, 23 (1984)

ISOMOPSIS

I. aggregate.

TRITERPENOID: 3-epi-isocucurbitacin B.

Arisawa *et al.*, *J. Pharm. Sci.*, **73**, 411 (1984)

ISOPLEXIS (Scrophulariaceae)

I. isabelliana.

STEROID: gitoroside.

Freitag *et al.*, *Helv. Chim. Acta.*, **50**, 1335 (1967)

I. sceptrum (L.) Steud.

STEROIDS: (24R)-funchaligenin, isoplexigenins A, B, C and D, sceptrumgenin.
Gonzalez *et al.*, *An. Quim.*, **69**, 1031 (1973)

ISOPYRUM

I. binternatum L.

UNCHARACTERIZED ALKALOID: isopyroine.
Frankforter, *J. Am. Chem. Soc.*, **25**, 99 (1903)

I. thalictroides L.

QUATERNARY PROTOBERBERINE ALKALOIDS: dehydropseudoechilanthifoline, pseudoberberine, pseudocolumbamine, pseudocoptisine.
UNCHARACTERIZED ALKALOIDS: isopyrine, pseudoisopyrine.
Moulis *et al.*, *Phytochemistry*, **16**, 1283 (1977)

ISOTOMA (Campanulaceae)

I. longifera.

PIPERIDINE ALKALOID: (-)-cis-8,10-diphenyllobelidiol.
Arthur, Chen, *J. Chem. Soc.*, 750 (1963)

ITEA (Escalloniaceae)

I. ilicifolia.

CARBOHYDRATE: allitol.
Wolfrom *et al.*, *J. Am. Chem. Soc.*, **68**, 1443 (1946)

I. virginica.

CARBOHYDRATE: allitol.
Steiger *et al.*, *Helv. Chim. Acta*, **19**, 184 (1936)

IVA (Compositae)

I. acerosa.

FLAVONES: acerosin.

Farkas *et al.*, *Tetrahedron*, **23**, 3557 (1967)

I. ambrosiaeefolia.

SESQUITERPENOID: apachin.

Yoshioka *et al.*, *Phytochemistry*, **10**, 401 (1971)

I. angustifolia.

SESQUITERPENOIDS: ivangulin, ivangustin.

Herz *et al.*, *J. Org. Chem.*, **32**, 3658 (1967)

I. annua.

SESQUITERPENOIDS: ivanuol, ivanuol acetate.

Bohlmann, Zdero, *Phytochemistry*, **18**, 2034 (1979)

I. asperifolia.

SESQUITERPENOID: asperilin.

Herz, Viswanathan, *J. Org. Chem.*, **29**, 1022 (1964)

I. axillaris.

SESQUITERPENOIDS: anhydroivaxillarin, axivalin, ivaxillarin, ivaxillin.

Herz *et al.*, *J. Org. Chem.*, **31**, 3232 (1966)

I. dealbata.

SESQUITERPENOIDS: ivalbatin, ivalbin.

Herz *et al.*, *J. Org. Chem.*, **32**, 682 (1967)

Chikamatsu, Herz, *ibid.*, **38**, 585 (1973)

I. frutescens.

SESQUITERPENOID: ifrutescin.

Herz *et al.*, *Phytochemistry*, **11**, 1829 (1972)

I. imbricata.

SESQUITERPENOID: ivalin.

Herz, Hogenauf, *J. Org. Chem.*, **27**, 905 (1962)

I. macrocephala.

SESQUITERPENOID: dihydropseudoivalin.

Herz *et al.*, *J. Org. Chem.*, **30**, 118 (1965)

I. microcephala.

SESQUITERPENOIDS: ivalin, microcephalin.

Herz *et al.*, *J. Org. Chem.*, **29**, 1700 (1964)

I. texensis.

SESQUITERPENOID: asperilin.

Herz, Viswanathan, *J. Org. Chem.*, **29**, 1022 (1964)

I. xanthofolia.

SESQUITERPENOIDS: cyclachaenin.

Bohlmann *et al.*, *Phytochemistry*, **18**, 1892 (1979)

IXORA

I. chinensis.

IRIDOID: ixoroside, ixoside.

Takeda *et al.*, *Phytochemistry*, **14**, 2647 (1975)

I. parviflora.

TERPENOID: ixorol.

Ali, Kapadia, *Pakistan J. Sci. Ind. Res.*, **11**, 12 (1968)

J**JABOROSA (Solanaceae)*****J. integrifolia* Lam.**

LACTONES: jaborosalactones A, B, C, D, E and F.
 Tschesche *et al.*, *Tetrahedron*, **29**, 1909 (1972)

***J. leucotricha*.**

WITHANOLIDE: jaborosalactone L.
 Lavie *et al.*, *Phytochemistry*, **25**, 1765 (1986)

JACARANDA (Bignoniaceae)***J. caucana*.**

TRITERPENOIDS: jacarandic acid, jacoumaric acid.
 NORMONOTERPENOID: jacaranone.
 Ogura *et al.*, *Phytochemistry*, **16**, 286 (1977)
 Ogura *et al.*, *Lloydia*, **40**, 157 (1977)

JACQUINIA (Theophrastaceae)***J. angustifolia*.**

DITERPENOIDS: crocetin aldehyde, crocetin half-aldehyde.
 Eugster *et al.*, *Helv. Chim. Acta*, **52**, 806 (1969)

***J. armillaris*.**

TRITERPENOID: armillarigenin.
 De Mahaas *et al.*, *Bull. Soc. Chim. Fr.*, 226 (1966)

J. pungens.

TRITERPENOIDS: jacquinic acid, primulagenin A.

Khan *et al.*, *Tetrahedron*, **21**, 1735 (1965)**JAMESONIA*****J. scammamae.***

SESQUITERPENOID: jamesonin.

Satake *et al.*, *Chem. Pharm. Bull.*, **32**, 4620 (1984)**JASMINUM (Oleaceae)*****J. auriculatum.***

ACIDS: linoleic acid, linolenic acid, malvalic acid, palmitic acid, stearic acid.

TRITERPENOID: jasminol.

(Ac) Srivastava *et al.*, *J. Appl. Chem. Biotechnol.*, **27**, 55 (1977); *Chem. Abstr.*, 87 18958z(T) Deshpande, Upadhyay, *Experientia*, **26**, 10 (1970)***J. grandiflorum.***

MACROCYCLIC TERPENOID: 5'-hydroxyjasmonic acid lactone.

MONOTERPENOID: (-)-jasmine lactone.

Winter *et al.*, *Helv. Chim. Acta*, **45**, 1250 (1962)***J. primulinum.***

DITERPENE GLUCOSIDE: jasminin.

Kubota *et al.*, *J. Chem. Soc., Japan*, **89**, 62 (1968)**JASONIA (Compositae/Inulae)*****J. glutinosa DC.***

SESQUITERPENOID: kudtdiol.

de Pascual Teresa *et al.*, *Tetrahedron Lett*, 4141 (1978)***J. tuberosa.***

FLAVONES: dihydroquercetin 3',7-dimethyl ether, hispidulin, penduletin.

SESQUITERPENOID: 2 β -hydroxy-T-cadinol.

(F) Bohm *et al.*, *Phytochemistry*, **16**, 1205 (1977)

(F) Gonzalez *et al.*, *An. Quim.*, **73**, 460 (1977)

(T) de Pascual Teresa *et al.*, *An. Quim.*, **74**, 1536 (1978)

JATEORHIZA (Menispermaceae)

J. palmata (Lam.) Miers. (*J. columba*).

PROTOBERBERINE ALKALOIDS: columbamine, jateorrhizine, palmatine.

DIMERIC PROTOBERBERINE ALKALOID: bisjatrorrhizine.

DITERPENOIDS: chasmanthin, isojateorinyl glucoside, jateorin, jaterorinyl glucoside, palmarin.

TRITERPENOIDS: columbin, columbinyl glucoside.

(A) Carvalhas, *J. Chem. Soc., Perkin I*, 327 (1972)

(T) Barton *et al.*, *J. Chem. Soc.*, 4809 (1962)

(T) Itokawa *et al.*, *Planta Med.*, **53**, 271 (1987)

JATROPHA (Euphorbiaceae)

J. curcus.

ACIDS: linoleic acid, oleic acid, palmitic acid, stearic acid.

DITERPENOIDS: curcuses A, B, C and D.

(Ac) Ferrao *et al.*, *Rev. Port. Bioquim. Appl.*, **4**, 17 (1982); *Chem. Abstr.*, 97 195753f

(T) Naengchomnong *et al.*, *Tetrahedron Lett.*, 2439 (1986)

J. dioica.

DITERPENOID: riolozatrione.

Dominguez *et al.*, *Phytochemistry*, **19**, 2478 (1980)

J. gossypifolia.

FURANONE: gadain.

DITERPENOIDS: jatropholone A, jatropholone B, jatropheone.

(F) Banerji *et al.*, *Phytochemistry*, **23**, 2323 (1984)

(T) Purushothaman *et al.*, *Tetrahedron Lett.*, 972 (1979)

J. macrorhiza.

DITERPENOID: jatrophatrione.

TRITERPENOID: aleuritolic acid.

Torrance *et al.*, *J. Pharm. Sci.*, **66**, 1348 (1977)

JAVA

J. citronella.

SESQUITERPENOID: sesquicitronellene.

Naves *et al.*, *Helv. Chim. Acta*, **49**, 1029 (1966)

JUGLANS (Juglandaceae)

J. mandshurica.

NAPHTHOQUINONES: 3,3'-bijuglone, cyclotrijuglone, juglone.

Kirakawa *et al.*, *Phytochemistry*, **25**, 1494 (1986)

J. regia.

NAPHTHOQUINONES: 3,3'-bisjuglone, juglone, trisjuglone.

BENZOPYRAN: avicularin.

STEROID: β -sitosterol.

(N, S) Sidhu *et al.*, *Indian J. Chem.*, **13**, 749 (1975)

(B) Babu *et al.*, *Phytochemistry*, **17**, 2042 (1978)

JULBERNARDIA

J. paniculata.

PIPERIDINE ALKALOID: carboxy-4(R),5(R)-dihydroxypiperidine.

Shewry *et al.*, *Phytochemistry*, **15**, 1981 (1976)

JULOCROTON (Euphorbiaceae)

J. montevidensis (L.) Klotzsch.

PIPERIDINEDIONE ALKALOID: julocrotine.

Nakano *et al.*, *J. Org. Chem.*, **26**, 1184 (1961)

JUNCUS

J. effusus.

COUMARIN: 7,8-dihydroxycoumarin.

Williams *et al.*, *Biochemical Systematic and Ecology*, **3**, 181 (1975)

JUNGERMANNIA (Hepaticae)

J. infusca.

DITERPENOIDS: ent-15 β -hydroxykaurene, ent-kaur-16-en-15-ol, ent-kaur-16-en-15-one.

Matsuo *et al.*, *Phytochemistry*, **16**, 489 (1977)

J. rosulans (Stapf.) Stapf.

SESQUITERPENOID: cuprenenol, rosulantol.

Matsuo *et al.*, *Tetrahedron Lett.*, 3821 (1977)

J. sphaerocarpa.

DITERPENOID: ent-11 α -hydroxykaur-16-en-15-one, ent-11 α -hydroxykauren-15 α -yl acetate, ent-kaur-16-ene-11,15-diol.

Connolly, Thornton, *J. Chem. Soc., Perkin I*, 736 (1973)

J. thermarum Stapf.

DITERPENOID: ent-8(14),15-pimaradien-19-oic acid, ent-pimarene-8,19-diol, (-)-thermarol.

Matsuo *et al.*, *Tetrahedron Lett.*, 2451 (1976)

J. torticalyx.

DITERPENOID: jungermanool.

Matsuo *et al.*, *Experientia*, **32**, 966 (1976)

JUNGIA (Compositae/Mutisieae)

J. malvaefolia Muschler.

SESQUITERPENOIDS: iso- α -cedren-15-al, iso- α -cedrene-14,15-dial, jungianol.

Bohlmann, Zdero, *Chem. Ber.*, **112**, 427 (1979)

J. spectabilis.

ACETYLENICS: pentadeca-8,10-diene-2,4,6-triyne, pentadeca-2,8,10-triene-4,6-diyne.

Bohlmann, Zdero, *Phytochemistry*, **16**, 239 (1977)

J. stuebelli

SESQUITERPENOIDS: 9-acetoxy-iso- α -cedrene-15,14-oxide, 7-oxo-14-norisoo- α -cedren-15-al.

Bohlmann *et al.*, *Phytochemistry*, **22**, 1201 (1983)

JUNIPERUS (Cupressaceae)

J. arizonica.

DITERPENOID: trans-communic acid.

Ahoud *et al.*, *Bull. Soc. Chim. Fr.*, 347 (1964)

J. californica.

SESQUITERPENOID: widdringtonic acid.

Arya, *J. Sci. Ind. Res. (India)*, **21B**, 504 (1962)

J. communis L.

BENZOPYRAN: afizelechin.

PIGMENT: xanthoperol.

DITERPENOID: communic acid.

MONOTERPENOIDS: 4-acetyl-1,4-dimethyl-1-cyclohexene, campholic aldehyde.

SESQUITERPENOIDS: α -cadinol, (-)- α -cadinol, β -elemen-7 α -ol, (+)-junenol, junicedrol, juniperol, longifolene.

(B) Hillis *et al.*, *Aust. J. Chem.*, **13**, 390 (1960)

(P) Brendenberg *et al.*, *Acta Chem. Scand.*, **10**, 1511 (1956)

(T) de Pascual Teresa *et al.*, *An. Quim.*, **73**, 463 (1977)

(T) de Pascual Teresa *et al.*, *ibid.*, **73**, 568 (1977)

J. conferta.

FURANONE: savinin.

DITERPENOID: neoisodextropimaric acid.

SESQUITERPENOIDS: 3 α ,7 α -epoxylongifolane, longifolol-7(15)-en-5-ol.

Doi *et al.*, *Tetrahedron Lett.*, 4003 (1977)

J. contorta.

SESQUITERPENOID: longifolan-3 α ,7 α -oxide.

Doi *et al.*, *Tetrahedron Lett.*, 4003 (1977)

J. foetidissima Willd.

SESQUITERPENOIDS: 8,14-cedranediol, 8,14-cedranolide, 8,14-cedranoxide, 8-cedren-13-ol.

Baggaley *et al.*, *Tetrahedron*, **24**, 3399 (1968)

J. formosana Hayata.

LIGNAN: detetrahydroconidendrin.

DITERPENOIDS: 7 α -methoxydeoxycryptojaponol, 7 β -methoxydeoxycryptojaponol, sugiol.

SESQUITERPENOID: isocedrolic acid.

(L, T) Kim *et al.*, *J. Chin. Chem. Soc.*, **29**, 213 (1982)

(T) Kuo *et al.*, *J. Chin. Chem. Soc.*, **31**, 417 (1984)

J. horizontals.

FLAVONES: cupressusflavone, sciadopitysin.

Beckmann *et al.*, *Phytochemistry*, **10**, 2465 (1971)

J. indica (J. pseudosabina).

FLAVONOIDS: amentoflavone, cupressuflavone, hinokiflavone, isocryptogenin.

Khatoon *et al.*, *J. Indian Chem. Soc.*, **62**, 410 (1985)

J. macropoda.

FLAVONOIDS: armentoflavone, hinokiflavone, isocryptomarin, junipegenin C, kaempferol 3-O- β -D-glucoside, quercetagenin 3-O- α -L-rhamnoside, quercetin 3-O- α -L-rhamnoside.

Sethi *et al.*, *Phytochemistry*, **20**, 341 (1981)

J. oxycedrus L.

DITERPENOIDS: 11 β -hydroxymanoyl oxide, methyl cis-communate, methyl-trans-communate, methylimbricatalate, methylimbricatolate, myrecommunic acid, myrecommunic acid dimer, myrecommunic acid methyl ester, ylangene.

SESQUITERPENOIDS: 1-bulgarene, α -bulgarene, τ -cadinene.

de Pascual Teresa *et al.*, *An. Quim.*, **70**, 1015 (1974)

de Pascual Teresa *et al.*, *ibid.*, **73**, 1527 (1978)

J. phoenicea L.

DITERPENOIDS: 7,13-abietadien-19-oic acid, 8,13-abietadien-19-oic acid, 7,13-abietadien-3-one, 4-epi-abietic acid, (12R)-12-acetoxymyreocommunic acid, 7 α -hydroxy-4-epi-dehydroabietal, 12-hydroxy-8(20)-labden-19-oic acid, 6 α -hydroxysandaracopimaric acid, 4-epi-palustrie acid.

SESQUITERPENOIDS: α -acoradiene, β -acoradiene, α -acorenol, β -acorenol, α -cadinol methyl ether.

Tabacek, Poisson, *Bull. Soc. Chim. Fr.*, 3264 (1969)
de Pascual Teresa *et al.*, *An. Quim.*, **74**, 459 (1978)

J. procera.

CYCLOHEPTANE: procerin.

Runeberg, *Acta Chem. Scand.*, **15**, 645 (1961)

***J. recurva* Buch.**

SESQUITERPENOID: 8-cedren-13-ol, thujopsene.

Oda *et al.*, *Agric. Biol. Chem.*, **41**, 201 (1977)

***J. rigida* Sieb. et Zucc.**

DITERPENOID: 3β -hydroxysandaracopimaric acid, nootkatinol, norisodextropimaric acid.

SESQUITERPENOID: α -acoradiene, β -acoradiene, δ -acoradiene, α -acorene, β -acorene, cadinenol, calacorene.

Naya, Kotake, *Bull. Chem. Soc., Japan*, **42**, 2088 (1969)

Tomita *et al.*, *Tetrahedron Lett.*, 1371 (1970)

Kuzo Doi, Kawamura, *Phytochemistry*, **11**, 841 (1972)

***J. sabina* L.**

FURANONE: savinin. Diterpenoid palustradiene.

MONOTERPENE: (+)-sabinene, sabinol.

SESQUITERPENOID: oplopenone.

(F) Doi, *Phytochemistry*, **11**, 1175 (1972)

(T) de Pascual Teresa *et al.*, *An. Quim.*, **74**, 680 (1978)

J. silicicola.

DITERPENOID: trans-communic acid.

Ahond *et al.*, *Bull. Soc. Chim. Fr.*, 348 (1964)

***J. squamata* (Lamb) D.Don.**

SESQUITERPENOID: isocedrolic acid, 4-ketocedrol.

Kuo *et al.*, *Experientia*, **32**, 827 (1976)

J. thurifera.

SESQUITERPENOID: 8-acetoxyelemol.

de Pascual Teresa *et al.*, *An. Quim.*, **73**, 151 (1977)

J. utahensis.

CYCLOHEPTANE: Utahin.

SESQUITERPENOID: cedrolic acid.

Runeberg, *Acta Chem. Scand.*, **14**, 797 (1960)

J. virginiana L.

SESQUITERPENOID: cedrol.

TERPENOID GLUCOSIDE: podophyllotoxin- β -D-glucoside.Kupchan *et al.*, *J. Pharm. Sci.*, **54**, 459 (1965)**JURINEA (Compositae)***J. alata.*

SESQUITERPENOID: alatolide.

Drozdz *et al.*, *Collect. Czech. Chem. Commun.*, **38**, 727 (1973)*J. albicaulis.*

SESQUITERPENOIDS: albicolide, juricanolide.

Todorova, Ognyanov, *Planta Med.*, **50**, 452 (1984)*J. carduiformis.*

SESQUITERPENOID: desacetylrepin.

Rustaiyan *et al.*, *Phytochemistry*, **20**, 1154 (1981)*J. maxima.*

SESQUITERPENOIDS: jurmolide, maximolide, salonitenolide, salonitolide.

Zakirov *et al.*, *Khim. Prir. Soedin.*, 656 (1975)*J. suffruticosa Rgl.*

ALKALOIDS: jurinine. Two uncharacterized bases.

Yunusov *et al.*, *Dokl. Akad. Nauk SSSR*, **11**, 29 (1959)Toda *et al.*, *Tetrahedron*, **28**, 1477 (1972)**JUSTICIA (Acanthaceae)***J. gendarussa Burm.*STEROID: β -sitosterol.Wahi *et al.*, *J. Res. Indian Med.*, **9**, 65 (1974); *Chem. Abstr.*, 85 17102n*J. hayati.*

NAPHTHOFURANS: justicidins A and B.

Okigawa *et al.*, *Tetrahedron*, **26**, 4301 (1970)*J. procumbens L. var. decumbens Honda.*

LACTONE: justicidin F.

NAPHTHOFURANS: diphyllin, justicidin A, justicidin B.

(L) Horii *et al.*, *Chem. Pharm. Bull.*, **25**, 1803 (1977)

(N) Govindachari *et al.*, *Tetrahedron*, **25**, 2815 (1969)

K

KADSURA (Schisandraceae)

K. coccinea.

LIGNANS: isokadsuranin, kadsuranin, kadsutherin.

Li *et al.*, *Planta Med.*, 297 (1985)

K. japonica.

CYCLIC DIBENZOOCTANES: angeloylbinankadsurin A, capreoylbinankadsurin A, norkadsurin A.

SESQUITERPENOIDS: α -elemol, epi- α -elemol, germacrene C.

TRITERPENOID: kadsuric acid.

(C) Ookawa *et al.*, *Chem. Pharm. Bull.*, 29, 123 (1981)

(T) Morikawa, Hirose, *Tetrahedron Lett.*, 1299 (1969)

KALANCHOE (Crassulaceae)

K. daigremontiana.

STEROIDS: clerosterol, 25(27)-dehydroporiferasterol.

Nes *et al.*, *Lipids*, 12, 511 (1977)

K. spathulata.

STEROIDS: campesterol, stigmasterol.

TRITERPENOIDS: friedelin, glutinol, taraxerol.

Gaind *et al.*, *Phytochemistry*, 15, 1999 (1976)

KALLSTROEMIA

K. maxima.

STEROID: 25S-spirost-4-ene-3,12-dione.

Dominguez *et al.*, *Planta Med.*, 534 (1985)

K. pubescens.

SAPONINS: kallstroemins A, B, C, D and E.

Mahato *et al.*, *Indian J. Chem.*, **15B**, 445 (1977)

KALMIA (Ericaceae)

K. latifolia L.

STEROIDS: 24 α -ethylathosterol, β -sitosterol, spinasterol.

TOXINS: kalmitoxins I, II, III, IV, V and VI.

(S) Nes *et al.*, *Lipids*, 12, 511 (1977)

(To) El-Naggar *et al.*, *J. Nat. Prod.*, **43**, 617 (1980)

K. leucanthea.

TOXIN: grayanotoxin I.

Wood *et al.*, *J. Am. Chem. Soc.*, **76**, 5689 (1954)

KALOPANAX (Araliaceae)

K. septemlobus.

SAPONINS: kalopanax septemlobus saponin A, kalopanax septemlobus saponin B.

Khorlin *et al.*, *Izv. Akad. Nauk SSSR*, 1588 (1966)

KAUNEA

K. arbuscularis.

MONOTERPENOID: 10-acetoxy-8,9-dihydroxythymol.

SESQUITERPENOIDS: 2β -hydroxy- $3\alpha,4\alpha$ -epoxy-3,4-dihydrokauniolide, kauniolide, novanin.

Bohlmann *et al.*, *Planta Med.*, **50**, 284 (1984)

K. ignorata.

SESQUITERPENOID: kauniolide 2-oxoludartin.

Bohlmann *et al.*, *Phytochemistry*, **20**, 2375 (1981)

K. saltensis.

MONOTERPENOID: 3β -hydroxycarvotanactone.

Bohlmann *et al.*, *Phytochemistry*, **20**, 2375 (1981)

KAYEA (Guttiferae/Clusiaceae)

K. stylosa Thw.

XANTHONES: kayeaxanthone, 10-O-methylmacluraxanthone.

Gunasekera, Sultanbawa, *Unpublished work.*

KENTROPHYLLUM

K. lanatum (DC.).

FLAVONOIDS: eriodictyol, luteolin, quercetin.

Reynaud *et al.*, *Plant Med. Phytother.*, **10**, 170 (1976)

KHAYA (Meliaceae)

K. anthotheca (Welw.) C.DC.

LIMONOIDs: 11α -acetoxyazadirone, 11α -acetoxyazadirone, anthothecol, deacetylanthothecol, 3-deacetylkhivorin, deoxyhavanensin, deoxyhavanensin acetate, $1\alpha,11:14\beta,15$ -diepoxy-6-hydroxymeliaca-5,9,20,22-tetraene-3,7-dione, $14\alpha,15\alpha$ -epoxy-16-oxo-1,3,7-triacetoxymeliacin, havanensin, havanensin acetate, khayanthone, khayasin, khayasin B, khayasin T, khivorin, 3-isobutyryloxy-1-oxo-meliacate.

Adesogan *et al.*, *J. Chem. Soc., C*, 205 (1970)

Halsall, Troke, *J. Chem. Soc., Perkin I*, 1758 (1975)

K. grandifoliola.

STEROID: 20-hydroxypregn-4-en-3-one acetate.

TERPENOIDS: 6-acetoxyangolensic acid methyl ester, fissinolide, grandifolienone, 6-hydroxyangolensic acid methyl ester.

(S) Adesogan, Taylor, *Chem. Ind., (London)*, 1365 (1967)

(T) Connolly *et al.*, *Tetrahedron*, **23**, 4035 (1967)

K. ivorensis.

COUMARINS: esculetin, scoparone, scopoletin, umbelliferol.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

TERPENOIDS: 6-deoxyswietenolide, ivorensic acid.

(C, S) Adesina, *Fitoterapia*, **54**, 141 (1983)

(T) Connolly *et al.*, *J. Chem. Soc., Chem. Commun.*, 162 (1965)

K. madagascariensis Jumelle et Perrier.

LIMONOIDS: 11 α -acetoxykhivorin, 3-deacetylkhivorin, fissinolide, methyl 3 β -acetoxy-2-hydroxy-1-oxomeliolate.

Taylor, *J. Chem. Soc., Chem. Commun.*, 1172 (1968)

K. nyasica.

TERPENOIDS: 11-acetoxykhivorin, khayasin, nyasin.

Taylor, *J. Chem. Soc., Chem. Commun.*, 1172 (1968)

K. senegalensis L.

COUMARINS: esculetin, scoparone, scopoletin, umbelliferol.

LIMONOIDS: 7-deacetoxy-7-oxokhivorin, 7-deoxy-7-oxokhivorin, 6-epi-detigloyloxywietenin acetate, 6-hydroxyangolensic acid methyl ester, 12 β -hydroxy-6-deoxydestigloylwietenin acetate, khyanthone, khayasin, khayasin B, khayasin T, methyl-6-acetylanguolensate, methyl 6-hydroxyangolensate, methylsenegalensate.

POLYSACCHARIDE: polysaccharide A.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

(C, S) Adesina, *Fitoterapia*, **54**, 141 (1983)

(P) Aspinall, Bhattacharyya, *J. Chem. Soc., C*, 365 (1970)

(T) Adesogan, Taylor, *ibid*, 1974 (1968)

KIBATALIA

K. arborea.

STEROIDAL ALKALOID: holafebrine.

Janot *et al.*, *Bull. Soc. Chim. Fr.*, 285 (1962)

K. gitingensis Woods.

STEROIDAL ALKALOIDS: gitingensine, kibataline.

Cave *et al.*, *Bull. Soc. Chim.*, 2415 (1964)

Bernal-Santos, *Phillipp. J. Sci.*, **96**, 411 (1967)

KICKXIA

K. spuria.

IRIDOID: kickxioside.

Nicoletti *et al.*, *Planta Med.*, **53**, 295 (1987)

KIELMEYERA (Guttiferae/Clusiaceae)

K. candidissima.

XANTHONES: 1,7-dihydroxyxanthone, 1,3-dimethoxy-5-hydroxyxanthone, 2,3-dimethoxy-4-hydroxyxanthone.

Ferreira *et al.*, *Phytochemistry*, **11**, 1512 (1972)

K. coriacea Mart.

LIGNOIDS: cadensin A, cadensin B, kielcorin, kielcorin B.

XANTHONES: 6-deoxyjacareubin, 1,5-dihydroxy-3-methoxyxanthone, 3,4-dihydroxy-2-methoxyxanthone, 2,3-dimethoxy-4-hydroxyxanthone, 2,3-dimethoxy-5-hydroxyxanthone, 2,3-methylenedioxy-4-methoxyxanthone, 2-methoxyxanthone, osajaxanthone.

(L) Pinto *et al.*, *Phytochemistry*, **26**, 2045 (1987)

(X) Lopes *et al.*, *Phytochemistry*, **16**, 1101 (1977)

K. corymbosa (Spr.) Mart.

XANTHONES: 1,3-dimethoxy-5-hydroxyxanthone, 1-hydroxy-7-methoxyxanthone, 2-methoxyxanthone, osajaxanthone.

de Barros Correa *et al.*, *An. Acad. Bras. Cienc.*, **36**, 239 (1964)

K. excelsa Camb.

XANTHONES: 2,8-dihydroxy-1-methoxyxanthone, 1,7-dihydroxyxanthone, gentisin, 1-hydroxy-7-methoxyxanthone.

Antonaccio *et al.*, *An. Acad. Bras. Cienc.*, **37**, 229 (1965)

K. ferruginea A.P.Duarte.

XANTHONES: 6-deoxyjacareubin, 1,3-dimethoxy-5-hydroxyxanthone, 2,3-dimethoxy-4-hydroxyxanthone, 2,4-dimethoxy-3-hydroxyxanthone, jacareubin.

Gottlieb *et al.*, *Phytochemistry*, **8**, 665 (1969)

K. petiolaris (Spr.) Mart.

XANTHONE: 2,8-dihydroxy-1-methoxyxanthone.

Gottlieb *et al.*, *Tetrahedron*, **24**, 1601 (1968)

K. rubriflora Camb.

XANTHONES: 1,7-dihydroxy-2,3,8-trimethoxyxanthone, 2,3-dimethoxy-4-hydroxyxanthone, 2,4-dimethoxy-3-hydroxyxanthone, 2,3-methylenedioxy-4-hydroxyxanthone, 2,3-methylenedioxy-4-methoxyxanthone.

Gottlieb *et al.*, *Phytochemistry*, **10**, 2253 (1971)

K. rupestris A.P.Duarte.

XANTHONES: 1,3-dimethoxy-5-hydroxyxanthone, 3-hydroxy-1,5,6-trimethoxyxanthone.

de Barros Correa *et al.*, *Phytochemistry*, **9**, 2537 (1970)

K. speciosa St. Hill.

XANTHONES: 6-deoxyjacareubin, 1,3-dimethoxy-5-hydroxyxanthone, 2,4-dimethoxy-3-hydroxyxanthone, 2,3-methylenedioxy-4-hydroxyxanthone, 2,3-methylenedioxy-4-methoxyxanthone.

De Oliveira *et al.*, *An. Acad. Bras. Cienc.*, **38**, 421 (1971)

KIGELIA (Bignoniaceae)

K. pinnata.

DITERPENOID: pinnatal.

NORMONOTERPENOID: norviburtinal.

Joshi *et al.*, *Tetrahedron*, **38**, 2703 (1982)

KINGIELLA

K. taenialis (Lindl.) Rolfe.

PYRROLIZIDINE ALKALOID: phalaenopsine.

Brandage, Granelli, *Acta Chem. Scand.*, **24**, 354 (1970)

KLEINIA (Compositae)

K. fulgens Hook f. (*Senecio fulgens*).

SESQUITERPENOID: 4,5-dihydroxykleinifulgin.

Bohlmann *et al.*, *Phytochemistry*, **20**, 251 (1981)

K. kleinoides.

PYRROLIZIDINE ALKALOID: dehydroisosenaetnine.

Bohlmann, Knoll, *Phytochemistry*, **17**, 599 (1978)

KNAUTIA (Dipsacaceae)

K. arvensis.

SAPONINS: knautioside A, knautioside B.

Surkova *et al.*, *Khim. Prir. Soedin.*, 661 (1975)

K. montana.

GLYCOSIDES: swertiajaponin, swertisin.

Zamtsova *et al.*, *Khim. Prir. Soedin.*, 705 (1977)

KNEMA (Myristicaceae)

K. attenuata (Wall.) Warb.

TETRALIN: (-)-attenuol.

Joshi *et al.*, *Tetrahedron*, **35**, 1665 (1979)

KNIGHTIA

K. deplanchei.

Four tropane alkaloids.

Kan-Fan, Lounasmaa, *Acta Chem. Scand.*, **27**, 1039 (1973)

K. strobilina.

TROPANE ALKALOIDS: knightalbinol, knightolamine, strobamine, strobolamine.
Lounasmaa *et al.*, *Phytochemistry*, **19**, 949 (1980)

KOANOPHYLLON

K. adamantium.

DITERPENOIDS: koanoadmantic acid methyl ester, koanophyllic acids A, B, C and D.
Bohlmann, *Phytochemistry*, **20**, 1903 (1981)

K. conglobatum.

DITERPENOIDS: koanophyllic acids A, B and C.
Bohlmann, *Phytochemistry*, **20**, 1903 (1981)

KOELREUTERIA (Sapindaceae)

K. paniculata.

SAPONINS: koelreuteriasaponin A, koelreuteriasaponin B.
Chirva *et al.*, *Khim. Prir. Soedin.*, 328 (1970)

KOKOONA (Celastraceae)

K. zeylanica Thwaites.

TRITERPENOIDS: friedelin, kokoondiol, kokoonol, kokoononol, kokzeylanol, kokzeylanonol, zeylandiol, zeylanol, zeylononol.

STEROID: zeylasterone.

(S) Kamal *et al.*, *Tetrahedron Lett.*, 4749 (1980)

(T) Gunatilaka *et al.*, *J. Chem. Soc., Perkin I*, 2459 (1983)

KOMAROVIA

K. anisospermum.

COUMARINS: isoimperatorin, 5-methoxy-8-geranylhydroxypsoralen, phellopterin.

Sokolova *et al.*, *Khim. Prir. Soedin.*, 166 (1976)

KOPSIA (Apocynaceae/Plumerioideae)

K. fruticosa.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: fruticosine, kopsamine, kopsidine, kopsine.

Battersby *et al.*, *J. Chem. Soc., Chem. Commun.*, 786 (1966)

K. jasminiflora Pitard.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: jasminiflorine, kopsijasmine.

Ruangrungsi *et al.*, *Tetrahedron Lett.*, 3679 (1987)

K. longiflora.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: kopsiflorine, kopsilongine, kopsinine.

Crow, Michael, *Aust. J. Chem.*, **8**, 129 (1955)

K. officinalis L.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: chanofruticosine methyl ester, (+)-5,22-dioxokopsane, (-)-isoburnamine, (-)-kopsinine, kopsoffine, de-N-methoxycarbonylchanofrutiveone methyl ester, 6,7-methylenedioxychanofrutivecosine methyl ester, (-)-N-methoxycarbonyl-11,12-dimethoxykopsinaline, (-)-N-methoxycarbonyl-12-methoxykopsinaline, (-)-N-methoxycarbonyl-11,12-methylenedioxykopsinaline, (-)-12-methoxykopsinaline, (-)-11,12-methylenedioxykopsinaline, (-)-quebrachamine, (-)-tetrahydroalstonine.

Feng *et al.*, *J. Nat. Prod.*, **47**, 117 (1984)

K. singapurensis.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: kopsapurine, kopsingine.

Thomas *et al.*, *J. Am. Chem. Soc.*, **89**, 3325 (1967)

KOROLKOWIA (Liliaceae)

K. sewerzowii (Rgl.) Rgl. (Fritillaria sewerzowii Rgl.).

STEROIDAL ALKALOIDS: algamine, alginine, korseveramine, korseveridine, korseveriline, korseverine, korseverinine, korseversinine, korsevinine, korsidine, korsiline, korsinamine, korsine, korsine N-oxide, korsinine, sevcorine, seveline, seveline N-oxide, severine, severine N-oxide.

Samikov *et al.*, *Khim. Prir. Soedin.*, 233 (1978)

Samikov *et al.*, *ibid*, 251 (1986)

KRAMERIA (Krameriaceae)

K. ramosissima.

NORLIGNANS: ramosissin, 2-(2,3,4,6-tetramethoxyphenyl)-5-(E)-propenylbenzofuran.

Achenbach *et al.*, *Phytochemistry*, **26**, 2041 (1987)

K. triandra.

TYROSINE ALKALOID: geoffroyine.

Goldschmeidt, *Monatsh. Chem.*, **34**, 659 (1913)

KREYSIA

K. multiflora Reichb.

HOMOAPORPHINE ALKALOIDS: kreysigine, kreysiginine, multifloramine.

SPIROAPORPHINE ALKALOIDS: dihydrokreysiginone, kreysiginone.

Battersby *et al.*, *J. Chem. Soc., Chem. Commun.*, 934 (1967)

KYDIA

K. calycina.

PHENOLICS: hibiscone C, hibisoquinone B, isohemigossypol 1-methyl ether.

Joshi *et al.*, *Planta Med.*, **49**, 127 (1983)

L**LABURNUM (Leguminosae)*****L. alpinum.***

ISOFLAVONE: alpinusisoflavone.

Jackson *et al.*, *J. Chem. Soc., C*, 3389 (1971)

L. anagyroides.

QUINOLIZIDINE ALKALOIDS: cytisine, methylcytisine, (-)-N-(3-oxobutyryl)-cytisine.

Gray *et al.*, *J. Pharm. Pharmacol.*, 95P (1981)

LACHENALIA***L. unifolia.***

FLAVONOIDS: diosmetin 7,3'-disulphate, diosmetin 3'-sulphate, luteolin 7,3'-disulphate, luteolin 3'-sulphate, tricetin 7,3'-disulphate, tricetin 3'-sulphate.

Williams *et al.*, *Phytochemistry*, **15**, 349 (1976)

LACHNANTHES (Hamamodoraceae)***L. tinctoria Ell.***

PIGMENTS: N-(1-carboxy-2-methylbutyryl)-lachnanthopyridone, lachnanthocarpone, lachnanthoside, lanthananthoflurone.

PYRAN: 3,4-dihydroxy-5-phenylnaphthalic aldehyde.

(P) Weiss, Edwards, *Tetrahedron Lett.*, 4325 (1969)

(Py) Bazan *et al.*, *Phytochemistry*, **15**, 1413 (1976)

LACTARIUS (Russulaceae)

L. blennius.

SESQUITERPENOIDS: blennins A, B, C and D.
de Bernardi *et al.*, *Phytochemistry*, **19**, 99 (1980)

L. camphoratus.

SESQUITERPENOIDS: 1,10-epoxyxaryophylen-12-ol, 12-hydroxycaryophyllene-4,5-epoxide.

Daniewski *et al.*, *Phytochemistry*, **20**, 2733 (1981)

L. deliciosus.

SESQUITERPENOIDS: 14-hydroxyguai-1,3,5,9,11-pentaene, lactarazulene, lactarofulvene, lactaroviolin, 14-stearylguai-1,3,5,9,11-pentaene.

Vokac *et al.*, *Collect. Czech. Chem. Commun.*, **35**, 1296 (1970)

Daniewski *et al.*, *Rocz. Chem.*, **50**, 2095 (1976)

L. germanicum.

TRITERPENOID: germanicol.

Russel *et al.*, *Phytochemistry*, **15**, 1933 (1976)

L. necator.

SESQUITERPENOIDS: anhydrolactarorufin A, 3-deoxylactarorufin A, lactaronecatorin. ALKALOID: necatorone.

(A) Fugmann *et al.*, *Tetrahedron Lett.*, 3575 (1984)

(T) Daniewski *et al.*, *Rocz. Chem.*, **51**, 1395 (1977)

L. pergameus.

SESQUITERPENOIDS: lactaral, velleral,
Magnusson *et al.*, *Tetrahedron*, **29**, 1621 (1973)

L. rufus.

SESQUITERPENOIDS: isolactarorufin, lactarorufins A, B, C, D and N.
Daniewski, Kocor, Bull. Acad. Pol. Sci., Ser. Sci. Chim., **18**, 585 (1970)

L. scrobiculatus.

Four sesquiterpenoids.

de Bernardi *et al.*, *Chem. Ind. (London)*, **58**, 177 (1976)

L. theiogalus.

ALIPHATIC: lactarinic acid.

Belova *et al.*, *Khim. Prir. Soedin.*, 507 (1986)

L. torminosus (Schaeff. ex Fries) S.F.Gray.

SESQUITERPENOIDS: hydroxyblennin A.
Seppa, *Phytochemistry*, **18**, 1226 (1979)

***L. uvidus* Fries.**

SESQUITERPENOIDS: uvidins A, B, C, D and E.
de Bernardi *et al.*, *J. Chem. Soc., Perkin I*, 2739 (1983)

***L. vellereus*.**

SESQUITERPENOIDS. lactaral, velleral.
Magnusson *et al.*, *Tetrahedron*, **29**, 1621 (1973)

***L. velutinus*.**

SESQUITERPENOIDS: stearylvelutinal.
Favre-Bonvin *et al.*, *Tetrahedron Lett.*, 1907 (1982)

LACTUCA (Compositae/Cichioideae)

***L. chinensis* Makino.**

ESTERS: stearylarachidate, stearyl palmitate, stearyl stearate.
TRITERPENOID: lupenyl acetate.
Chen *et al.*, *Chem. Abstr.*, 86 27679r

***L. lacianata*.**

SESQUITERPENOIDS: 11,13-dihydroglucozaluzanin C, dihydrosantamarin, glucozaluzanin C, 9-hydroxy-11,13-dihydrozaluzanin C, 9-hydroxyzaluzanin C, lactucopicriside, lactulide A, lactuside A, lactuside B.

Nishimura *et al.*, *Phytochemistry*, **25**, 2375 (1986)

***L. plumieri*.**

MONOTERPENOIDS:(R)-deca-4,6,8-triyn-1,3-diol, dec-1 -ene-4,6,8-triyn-3-one.
Bentley *et al.*, *J. Chem. Soc.*, 1096 (1969)

***L. saliva* L.**

CAROTENOID: lactucaxanthin.
Siefermanntharmis *et al.*, *Phytochemistry*, **20**, 85 (1981)

***L. serriola*.**

SESQUITERPENOID: 8-deoxylactucin.
St. Pyrek, *Roczn. Chem.*, **51**, 2165 (1977)

***L. virosa* L.**

SESQUITERPENOID: lactucin.

Barton, Narayan, *J. Chem. Soc.*, 963 (1958)

LACTUCARIUM

L. germanicum.

TRITERPENOID: germanicol.

Barton, Brooks, *J. Chem. Soc.*, 257 (1951)

LADYGINIA

L. bucharica.

SAPONINS: ladyginosides A, B, C, D, E and F.

Patkhullaeva *et al.*, *Khim. Prir. Soedin.*, 733 (1973)

LAETREA

L. thelypteris Bosy.

STEROID: pterosterone.

Takemoto *et al.*, *Chem. Pharm. Bull.*, **15**, 1816 (1967)

LAGASCEA

L. rigida.

CHROMENE: eupatoriochromene.

Bohlmann *et al.*, *Phytochemistry*, **17**, 566 (1978)

Bohlmann *et al.*, *ibid.*, **17**, 1677 (1978)

LAGENARIA (Cucurbitaceae)

L. leucantha.

GIBBERELLINS: gibberellin A-50, gibberellin A-52.

Fukui *et al.*, Agric. Biol. Chem., **42**, 1571 (1978)

L. siceraria.

TRITERPENOID: 22-deoxocucurbitacin D.

Enslin *et al.*, J. Chem. Soc., C, 964 (1967)

LAGERSTROEMIA (Lythraceae)

L. indica L.

QUINAZOLINE ALKALOIDS: dihydroverticillatine, lagerine.

Ferris *et al.*, J. Am. Chem. Soc., **93**, 2958 (1971)

L. lancasteri.

TRITERPENOIDS: lagerenol, lagerenoyl acetate.

Talapatra *et al.*, Phytochemistry, **22**, 2559 (1983)

L. subcostata.

QUINOLIZIDINE ALKALOIDS: lasubine I, lasubine II, subcosine I, subcosine II.

Fuji *et al.*, Chem. Pharm. Bull., **26**, 2515 (1978)

LAGGERA

L. aurita (Schultz).

SESQUITERPENOID: laggerol.

Zutshi, Bakadia, Indian J. Chem., **14B**, 64 (1976)

LAGOCHILUS (Labiatae)

L. hirsutissimum.

TERPENOID: lagochirzidin.

Nurmatova *et al.*, *Khim. Prir. Soedin.*, 788 (1979)

L. hirtus F. et M.

QUATERNARY ALKALOID: stachydrine.

Proskurnina, Utkin, *Med. Prom.*, 9, 30 (1960)

L. inebrians Bge.

QUATERNARY ALKALOID: stachydrine.

DITERPENOIDS: lagochilin, lagochilin 3-acetate.

(A) Pulatova *et al.*, *Khim. Prir. Soedin.*, 62 (1969)

(T) Islamov *et al.*, *ibid.*, 404 (1978)

L. platycalyx Schrenk.

QUATERNARY ALKALOID: stachydrine.

Proskurnina, Utkin, *Meditinskaya Promyshlennost SSSR* 9, 30 (1960)

L. pubescens Vved.

QUATERNARY ALKALOID: stachydrine.

DITERPENOIDS: 16-O-acetyl-3,18-isopropylidenelagochilin, 15-acetyllagochilin, 16-acetyllagochilin.

(A) Pulatova *et al.*, *Khim. Prir. Soedin.*, 62 (1969)

(T) Mavlankulova *et al.*, *ibid.*, 82 (1978)

L. setulosus Vved.

ALKALOIDS: lagochilline, stachydrine.

DITERPENOID: lagochilin.

(A) Pulatova *et al.*, *Khim. Prir. Soedin.*, 62 (1969)

(T) Mavlankulova *et al.*, *ibid.*, 82 (1978)

LALLEMANTIA (Labiatae)

L. peltata (L.) F. et M.

UNCHARACTERIZED ALKALOID: lallemandine

Platonova *et al.*, *Meditinskaya Promyshlennost SSSR* 2, 14 (1962)

LAMIASTRUM (Labiatae)

L. galeobdolon flavidum (L.) Ehrend et Polatschek.

IRIDOIDS: 8-O-acetylharpagide, 10-deoxymelittoside, harpagide.
 Bianco *et al.*, *Phytochemistry*, **25**, 1981 (1986)

LAMINARIA

L. ochroleuca.

PHENOLICS: diphlorellol pentaacetate, phloroglucinol triacetate, triphlorellol heptaacetate.

Glombitza *et al.*, *Phytochemistry*, **15**, 1082 (1976)

LAMIUM (Labiatae)

L. album L.

QUATERNARY ALKALOID: stachydine.

TERPENOID: lamalbid.

(A) Pulatova *et al.*, *Khim. Prir. Soedin.*, **62** (1969)

(T) Brieskorn, Ahlborn, *Tetrahedron Lett.*, **4037** (1973)

L. amplexicaule L.

IRIDOIDS: 5-deoxylamioside, 6-deoxylamioside, ipolamiide, ipolamiidioside, lamiol, lamioside.

Agostini *et al.*, *Gazz. Chim. Ital.*, **112**, 9 (1982)

LAMPROLOBIUM

L. fruticosum.

QUINOLIZIDINE ALKALOID: lamprolobine.

Hart *et al.*, *J. Chem. Soc., Chem. Common.*, 302 (1968)

LANSIUM (Meliaceae)

L. annamalayanum.

SESQUITERPENOIDS: α -chigadmarene, lansene, lansol.

Somasekar *et al.*, *J. Indian Chem. Soc.*, **29**, 604 (1952)

Somasekar *et al.*, *ibid.*, **29**, 620 (1952)

L. domesticum Jack. var. duku.

DINORTRITERPENOID: lansic acid.

TETRANORTriterpenoids: dukunolides A, B and C.

Nishizawa *et al.*, *J. Org. Chem.*, **50**, 5487 (1985)

LANTANA (Verbenaceae)

L. achyranthifolia.

FLAVONOIDS: chrysoplenetin, penduletin.

NAPHTHOQUINONE: diodantunezone.

Dominguez *et al.*, *Planta Med.*, **49**, 63 (1983)

L. camara L.

MONOTERPENOID: geraniol.

SESQUITERPENOIDS: caryophyllene, cedrene, farnesol, linalool, cis-nerolidol, trans-nerolidol.

TRITERPENOIDS: lantadene A, lantadene B, lantanilic acid, lantanolic acid, lantic acid, 22 β -[(S)-2-methylbutanoyloxy]-3-oxolean-12-en-28-oic acid.

Barua *et al.*, *Phytochemistry*, **15**, 987 (1976)

Johns *et al.*, *Aust. J. Chem.*, **36**, 1895 (1983)

L. camara var. ('Common Pink').

TRITERPENOID: lantabetulic acid.

Hart *et al.*, *Aust. J. Chem.*, **29**, 655 (1976)

L. camara var. ('Townsville Prickly Orange').

TRITERPENOID: icterogenin.

Barton, Mayo, *J. Chem. Soc.*, 887 (1954)

L. hybrida.

GLYCOSIDES: 1 -caffeylramnose, 1-(3-glucosyloxy-4-hydroxycinnamoyl)-glucoside.

Imperato *et al.*, *Phytochemistry*, **15**, 1786 (1976)

L. trilaeifolia.

TRITERPENOID: 24-hydroxy-3-oxours-12-en-28-oic acid.

Johns *et al.*, *Aust. J. Chem.*, **36**, 2537 (1983)

LANUROCERASUS

L. officinalis.

STEROIDS: cholesterol, β -sitosterol, stigmasterol.

Tushishvili *et al.*, Khim. Prir. Soedin., 709 (1977)

LAPPULA (Boraginaceae)

L. intermedia (Ldb.) M.Pop.

PYRROLIZIDINE ALKALOID: lasiocarpine.

Man'ko *et al.*, Khim, Farm., 26, 5, 166 (1968)

LARIX (Pinaceae)

L. darurild.

CATECHINS: (-)-epi-afzelechin, (+)-catechin, (-)-epi-catechin.

Polyakova, Altual'nye Voprosy Botanicheskogo Resursovedeniya u Sibiri 190 (1976); Chem. Abstr., 85 189201k

L. decidua Miller.

CATECHINS: (-)-epi-afzelechin, (+)-catechin, (-)-epi-catechin.

DITERPENOIDS: isolacuresinol, (-)-13-epi-manool.

(C) Polyakova, Altual'nye Voprosy Botanicheskogo Resursovedeniya u Sibiri 190 (1976); Chem. Abstr., 85 189201k

(T) Briggs *et al.*, Tetrahedron Lett., 14 (1959)

L. europaea.

DITERPENOIDS: 6-acetylilarixol, larixyl acetate.

Weinhaus *et al.*, Chem. Ber., 93, 2625 (1960)

L. gmelini.

DITERPENOIDS: larixol, larixyl acetate, epi-manool.

TRITERPENOIDS: asqualene, cycloartenone.

D'yachenko *et al.*, Khim. Prir. Soedin., 56 (1986)

L. leptolepis.

FLAVONOIDS: dihydroquercetin, kaempferol 3-(p-coumaroylglucoside, naringenin 7-glucoside.

Niemann, *Acta Botanica Neerlandica*, **25**, 349 (1976); *Chem. Abstr.*, 86 27673j

L. olgensis.

CATECHINS: (-)-epi-afzelechin, (+)-catechin, (-)-epi-catechin.

Polyakova, *Altual'nye Voprosy Botanicheskogo Resursovedeniya u Sibiri* 190 (1976); *Chem. Abstr.*, 85 189201k

L. sibirica.

CATECHINS: afzelechin, (-)-epi-afzelechin, (+)-catechin, (-)-epi-catechin.

DITERPENOID: larixol.

MONOTERPENOID: 3-carene, β -phellandrene, α -pinene, β -pinene.

(C) King *et al.*, *J. Chem. Soc.*, 2948 (1955)

(C) Polyakova, *Altual'nye Voprosy Botanicheskogo Resursovedeniya u Sibiri* 190 (1976); *Chem. Abstr.*, 85 189291k

(T) Weinhaus, *Angew. Chem.*, **59**, 148 (1947)

LARREA (Zygophyllaceae)

L. divaricata.

NORTRITERPENOID: larreagenin A.

Hebermehl, Moller, *Justus Liebigs Ann. Chem.*, 169 (1974)

L. tridentata.

FLAVONOIDS: 2,6-di-C-glucopyranosylapigenin, 6,8-di-C-glucopyranosylchrysoeriol, gossypetin 3,7-dimethyl ether, 5,8,4'-trihydroxy-3,7,3'-trimethoxyflavone.

DITERPENOID: 3'-demethoxyisoguaiacinc.

(F) Sakakibara *et al.*, *Phytochemistry*, **15**, 727 (1976)

(T) Fronczek *et al.*, *J. Nat. Prod.*, **50**, 497 (1987)

LASALLIA

L. papulosa.

ANTHRAQUINONE: 2-chloro-1,3,8-trihydroxy-6-methylanthraquinone.

Fox *et al.*, *Tetrahedron Lett.*, 919 (1969)

LASER (Umbelliferae)

L. trilobum.

DITERPENOIDS: isolaserolide, laserolide.

Holub *et al.*, *Collect. Czech. Chem. Commun.*, **38**, 731 (1973)

LASERPITIUM (Umbelliferae)

L. archangelica.

SESQUITERPENOID: archangelolide.

Holub, Samek, *Collect. Czech. Chem. Commun.*, **43**, 2444 (1978)

L. halleri Crantz subsp. *halleri*.

SESQUITERPENOIDS: hallerin, hallerol.

Appendino, Gariboldi, *J. Chem. Soc., Perkin 1*, 2017 (1983)

L. latifolium.

SESQUITERPENOID: laserpitin.

Feldman, *Justus Liebigs Ann. Chem.*, **135**, 276 (1965)

L. prutenicum.

SESQUITERPENOIDS: 4-acetoxy-isoprunetin-10-one, prutenin.

Bohlmann, Zdero, *Chem. Ber.*, **104**, 1611 (1971)

L. siler.

SESQUITERPENOIDS: isomontanolide, isomontanolide acetate, polhovolide, tarolide, tribolide.

Holub *et al.*, *Collect. Czech. Chem. Commun.*, **43**, 2471 (1978)

Nawrot *et al.*, *Biochemical Systematics and Ecology*, **11**, 243 (1983)

LASIANTHERA

L. austrocaledonica.

ALKALOID: tetrahydrocantleyine.

Sevenet *et al.*, *Phytochemistry*, **15**, 576 (1976)

L. fruticosa.

SESQUITERPENOID: lasiodiol acetate.

Wiemar, Ales, *J. Org. Chem.*, **46**, 5449 (1981)

L. podocephala.

SESQUITERPENOID: podocephalol.

Bohlmann, Lonitz, *Chem. Ber.*, **111**, 843 (1978)

LASIOCORYS

L. capensis.

DITERPENOID: lasiocoryin.

Gafner, Kruger, *J. Chem. Soc., Chem. Commun.*, 249 (1974)

LASIODISCUS (Rhamnaceae)

L. marmoratus.

PEPTIDE ALKALOIDS: lasiodine A, lasiodine B.

Manchand *et al.*, *Tetrahedron*, **25**, 937 (1969)

LASIOLAENA

L. morii.

SESQUITERPENOIDS: 8,9-dihydroxy-3,4-epoxy-2-oxolasiolaenin, 9-hydroxy-8-(2-acetoxymethyl-2-butenoyl)-2-oxolasiolaenin, 9-hydroxy-8-tigloyloxy-2-oxolasiolaenin.

DITERPENOIDS: 19-acetoxy-12,20-dihydroxy-14-methylenegeranylnerol, 12,19,20-trihydroxy-14-methylenegeranylherol.

Bohlmann *et al.*, *Phytochemistry*, **21**, 161 (1982)

L. santosii.

SESQUITERPENOID: lasiolaenolide-9-al.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1613 (1981)

LASIOSPERMUM

L. radiatum.

SESQUITERPENOIDS: dehydrolasiosperman, cis-dihydrophymaspermone, trans-dihydrophymaspermone, lasiosperman.

Boronowski, *Tetrahedron*, **277**, 4101 (1971)

Rao *et al.*, *Tetrahedron Lett.*, 1039 (1972)

LASTREA

L. tenericaulis.

AMINOACIDS: arginine, aspartic acid, cysteine, glycine, histidine, hydroxyproline, isoleucine, leucine, lysine, methionine, proline, serine.

Patil *et al.*, *J. Polynol.*, **12**, 149 (1976); *Chem. Abstr.*, 88 148993p

LATHAEA

L. thelypteris.

STEROID: pterosterone.

Takemoto *et al.*, *Chem. Pharm. Bull.*, **15**, 1816 (1971)

LATHYRUS (Leguminosae)

L. japonicus.

ACID: cis-5-hydroxy-L-pipecolic acid.

Hatanaka *et al.*, *Photochemistry*, **16**, 1041 (1977)

L. odoratus L.

ISOXAZOLINE ALKALOID: 2-(2-cyanoethyl)-3-isoxazolin-5-one.

Van Rompuy *et al.*, *Biochem. Biophys. Res. Commun.*, **56**, 199 (1974)

L. tingitanus L.

ALKALOID: lathyrine.

Bell, *Biochem. Biophys. Acta*, **47**, 602 (1961)

LAUNAEA

L. nudicaulis.

STEROIDS: β -sitosterol, β -sitosterol acetate.

TRITERPENOID: taraxerol.

Majumder, Laha, *J. Indian Chem. Soc.*, **59**, 881 (1982)

LAUREALIA (Atherospermataceae)

L. novae-zelandiae.

APORPHINE ALKALOIDS: laureline, laurepukine.

Aston, *J. Chem. Soc.*, **97**, 1381 (1910)

Aston, *ibid.*, **97**, 1386 (1910)

L. philippiana.

APORPHINE ALKALOIDS: 4-hydroxyanonaine, 4-hydroxynantenine.

Urzua, Cassels, *Phytochemistry*, **21**, 773 (1978)

L. sempervirens.

One aporphine alkaloid.

Bianchi *et al.*, *Gazz. Chim. Ital.*, **92**, 818 (1962)

LAURENCIA (Rhodophyceae)

L. alata.

ACETYLENE: alatenyne.

Hall *et al.*, *Aust. J. Chem.*, **39**, 1401 (1986)

L. bronniantii.

Four brominated indole alkaloids.

Carter *et al.*, *Tetrahedron Lett.*, 4479 (1978)

L. caespitosa.

HALOGENATED SESQUITERPENOIDS: caespitol, furocaespitonate.

Gonzalez *et al.*, *Tetrahedron Lett.*, 2391 (1973)

Gonzalez *et al.*, *ibid.*, 3625 (1973)

L. caribaea.

HALOGENATED SESQUITERPENOID: carabaical.

Izac *et al.*, *Tetrahedron Lett.*, 1799 (1981)

L. chilensis.

KETAL: tetracyclinpolyketal.

MONOTERPENOID: chilenone A.

(K) Bittner *et al.*, *Tetrahedron Lett.*, 4031 (1987)

(T) San Martin *et al.*, *ibid.*, 4063 (1983)

L. concinna.

HALOGENATED DITERPENOID: concinndiol.

Sims *et al.*, *J. Chem. Soc., Chem. Commun.*, 470 (1973)

L. elata.

HALOGENATED SESQUITERPENOID: elatol.

Sims *et al.*, *Tetrahedron Lett.*, 3487 (1974)

L. filiformis.

SESQUITERPENOIDS: isolaurene, laurene.

HALOGENATED SESQUITERPENOIDS: allolaurinterol, australadiol acetate, australadiol 4,6-diacetate, 4-bromo- α -chamigren-8-one, 4-bromo- β -chamigren-8-one, dihydrolaurene, filiformin, filiforminol, heterocladol, 6-hydroxyaplysinstatin, laurencin, spirolaurenone.

Polonsky *et al.*, *J. Am. Chem. Soc.*, **100**, 2575 (1978)

Brennan *et al.*, *J. Org. Chem.*, **47**, 3917 (1982)

L. glandulifera Keutzing.

SESQUITERPENOIDS: isolaurene, laurene.

HALOGENATED SESQUITERPENOIDS: 4-bromo- α -chamigren-8-one, 4-bromo- β -chamigren-8-one, 4-bromo-8,9-epoxy- α -chamigrene, laurencin, spirolaurenone.

Suzuki *et al.*, *Tetrahedron Lett.*, 821 (1974)

L. hybrida.

DITERPENOID: hybridalactone.

Higgs *et al.*, *Tetrahedron*, **37**, 4259 (1981)

L. imbricata.

HALOGENATED SESQUITERPENOIDS: 5-acetoxy-2S,10R-dibromo-3-S-chloro-7S-chamigranol, acetoxyintricatol, bermudenol, bermudenol acetate.

McMillan *et al.*, *Tetrahedron Lett.*, 2039 (1974)

Cordellina *et al.*, *Can. J. Chem.*, **60**, 2675 (1982)

L. intermedia.

SESQUITERPENOID: debromolaurinterol.

HALOGENATED SESQUITERPENOIDS: isolaurinterol, laurinterol.

Irie *et al.*, *Tetrahedron Lett.*, 1837 (1966)

L. irieii.

HALOGENATED DITERPENOIDS: irieol, irieols A, B, C, D, E, F and G, noeirieone.

Howard *et al.*, *Tetrahedron Lett.*, 3847 (1982)

L. johnstonii.

HALOGENATED SESQUITERPENOIDS: johnstonol, prepacifenol epoxide.

Sims *et al.*, *Tetrahedron Lett.*, 195 (1972)

L. nana.

HALOGENATED SESQUITERPENOIDS: 10-bromo-7,12-dihydroxy-2,3-laurene, 10-bromo-7-hydroxy-11 -iodolaurene.

Izac, Sims, *J. Am. Chem. Soc.*, **101**, 6136 (1979)

L. nidifica.

SESQUITERPENOID: laurequinone.

HALOGENATED SESQUITERPENOIDS: isomaneonene A, isomaneonene B, maneonene, menaonines A, B, C and D, nidificene, nidifidiene, nidifidienol.

Shizuri *et al.*, *Phytochemistry*, **23**, 2672 (1984)

L. nipponica Yamada.

HALOGENATED SESQUITERPENOIDS: bromoacetal A, bromoacetal B, 10-bromo-7,8-epoxy-2,9-chamigradiene-5,15-diolol, laurallene, laureatin, isolaureatin, laurefucin, laurefucin acetate, isodihydrolaurenol, isodihydrolaurenol acetate, isoprelaurefucin, (-)-obtusone, spironippol.

Suzuki *et al.*, *Bull. Chem. Soc., Japan*, **55**, 1561 (1982)

Furasaki *et al.*, *ibid.*, **56**, 2501 (1983)

Kurata *et al.*, *Chem. Lett.*, 561 (1983)

L. obtusa (Hudson) Lemaroux.

KETAL: neoobtusin.

HALOGENATED DITERPENOIDS: laurencianol, obtusadiol.

SESQUITERPENOIDS: brasilenol, epi-brasilenol, brasilenyl acetate.

HALOGENATED SESQUITERPENOIDS: 2-bromo-4-(4-bromo-3,3-dimethylcyclohexyl)-1-methyl-7-oxobicyclo-[2,2,1]-heptane, bromo-8-epi-caparrapi oxide, isoobtusol, laurencianyne, obtusallene, obtusane, obtusenol, obtusenyne, obtusin, obtusol, α -snyderol, β -snyderol.

(K) Caccamese, Toscano, *Gazz. Chim. Ital.*, **116**, 177 (1986)

(T) Imre *et al.*, *Phytochemistry*, **20**, 833 (1981)

(T) Gonzalez *et al.*, *Tetrahedron Lett.*, 4143 (1983)

L. okamuraii.

HALOGENATED SESQUITERPENOIDS: deoxyokamurallene, isoaplysin, johnstonol, okamurallene.

Suzuki *et al.*, *Chem. Lett.*, 289 (1982)

L. oppositoclada.

HALOGENATED SESQUITERPENOID: rhodophytin.

Fenical *et al.*, *J. Am. Chem. Soc.*, **96**, 5580 (1974)

L. pacifica.

HALOGENATED SESQUITERPENOIDS: kylinone, prepacifenol.

Selover, Crews, *J. Org. Chem.*, **45**, 69 (1980)

L. cf. palisada Yamada.

HALOGENATED SESQUITERPENOIDS: 5-acetoxyalisadin B, 12-hydroxypalisadin B, palisadin A, palisadin B, palisol.

Paul, Fenical, *Tetrahedron Lett.*, 2787 (1980)

L. perforata.

HALOGENATED SESQUITERPENOIDS: perforatone, perforenol, perforenone A, perforenone B.

Gonzalez *et al.*, *Tetrahedron Lett.*, 2499 (1975)

L. pinnata Yamada.

STEROID: pinnasterol.

HALOGENATED DITERPENOID: pinnaterpene A.

HALOGENATED SESQUITERPENOIDS: isopaurepinnacin, laurepinnacin, (3E)-pinnatifidenyne, (3Z)-pinnatifidenyne.

(S) Fukuzawa *et al.*, *Tetrahedron Lett.*, 4085 (1981)

(T) Gonzalez *et al.*, *Tetrahedron*, **38**, 1009 (1982)

L. poetei.

SESQUITERPENOIDS: dactyol, poetadiene, poeteol.

Fenical *et al.*, *J. Org. Chem.*, **43**, 3629 (1978)

Wright *et al.*, *Tetrahedron Lett.*, 4649 (1983)

L. snyderiae.

HALOGENATED DITERPENOID: neoconcinndiol hydroperoxide.

Howard *et al.*, *J. Am. Chem. Soc.*, **99**, 6444 (1976)

L. snyderiae var. guadalupensis.

SESQUITERPENOIDS: guadalupol, epi-guadalupol, isoconcinndiol.

Howard, Fenical, *Phytochemistry*, **19**, 2774 (1980)

L. subopposita.

SESQUITERPENOIDS: 7-hydroxylaurene, laurene, oplopanone.

HALOGENATED SESQUITERPENOIDS: acetylalaurefucin, allolaurinterol, 10-bromo-7-laurene, isoprelalaurefucin, laurefucin, oppositol. Kazlauskas et al., Aust. J. Chem., 29, 2533 (1976)

Wratten, Faulkner, *J. Org. Chem.*, **42**, 3343 (1977)

L. venusta Yamada.

HALOGENATED SESQUITERPENOIDS: venustin A, venustin B.

TRITERPENOID: venustatriol.

Sakemi et al., *Tetrahedron Lett.*, 4287 (1986)

LAURUS (Lauraceae)

L. nobilis L.

MONOTERPENOID: dehydro-1,8-cineole.

SESQUITERPENOID: laurenobiolide.

Takeda et al., *Chem. Pharm. Bull.*, **24**, 667 (1976)

LAVANDULA (Labiatae)

L. canariensis.

STEROID: sitosterol-3- β -D-glucoside.

TRITERPENOIDS: α -amyrin, β -amyrin, 2,3-dihydroxyursolic acid, oleanolic acid, 2,3,19,23-tetrahydroursolic acid, ursolic acid.

Breton et al., *J. Nat. Prod.*, **49**, 941 (1986)

L. gibsonii.

MONOTERPENOIDS: 3-hydroxy- α ,4-dimethylstyrene, 3-hydroxy- α,α ,4-trimethylbenzyl alcohol, 3-hydroxy- α,α ,4-trimethylbenzyl methyl ether.

TRITERPENOID: ursolic acid.

Patwardhan, Gupta, *Phytochemistry*, **22**, 2080 (1983)

L. stoechas L.

MONOTERPENOID: (+)-fenchone.

TRITERPENOID: lavanol.

Manzoor-i-Khuda et al., *Pakistan J. Sci., Ind. Res.*, **10**, 164 (1967)

LAWSONIA

L. alba, (L. inermis).

NORTRITERPENOID:30-norlupan-3 β -ol-20-one.

Thompson, Brown, *Phytochemistry*, **7**, 845 (1968)

L. inermis.

XANTHONES: laxanthone I, laxanthone II.

Bhardioaj *et al.*, *Phytochemistry*, **16**, 1616 (1977)

LECANORA (Lecanoraceae)

***L. gangleoidess* Nyl.**

BISANTHRAQUINONE: skyrin.

DEPSIDES: atramorin, chloroatramorin.

DEPSIDONES: gangleoidin, leonidin.

Devlin *et al.*, *J. Chem. Soc., Perkin I*, 1491 (1986)

L. reuteri.

XANTHONE: norlichexanthone.

Broadbent *et al.*, *Phytochemistry*, **14**, 2082 (1975)

L. rubina.

ACID: placcodiolic acid.

Huneck, *Tetrahedron*, **28**, 4011 (1972)

LECCENORA

L. sulphurella.

DEPSIDE: 3,5-dichloro-2'-O-methylanziaiac acid.

Huneck *et al.*, *Phytochemistry*, **16**, 995 (1977)

LECCINUM

L. scabrum.

PIGMENTS: gyrosporin, xerocomorubin.

Besl *et al.*, *Chem. Abstr.*, 88 117773n

LECIDEA (Lecideaceae)

L. confluens.

ACID: confluentic acid.

Huneck, *Chem. Ber.*, **95**, 328 (1962)

L. fuscoatra.

ESTER: confluentic acid methyl ester.

Huneck, *Phytochemistry*, **13**, 221 (1974)

LEDEBOURIELLA

L. seseloides.

BENZOPYRANS: 3'-angeloylhamaudol, 3'-angeloylhamaudol 3'-O- β -D-glucoside, hamaudol, hamaudol 3'-acetate, ledebouriellol.

Sasaki *et al.*, *Chem. Pharm. Bull.*, **30**, 3555 (1980)

LEDUM (Ericaceae)

L. columbianum.

SESQUITERPENOID: ledol.

Buchi *et al.*, *Tetrahedron Lett.*, 14 (1959)

L. groenlandicum.

SESQUITERPENOID: ledol.

Graham *et al.*, *Aust. J. Chem.*, **13**, 372 (1960)

L. palustre L.

FLAVONE: 5-hydroxy-7,4'-dimethoxy-6-methylglavone.

MONOTERPENOID: lepalene, myrcene.

SESQUITERPENOID: alloaromadendrene, ledol, palustrol.

Nikhaelova *et al.*, *Khim. Prir. Soedin.*, 322 (1979)

LEGNEPHORA

L. moorea.

APORPHINE ALKALOID: isocorydine.

Kikkawa, *J. Pharm. Soc., Japan*, **78**, 1006 (1958)

LEMAIREOCEREUS (Cactaceae)

L. beneckei.

TRITERPENOID: queretaroic acid.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **78**, 3785 (1956)

L. chichipis.

TRITERPENOIDS: chichipigenin, olean-12-ene-3 β -16,22-triol.

Khong, Lewis, *Aust. J. Chem.*, **28**, 165 (1975)

L. dumorteri.

TRITERPENOID: dumorterigenin.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **76**, 2969 (1954)

L. longispinus.

TRITERPENOIDS: erythrodiol, longispinogenin.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **75**, 5940 (1953)

L. queretaroensis.

TRITERPENOID: queretaroic acid.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **78**, 3785 (1956)

L. stellatus.

TRITERPENOID: stellatogenin.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **75**, 2254 (1953)

L. thurberi.

STEROIDS: thurberin, thurberogenin.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **75**, 2254 (1953)

LEMMAPHYLLUM

L. microphyllum.

TRITERPENOIDS: 8(26),14(27)-onaceradienol, polypodatetraene, α -polypodatetraene.

Shiojima *et al.*, *Tetrahedron Lett.*, 3733 (1983)

L. microphyllum var. microphyllum.

TRITERPENOIDS: α -onaceradiene, serratene.

Ageta *et al.*, *Chem. Pharm. Bull.*, **30**, 2272 (1982)

L. microphyllum var. obovatum.

TRITERPENOIDS: 12,21-baccadiene, 20,24-dammaradiene, onoceranoxide.

Masuda *et al.*, *Chem. Pharm. Bull.*, **31**, 2530 (1983)

LEMNA (Lemnaceae)

L. perpusilla.

GIBBERELLIN: allogibberic acid.

Pryce, *Phytochemistry*, **12**, 1745 (1973)

LENS

L. esculenta.

FLAVONOIDS: kaempferol 7-O- β -D-glucoside-O- α -L-rhamnosyl-3-O- α -L-rhamnoside, kaempferol 3-O- α -L-rhamnoside- β -D-glucosyl-7-O- α -L-rhamnoside, kaempferol 3-rutinosyl-7-O- β -D-glucoside, kaempferol 3-rutinosyl-7-O- α -L-rhamnoside.

PHENOLICS: p-coumaric acid, ferulic acid.

El-Negoumy *et al.*, *Rev. Latinoam. Quim.*, **18**, 88 (1987)

LENTINUS

L. dactyloides.

HOMOTRITERPENOID: eburicoic acid.

Holker *et al.*, *J. Chem. Soc.*, 2422 (1953)

L. edodes Sing. (Cortinellus shiitake P. Henn.).

ALIPHATICS: octanol, 1-octen-3-ol, cis-2-octen-1-ol.

PURINE ALKALOIDS: deoxyeritadenine, eritadenine.

CYCLIC THIO DERIVATIVE: 1,2,4,6-tetrathiepane, 1,2,4-trithiolane.

(A) Kamiya *et al.*, *Tetrahedron*, **28**, 899 (1972)

(C) Morita *et al.*, *Chem. Pharm. Bull.*, **15**, 998 (1967)

LENZITES (Basidiomycetae)

L. trabea.

TRITERPENOID: 15-hydroxytrametenolic acid.

Lawrie *et al.*, *J. Chem. Soc., C*, 1776 (1976)

LEONOTIS (Labiatae)

L. dysophylla.

DITERPENOIDS: 8 β -hydroxymarrubin, leonotin.

Kaplan *et al.*, *J. Chem. Soc., C*, 1656 (1970)

L. leonitis.

DITERPENOID: leonitin.

Eagle *et al.*, *J. Chem. Soc., Perkin 1*, 994 (1978)

L. leonurus (L.) R.Br.

DITERPENOID: marubiin.

Castine *et al.*, *Chem. Ind.*, 1832 (1961)

L. nepetaefolia (L.) Ait. f.

ALLENE: labellenic acid.

COUMARIN: 4,6,7-trimethoxy-5-methylcoumarin.

DITERPENOIDS: leonotin, leonotinin, methoxynepetaefolin, nepetaefolin, nepetaefolinol, nepetaefuran, newpetaefurinol.

(Al) Bagbey *et al.*, *Chem. Ind.*, 1861 (1964)

(C) Purushothaman *et al.*, *J. Chem. Soc., Perkin I*, 2594 (1976)

(T) Kaplan *et al.*, *J. Chem. Soc., C*, 1656 (1970)

(T) Manchand, *Tetrahedron Lett.*, 1907 (1973)

LEONTICE (Berberidaceae)

L. albertii Rgl.

ALKALOID: thaspine.

MATRINE ALKALOIDS: albertamine, albertidine, albertine, leontalbamine, leontalbline, leontalbinine, leontidine, leontine, matrine, (+)-sophoramine.

PIPERIDINE ALKALOID: anabasine.

Iskandarov *et al.*, *Khim. Prir. Soedin.*, 628 (1972)

Sadykov *et al.*, *ibid.*, 6 (1973)

L. darvasica Rgl.

ALKALOID: thaspine.

MATRINE ALKALOIDS: darvasine, darvasoline, leontine.

QUINOLIZIDINE ALKALOIDS: (-)-lupanine, N-methylcytisine.

Iskandarov *et al.*, *Khim. Prir. Soedin.*, 132 (1969)

Yunusov *et al.*, *ibid.*, 1 (1974)

L. ewersmannii Bge.

ALKALOID: thaspine.

BENZYLISOQUINOLINE ALKALOID: petaline.

MATRINE ALKALOID: leontine.

QUINOLIZIDINE ALKALOID: (+)-lupanine.

SPARTEINE ALKALOIDS: leontamine, leontidine, pachycarpine.

SAPONINS: leontosides A, B, C, D and E.

(A) Platonova *et al.*, *J. Gen. Chem., USSR*, **23**, 880 (1953)

(A) Ryblkko, Proskurnina, *ibid.*, **31**, 308 (1961)

(Sap) Mzhel'skaya *et al.*, *Khim. Prir. Soedin.*, 421 (1966)

L. leontopetalum L.

BENZYLISOQUINOLINE ALKALOID: petaline.

QUINOLIZIDINE ALKALOIDS: leontoformidine, leontoformine.

Panov *et al.*, *C.R. Acad. Bulg. Sci.*, **25**, 55 (1972)

L. smirnovii Trautv.

ALKALOID: thaspine.

MATRINE ALKALOIDS: isoleontalbine, leontisimine, sophocarpine.
 QUINOLIZIDINE ALKALOIDS: 2-argemonine, leontamine, leontidine, (-)-lupanine, N-methylcytisine.
 Tkashalashvili *et al.*, *Khim. Prir. Soedin.*, 807 (1975)

LEONURUS (Labiatae)

L. cardiaca L.

IRIDOID: ajugol, ajugoside, gluridoside, leonuride.

DITERPENOID: leocardin.

(I) Guiso *et al.*, *Gazz. Chim. Ital.*, **104**, 25 (1974)

(I) Buzogamy *et al.*, *Clujul Medical*, **56**, 385 (1983); *Chem. Abstr.*, 100 65051v

(T) Malakov *et al.*, *Phytochemistry*, **24**, 2341 (1985)

L. marrubiastrum.

DITERPENOID: aldehydomarrubialactone, demethylmarrubiaketone, marrubialactone, marrubiaside, marrubiastrol.

Tschesche *et al.*, *Chem. Ber.*, **111**, 2130 (1978)

L. quinquelobatus Gilib.

QUATERNARY ALKALOIDS: choline, stachydriine.

IRIDOID: ajugol, ajugoside, gluridoside.

(A) Kazlova, *Farmatsiya*, **6**, 23 (1967)

(I) Buzogamy *et al.*, *Clujul Medical*, **56**, 385 (1983); *Chem. Abstr.*, 100 65051v

L. sibirica L.

GUANIDINE ALKALOID: leonurine.

DITERPENOID: isoleosibirin, leosibiricin, leosibirin.

(A) Goto *et al.*, *Tetrahedron Lett.*, 545 (1962)

(T) Savona *et al.*, *Phytochemistry*, **21**, 2699 (1982)

L. turkestanicus V.Kreez et Kupr.

QUATERNARY ALKALOID: stachydriine.

Pulatova, *Khim. Prir. Soedin.*, 62 (1969)

LEPIDOCORYPHANTHA

L. runyonii.

AMINE ALKALOID: N-methyl-4-methoxyphenethylamine.

Agurell, *Experientia*, **25**, 1132 (1969)

LEPIDOPHORUM

L. grisleyi.

SESQUITERPENOID: lepidophorone.

Bohlmann, Zdero, *Chem. Ber.*, **106**, 379 (1973)

LEPIDOSPARTIUM

L. squamatum.

SESQUITERPENOID: 1,10-epoxydecompositin.

Bohlmann *et al.*, *Chem. Ber.*, **105**, 3523 (1972)

LEPIDOTRICHILIA

L. volensii.

SESQUITERPENOID: volenol.

Hoffman *et al.*, *J. Org. Chem.*, **43**, 1254 (1978)

LEPIDOZIA (Hepaticae)

L. reptans.

SESQUITERPENOID: eudesm-3-ene-6 β ,7 α -diol.

Connolly *et al.*, *Phytochemistry*, **25**, 1745 (1986)

L. vitrea.

SESQUITERPENOIDS: (-)-isobicyclogermacrenal, lepidozienal.

Nakayama *et al.*, *Chem. Lett.*, 1097 (1981)

LEPISTA

L. glaucocana.

ESTER: 2,8-decadiene-4,6-diynedioic acid dimethyl ester.

Hearn *et al.*, *J. Chem. Soc., Perkin I*, 2335 (1974)

LEPRA (Lichenes)

L. candelairis.

PIGMENT: calycin.

Letcher *et al.*, *Tetrahedron Lett.*, 3541 (1967)

LEPRARIA (Fungi Imperfecti)

L. flava.

DITERPENOID: pinastric acid.

Asano *et al.*, *Ber.*, **68**, 1565 (1935)

L. latebrarum.

TRITERPENOID: zeorin.

Huneck, *Chem. Ber.*, **94**, 714 (1961)

LEPTACTINIA

L. densiflora.

ISOQUINOLINE ALKALOID: tetrahydroharman.

UNCHARACTERIZED ALKALOID: leptaflorine.

Paris, Blond, *C.R. Acad. Sci.*, **241**, 241 (1955)

LEPTADENIA

***L. pyrotechnica* F.**

AMINOACIDS: (-)-alanine, (-)-arginine, (-)-isoleucine, (-)-lysine, (-)-methionine, (-)-threonine.

Dipeptides: (\pm)-alanyl(-)-alanine, glycyl(-)-alanine.

Dhawan *et al.*, *Curr. Sci.*, **45**, 198 (1976)

LEPTINOTARSA

***L. decenlineata* Say.**

STEROIDAL ALKALOID: leptinidine.

Kuhn, Low, *Angew. Chem.*, **69**, 236 (1957)

LEPTOLAENA (Chlaenaceae)

L. diospyroidea cavaco var. tampoketsensis.

ACIDS: caffeic acid, p-coumaric acid, gallic acid, gentisic acid, vanillic acid.

FLAVONOIDS: kaempferol-3-rhamnoside, myricetol-3-rhamnoside, myricitrin, quercetin-3-rhamnoside.

Paris *et al.*, *Plant Med. Phytother.*, **9**, 230 (1975)

L. pauciflora.

ACIDS: caffeic acid, p-coumaric acid, gallic acid, gentisic acid, vanillic acid.

FLAVONOIDS: kaempferol-3-rhamnoside, myricetol-3-rhamnoside, myricitrin, quercetin-3-rhamnoside.

Paris *et al.*, *Plant Med. Phytother.*, **9**, 230 (1975)

LEPTORHABDOS (Scrophulariaceae)

***L. parviflora* Benth.**

MATRINE ALKALOIDS: isosophoramine, sophocarpine, (-)-sophoridine.

PYRIDINE ALKALOID: leptorhabine.

UNCHARACTERIZED ALKALOID: aloperine.

Bocharknikova, Massagetov, *J. Gen. Chem., USSR*, **34**, 1025 (1964)

Kadyrov *et al.*, *Khim. Prir. Soedin.*, 683 (1974)

LEPTOSPERMUM (Myrtaceae)

***L. flavescens* Sm.**

CYCLOHEXENE: grandiflorone.

NORSESQUITERPENOID: flavescone.

(C) Hellyer *et al.*, *J. Chem. Soc., C*, 1496 (1966)

(T) Bick *et al.*, *J. Chem. Soc.*, 3690 (1965)

***L. flavescens* var. *grandiflora*.**

CYCLOHEXENE: grandiflorone.

Hellyer, Pinhey, *J. Chem. Soc., C*, 1496 (1966)

***L. lanigerum*.**

CYCLOHEXENE: grandiflorone.

Hellyer, Pinhey, *J. Chem. Soc., C*, 1496 (1966)

***L. lehmannii*.**

BENZOPHENONE: 2,4,6-trihydroxy-2-methylbenzophenone.

McGookin *et al.*, *J. Chem. Soc.*, 2021 (1951)

***L. liversidgei*.**

MONOTERPENOID: (+)-isopulegol.

Pickard *et al.*, *J. Chem. Soc.*, 117, 1252 (1920)

LEPTOSTIGMA (Rubiaceae)

***L. arnothianum*.**

FLAVONOIDS: isorhamnetin 3-O-rutinoside, isorhamnetin 3-O-xylosylrutinoside, quercetin 3-O-rutinoside.

Nunes-Alarcon *et al.*, *Rev. Latinoam. Quim.*, **18**, 9 (1987)

LESPEDEZA (Leguminosae)

***L. bicolor* var. *japonica*.**

INDOLE ALKALOID: lespedamine.

Morimoto, Oshio, *Justus Liebigs Ann. Chem.*, **682**, 212 (1965)

L. capitata.

FLAVONOIDs: corlinoside, isocorlinoside, isoshaftoside, neocorlinoside, neoshaftoside, shaftoside.

Linard *et al.*, *Phytochemistry*, **21**, 797 (1982)

L. hedysaroides.

FLAVONOIDs: bioquercetin, homoorientin, kaempferol 3-O-robinoside, orientin, saponaretin, vitexin.

Lachman *et al.*, *Khim. Prir. Soedin.*, 136 (1978)

L. sericea.

TRITERPENOID: $3\beta,22\beta,24$ -trihydroxyolean-12-ene.

Steffens *et al.*, *J. Am. Chem. Soc.*, **105**, 1669 (1983)

LESQUERELLA (Cruciferae)

L. densipila.

ACIDS: densipolic acid, ricinoleic acid.

Smith *et al.*, *J. Org. Chem.*, **27**, 3112 (1962)

L. lasiocarpa.

ACID: lesquerolic acid.

Smith *et al.*, *J. Org. Chem.*, **27**, 3112 (1962)

LETHARIA (Lichenes)

L. vulpina (L.) Hue.

ACID: usnic acid.

Dean *et al.*, *J. Chem. Soc.*, 1250 (1953)

LEUCAENA (Leguminosae)

L. glauca (L.) Benth.

PYRIDONE ALKALOID: leucaenine.

FLAVONOIDS: kaempferol 3-arabinoside, kaempferol xyloside, quercetin 3-arabinoside, quercetin galactoside, quercetin rhamnoside.

Mascre, *C.R. Acad. Sci.*, **204**, 890 (1937)

Morita *et al.*, *Chem. Abstr.*, 88 148947b

LEUCANTHEMELLA

L. serotina.

SESQUITERPENOID: 8-hydroxybalchanin.

Holub *et al.*, *Collect. Czech. Chem. Commun.*, **47**, 2927 (1982)

LEUCANTHEMOPSIS

L. pallida subsp. *flaveola*.

PHENOLICS: 4-hydroxy-5-propionyl-1,3-di-O-methylpyrogallol, 4-hydroxy-4-propionyl-2-O-isopentenylpyrogallol, 5-(1'-isovalerianoyloxy)-ethyl-13-di-O-methyl-2-O-isopentenylpyrogallol.

Bellido *et al.*, *Phytochemistry*, **24**, 2758 (1985)

L. pulverulenta.

SESQUITERPENOID: hispanolide.

de Pascual Teresa *et al.*, *Phytochemistry*, **22**, 1985 (1983)

LEUCANTHEMUM

L. vulgare.

FLAVONOID: apigenin 7-O- β -D-glucuronide.

Sagareishvili *et al.*, *Khim. Prir. Soedin.*, 647 (1983)

LEUCOCARPUS

L. perfoliatus.

IRIDOID: boschnaloside.

Ozaki *et al.*, *Helv. Chim. Acta*, **62**, 1708 (1979)

LEUCOCENDRON

L. adscendens.

SESQUITERPENOID: leucodrin.

Rapson *et al.*, *J. Chem. Soc.*, 282 (1938)

L. concinnum.

SESQUITERPENOID: leucodrin.

Rapson, *J. Chem. Soc.*, 1085 (1939)

L. stokei.

SESQUITERPENOID: leucodrin.

Rapson, *J. Chem. Soc.*, 1085 (1939)

LEUCOJUM (Amaryllidaceae)

L. aestivum L.

DIPHENYL ALKALOIDS: galanthamine, leucotamine, O-methyleucotamine.

ERYTHRINA ALKALOIDS: isotazettine, tazettine.

ISOQUINOLINE ALKALOID: lycorine.

UNCHARACTERIZED ALKALOID: aestivine.

Kobayashi *et al.*, *Heterocycles*, **19**, 1219 (1982)

L. vernum L.

DIPHENYL ALKALOID: galanthamine.

INDOLE ALKALOID: narcipoetine.

Boit, Stender, *Ber.*, **87**, 681 (1954)

Proskurnina, Yakovleva, *J. Gen. Chem., USSR*, **25**, 1035 (1955)

LEUCOPAXILLUS

L. tricolor.

PIGMENTS: asperflavin, endocrocin, phlegmacin.

Besl *et al.*, *Chem. Abstr.*, 88 117773n

LEUCOSCEPTRUM

L. japonicum (Miq.) Kitamura et Murata.

GLYCOSIDES: acteoside, leucosceptoside A, leucoseptoside B, martynoside.

Miyase *et al.*, *Chem. Pharm. Bull.*, 30, 2732 (1982)

LEUCOSPERMUM (Proteaceae)

L. conocephalum.

SESQUITERPENOIDS: conocephalic acid, conocephalin.

Kruger, Perold, *J. Chem. Soc., C*, 2127 (1970)

L. reflexum Buek. ex Meisner.

SESQUITERPENOIDS: conocephalic acid, conocephalin, reflexin.

Perold *et al.*, *J. Chem. Soc., Perkin 1*, 2450, 2457 (1972)

LEUCOTHOE (Ericaceae)

L. grayana Max.

STEROID: β -sitosterol.

DITERPENOIDS: leucothols A, B, C and D, 3S,6R,14,16R-tetrahydroxy-5-oxo-5,10-seco-ent-kaur-10-ene.

TRITERPENOIDS: α -amyrin, betulinic acid, lupeol, oleanolic acid, taraxerol, ursolic acid.

TOXINS: grayanotoxins I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XII, XIII, XIV, XV, XVI, XVII, XVIII, XIX.

(S) Kawai *et al.*, *Chem. Abstr.*, 88 34499b

(T) Furusaki *et al.*, *Bull. Chem. Soc., Japan*, **54**, 657 (1981)
 (T) Katai *et al.*, *Chem. Lett.*, 443 (1985)

L. keiskei.

FLAVONE: poriolide.

Ogiso *et al.*, *Tetrahedron Lett.*, 3071 (1972)

LEVISTICUM (Umbelliferae)

L. officinale.

COUMARINS: bergapten, coumarin, umbelliferone.

Albulescu *et al.*, *Farmacia*, **23**, 159 (1975); *Chem. Abstr.*, 84 147632a

LIABUM

L. eggersii.

SEQUITERPENOIDS: 19-acetoxymodheptene, liabinolide.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1800 (1984)

L. floribundum.

SEQUITERPENOIDS: 5,6:7,8-bisepoxyeudesmene, liabinolide.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1800 (1984)

LIATRIS (Compositae)

L. chapmanii.

DITERPENOIDS: chapliatrin, isochapliatrin, liatrin.

Herz *et al.*, *Phytochemistry*, **14**, 1803 (1975)

L. cylindracea.

SEQUITERPENOIDS: hydroxyliacylindrolide, liacylindrolide.

Bohlmann, Dutta, *Phytochemistry*, **18**, 847 (1979)

L. elegans.

DITERPENOIDS: ligantrol, ligantrol acetate.

Smirnova *et al.*, *Khim. Prir. Soedin.*, **63** (1969)

L. gracilis.

DITERPENOID: acetylchapliatrin.

Herz *et al.*, *Phytochemistry*, **14**, 1803 (1975)

L. graminifolia.

DITERPENOID: deoxygraminiliatrin.

Herz *et al.*, *J. Org. Chem.*, **40**, 199 (1975)

L. laevigata.

DITERPENOIDS: ent-8,15R-epoxy-3-oxopimara-12 α ,16-diol, ent-8,15R-epoxy-3 β ,12,16-pimaranetriol, ent-8,15S-epoxy-3 α ,12,16-pimaranetriol.

TRITERPENOIDS: lupenyl acetate, lupeol.

Herz *et al.*, *Phytochemistry*, **22**, 715 (1983)

L. microcephala.

NORTRITERPENOID: 30-nortaraxasterene-3 β -acetate.

Herz *et al.*, *Phytochemistry*, **22**, 1457 (1983)

L. platylepis.

SESQUITERPENOID: 2,3-seco-1,3,11(13)-eudesmatrien-12,8-olide.

Bohlmann *et al.*, *Phytochemistry*, **18**, 1228 (1979)

L. provincialis.

SESQUITERPENOID: provincialin.

Herz, Wahlberg, *J. Org. Chem.*, **38**, 2485 (1973)

L. punctata.

SESQUITERPENOIDS: liatripunctin, punctatin.

Herz, Wahlberg, *Phytochemistry*, **12**, 1421 (1973)

L. pycnostachya.

SESQUITERPENOIDS: epoxyspicatin, pycnolide, spicatin.

Herz *et al.*, *J. Org. Chem.*, **40**, 199 (1975)

L. secunda.

SESQUITERPENOIDS: liatripunctin, liscundin, liscunditrin.

Herz, Sharma, *Phytochemistry*, **14**, 1561 (1975)

L. spicata (L.) Kuntze.

SESQUITERPENOID: spicatin.

Herz *et al.*, *J. Org. Chem.*, **40**, 199 (1975)

LIBANOTIS

L. buchtormensis (Fisch.) DC.

SESQUITERPENOID: selinene.

Wang *et al.*, *Zhiwu Xuebao*, **28**, 192 (1986); *Chem. Abstr.*, 105 75889s

L. intermedia.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

MONOTERPENOID: β -elemene, terpinen-4-ol.

Motl *et al.*, *Collect Czech. Chem. Common.*, **42**, 2815 (1977)

L. transcaucasica.

SESQUITERPENOID: (-)-selinene. Pigulevskii, Borovkov, *J. Gen. Chem., USSR*, **32**, 3106 (1962)

LIBOCEDRUS (Cupressaceae)

L. bidwillii.

PHENOLIC: β -peltatin A methyl ether.

DITERPENOID: sugiol.

TOXIN: deoxypodophyllotoxin.

Russell, *Phytochemistry*, 14, 2708 (197) (197)

L. formosana.

MONOTERPENOID: shonanic acid.

NORDITERPENOID: shonanol.

Lin, Lin, *J. Chin. Chem. Soc.*, **12**, 51 (1968)

LIBOTHAMNUS

L. granatesianum.

SESQUITERPENOID: 4,11-selinadiene-12,15-dial.

Bohlmann *et al.*, *Phytochemistry*, **19**, 1145 (1980)

LICARIA

L. aritu.

DITERPENOID: licarin A.

Aiba *et al.*, *Phytochemistry*, **12**, 1163 (1973)

L. canella.

DITERPENOIDS: canellins A, B and C.

Giesbrecht *et al.*, *Phytochemistry*, **13**, 2285 (1974)

L. macrophylla.

DITERPENOID: macrophyllin.

Franca *et al.*, *Phytochemistry*, **13**, 2839 (1974)

LIDBECKIA (Compositae/Anthemideae)

L. pectinata.

SESQUITERPENOIDS: dehydroleucodin, epoxyisoestafiatin.

Bohlmann, Zdero, *Tetrahedron*, **28**, 621 (1972)

LIGULARIA (Compositae)

L. brachyphylla Hand-Mazz.

PYRROLIZIDINE ALKALOIDS: angeloyloxyligularinine, ligularine.

SESQUITERPENOIDS: liguhodgsonal, ligularinone A.

(A) Klasek *et al.*, *Collect. Czech. Chem. Commun.*, **36**, 2205 (1971)

(T) Bohlmann *et al.*, *Chem. Ber.*, **110**, 2640 (1977)

L. calthaefolia.

SESQUITERPENOID: ligucalthaefolin.

Bohlmann *et al.*, *Chem. Ber.*, **110**, 2640 (1977)

L. clivorum Maxim.

PYRROLIZIDINE ALKALOID: clivorine.

SESQUITERPENOIDS: 8-angeloyloxyligularinone, liguhodgsonal.

(A) Klasek *et al.*, *Collect. Czech. Chem. Commun.*, **32**, 2512 (1967)

(T) Bohlmann *et al.*, *Chem. Ber.*, **110**, 2640 (1977)

L. dentata (A.Gray) Hara.

PYRROLIZIDINE ALKALOIDS: ligudentine, ligularine, ligularinine, ligularizine.

SESQUITERPENOID: liguhodgsonal.

(A) Asada, Furuya, *Chem. Pharm. Bull.*, **32**, 475 (1984)

(T) Bohlmann *et al.*, *Chem. Ber.*, **110**, 2640 (1977)

L. dictyoneura.

BENZDIPYRONE: yentianmasu.

Zhao *et al.*, *Zhongcaoyao*, **13**, 10 (1982); *Chem. Abstr.*, 97 107023q

L. elegans Cass.

PYROLLIZIDINE ALKALOID: ligularine.

Klasek *et al.*, *Collect Czech. Chem. Commun.*, **36**, 2205 (1971)

L. fischeri.

SESQUITERPENOIDS: 1,10-epoxyfuranoeremophilan-9-one, ligularone, liguloxide, liguloxidol, liguloxidol acetate, 6-oxofuranoeremophilane.

Morigama *et al.*, *Chem. Lett.*, 637 (1972)

Yamakawa *et al.*, *Chem. Pharm. Bull.*, **25**, 2535 (1977)

L. hodgsonii Hook f.

SESQUITERPENOIDS: 8 α -angeloyloxyligularinone, 8 β -angeloyloxyligularinone, liguhodgsonal.

Bohlmann *et al.*, *Chem. Ber.*, **110**, 2640 (1977)

L. japonica.

SESQUITERPENOIDS: liguhodgsonal, ligujapone.

Bohlmann *et al.*, *Chem. Ber.*, **110**, 2640 (1977)

L. macrophylla.

SESQUITERPENOID: ligolide.

Nikonova, Nikonov, *Khim. Prir. Soedin.*, 742 (1976)

L. sibirica.

SESQUITERPENOIDS: ligularenolide, ligularone, 6-oxofuranoeremophilane, petasalbine, petasalbine methyl ether.

Takahashi *et al.*, *Tetrahedron Lett.*, 3739 (1968)

Yamakawa *et al.*, *Chem. Pharm. Bull.*, **25**, 2535 (1977)

L. speciosa.

SESQUITERPENOID: isofukinone.

Bohlmann, Fritz, *Phytochemistry*, **19**, 2471 (1980)

L. tussilaginea Makino.

SESQUITERPENOIDS: 3β -angeloyloxyeremophilenolide, 3β -angeloyloxy- 6β -hydroxyeremophilenolide, 3β -angeloyloxy- 8β -hydroxyeremophilenolide, tsuhaburinonol.

Kurihawa, Suzuki, *J. Pharm. Soc., Japan*, **98**, 1441 (1978)

L. vorobierii.

SESQUITERPENOID: 6-acetoxy-3-angeloyloxy-1,10-epoxyfuranoceremophilane.
Bohlmann, Suwita, *Chem. Ber.*, **110**, 1759 (1977)

LIGUSTICUM (Umbelliferae)

L. acutilobum.

TERPENOIDS: ligustilide, riligustilide.

Meng *et al.*, *Lanzhou Daoxue Xuebao, Ziran Kexueban*, 76 (1983)

L. chuanxing.

PHENOLICS: 8-oxabicyclo-[3,2,1]-oct-3-en-2-one-5-hydroxymethyl-6-endo-3'-methoxy-4'-hydroxyphenyl, 3-n-butyl-3-hydroxy-4,5,6,7-tetrahydro-6,7-dihydroxyphthalide.

Wen *et al.*, *Zhongcaoyao*, **17**, 109 (1986); *Chem. Abstr.*, 105 175884m

L. elatum.

TERPENOID: (-)-anomalin.

Kapoor *et al.*, *Phytochemistry*, **11**, 477 (1972)

L. lucidum.

DITERPENOID GLUCOSIDE: oleuropein.

Panizzi *et al.*, *Gazz. Chim. Ital.*, **90**, 1449 (1960)

L. mucronatum.

MONOTERPENOID: O-angeloyloxyepoxyisoeugenol.

Bohlmann, Zdero, *Chem. Ber.*, **104**, 2033 (1971)

L. pyrenaicum.

BENZOPYRAN: 9-acetoxy-O-isovaleryldihydrooreselol.

Bohlmann *et al.*, *Chem. Ber.*, **102**, 1963 (1969)

L. wallichii.

BENZOFURAN: diligustilide.

PHTHALIDE: (Z)-ligustidiol.

(B) Kaouadji *et al.*, *Tetrahedron Lett.*, 4677 (1983)

(P) Kaouadji *et al.*, *ibid.*, 4675 (1983)

LIGUSTRUM (Oleaceae)

L. japonicum L.

SECOIRIDOIDS: ligustaloside A, ligustaloside B, oleuropein.

Inouye *et al.*, *Phytochemistry*, **21**, 2305 (1982)

L. lucidum.

DITERPENOIDS: ligustrosidic acid.

IRIDOIDS: ligustaloside A, ligustaloside B.

SECOIRIDOIDS: oleuropein.

Inouye *et al.*, *Phytochemistry*, **21**, 2305 (1982)

Kikuchi, Yamauchi, *J. Pharm. Soc., Japan*, **105**, 142 (1985)

L. nilghirens var. obovata C.B.Cl.

FLAVONOID: kaempferitin.

Joshi *et al.*, *Proc. Indian Acad. Sci.*, **86A**, 41 (1977)

LILIUM (Liliaceae)

L. humboldtii.

GENIN: lilagenin.

Knight *et al.*, *J. Chromatogr.*, **133**, 222 (1977)

L. rubrum magnificum.

GENIN: lilagenin.

Knight *et al.*, *J. Chromatogr.*, **133**, 222 (1977)

L. tigrinum Ker.

CAROTENOIDS: cis-antheraxanthin, trans-antheraxanthin.

Karrer, Oswald, *Helv. Chim. Acta*, **18**, 1303 (1935)

L. tigrinum Ker. cv. ('Red Night').

CAROTENOIDS: 6-epi-kerpozanitin, lilizanthin.

Fischer, Eugster, *Helv. Chim. Acta*, **68**, 1708 (1985)

LIMACIA

L. cuspidata (Miers.) Hook f. Thom.

BISBENZYLISOQUINOLINE ALKALOIDS: cuspidapine, limacine, limacusine.

Tomita, Furukawa, *Tetrahedron Lett.*, 4293 (1966)

LINACIOPSIS

L. loangensis.

BISBENZYLISOQUINOLINE ALKALOID: 2'-norisotetrandrine.

Cava *et al.*, *Planta Med.*, **35**, 31 (1979)

LINANTHEMUM

L. humboldtianum.

UNCHARACTERIZED ALKALOID: linantenine.

Ribieri, Machado, *Engenharia et Quimica*, **3**, 152 (1951)

LINARIA (Schophulariaceae)

L. cymbalaria (L.) Mill.

MONOTERPENOID: 7-hydroxy-8-epi-iridodial.

Bianco *et al.*, *Planta Med.*, **46**, 38 (1982)

L. japonica.

DITERPENOIDS: linaridial, linarienone.

IRIDOID: linarioside.

Kitagawa *et al.*, *Tetrahedron Lett.*, 23 (1975)

L. muratus.

IRIDOID: linaride.

Bianco *et al.*, *Gazz. Chim. Ital.*, **107**, 83 (1977)

***L. popovii* Kupr.**

QUINAZOLINE ALKALOID: peganine.

Yunusov *et al.*, *Dokl. Akad. Nauk SSSR*, **11**, 25 (1956)***L. saxatilis*.**

DITERPENOIDS: 15-acetoxy-11,15-epoxy-ent-cleroda-4(18),12-dien-16-ol, isolinaridial, isolinaridiol, isolinaridiol diacetate, isolinaritriol, isolinaritriol 12,15-diacetate, isolinaritriol 12,16-diacetate, isolinaritriol 15,16-diacetate, isolinaritriol triacetate.

San Feliciano *et al.*, *Tetrahedron*, **41**, 671 (1985)***L. transiliensis* Kupr.**

QUINAZOLINE ALKALOIDS: deoxyvasicine, peganine, vasicinone.

Plechanova *et al.*, *Frunze Izdaniya-Vo Ilim* 54 (1965)***L. vulgariformis* E.Nik.**

QUINAZOLINE ALKALOID: peganine.

Plechanova *et al.*, *Frunze Izdaniya-Vo Ilim* 54 (1965)***L. vulgaris* Mill.**

QUINAZOLINE ALKALOID: peganine.

Men'shikov *et al.*, *J. Gen. Chem., USSR*, **29**, 3846 (1959)

LINDBERGIA

***L. indica*.**SAPONINS: α -L-rhamnopyranosyl- α -L-arabinopyranosyl-sitosterol, α -L-rhamnopyranosyl- α -L-rhamnopyranosylsitosterol, α -L-rhamnopyranosyl- β -glucopyranosyl-sitosterol.Tiwari, Chaudhury, *Phytochemistry*, **18**, 2044 (1979)

LINDELOFIA (Boraginaceae)

***L. anchusoides* Bunge. (*L. macrostyla* Bge. M.Pop.).**

PYRROLIZIDINE ALKALOIDS: lindelofamine, lindelofine, lindelofine N-oxide.

Shirul'nikova *et al.*, *J. Gen. Chem., USSR*, **32**, 2705 (1962)***L. angustifolia*.**

PYRROLIZIDINE ALKALOIDS: amabiline, echinatine.

Suri et al., Indian J. Pharm., **37**, 69 (1975)

L. olgae (Rgl. et Schmalh.) Brand.

PYRROLIZIDINE ALKALOIDS: viridiflorine, viridiflorine N-oxide.

Akramov et al., Dokl. Akad. Nauk SSSR, **10**, 29 (1962)

L. pterocarpa M.Pop.

PYRROLIZIDINE ALKALOIDS: viridiflorine, viridiflorine N-oxide.

Akramov et al., Dokl. Akad. Nauk SSSR, **6**, 28 (1964)

L. spectabilis.

PYRROLIZIDINE ALKALOID: 7-acetylechinatine.

Suri et al., Indian J. Chem., **13**, 503 (1975)

L. stylosaa (Kar. et Kir.) Brand.

PYRROLIZIDINE ALKALOIDS: echinatine, echinatine N-oxide, lindelofine, lindelofine N-oxide, viridiflorine, viridiflorine N-oxide.

Akramov et al., Dokl. Akad. Nauk SSSR, **6**, 35 (1961)

Kirmidinova et al., Khim. Prir. Soedin., 411 (1967)

L. tschimganica (Lipsky) M.Pop.

PYRROLIZIDINE ALKALOIDS: echinatine, viridiflorine.

Akramov et al., Dokl. Akad. Nauk SSSR, **4**, 35 (1965)

LINDERA (Lauraceae)

L. citriodora (Sieb. et Zucc.) Hemsl.

ACIDS: decanoic acid, cis-decenoic acid, cis-4-decenoic acid, dodecanoic acid, eicosenoic acid, linoleic acid, octadecanoic acid, octadecenoic acid, octanoic acid, oleic acid, undecanoic acid.

Furukawa et al., Yaka gaku Zasshi, **25**, 296 (1976); Chem. Abstr., 85 59590a

L. erythrocarpa.

FLAVONOIDS: kanakugin, kanakugiol, linderone, lucidone, methyllinderone, methyllucidone.

Liu et al., J. Pharm. Soc., Japan, **95**, 1114 (1975)

L. glauca.

SESQUITERPENOIDS: aciphylline, aciphyllol, glaucic acid, glaucic acid methyl ester, glaucyl alcohol.

Nii et al., Nippon Nogei Kagaku Kaishi, **57**, 725 (1983)

Nii et al., ibid., **57**, 733 (1983)

L. lucida.

FLAVONES: lucidin, lucidin dimethyl ether.

SESQUITERPENOID: lucidone.

(F) Lee *et al.*, *J. Chem. Soc.*, 2743 (1965)

(T) Lee, *Tetrahedron Lett.*, 4243 (1968)

L. obtusiloba.

PYRONE: C-19-obtusilactone dimer.

Niwa *et al.*, *Chem. Lett.*, 581 (1977)

L. oldhami.

BISBENZYLISOQUINOLINE ALKALOID: lindoldhamine.

Lu, Chen, *Heterocycles*, **4**, 1073 (1976)

L. strichynifolia.

SESQUITERPENOIDS: isogermafurene, isogermafurenolide, isolinderalactone, isolinderoxide, lindenene, lindenol, lindenonenone, linderalactone, linderane, linderene, linderene acetate, linderoxide, lindestrene, lindestrenolide, neosericenyl acetate.

Takeda *et al.*, *J. Chem. Soc., C*, 2786 (1969)

Wada *et al.*, *ibid.*, 1070 (1971)

L. triloba.

SESQUITERPENOID: 1-acetoxydelobanone.

Takeda *et al.*, *Tetrahedron*, **27**, 6049 (1971)

LINDHEIMERA

L. texana.

TRITERPENOIDS: (16S,23,24)-cycloartan-3-one-16,23,24,25-tetraol, (3S,16S,23R)-16,23-epoxycycloart-24-en-3-ol, (3S,16S,23S)-16,23-epoxycycloart-24-en-3-ol, (16S,23R)-epoxycycloart-24-en-3-one, (16S,23S)-epoxycycloart-24-en-3-one, (16S,23R)-16,23-epoxy-23,25-epidioxycycloartan-3-one, (16S)-23,24,25,26,27-pentanorcycloartan-3-one-16,22-olide.

Herz *et al.*, *Phytochemistry*, **24**, 2645 (1985)

LINEARIS

L. vulgariformis.

QUINAZOLINE ALKALOID: peganine.

Plekhanova *et al.*, *Frunze Izdaniya-Vo Him*, 54 (1965)

L. vulgaris.

QUINAZOLINE ALKALOID: peganine.

Men'shikov *et al.*, *J. Gen. Chem., USSR*, **29**, 3846 (1969)

LIPARIS (Orchidaceae)

L. auriculata Blume.

UNCHARACTERIZED ALKALOID: auriculatine.

Nishikawa, Hirata, *Tetrahedron Lett.*, 6289 (1968)

L. bicallosa Schltr.

PYRROLIZIDINE ALKALOID: malaxine.

Leander, Luning, *Tetrahedron Lett.*, 3477 (1967)

L. hachrijoensis.

PYRROLIZIDINE ALKALOID: malaxine.

Leander, Luning, *Tetrahedron Lett.*, 3477 (1967)

L. keitaoensis Hay.

PYRROLIZIDINE ALKALOIDS: keitaoine, keitine.

Lindstrom, Luning, *Acta Chem. Scand.*, **26**, 2963 (1972)

L. kumokiri F.Makawa.

GLUCOALKALOID: kuramerine.

PYRROLIZIDINE ALKALOID: kumokirine.

Nishikawa *et al.*, *Tetrahedron Lett.*, 2597 (1967)

L. kurameri French et Sav.

GLUCOALKALOID: kuramerine.

Nishihawa *et al.*, *Tetrahedron Lett.*, 2597 (1967)

L. nervosa.

PYRROLIZIDINE ALKALOID: nervosine.

Nishikawa, Hirata, *Tetrahedron Lett.*, 2591 (1967)

LIPPIA (Verbenaceae)

L. citriodora.

SESQUITERPENOID: caryophyllane-2,6 β -oxide.

Kaiser *et al.*, *Helv. Chim. Acta*, **59**, 1803 (1976)

L. dulcis.

SESQUITERPENOID: hernandulin.

Compadre *et al.*, *Science*, **227**(4685), 417 (1984)

L. integrifolia.

SESQUITERPENOIDS: africanone, 1,5-bicyclohummulenedione.

Catalan *et al.*, *Phytochemistry*, **22**, 1507 (1983)

Martayet *et al.*, *ibid.*, **23**, 688 (1984)

L. nodiflora.

FLAVONES: nepetin, nodifloretin.

Brieskorn *et al.*, *Tetrahedron Lett.*, 3447 (1968)

L. rehmannii.

TRITERPENOID: rehmannic acid.

Barton, de Mayo, *J. Chem. Soc.*, **887**, 900 (1954)

LIQUIDAMBER (Hamamelidaceae)

L. formosana.

ELLAGITANNIN: liquidambin.

MONOTERPENOID: (\pm)-terpineol.

TRITERPENOIDS: forucosolic acid, liquidambonic acid, liquidambrovonic acid.

(E) Okuda *et al.*, *Phytochemistry*, **26**, 2053 (1987)

(T) Phom Truong Thi Tho, *Tap. San. Hoa-oc.*, **133**, 34 (1975)

(T) Yankov *et al.*, *Dokl. Bolg. Akad. Nauk*, **33**, 75 (1980)

L. orientalis Mill.

TRITERPENOID: 3-epi-oleanic acid.

Huneck, *Tetrahedron*, **19**, 479 (1967)

LIRIODENDRON (Magnoliaceae)

L. tulipifera L.

APORPHINE ALKALOIDS: (+)-caaverine, lirinidine, lirinine, lirinine N-oxide, O-methylliridine.

LIGNANS: (+)-medioresinol, (+)-pinoresinol, (+)-synringaresinol.

SESQUITERPENOIDS: lipiferolide, liriogenolide, peroxyferolide, epi-tulipdienolide, tulipinolide, epi-tulipinolide, epi-tulipinolide diepoxide.

NORAPORPHINE ALKALOID: liriogenine.

(A) Zirev *et al.*, Khim. Prir. Soedin., **67**, 505 (1973)

(A) Doskotch *et al.*, J. Org. Chem., **45**, 1441 (1980)

(L) Fujimoto *et al.*, Chem. Abstr., 87 197244h

(T) Doskotch *et al.*, Phytochemistry, **14**, 769 (1975)

LITCHIA

L. chinensis.

AMINOACIDS: alanine, asparagine, threonine, tyrosine, valine.

Ali *et al.*, J. Indian Chem. Soc., **64**, 230 (1987)

LITHOCARPUS (Fagaceae)

L. attenuate.

TRITERPENOIDS: 3-methoxyoleana-2,12-dien-1-one, olean-12-ene-1,3-dione.

Hui, Li, Phytochemistry, **14**, 785 (1975)

L. correa.

TRITERPENOIDS: 29-acetoxytaraxer-14-en-3-one, 14-hydroxytaraxer-3-one, 29-hydroxytaraxer-14-en-3-one, lup-20(29)-ene-3 β ,27-diol, myricadiol, taraxerane-3 β ,13 α -diol, taraxer-14-ene-3 β ,29-diacetate, taraxer-14-ene-3 β ,29-diol.

Hui *et al.*, J. Chem. Soc., Perkin I, 23 (1976)

L. irwini.

TRITERPENOID: lithocarpic lactone.

Hui *et al.*, J. Chem. Soc., Perkin I, 617 (1975)

L. lithoides.

TRITERPENOID: lithocarpic lactone.

Hui *et al.*, *J. Chem. Soc., Perkin I*, 617 (1975)

L. litseifolius.

CHALCONES: phlorizin, trilobatin.

Rui-Lin *et al.*, *Agric. Biol. Chem.*, **46**, 1933 (1982)

L. polystachya.

TRITERPENOIDS: lithocarpdiol, lithocarpolone, 24-methylenecycloartan-3 β ,21-diol.

Arthur, Ko, *Phytochemistry*, **13**, 2551 (1974)

LITHOSPERMUM (Boraginaceae)

L. erythrorhizon Sieb. et Zucc.

PIGMENTS: acetylshikonin, deoxyshikonin, β -hydroxyisovalerylshikonin, β -hydroxyshikonin, isobutyrylshikonin, isovalerylshikonin, lithospermidin A, lithospermidin B, (α -methylbutyryl)-shikonin, shikizarin, (R)-shikonin.

Krivoschekova *et al.*, *Khim. Prir. Soedin.*, 726 (1976)

Hisamichi *et al.*, *Chem. Abstr.*, 97 178739p

L. euchromum.

PIGMENT: (R)-shikonin.

Raudnitz *et al.*, *Justus Liebig's Ann. Chem.*, **68**, 1479 (1935)

L. officinale L.

PIGMENTS: acetylshikonin, deoxyshikonin, β -hydroxyshikonin, isobutyrylshikonin, isovalerylshikonin, shikonin.

Krivoschekova *et al.*, *Khim. Prir. Soedin.*, 726 (1976)

L. purpureo-caeruleum.

CYANOGLYCOSIDE: lithospermoside.

Sosa *et al.*, *Phytochemistry*, **16**, 707 (1977)

LITSEA (Lauraceae)

L. chrysocoma.

APORPHINE ALKALOID: laurotetanine.

Greshoff, *Ber.*, **23**, 3537 (1890)

L. citrata.

APORPHINE ALKALOIDS: laurotetanine, N-methyllaurotetanine.

Barger *et al.*, *Ber.*, **66**, 450 (1933)

L. cubeba (Lour.) Pers.

APORPHINE ALKALOID: laurotetanine.

MONOTERPENOIDS: camphene, citronellal, citronellol, linalool, α -pinene, β -terpineol, δ -terpineolneol.

(A) Barger *et al.*, *Ber.*, **66**, 450 (1933)

(T) Jian *et al.*, *Chem. Abstr.*, 106 15731v

L. dealbata.

TRITERPENOID: taraxerol.

Barton *et al.*, *J. Chem. Soc.*, 2131 (1955)

L. japonica.

APORPHINE ALKALOID: laurolitsine.

Nakasato, Nomura, *Chem. Pharm. Bull.*, **7**, 780 (1959)

L. laeta.

APORPHINE ALKALOIDS: laetanine, laetine.

Rastogi, Borthakur, *Phytochemistry*, **19**, 998 (1980)

L. nitida.

APORPHINE ALKALOID: litsedine.

Gopinath *et al.*, *Indian J. Chem.*, **13**, 197 (1975)

L. salicifolia.

APORPHINE ALKALOID: laetine.

Rastogi, Bothakur, *Phytochemistry*, **19**, 998 (1980)

L. sebifera.

APORPHINE ALKALOID: litseferine, sebiferine.

Sivakumaran, Gopinath, *Indian J. Chem.*, **14B**, 151 (1976)

L. tomentosa.

TRITERPENOID: litsomentol.

Govindachari, *J. Chem. Soc., Chem. Commun.*, 665 (1971)

LITTORIA

L. modesta.

COLCHICINE ALKALOIDS: O-acetylcolchicine, N-acetyldemecolcine, 2-acetyl-2-demethylcolchicine, 3-acetyl-3-demethylcolchicine, N-acetylisdodemecolcine.

Potesilova *et al.*, *Collect. Czech. Chem. Commun.*, **32**, 141 (1967)

LOBARIA (Stictaceae)

L. amplissima (Scop.) Forss.

FURAN: xantholamine.

Solberg, *Lichenologist*, **4**, 271 (1970); *Chem. Abstr.*, 75 126657m

L. isidiosa var. subisidiosa.

SESTERTERPENOID: retigeranic acid.

Rao *et al.*, *Curr. Sci.*, **34**, 9 (1965)

L. kazawoensis.

TRITERPENOID: retigeric acid B.

Takahashi *et al.*, *Phytochemistry*, **11**, 2039 (1972)

L. linita (Ach.) Rabenh.

ORSELLINATES: methylevernate, methylglyrophorate, methyllecanorate, methyltorsellinate, tenuiorin.

Maass, *Bryologist*, **78**, 178 (1975)

L. pulmonaria (L.) Hoffm. 16 fatty acids.

PHENOLIC: tenuiorin.

STEROIDS: ergosterol, ergosterol acetate, fecosterol, fecosterol acetate.

(Ac, S) Catalano *et al.*, *Phytochemistry*, **15**, 221 (1976)

(P) Asahina *et al.*, *Ber.*, **66**, 1910 (1933)

L. retigera.

SESTERTERPENOID: retigeranic acid.

TRITERPENOIDS: retigeradiol, retigeric acid, retigeric acid A.

Takahashi *et al.*, *Phytochemistry*, **11**, 2039 (1972)

L. sachalinensis.

TRITERPENOIDS: retigeric acid A, retigeric acid B.

Takahashi *et al.*, *Phytochemistry*, **11**, 2039 (1972)

L. subretigera. (L. pseudopulmonaria).

TRITERPENOIDS: retigeradiol, retigeranic acid A, retigeranic acid B.

SESTERTERPENOID: retigeranic acid.

Takahashi *et al.*, *Phytochemistry*, **11**, 2039 (1972)**LOBELIA (Lobeliaceae/Campanulaceae)*****L. cardinalis L.***

ISOQUINOLINE ALKALOID: lobinaline.

Manske, *Can. J. Res.*, **16B**, 445 (1938)***L. inflata L.***LOBELINE ALKALOIDS: isolobinine, (\pm)-lelobanidine, (+)-lelobanidine, (-)-lelobanidine, (-)-lelobanidine II, lobelanidine, (\pm)-lobeline, (-)-lobeline, lobinanidine, lobinine, norlobelanidine, norlobelanine.Thoma, *Justus Liebigs Ann. Chem.*, **540**, 99 (1939)Wieland *et al.*, *ibid.*, **540**, 103 (1939)***L. portoricensis.***

One lobeline alkaloid.

Melendez *et al.*, *J. Pharm. Sci.*, **56**, 1677 (1967)***L. pyramidalis.***

One lobeline alkaloid.

Jain, Nigam, Madhye Brahati, *Part II*, **9A**, 29 (1960)***L. salicifolia.***

UNCHARACTERIZED ALKALOID: salicilobine.

Steinegger, Ochsner, *Pharm. Acta Helv.*, **31**, 89 (1956)***L. sessilifolia Lamb.***

LOBELINE ALKALOIDS: lobelanidine, lobelanine, (-)-lobeline.

Wieland, Dragendorff, *Justus Liebigs Ann. Chem.*, **473**, 53 (1929)***L. syphilitica L.***

ISOQUINOLINE ALKALOIDS: syphilobines A, B and F.

LOBELINE ALKALOIDS: (-)-dehydro-trans-8,10-diethyllobelidiol, (-)-cis-8,10-diethylnorlobelionol, 8,10-diethylnorlobelidone, cis-8,10-diethylnorlobelionol, lophilacrine.

UNCHARACTERIZED ALKALOID: lophiline.

Tschesche *et al.*, *Chem. Ber.*, **74**, 3327 (1961)

L. urens.

LOBELINE ALKALOIDS: lobelanidine, (-)-lobeline.

Steinegger, Grutter, *Pharm. Acta Helv.*, **46**, 71 (1973)**LOBESIA*****L. botrana.***

TERPENOID: 7(E0,9(Z)-dodecadienyl acetate.

Roelofs *et al.*, *Mitt. Schweiz. Entomol. Ges.*, **46**, 71 (1973)**LOBIVIA (Cactaceae)*****L. backenbergsii.***

AMINE ALKALOIDS: hordenine, N-methyltyramine, tyramine.

Follas *et al.*, *Phytochemistry*, **16**, 1459 (1977)***L. binghamiana.***

AMINE ALKALOIDS: hordenine, N-methyltyramine, tyramine.

Follas *et al.*, *Phytochemistry*, **16**, 1459 (1977)***L. pentlandii.***

AMINE ALKALOIDS: hordenine, N-methyltyramine, tyramine.

Follas *et al.*, *Phytochemistry*, **16**, 1459 (1977)**LOCHNERA (Apocynaceae)*****L. lancea Boj. (ex A.DC.) K.Schum.***

UNCHARACTERIZED ALKALOID: lanceine.

Janot *et al.*, *Ann. Pharm. Fr.*, **15**, 474 (1957)***L. rosea (L.) Reichb. f. (Catharanthus roseus).***

CARBOLINE ALKALOID: lochnerine.

Janot, LeMen, *C.R. Acad. Sci.*, **243**, 1789 (1956)

LOLIUM (Gramineae)

***L. cuneatum* Nevski.**

PYRROLIZIDINE ALKALOIDS: lolidine, loline, lolinine, lolinidine, norlololine.

Yunusov, Akramov, *J. Gen. Chem. USSR*, **25**, 1765, 1813 (1955)

Yunusov, Akramov, *ibid.*, **25**, 1813 (1955)

***L. multiflorum* Lam.**

ALKALOID: annuloline.

Axelrod, Belize, *J. Org. Chem.*, **23**, 919 (1958)

***L. perenne* L.**

DIAZAPHENANTHRENE ALKALOIDS: perlolidine, perloline, perlolyrine.

MONOTERPENOID: loliolide.

(A) Jeffreys, *J. Chem. Soc., C*, 1091 (1970)

(T) Manske, *Can. J. Res., B* **16**, 438 (1938)

LOMARTIUM (Proteaceae/Umbelliferae)

***L. columbianum*.**

COUMARINS: columbianadin, cis-p-coumaroyllomatin, trans-p-coumaroyllomatin, (+)-dihydrooroselol, lomatín, selinidin.

Nielsen *et al.*, *Phytochemistry*, **15**, 1049 (1976)

***L. ferrugineum*.**

QUINONE: valdivione.

Mechendale *et al.*, *Phytochemistry*, **14**, 801 (1975)

***L. macrocarpum*.**

SESQUITERPENOID: macrocarpin.

Steck, *Phytochemistry*, **12**, 2283 (1973)

***L. nuttallii*.**

NORSESQUITERPENOID: lomatín.

Willette, Soine, *J. Pharm. Sci.*, **51**, 149 (1962)

LOMATHOGONIUM

***L. carinthiacum* (Wulfen) Rchb.**

IRIDOID: erythrocetrarin. XANTHONES: 1,8-dihydroxy-3,5-dimethoxyxanthone, 1,8-dihydroxy-3,7-dimethoxyxanthone, 1-hydroxy-3,7-dimethoxyxanthone, 1-hydroxy-3,7,8-trimethoxyxanthone, 1 -hydroxy-4,6,8-trimethoxyxanthone.

Sorig *et al.*, *Pharmazie*, **32**, 803 (1977)

LONCHOCARPUS

***L. costaricensis*.**

FLAVONOIDS:8-(3,3-dimethylallyloxy)-5,7-dimethoxyflavone, 7-(3,3-dimethylallyloxy)-8-(3,3-dimethylallyl)-5-methoxyflavone, 7-(3,3,-dimethylallyloxy)-8-(3-hydroxy-3-methyl-trans-but-1-enyl)-flavanone, dimethylprecansone B.

Waterman, *Phytochemistry*, **24**, 571 (1985)

***L. laxiflorus*.**

ISOFLAVAN: lonchocarpin.

PTERAN: philenopteran 9-methyl ether.

Pelter, Amenechi, *J. Chem. Soc., C*, 887 (1969)

LONICERA (Caprifoliaceae)

***L. alpigena*.**

IRIDOID: alpigenoside.

Bailleul *et al.*, *J. Nat. Prod.*, **44**, 573 (1981)

***L. caerulea*.**

IRIDOID: periclymenosidic acid.

Calis *et al.*, *J. Nat. Prod.*, **48**, 108 (1985)

***L. morrowii*.**

IRIDOID: kingiside, loniceroside, morrowonoside.

Souza, Mitsuhashi, *Tetrahedron Lett.*, 2725 (1969)

L. periclymenum L.

IRIDOID: periclymenoside.

Calis *et al.*, *Helv. Chim. Acta*, **67**, 160 (1984)

L. ruprechtiana.

CAROTENOIDS: loniceraxanthin, rhodoxanthin.

Rahman, Egger, *Z. Naturforsch.*, **28C**, 434 (1973)

L. webbiana.

CAROTENOID: loniceraxanthin.

Rahman, Egger, *Z. Naturforsch.*, **28C**, 434 (1973)

L. xylosteum L.

THIOALKALOIDS: loxylostosidine A, loxylostosidine B,
xylostosidine.

Chaudhuri *et al.*, *Tetrahedron Lett.*, 559 (1981)

LOPHOCEREUS (Cactaceae)

L. schottii.

ALKALOIDS: lophocerine, lophocene, piloceredine, pilocerine.

STEROID: lophenol.

(A) Wani *et al.*, *J. Chem. Res. Synop.*, 15 (1980)

(S) Djerassi *et al.*, *J. Am. Chem. Soc.*, **80**, 1005 (1958)

(S) Djerassi *et al.*, *ibid.*, **80**, 6084 (1958)

LOPHOLAENA

L. dregeana.

SESQUITERPENOID: 6 β -acetoxy-10 β H-furanoeremophilane.

Bohlmann *et al.*, *Phytochemistry*, **16**, 1769 (1977)

LOPHOMYRTUS

L. bullata.

TERPENOID: bullatenone.

Brandt *et al.*, *J. Chem. Soc.*, 3245 (1954)

LOPHOPHORA (Cactaceae)

L. diffusa.

ISOQUINOLINE ALKALOID: O-methylpellotine.

Bruhn, Agurell, *Phytochemistry*, **14**, 1442 (1975)

L. williamsii (Lem. et Salm. Dyek.) Coul.

AMINE ALKALOID: mescaline.

ISOQUINOLINE ALKALOIDS: anhalamine, anhalenine, lophophorine, O-methylpeyorovic acid, O-methylpeyoxyllic acid, pellotine, peyocactine.

PYRROLE ALKALOID: peyinine.

Kapadia *et al.*, *J. Am. Chem. Soc.*, **92**, 6943 (1970)

Rao, *J. Pharm. Pharmacol.*, **22**, 544 (1970)

LORANTHUS (Loranthaceae)

L. falcatus L.f.

STEROIDS: β -sitosterol, stigmasterol.

TRITERPENOIDS: β -amyrin acetate, oleanolic acid, oleanolic acid methyl ester acetate.

Anjaneyulu *et al.*, *Curr. Sci.*, **46**, 850 (1977)

L. grewinkii.

TRITERPENOID: loranthol.

Atta-ur-Rahman *et al.*, *Phytochemistry*, **12**, 3004 (1973)

LOROGLOSSUM

L. hircinum.

PHENANTHRENOID: loroglossol.

Hardegger *et al.*, *Helv. Chim. Acta*, **46**, 1171 (1963)

LOROSTEMON

***L. coelhoi* Paula.**

XANTHONE: lorostemin.

Braz Filho *et al.*, *Phytochemistry*, **12**, 947 (1973)

***L. negrensis* Fross.**

XANTHONE: lorostemin.

Braz Filho *et al.*, *Phytochemistry*, **12**, 947 (1973)

LOTUS (Leguminosae)

***L. corniculatus*.**

PHYTOALEXINS: sativan, vestitol.

Ingham, *Phytochemistry*, **16**, 1279 (1977)

***L. uliginosus*.**

PHYTOALEXINS: demethylvestitol, vestitol.

Ingham, *Phytochemistry*, **16**, 1279 (1977)

LUDWIGIA (Onagraceae)

***L. adscendens*.**

FLAVONOIDS: kaempferol 3-O-glucoside, myricetin 3-O-galactoside, myricetin 3-O-
rhamnoside, quercetin, quercetin 3-O-galactoside, quercetin 3-O-glucoside.

Huang, *Chem. Abstr.*, 104 31779f

***L. epilobioides* var. *epilobioides*.**

FLAVONOIDS: orientin, isoorientin, isovitexin, vitexin.

Huang, *Chem. Abstr.*, 104 31779f

***L. epilobioides* var. *greatrexii*.**

FLAVONOIDS: orientin, isoorientin, isovitexin, vitexin.

Huang, *Chem. Abstr.*, 104 31779f

***L. hyssopifolia*.**

FLAVONOIDS: orientin, isoorientin, isovitexin, vitexin.

Huang, *Chem. Abstr.*, 104 31779f

L. octovalvis.

FLAVONOIDS: orientin, isoorientin, isovitexin, vitexin.

Huang, *Chem. Abstr.*, 104 31779f

L. ovalis.

FLAVONOIDS: orientin, isoorientin, isovitexin, vitexin.

Huang, *Chem. Abstr.*, 104 31779f

L. peploides var. stipulacea.

FLAVONOIDS: kaempferol 3-O-glucoside, quercetin, quercetin 3-O-galactoside, quercetin 3-O-glucoside.

Huang, *Chem. Abstr.*, 104 31779f

L. perennis.

FLAVONOIDS: kaempferol 3-O-glucoside, quercetin, quercetin 3-O-galactoside, quercetin 3-O-glucoside.

Huang, *Chem. Abstr.*, 104 31779f

LUFFA (Cucurbitoideae)

L. aegyptica Mill.

SAPONINS: aegyptinin A, aegyptinin B.

Varshney *et al.*, *Natl. Acad. Sci. Lett. (India)*, **5**, 403 (1982)

L. amara.

TRITERPENOID: amarinin.

Mikherjee *et al.*, *Plant Cell Physiol.*, **27**, 935 (1986); *Chem. Abstr.*, 105 168857v

L. echinata.

TRITERPENOIDS: 2-epi-cucurbitacins A, B, C and D, isocucurbitacin B.

Lavie *et al.*, *J. Chem. Soc.*, 3259 (1962)

L. operculata.

TRITERPENOID: isocucurbitacin B.

Abrew Matos, Gottlieb, *An. Acad. Bras. Cienc.*, **39**, 245 (1967)

LUFFARIELLA

L. variabilis.

ANTIBIOTIC: manoalide.

de Silva *et al.*, *Tetrahedron Lett.*, 1611 (1980)

LUNARIA (Cruciferae)

L. annua L.

AMINOACIDS: τ -glutamyl- β -alanine, τ -glutamyl- τ -aminobutyric acid.

Morris *et al.*, *J. Biol. Chem.*, **237**, 2180 (1962)

L. biennis Moench.

MACROCYCLIC AKLALOIDS: lunariamine, lunardidine, lunarine, numismine.

Poupat *et al.*, *C.R. Acad. Sci.*, **269**, 335 (1969)

LUNASIA

L. amara Blanco.

QUINOLONE ALKALOIDS: (-)-hydroxylunine, isobalfourodine, lunine.

Clarke, Grundon, *J. Chem. Soc.*, 4196 (1964)

L. amara var. repanda (Leuterb. et K. Schum.)

QUINOLONE ALKALOIDS: lunidine, lunidone.

Ruegger, Stauffacher, *Helv. Chim. Acta*, **46**, 2329 (1963)

L. costata Miq.

QUINOLONE ALKALOIDS: lunacridine, lunacrine, lunamarine, lunardidine.

Boorsma, *Meded. Lds. Pttuin*, **13**, 126 (1899)

Boorsma, *ibid.*, **31**, 126 (1899)

L. quercifolia (Warb.) Leuterb. et K. Schum.

FURANOQUINOLONE ALKALOIDS: lunasine, lunine.

Amelink, *Pharmaceutisch Weekblad*, **69**, 1390 (1932)

L. temulentum.

UNCHARACTERIZED ALKALOID: temuline.

Hofmeister, *Archiv fuer Experimentelle Pathologie und Pharmacologie*, **30**, 203 (1892)

LUNULARIA (Hepaticae)

L. cruciata.

ACID: dihydrohydrangeaic acid.

Huneck *et al.*, *Z. Naturforsch.*, **26B**, 738 (1971)

LUPINUS (Leguminosae)

L. albus L.

LUPANINE ALKALOID: (+)-lupanine.

QUINAZOLINE ALKALOID: albine.

SPARTEINE ALKALOIDS: 5-dehydro-13-hydroxymultiflorone, 13-hydroxymultiflorone.

UNCHARACTERIZED ALKALOID: dehydroalbine.

Wiewiorowski *et al.*, *Bulleton de l'Academie Polonaise des Sciences, Serie des Sciences*, **12**, 217 (1964)

L. angustifolius L.

LUPANE ALKALOIDS: angustifoline, (+)-13-trans-cinnamoylhydroxylupanine, (+)-lupanine.

Wiewiorowski *et al.*, *Monatsh. Chem.*, **88**, 663 (1957)

L. argenteus var. stenophyllum.

SPARTEINE ALKALOIDS: anagyrine, 5-dehydrolupanine, α -isolupanine, lupanine, sparteine, thermopsine.

Keller *et al.*, *J. Pharm. Sci.*, **67**, 430 (1978)

L. barbiger.

LUPINANE ALKALOID: trilupine.

QUINOLIZIDINE ALKALOID: sparteine.

Winterfield, Nitzsche, *Arch. Pharm. (Weinheim, Ger.)*, **278**, 393 (1940)

L. caudatus.

SPARTEINE ALKALOID: thermopsine.

Orekhov *et al.*, *Ber.*, **66**, 625 (1933)

***L. corymbosus* Heller.**

SPARTEINE ALKALOID: thermopsine.

Orekhov *et al.*, *Ber.*, **66**, 625 (1933)***L. cosentini*.**

One uncharacterized alkaloid.

Beck *et al.*, *Lloydia*, **42**, 385 (1979)***L. formosus*.**

DEPIPERIDYL ALKALOIDS: acetylhystrine, (+)-methylammodendrine.

Fitch *et al.*, *J. Org. Chem.*, **39**, 2974 (1974)***L. hartwegii*.**QUINOLIZIDINE ALKALOIDS: aphylline, epi-aphylline, 10,17-dioxosparteine, gramine, α -isolupanine, nuttaline, virgiline.Anderson *et al.*, *J. Org. Chem.*, **41**, 3441 (1976)***L. kingsii* Wats.**

LUPANE ALKALOID: (+)-lupanine.

Ranedo, *Anales Fisica Quimica*, **20**, 527 (1922)***L. laxiflorus* var. *silvicola*.**

SPARTEINE ALKALOID: anagyrine.

Ing, *J. Chem. Soc.*, 504 (1933)***L. laxus* Rydb.**

LUPANE ALKALOIDS: (+)-lupanine, lupilaxine, trilupine. SPARTEINE ALKALOID: (-)-sparteine.

Marion *et al.*, *Can. J. Chem.*, **31**, 181 (1953)***L. lindenianus*.**

SPARTEINE ALKALOID: lindenianine.

Nakano *et al.*, *J. Org. Chem.*, **39**, 3584 (1974)***L. luteus*.**

QUINOLIZIDINE ALKALOIDS: lupanine, (-)-sparteine, (-)-trans-4'-hydroxycinnamoyllupinine.

GIBBERELLINS: gibberellin A-18, gibberellin A-23, gibberellin A-28.

(A) Baumert *et al.*, *Ber.*, **15**, 1951 (1882)(A) Baumert *et al.*, *ibid.*, **631**, 1951 (1882)(A) Murakoshi *et al.*, *Phytochemistry*, **14**, 2714 (1975)(Gib) Yokota *et al.*, *Planta*, **87**, 180 (1969)***L. luteus* cv *Barpine*.**

CHROMONE: lupilutin.

ISOFLAVONOIDS: barpisoflavone A, barpisoflavone B, barpisoflavone C, 2,3-dehydrokievitone hydrate, lupiwighteone, lupiwighteone hydrate, 5-O-methylderrone, 5-O-methylupiwighteone.

Tahara *et al.*, *Agric. Biol. Chem.*, **50**, 1797 (1986)

Tahara *et al.*, *ibid.*, **50**, 1809 (1986)

***L. macounii* Rydb.**

LUPINANE ALKALOID: rhombinine.

Manske, Marion, *Can. J. Res.*, **21B**, 144 (1943)

***L. niger*.**

QUINOLIZIDINE ALKALOID: lupinine.

SPARTEINE ALKALOID: (-)-sparteine.

Baumert *et al.*, *Ber.*, **15**, 631, 1951 (1882)

***L. nuttallii*.**

SPARTEINE ALKALOID: nuttaline.

Goldberg, Balthis, *J. Chem. Soc., D*, 660 (1969)

***L. palmeri* Wats.**

QUINOLIZIDINE ALKALOID: lupinine.

UNCHARACTERIZED ALKALOIDS: pentalupine, tetralupine.

Sadykov, *J. Gen. Chem., USSR*, **19**, 143 (1948)

***L. perennis*.**

LUPANE ALKALOIDS: 13-hydroxylupanine, (+)-lupanine.

SPARTEINE ALKALOID: angustifoline.

Ranedo, *Anales Fisica Quimica*, **20**, 527 (1922)

***L. pilosus*.**

PYRROLIZIDINE ALKALOID: (+)-isolupinine.

FLAVONOIDS: apigenin, genistein, 3',4'-methylenedioxyorobol.

(A) Winterfield, Holschneider, *Ber.*, **64**, 141 (1931)

(F) Lemeshev *et al.*, *Chem. Abstr.*, 86 68364c

***L. polyphyllus* Lindl.**

LUPANE ALKALOID: (+)-lupanine.

QUINOLIZIDINE ALKALOID: lupinine.

SPARTEINE ALKALOID: sparteine.

Clemo *et al.*, *J. Chem. Soc.*, 432 (1931)

***L. sericeus* Pursh.**

SPARTEINE ALKALOID: (-)-isosparteine.

UNCHARACTERIZED ALKALOIDS: (-)-isolupanine, lupilaxine, spathulatine.

Marion *et al.*, *Can. J. Chem.*, **31**, 181 (1951)

***L. sericeus* var. *flexuosus* C.P.Smith.**

UNCHARACTERIZED ALKALOID: octalupine.

Couch *et al.*, *J. Am. Chem. Soc.*, **61**, 1523 (1939)***L. spathulatus*.**

UNCHARACTERIZED ALKALOID: spathulatine.

Couch *et al.*, *J. Am. Chem. Soc.*, **62**, 554 (1940)***L. termis*.**LUPANE ALKALOID: (\pm)-lupanine.Ranedo, *Anales Fisica Quimica*, **20**, 527 (1922)***L. wyethii*.**

KUPANE ALKALOID: 13 -hydroxylupanine.

Deulofeu *et al.*, *J. Org. Chem.*, **10**, 179 (1945)

LYCEUM

***L. euriopaeum*.**

UNCHARACTERIZED ALKALOID: lyceamine.

Manzoor-i-Khuda, Sultana, *Pakistan J. Sci. Ind. Res.*, **11**, 247 (1968)

LYCHIUM

***L. chinense*.**

PEPTIDE ALKALOID: kukoamine A.

STEROIDS: withanolide I, withanolide II.

(A) Furuyama *et al.*, *Tetrahedron Lett.*, 1355 (1980)(S) Haansel *et al.*, *Arch. Pharm. (Weinheim, Ger.)* **308**, 653 (1975)

LYCHNOPHORA

***L. affinis*.**

SESQUITERPENOIDS: lychnopholic acid, lychnophorolide A, lychnophorolide B.

LeQuesne *et al.*, *J. Org. Chem.*, **47**, 1519 (1981)

L. bahiensis.

SESQUITERPENOID: 15-hydroxy-16-[1(Z)-methyl-1-propenyl]-eremantholide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1087 (1982)

L. blanchei.

SESQUITERPENOIDS: 2,3-dihydro-3-hydroxy-8-(2-methylpropenoyl)-8-deacetyleremoglomerulide, 2,3-dihydro-3-methoxy-8-(2-methylpropenoyl)-8-deacetylereglomerulide, 8-(2-methylpropenoyl)-8-deacetylereglomerulide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1087 (1982)

L. columnaris.

SESQUITERPENOIDS: 11-acetoxy-14-lychnenoic acid, 1,10-epoxy- α -humulen-14-ol, α -humulen-14-aldehyde, α -humulen-14-ol acetate, lychnocolumnic acid.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1087 (1982)

L. martiana.

SESQUITERPENOIDS: acetyllychnofolic acid, lychnofolic acid.

Vichnewski *et al.*, *Phytochemistry*, **19**, 685 (1980)

L. passerina.

Two sesquiterpenoids.

Bohlmann *et al.*, *Angew. Chem.*, **93**, 280 (1981)

L. phylicaefolia.

SESQUITERPENOID: lychnofolide.

Bohlmann *et al.*, *Phytochemistry*, **19**, 2381 (1980)

L. salicifolia.

SESQUITERPENOIDS: 2-epi-lychnosalicifolide, lychnosalicifolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1087 (1982)

L. sellowii.

SESQUITERPENOIDS: 5 α -hydroxy-6 α -angeloyloxy-4(15)-isogoyazensenolide, 5 α ,6 α -diangeloyloxy-4(15)-isogoyazensenolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1087 (1982)

LYCICHITUM

L. camtschatiense var. japonicum.

One uncharacterized alkaloid.

Katsui *et al.*, *Tetrahedron Lett.*, 6257 (1966)

LYCIUM (Solanaceae)

L. chinense Mill.

STEROIDS: 6,7-epoxy-5,20-dihydroxy-1-oxowitha-2,24-dienolide, 6,7-epoxy-5-hydroxy-1-oxowitha-2,24-dienolide.

Haansel *et al.*, *Arch. Pharm. (Weinheim, Ger.)* **308**, 563 (1975)

LYCOPERSICON (Solanaceae)

L. esculentum.

STEROIDAL GLYCOALKALOID: tomatine.

CAROTENOIDS: lycopene, lycophyll, lycoxanthin.

FLAVONOIDS: kaempferol, querçetin.

SAPONIN: 5α -furostane- $3\beta,22,26$ -triol- 3 -O- β -D-glucopyranosyl- β -D-glucopyranosyl- α -galactopyranosyl- α -D-glucopyranosyl- 26 -O- β -D-glucopyranoside.

(A) Fontaine *et al.*, *Arch. Biochem.*, **27**, 461 (1950)

(F) Koizumi *et al.*, *Phytochemistry*, **15**, 342 (1976)

(Sap) Sato, Sakamura, *Agric. Biol. Chem.*, **37**, 225 (1973)

(T) Karrer *et al.*, *Helv. Chim. Acta*, **14**, 43 (1931)

L. esculentum var. (*Tangella*).

CAROTENOID: prolycopene.

Zechmeister *et al.*, *Proc. Natl. Acad. Sci. USA*, **27**, 468 (1941)

L. hirsutum.

GLYCOSIDIC STEROIDAL ALKALOID: tomatine.

Kuhn *et al.*, *Ber.*, **90**, 203 (1957)

L. peruvianum.

STEROIDAL GLYCOALKALOID: tomatine.

Kuhn *et al.*, *Angew. Chem.*, **68**, 212 (1956)

L. peruvianum var. (*chutatum*).

STEROIDAL GLYCOALKALOID: tomatine.

Kuhn *et al.*, *Angew. Chem.*, **68**, 212 (1956)

L. pimpinellifolium. (*Solanum racemigerum*).

STEROIDAL GLYCOALKALOID: tomatine.

Fontaine *et al.*, *Arch. Biochem.*, **18**, 467 (1948)

L. putatum.

STEROIDAL GLYCOALKALOID: tomatine.

Fontaine *et al.*, *J. Am. Chem. Soc.*, **73**, 878 (1951)

LYCOPODIUM (Lycopodiaceae)

L. acrifolium.

LYCOPODIUM ALKALOID: acrifoline.

Manske, Marion, *J. Am. Chem. Soc.*, **69**, 2126 (1947)

L. alopecuroides.

LYCOPODIUM ALKALOIDS: acetyl dibenzoylalopecurine, alolycopine, alopecurine, lycopecunine, lycopodine.

Ayer *et al.*, *Can. J. Chem.*, **49**, 524 (1971)

L. annotinum L.

DIAZAPHENANTHRENE ALKALOIDS: α -obscurine, β -obscurine.

LYCOPODIUM ALKALOIDS: annofoline, annopodine, annotine, annotinine, isolycopodine, α -lofoline, β -lofoline, lycodeine, lycodoline, lycofawcine, lycofoline, lyconnotine, lycopodine.

Anet, Khan, *Can. J. Chem.*, **37**, 1589 (1959)

Ayer *et al.*, *Tetrahedron Lett.*, 4587 (1968)

L. annotinum var. acrifolium Fern.

LYCOPODIUM ALKALOIDS: acrifoline, alkaloid L-28, alkaloid L-30, alkaloid L-31.

Manske, Marion, *J. Am. Chem. Soc.*, **69**, 2126 (1947)

L. carolinianum L.

UNCHARACTERIZED ALKALOID: carolinianine.

Miller *et al.*, *Bull. Soc. Chim. Belg.*, **80**, 629 (1971)

L. carolinianum L. var. affine.

LYCOPODIUM ALKALOID: anhydrolycocernuine.

UNCHARACTERIZED ALKALOID: carolinianine.

Miller *et al.*, *Bull. Soc. Chim. Belg.*, **80**, 629 (1971)

L. cernuum.

DIAZAPHENANTHRENE ALKALOIDS: cernuine, lycocernuine.

TRITERPENOIDS: lycocernuic acid A, lycocernuic acid B.

(A) Marion, Manske, *Can. J. Res.*, **26B**, 1 (1948)

(T) Raffauf *et al.*, *J. Am. Chem. Soc.*, **100**, 7437 (1978)

L. clavatum L.

LYCOPODIUM ALKALOID: fawcettimine.

TRITERPENOIDS: lyclaninol, lyclanitin, lyclavanol, lyclavinin, lyclavatol, lycocryptol, 16-oxoserrat-14-ene-3 α ,21 β -diol, 16-oxoserrat-14-ene-3 β ,21 α -diol, 16-oxoserrat-14-ene-3 β ,21 β -diol, serrat-14-ene-3 α ,20 β ,21,24-tetraol, serrat-14-ene-3 β ,21 β ,24-triol, serrat-14-ene-3 α ,21 β ,24-triol-16-one.

(A) Burnell, Mootoo, *Can. J. Chem.*, **39**, 1090 (1961)

(T) Tsuda *et al.*, *Chem. Pharm. Bull.*, **23**, 1336 (1975)

L. clavatum var. europeus.

LYCOPODIUM ALKALOIDS: clavanoline, clavatine, clavatoxine, de-N-methyl- α -obscurine.

Achmatowicz, Uzieblo, *Roczn. Chem.*, **18**, 88 (1938)

L. clavatum var. megastachyon Fern. et Bissel.

LYCOPODIUM ALKALOIDS: acetyllycoclavine, lucidoline, lycoclavine, lycopodine, methyllycoclavine.

Ayer, Law, *Can. J. Chem.*, **40**, 2088 (1962)

L. complanatum.

UNCHARACTERIZED ALKALOID: complanatine.

TRITERPENOID: tohogenol.

(A) Manske, Marion, *Can. J. Res.*, **20B**, 87 (1942)

(T) Inubushi *et al.*, *Chem. Pharm. Bull.*, **13**, 450 (1965)

L. densum Labill.

LYCOPODIUM ALKALOIDS: alkaloid L-34, alkaloid L-35.

Manske, *Can. J. Res.*, **31**, 894 (1953)

L. fawcettii Lloyd.

LYCOPODIUM ALKALOIDS: acetyl fawcettiine, diacetyllycofoline, fawcettiine, lycodine, lycofawcine, lycofoline.

Anet, Rao, *Tetrahedron Lett.*, **20**, 9 (1960)

L. flabelliforme Fernald.

LYCOPODIUM ALKALOIDS: flabellidine, flabelliformine, flabelline, de-N-methyl- α -obscurine, α -obscurine, β -obscurine.

Young, McLean, *Can. J. Chem.*, **41**, 2731 (1963)

L. gnidioides.

LYCOPODIUM ALKALOIDS: gnidioidine, lycognidine.

Nyembo *et al.*, *Bull. Soc. Chim. Belg.*, **85**, 595 (1976)

L. inundatum L.

LYCOPODIUM ALKALOIDS: dehydrolycopecurine, (-)-3-dehydro-trans-9-methyl-10-ethyllobelidiol, inundatine, isoinundatine, lycopodine.

Braekman *et al.*, *Bull. Soc. Chim. Belg.*, **80**, 83 (1971)

L. lucidulum.

ALKALOID: luciduline.

Ayer *et al.*, *Can. J. Chem.*, **46**, 3631 (1968)***L. lucidum Michx.***

LYCOPODIUM ALKALOIDS: dihydrolycolucine, 6-hydroxylycopodine, 12-hydroxylycopodine, lucidoline, lycolucine, lycopodine.

DITERPENOID: lycoxanthol.

(A) Ayer *et al.*, *Can. J. Chem.*, **57**, 1105 (1979)(T) Burnell, Moinas, *J. Chem. Soc., Chem. Commun.*, 897 (1971)***L. magellanicum.***

ALKALOIDS: 5-dehydromagellanine, magellanine.

Loyola *et al.*, *Phytochemistry*, **18**, 1721 (1979)***L. megastacyum.***

TRITERPENOID: serratenediol.

Inubushi *et al.*, *J. Chem. Soc., C*, 3109 (1971)***L. obscurum var. *dendroideum* (Michx.) D.C.Eaton.***DIAZAPHENANTHRENE ALKALOIDS: α -obscurine, β -obscurine.Moore, Marion, *Can. J. Chem.*, **31**, 952 (1953)***L. paniculatum.***

LYCOPODIUM ALKALOID: paniculine.

Morales *et al.*, *Phytochemistry*, **18**, 1719 (1979)***L. phlegmara.***

TRITERPENOIDS: phlegmanols A, B, C, D, E and F, phlegmaric acid, serratenediol.

Inubushi *et al.*, *Chem. Pharm. Bull.*, **19**, 2640 (1972)***L. saurus Lam.***

LYCOPODIUM ALKALOID: sauroxine.

UNCHARACTERIZED ALKALOIDS: pillijanine, sausurine.

Deulofeu, DeLanghe, *J. Am. Chem. Soc.*, **64**, 968 (1942)***L. selago L.***

ISOQUINOLINE ALKALOIDS: pseudoselagine, selagine.

Achmatowicz, Rodewalk, *Roczn. Chem.*, **30**, 233 (1956)***L. serratum.***

LYCOPODIUM ALKALOID: serratidine.

TRITERPENOIDS: 16-oxolycoclavinol, 16-oxoserratenetriol, tohogeninol, tohogenol.

(A) Inubushi *et al.*, *J. Pharm. Soc., Japan*, **84**, 1108 (1964)(T) Tsuda *et al.*, *Chem. Pharm. Bull.*, **33**, 1290 (1975)

L. serratum var. serratum forma intermedium.

LYCOPODIUM ALKALOID: lycopodine. Uncharacterized alkaloids lycobergine, lycoserramine, lycoserrine, lycothuine.

Inubushi *et al.*, *J. Pharm. Soc., Japan.*, **87**, 1394 (1967)

L. serratum var. serratum forma serratum.

UNCHARACTERIZED ALKALOID: lycoserrine.

Inubushi *et al.*, *J. Pharm. Soc., Japan.*, **87**, 1394 (1967)

L. serratum Thunb. var. thunbergii Mak.

TRITERPENOIDS: serrat-14-ene-3 β ,21 α -diol, serrat-14-ene-3 β ,21 β -diol, serrat-14-ene-3 β ,21 α ,24-triol.

ALKALOIDS: serratidine, serratimidine, serratinine.

(A) Yasui *et al.*, *Tetrahedron Lett.*, 3967 (1966)

(T) Tsuda *et al.*, *ibid.*, 1279 (1964)

(T) Inubushi *et al.*, *Chem. Pharm. Bull.*, **13**, 104 (1965)

L. verticillatum.

LYCOPODIUM ALKALOID: lycoverticine.

Nyumbo *et al.*, *Bull. Soc. Chim. Belg.*, **85**, 595 (1976)

L. wrightianum.

TRITERPENOID: 3,14,20,21,24-serratenepentaol.

Tsuda *et al.*, *Chem. Pharm. Bull.*, **28**, 3275 (1980)

LYCORIS

L. radiata Herb.

ACID: i2-(4-hydroxybenzoyl)-maleic acid. Benzindolizidine alkaloid lycorine.

INDOLE ALKALOIDS: 9-demethylhomolycorine, O-2-demethyllycoramine, galanthamine, lycorenine.

ISOQUINOLINE ALKALOIDS: norpluviine, pluviine.

FLAVAN: 7,3'-dihydroxy-4'-methoxy-8-methylflavan.

(Ac) Koizumi *et al.*, *Phytochemistry*, **15**, 342 (1976)

(A) Kobayashi *et al.*, *Chem. Pharm. Bull.*, **28**, 3433 (1980)

(F) Numata *et al.*, *ibid.*, **31**, 2146 (1983)

LYGODIUM

L. flexuosum.

ANTHRAQUINONE: tectoquinone.

STEROIDS: α -sitosterol, stigmasterol.

TRITERPENOIDS: O-p-coumaryldryocrassol, dryocrassol.

Achari *et al.*, *Planta Med.*, 329 (1986)

LYNGBYA

L. majuscula.

HALOGENATED PYRROLE ALKALOIDS: malyngamide A, malyngamide B.

PYRROLE ALKALOIDS: pukeleimides A, B, C, D, E, F and G.

DEPSIPEPTIDE: majusculeamide C.

(A) Cordellina II, Moore, *Tetrahedron Lett.*, 2007 (1979)

(A) Cordellina II *et al.*, *J. Am. Chem. Soc.*, **101**, 240 (1979)

(D) Carter *et al.*, *J. Org. Chem.*, **49**, 236 (1984)

LYONIA (Ericaceae)

L. ovalifolia var. elliptica.

DITERPENOIDS: lyoniols A, B, C and D.

TRITERPENOIDS: O-p-hydroxy-trans-cinnamoylmaslinic acid, lyofolic acid.

Yasue *et al.*, *J. Pharm. Soc., Japan*, **91**, 1200 (1971)

LYSICHITON (Araceae)

L. camtschatcense var. japonicum Makino.

OXAOPORPHINE ALKALOID: lysicamine.

Katsui *et al.*, *Tetrahedron Lett.*, 6257 (1966)

LYTHRUM (Lythraceae)

L. anceps Makino.

PIPERIDINE ALKALOID: lythramidine.

MACROCYCLIC ALKALOIDS: lythracines I, II, III, IV, V, VI and VII, lythramine, lythrancepines I, II and III, lythranidine, lythranine.

Fujita, Saeki, *J. Chem. Soc., Perkin I*, 306 (1973)

LYTTA

L. vesicatoria.

MONOTERPENOID: catharidin.

Coffey, *Recl. Trav. Chim. Pays-Bas*, **42**, 1026 (1923)

M

MAACKIA (Leguminosae)

M. amurensis Rupr. et Maxim.

LUPANE ALKALOID: (-)-lupanine.

QUINOLIZIDINE ALKALOID: cytisine.

Tsarev, *C.R. Acad. Sci., USSR*, **42**, 122 (1944)

MACARANGA

M. denticulata.

TRITERPENOID: 3-epi-taraxerol.

Bose, Khastgir, *Indian J. Chem.*, **12**, 11 (1973)

M. peltata Muell.

TRITERPENOID: cyclopeltenyl acetate.

Anjaneyulu, Reddy, *Indian J. Chem.*, **20B**, 1033 (1981)

M. tanarius.

DITERPENOIDS:

6,20-epoxylathyrol-5,10-diacetate-3-phenylacetate, macarangonol.

Adolf *et al.*, *Tetrahedron Lett.*, 2241 (1970)

MACFADYENA

M. cynanchoides.

IRIDOID: 5,7-bisdeoxycynanchoside, cynanchoside.

Adrian *et al.*, *Phytochemistry*, **21**, 231 (1982)

MACHAERANTHERA (Compositae)

M. scabrella.

COUMARINS: 5'-oxo-3-aurapten, 5'-oxoaurapten.

Bohlmann, Grenz, *Chem. Ber.*, **109**, 1584 (1976)

M. tanacetifolia (H.B.K.) Nees.

SESQUITERPENOID: (+)-eudesmol- α -L-arabinopyranoside.

Yoshioka *et al.*, *J. Org. Chem.*, **34**, 3697 (1969)

MACHAERIUM

M. acutifolium.

ISOFLAVONE: duartin.

Ollis *et al.*, *Phytochemistry*, **17**, 1401 (1978)

M. opacum.

ISOFLAVONE: duartin.

Ollis *et al.*, *Phytochemistry*, **17**, 1401 (1978)

M. scleroxylon.

PHENOLICS: dalbergin, 3,4-dimethoxydalbergione, O-methyldalbergin.

TRITERPENOID: O-acetyloleanolic aldehyde.

Mukherjee *et al.*, *Tetrahedron*, **27**, 799 (1971)

Yoshimoto *et al.*, *Mokuzai Gakkaishi*, **21**, 686 (1975) *Chem. Abstr.*, 84 147705b

M. villosum.

ISOFLAVONE: duartin.

Ollis *et al.*, *Phytochemistry*, **17**, 1401 (1978)

MACHAEROCEREUS (Cactaceae)

M. gummosus.

TRITERPENOIDS: gummosogenin, macheeric acid, macherinic acid.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **77**, 1825 (1955)

MACHILUS (Lauraceae)

M. acuminatissimum.

One uncharacterized alkaloid.

Lu, *J. Pharm. Soc., Japan*, **87**, 1278 (1967)

M. glaucescens Wight.

OXOAPORPHINE ALKALOID: machigline.

Talapatra *et al.*, *J. Indian Chem. Soc.*, **59**, 1364 (1982)

M. japonica. Sieb. et Zucc.

LIGNANS: (+)-galbacin, (+)-galbelgin, (-)-licarin-B, machilusin.

Hughes *et al.*, *Aust. J. Chem.*, **7**, 104 (1954)

Takeoka *et al.*, *Bull. Chem. Soc., Japan*, **49**, 3564 (1976)

M. kusanoi.

BENZOISOQUINOLINE ALKALOID: L-(-)-norarmepavine.

Tomita *et al.*, *J. Pharm. Soc., Japan*, **83**, 15 (1963)

MACKLINAYA

M. macrosciadia (F.Muell.) F.Muell.

QUINAZOLINE ALKALOIDS:

6,7,8,9-tetrahydro-11H-pyrido-[2,1-b]-quinazoline, 6,7,8,9-tetrahydro-11H-pyrido-[2,1-b]-quinazolin-11-one.

Spath, Platzer, *Ber. Dtsch. Chem. Ges.*, **68**, 2221 (1935)

M. subulata Philipson.

QUINAZOLINE ALKALOIDS:

6,7,8,9-tetrahydro-11H-pyrido-[2,1-b]-quinazoline, 6,7,8,9-tetrahydro-11H-pyrido-[2,1-b]-quinazolin-11-one.

Johns, Lamberton, *J. Chem. Soc., Chem. Commun.*, 267 (1965)

MACLURA (Moraceae)

M. pomifera.

SESTERPENOID: pomiferin.

TRITERPENOID: lupane-3 β ,20-diol.

XANTHONE: toxyloxanthone.

(T) Gearien, Klein, *J. Pharm. Sci.*, **64**, 104 (1975)

(X) Deshpande *et al.*, *Indian J. Chem.*, **11**, 518 (1973)

MACOWANIA

M. corymbosa.

DITERPENOID: 3,4-dihydro-cis-clerodan-15-oic acid.

Bohlmann, Zdero, *Phytochemistry*, **16**, 1583 (1977)

MACROCYSTIS (Phaeophyceae)

M. pyrifer.

AMINO ACIDS: alanine, arginine, aspartic acid, cystine, glutamic acid, glycine, histidine, isoleucine, leucine, lycine, methionine, ornithine, phenylalanine, proline, serine, threonine, valine.

Mateus *et al.*, *Bot. Mar.*, **19**, 155 (1976); *Chem. Abstr.*, 85 119623a

MACROPIPER

M. excelsum.

LIGNANS: demethoxyexcelsin, syringiaresinol.

Russell *et al.*, *Phytochemistry*, **12**, 1799 (1973)

MACRORUNGIA (Acanthaceae)

M. longistrobos C.B.Cl.

QUINOLINE ALKALOIDS: dehydroisolongistrobine, isolongistrobine, isomacrorine, longistrobine, macrorine, macrorungine, normacrorine.

Arndt *et al.*, *Tetrahedron*, **25**, 2767 (1969)

Wuonolo, Woodward, *ibid.*, **32**, 1085 (1976)

MACROTOMIA (Boraginaceae)

M. echinoides (L.) Boiss. (*Aipyanthus echiooides*).

PYRROLIZIDINE ALKALOID: macrotomine.

Men'shikov, Petrova, *J. Gen. Chem. USSR*, **22**, 1457 (1952)

MACROZAMIA

M. riedlei.

GLYCOALKALOID: macromazine.

Lythgoe, Riggs, *J. Chem. Soc.*, 2716 (1949)

MACUNA

M. deeringiana.

QUINOLINE ALKALOID:

1,2,3,4-tetrahydro-6,7-dihydroxy-1-methyl-3-isoquinoline carboxylic acid.

Daxenbichler *et al.*, *Tetrahedron Lett.*, 1801 (1972)

M. mutisiana.

ISOQUINOLINE ALKALOID:

1,2,3,4-tetrahydro-6,7-dihydroxyisoquinoline carboxylic acid.

Bell *et al.*, *Phytochemistry*, **10**, 2191 (1971)

M. pruriens.

UNCHARACTERIZED ALKALOIDS: prurienine, prurieninine.

Santra, Majumder, *Indian J. Pharm.*, **15**, 62 (1953)

MADHUCA

M. longifolia.

TRITERPENOID: protobassic acid.

SAPONINS: MI-saponins A, B and C.

Kitagawa *et al.*, *Chem. Pharm. Bull.*, **26**, 1100 (1978)

MAESA

M. chisia.

STEROID: 7,22-stigmastadien-3-ol- β -D-glucopyranoside.

Nigam *et al.*, *Indian J. Chem.*, **5**, 395 (1967)

MAGNOLIA (Magnoliaceae)

M. acuminata (L.) L.

DITERPENOID: acuminatin.

Aiba *et al.*, *Phytochemistry*, **12**, 1163 (1973)

M. coco.

BISBENZYLISOQUINOLINE ALKALOID: magnococloline.

Van, Lui, *J. Chin. Chem. Soc.*, **18**, 91 (1971)

M. fargesii.

LIGNAN: fargesin.

Kakisawa *et al.*, *Bull. Chem. Soc., Japan*, **43**, 3631 (1970)

M. fuscata Andr.

BISBENZYLISOQUINOLINE ALKALOIDS: magnolamine, magnoline.

Proskurnina, Orekhov, *Bull. Soc. Chim.*, **5**, 1357 (1938)

M. grandiflora L.

QUATERNARY AMINES: candicine, salicifoline.

GLUCOSIDES: lirioresinol A, syringin.

SESQUITERPENOIDS: magnolialide, peroxycostunolide, peroxyparthenolide.

(A) Erspamer, *Arch. Biochem. Biophys.*, **82**, 431 (1959)

(G) Briggs *et al.*, *J. Chem. Soc., C*, 3042 (1968)

(T) El-Ferally *et al.*, *Phytochemistry*, **18**, 881 (1979)

M. kachirachira.

BENZYLISOQUINOLINE ALKALOID: D-(+)-norarmepavine.

Yanu, Lu, *J. Pharm. Soc., Japan*, **83**, 22 (1963)

M. kobus.

SESQUITERPENOIDS: kobusunin A, kobusunin B.

Ida *et al.*, *Phytochemistry*, **21**, 673 (1982)

M. liliiflora Desr.

Two uncharacterized alkaloids.

Nakuno *et al.*, *Pharm. Bull.*, **1**, 29 (1953)

M. obovata.

ACID: palmitic acid.

APORPHINE ALKALOID: obovaine.

ESTERS: ethyl palmitate, ethyl stearate.

MONOTERPENOIDS: bornyl acetate, camphene, caryophyllene, caryophyllene epoxide, limonene, β -pinene.

Ito, Asai, *J. Pharm. Soc., Japan*, **94**, 729 (1974)

Sashida *et al.*, *ibid*, **96**, 218 (1976)

M. officinalis L.

TERPENOID: bornylmagnolol.

Tsumura, Juntendo Ltd, *Japanese Patent*, 84 95, 229

M. x soulangeana Soulange-Bodin.

ALKALOID: oxylauranine.

SESQUITERPENOIDS: soulangianolides A and B.

(A) Ziyaev *et al.*, *Khim. Prir. Soedin.*, 528 (1975)

(T) El-Ferally *et al.*, *Phytochemistry*, **22**, 2239 (1983)

M. sprengerii.

AMINE: magnosprengerine.

Cao *et al.*, *Zhongcaoyao*, **16**, 386 (1985); *Chem. Abstr.*, 104 17645c

M. wilsonii Rehd.

ISOQUINOLINE ALKALOID: magnocurarine.

Wang, *Yaoxue Fenxi Zazhi*, **2**, 95 (1982); *Chem. Abstr.*, 97 195751d

MAGUEY (Agavaceae)

M. cacaya.

STEROIDS: cacogenin, macogenin.

Marker, *J. Am. Chem. Soc.*, **69**, 2399 (1947)

M. canasto.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

M. canon de abra.

STEROID: tigogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

M. cenisto.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

M. cimmaron.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

M. cuchacamba.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

M. el ojital.

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

M. espadin.

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

M. estrella.

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

M. tequila manso.

STEROID: hecogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

MAGYDARIS (Umbelliferae)

M. panacifolia (Vahl.) Lange.

DITERPENOIDS: magydardiendiol,
magydar-2,10(20),13-trien-17-acetate,
magydar-2,10(20),13-trien-17-ol.
de Pascual Teresa *et al.*, *Tetrahedron Lett.*, 4563 (1978)

MAHONIA (Berberidaceae)

M. aquifolia (Pursh.) Nutt. (*Berberis aquifolium* Pursh.)

APORPHINE ALKALOIDS: corydine, corytuberine, isoboldine, isocorydine, magnoflorine.

BISBENZYLISOQUINOLINE ALKALOID: berbamine.

QUATERNARY ALKALOIDS: columbamine, jatrorrhizine, palmatine.

PROTOBERBERINE ALKALOIDS: berberine, tetrahydrojatrorrhizine, tetrahydroberberine.

Slavik *et al.*, *Chem. Pap.*, **39**, 547 (1985); *Chem. Abstr.*, 104 31708g

M. nepalensis DC. (*Berberis nepalensis* Spreng.).

BENZYLISOQUINOLINE ALKALOIDS: neprotine, umbellatine. Chatterjee, *Sci. Cult.*, **7**, 619 (1942)

M. philippinensis Nutt.

PROTOBERBERINE ALKALOIDS: jatrorrhizine, shobakunine. Santos, *Univ. Philipp. Nat. Appl. Sci. Bull.*, **1**, 183 (1931)

M. trifoliolata Fedde.

PROTOBERBERINE ALKALOID: berberine. Awe, *Arch. Pharm.*, **284**, 352 (1951)

MAJIDEA

M. fosteri Radlk.

TRITERPENOID GLYCOSIDE: majideagenin.
Kapundu *et al.*, *Bull. Soc. Chim. Belg.*, **93**, 497 (1984)

MAJORANA

M. hortensis.

FLAVANONE: majoranin.

Mabry *et al.*, *Curr. Sci.*, **41**, 202 (1972)

MAKINOA (Dilenaenaceae)

M. crispata.

SESQUITERPENOID: crispatanolide.

Asakawa *et al.*, *J. Chem. Soc., Chem. Commun.*, 1232 (1980)

MALABAILA (Pastinaceae)

M. dasycarpa.

COUMARINS: bergapten, imperatorin, isobergapten, isopimpinellin, pimpinellin, sphondin, umbelliferone. Gusak *et al.*, *Chem. Abstr.*, 86 68378k

M. graveolens.

COUMARINS: bergapten, imperatorin, isobergapten, isopimpinellin, pimpinellin, sphondin, umbelliferone. Gusak *et al.*, *Chem. Abstr.*, 86 68378k

MALACOCARPUS (Zygophyllaceae)

M. crithmifolius.

PIPERIDINE ALKALOID: anabasine.

Spath, Kesztler, *Ber. Dtsch. Chem. Ges.*, **70**, 72 (1937)

MALAPROUNEA

M. africana.

TRITERPENOID: malaprounic acid.

Wani *et al.*, *J. Nat. Prod.*, **46**, 537 (1983)

MALAXIS (Orchidaceae)

M. congesta.

PYRROLIZIDINE ALKALOID: malaxine.

Leander, Luning, *Tetrahedron Lett.*, 3477 (1967)

M. grandifolia Schltr.

PYRROLIZIDINE ALKALOID: grandiflorine.

Lindstrom *et al.*, *Acta Chem. Scand.*, **25**, 1900 (1971)

MALLOTUS (Euphorbiaceae)

M. hookerianus.

TRITERPENOIDS: $3\beta,28$ -dihydroxyurs-12-en-27-oic acid, 3-oxours-12-ebe-27,28-dioic acid. Hui, Li, *Phytochemistry*, **15**, 985 (1976)

M. japonicus.

PHENOLICS: 4-O-galloylbergenin, 11-O-galloylbergenin,

11-O-galloyldemethylbergenin. Yoshida *et al.*, *Phytochemistry*, **21**, 1180 (1982)

M. paniculatus.

TRITERPENOID: 29-nor-21H-hopane-3,22-dione. Hui *et al.*, *Phytochemistry*, **8**, 819 (1969)

M. repandus.

ISOCOUMARIN: bergenin.

TERPENOIDS: mallotucins A and B.

TRITERPENOID: 3β -hydroxy-13-ursan-28,12-olide benzoate.

(I) Tomizawa *et al.*, *Phytochemistry*, **15**, 328 (1976)

(T) Kawashima *et al.*, *Heterocycles*, **5**, 277 (1976)

M. stenanthus.

TRITERPENOID: mallotin.

Pal *et al.*, *Phytochemistry*, **14**, 2263 (1975)**MALOUETIA (Apocynaceae)*****M. arborea Miers.***

STEROIDAL ALKALOIDS: malarboreine, malarborine.

Soti *et al.*, *Tetrahedron Lett.*, 1437 (1967)***M. bequaertiana.***STEROIDAL ALKALOIDS: funtumufrine C, funtuphyllamine B, malouetine, malouphyllamine, malouphylline. Janot *et al.*, *Bull. Soc. Chim. Fr.*, 648 (1962)**MALUS (Rosaceae)*****M. communis.***

FLAVANONE: 3',4',5,7-tetrahydroxyflavanone-7-glucoside.

Kowakewski, *Planta Med.*, **19**, 311 (1971)***M. silvestris Mill.***FLAVONOIDS: quercetin 3-O- α -L-arabinofuranoside, quercetin 3-O- α -D-galactoside, quercetin 3-O- β -D-glucoside, quercetin 3-O-rhamnoside, quercetin 3-O-xyloside, rutin. Teuber Wuenscher *et al.*, *Chem. Abstr.*, 88 148955c**MALVA (Malvaceae)*****M. sylvestris.***FLAVONOIDS: gossypin 3-sulphate, hypoletin 8-O- β -D-glucoside 3'-sulphate.Nawwar *et al.*, *Phytochemistry*, **16**, 145 (1977)

MAMMEA (Guttiferae/Clusiaceae)

M. acuminata.

XANTHONES: 2-hydroxyxanthone, 2-methoxyxanthone.

Karunanayake *et al.*, *Unpublished work. Given in J. Chem. Soc., Perkin I*, **2241**, 2259 (1972)

M. africana G.Don.

XANTHONES: 1,5-dihydroxyxanthone, 1,5,6-trihydroxyxanthone, 1,6,7-trihydroxyxanthone.

Jackson *et al.*, *J. Chem. Soc., C*, **2201**, 2421 (1969)

M. americana L.

COUMARINS: 4-[1-(acetoxypropyl)]-5,7-dihydroxy-6-(3-ethyl-2-butenyl)-8-(2-methyl-1-oxobutyl)-2H-1-benzopyran-2-one,

cyclomammein, cyclomammeisin, cycloneomammein.

XANTHONES: 1,5-dihydroxyxanthone, 2-hydroxyxanthone, 4-hydroxyxanthone, 2-methoxyxanthone.

(C) Crombie *et al.*, *J. Chem. Soc., Perkin I*, 2241, (1972)

(C) Crombie *et al.*, *ibid.*, **1**, 2259 (1972)

(X) Finnegan *et al.*, *Tetrahedron Lett.*, 6087 (1966)

M. indica.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelin, lupeol, taraxerol, taraxerone.

Arjaneyulu *et al.*, *Indian J. Pharm. Sci.*, **44**, 58 (1982)

M. longifolia.

COUMARIN: surangin A.

Buchiet *et al.*, *J. Chem. Soc., C*, 542 (1966)

MANDRAGORA (Solanaceae)

M. scopoliae.

TROPANE ALKALOID: (-)-hyoscyamine.

Bremner, Cannon, *Aust. J. Chem.*, **21**, 1369 (1968)

M. vernalis.

TROPANE ALKALOIDS: hyoscine, norhyoscyamine.

King *et al.*, *J. Chem. Soc.*, 476 (1919)

MANFREDA (Agavaceae)

M. gigantea.

STEROID: gitogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

M. maculosa Hook.

STEROIDS: hecogenin, manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **85**, 1199 (1943)

M. tigrina Engelm.

STEROID: manogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

M. virginica.

STEROID: gitogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

MANGIFERA (Anacardiaceae)

M. indica L.

TRITERPENOIDS: ambolic acid, ambonic acid, isomangiferolic acid, mangiferolic acid, mangiferonic acid. Corsano, Mincione, *Tetrahedron Lett.*, 2377 (1965)

MANILA

M. elemi.

TRITERPENOID: brein.

Laird *et al.*, *J. Am. Chem. Soc.*, **82**, 4108 (1960)

MANILKARA

M. hexandra.

TRITERPENOID: triandrin.

Pant, Rastogi, *Indian J. Chem.*, **15B**, 911 (1977)

MANNIA

M. fragrans.

SESQUITERPENOIDS: (R)(-)-cuparenone.

Benesova, *Collect. Czech. Chem. Commun.*, **41**, 8812 (1976)

MANSONIA (Sterculiaceae)

***M. altissima* Chev.**

SESQUITERPENOIDS: mansonones A, B, C, D, E, F, G and H.

Marini-Bettolo *et al.*, *Tetrahedron Lett.*, 4857 (1965)

Tanaka *et al.*, *ibid.*, 2767 (1966)

MAPPIA (Olacaceae)

***M. foetida* Miers.**

ALKALOIDS: camptothecin, mappicine, 9-methoxycamptothecin.

Govindachari *et al.*, *J. Chem. Soc., Perkin I*, 1215 (1974)

MARAH (Cucurbitaceae)

***M. macrocarpus* (Greene) Greene.**

TRITERPENOIDS: echinocystic acid methyl ester, maragenins I, II and III.

Hylands, Salama, *Tetrahedron*, **35**, 417 (1979)

M. oreganus.

FLAVONOIDS: kaempferol 3-O-diglucoside, kaempferol 3,7-di-O-glucoside, kaempferol 3-O-glucoside, kaempferol 3-O-glucoside-7-O-rhamnoside, quercetin 3-O-diglucoside, quercetin 3,7-di-O-glucoside, quercetin 3-O-glucoside, quercetin 3-O-glucoside-7-O-rhamnoside.

TRITERPENOID: dihydrocucurbitacin B.

(F) Nicholls *et al.*, *J. Nat. Prod.*, **45**, 453 (1982)

(T) Kupchan *et al.*, *Phytochemistry*, **17**, 767 (1978)

MARASMIUS (Basidiomycetae)

M. alliaceus.

SESQUITERPENOIDS: alliacide, alliacols A and B, alliacolides I, II and III, 11-hydroxyalliacolide, 12-hydroxyalliacolide, 12-noralliacolide.

Anke *et al.*, *J. Antibiotics*, **34**, 1271 (1981)

Farrell *et al.*, *J. Chem. Soc., Perkin I*, 1790 (1981) ***M. conigenus.***

SESQUITERPENOID: marasmic acid.

Kavanagh *et al.*, *Proc. Nat. Acad. Sci.*, **35**, 843 (1949)

MARCHANTIA (Hepaticae)

M. polymorpha L.

SESQUITERPENOIDS: (S)-2-hydroxycuparene, prelunaric acid.

Ohta *et al.*, *Phytochemistry*, **23**, 1607 (1984)

MARGINOSPORUM (Rhodophyceae)

M. aberrans.

AMIDE: dichloroacetamide.

HALOGENATED DITERPENOID: aplysin 20.

SESQUITERPENOID: 3,5-dinitroguaiacol.

HALOGENATED SESQUITERPENOID: aplysinal.

(Am) Ohta *et al.*, *Phytochemistry*, **16**, 1085 (1977)

(T) Ohta, Takagi, *ibid.*, **16**, 1062 (1977)

MARGOTIA

M. gummifera.

DITERPENOIDS: gummiferolic acid, isomargotanoic acid, margotianin, margotanoic acid.

Rodriguez, Pinar, *An. Quim.*, **75**, 936 (1979)

MARKHAMIA

M. hildebrandtii (Baker) Sprague.

NAPHTHOQUINONES: dehydro- α -lapachone, 2-isopentylfurano-1,4-naphthoquinone, lapachol.

Chen *et al.*, *Hua Hsueh*, **44**, 61 (1986); *Chem. Abstr.*, 105 168912j

M. stipulata.

NAPHTHOPYRAN: tectol.

SESQUITERPENOID: dehydro- α -lapachone.

(N) Joshi *et al.*, *Planta Med.*, **34**, 219 (1978)

(T) Manners *et al.*, *Phytochemistry*, **15**, 225 (1976)

MARRUBIUM (Labiatae)

M. allyson.

DITERPENOIDS: 6-acetylpremarrubanol, premarrubanol. Savona *et al.*, *Phytochemistry*, **18**, 859 (1979)

M. alternidens Rech.

QUATERNARY ALKALOID: stachydine.

Paudler, Wagner, *Chem. Ind.*, 1693 (1963)

M. catariifolium.

DITERPENOID: peregrinol.

Salei *et al.*, *Khim. Prir. Soedin.*, 301 (1967)

M. incanum.

DITERPENOID: marrubiin-3-one.

Salei *et al.*, *Khim. Prir. Soedin.*, 249 (1966)

M. leonurioides.

DITERPENOIDS: marrubiin-3-one, peregrinol.
 Salei *et al.*, *Khim. Prir. Soedin.*, 301 (1967)

M. peregrinum.

DITERPENOIDS: marrubiin-3-one, peregrinol.
 Salei *et al.*, *Khim. Prir. Soedin.*, 301 (1967)

M. praecox.

DITERPENOID: peregrinol.
 Salei *et al.*, *Khim. Prir. Soedin.*, 301 (1967)

M. sericeum.

DITERPENOIDS: 6-acetyl marrubanol, 19-acetyl marrubanol, 6-acetyl premarrubanol,
 premarrubanol.
 Savona *et al.*, *Phytochemistry*, **18**, 859 (1979)

M. supinum.

DITERPENOIDS: 6-acetyl marrubanol, 19-acetyl marrubanol, 6-acetyl premarrubanol,
 premarrubanol.

Savona *et al.*, *Phytochemistry*, **18**, 859 (1979)

M. vulgare L.

QUATERNARY ALKALOID: betonicine.

MONOTERPENOIDS: camphene, p-cymene, p-fenchene, limonene, α -pinene,
 sabinene, α -terpinolene.

DITERPENOIDS: marrubanol, peregrinol.

(A) Cocker, *J. Chem. Soc.*, 2540 (1953)

(T) Salei *et al.*, *Khim. Prir. Soedin.*, 301 (1967)

(T) Karryev *et al.*, *Izv. Akad. Nauk Turkm. SSR*, 86 (1976); *Chem. Abstr.*, 86 2355u

MARSDENIA (Asclepiadaceae)

M. condurango Rchb.

STEROIDAL ALKALOIDS: condurangamines A and B.

STEROIDS: condurangoglycosides A, B and C.

(A) Pailer, Ganzinger, *Monatsh. Chem.*, **106**, 37 (1975)

(S) Saner *et al.*, *Helv. Chim. Acta*, **53**, 221 (1970)

M. erecta R.Br.

STEROIDS: marsdenin, marsectohexol,
 marsectohexol -11,12-diacetate.

Saner *et al.*, *Helv. Chim. Acta*, **53**, 221 (1970)

M. flavescens.

STEROIDS:

12-O-acetyl-3 β ,8 β ,12 β ,14 β ,20-pentahydroxypregn-5-en-10-one, flavesclin.

Duff *et al.*, *Phytochemistry*, **12**, 2943 (1973)

M. formosana.

STEROIDS: glycosides MF-A, MF-B, MF-C and MF-D.

TRITERPENOIDS: marsformol, marsformosanone, marsformoxides A and B, 9(11),12-ursadien-3-one.

(S) Ito *et al.*, *Chem. Pharm. Bull.*, **26**, 3189 (1978)

(T) Lai, Ito, *ibid.*, **27**, 2248 (1979)

M. rostrata.

STEROIDAL ALKALOIDS: dihydrorostratamine, rostratamine.

Gellert, Simmons, *Aust. J. Chem.*, **27**, 919 (1974)

M. sinensis.

ALIPHATIC: hentriaccontane.

TRITERPENOIDS: α -amyrin acetate, lupenyl acetate.

Du *et al.*, *Zhongcaoyao*, **17**, 290 (1986); *Chem. Abstr.*, 105 168930p

M. tenacissima (Roxb.) Wight et Arn.

STEROIDS: drevogenin Q, tenacigenin, tenacigenins A, B and C, tenascogenin, tenacissigenin.

Singhal *et al.*, *Indian J. Chem.*, **19B**, 178 (1980)

Luo *et al.*, *Huaxue Xuebao*, **40**, 321 (1982); *Chem. Abstr.*, 97 123892c

M. tomentosa Decne.

STEROIDAL ALKALOID: tomentomine.

STEROIDS: deacetyldehydrotomentodin, deacetylkidjoladinin, deacetylmentosin, dehydrotomentosin, kidjoladinin, kidjolanin, penupogenin 20-O-acetate, tomentin, tomentogenin, tomentogenin 12-O-acetate, tomentogenin-12-(2-methyl-2-butenoate)-20-O-acetate, tomentogenin 12-(2-methyl-2-propenoate)-20-acetate, tomentonin, tomentosin.

(A) Sato *et al.*, *Chem. Pharm. Bull.*, **25**, 876 (1977)

(S) Mitsuhashi *et al.*, *Chem. Pharm. Bull.*, **13**, 267 (1965)

(S) Sato *et al.*, *ibid.*, **25**, 611 (1977)

MARSILIA (Marsiliaceae)

M. minuta L.

TRITERPENOID: marsilagenin A.

Chakravarti *et al.*, *Tetrahedron*, **31**, 1781 (1975)

MARSUELLA (Hepaticae)

*M. emarginata (Ehrh.) Dum. subsp. *tubulosa*.*

SESQUITERPENOIDS: (+)-marsupellol, (-)-marsupellol.

Matsuo *et al.*, *Chem. Lett.*, 73 (1979)

MARTENSIA (Rhodophyceae)

M. fragilis.

INDOLE ALKALOIDS: fragilamide, martensine A, 10-epi-martensine A, martensine B.

Kirkup, Moore, *Tetrahedron Lett.*, 2087 (1983)

MATRICARIA (Compositae)

M. caucasica Poir.

Acetylenic compounds.

Bohlmann *et al.*, *Chem. Ber.*, **100**, 611 (1967)

M. chamomilla L.

SESQUITERPENOIDS: (-)-bisaboloxides A, B and C.

Sorm *et al.*, *Collect. Czech. Chem. Commun.*, **16**, 626 (1951)

Stilcher *et al.*, *Planta Med.*, **23**, 132 (1973)

M. discoidea DC.

COUMARINS: herniarin, umbelliferone.

FLAVONOIDS: cynaroside, luteolin.

Provskii *et al.*, *Khim. Prir. Soedin.*, 712 (1985)

M. inodora L.

MONOTERPENOID: (2E,8Z)-2,8-decadiene-4,6-diyenoic acid.

Bohlmann *et al.*, *Chem. Ber.*, **100**, 611 (1967)

M. oreades Boiss.

Acetylenic compounds.

Bohlmann *et al.*, *Chem. Ber.*, **100**, 611 (1967)

M. radix.

SESQUITERPENOID: chamomillol.

Reichling *et al.*, *Z. Naturforsch.*, **38C**, 159 (1983)***M. suffruticosa.***

SESQUITERPENOID: 9-acetoxyparthenolide.

Bohlmann *et al.*, *Chem. Ber.*, **108**, 437 (1975)***M. zuurbergensis.***

SESQUITERPENOID: zuurbergenin.

Bohlmann, Zdero, *Phytochemistry*, **16**, 136 (1977)**MATTEUCIA (Athyriaceae)*****M. orientalis.***

BENZOPYRAN: matteucinol.

Arthur *et al.*, *J. Chem. Soc.*, 3197 (1960)**MATTHIOLA (Cruciferae)*****M. incana R.Br.***

FLAVONOIDS: kaempferol 7-glucoside, kaempferol 3-rhamnoarabino-7-rhamnoside, kaempferol rhamnogluco-7-rhamnoside, kaempferol 7-rhamnoside.

Matkawska *et al.*, *Herba Pol.*, 22, 138 (1976); *Chem. Abstr.*, 86 68367f**MAYACA (Mayacaceae)*****M. fluviatilis.***

FLAVONOIDS: kaempferol 3-O-glucoside, luteolin 5-O-glucoside, quercetin 3-O-glucoside, quercetin 3-O-rutinoside.

Roberts, Haynes, *Phytochemistry*, **24**, 3077 (1985)

MAYTENUS (Celastraceae)

M. arbutifolia.

MACROCYCLIC ALKALOIDS: celacinnine, celallocinnine.

Kupchan *et al.*, *J. Chem. Soc., Chem. Commun.*, 329 (1974)

M. buchananii.

MACROCYCLIC ALKALOIDS: maysenine, maysine, maytanvaline, normaysine.

Kupchan *et al.*, *J. Org. Chem.*, **42**, 2349 (1977)

M. buxifolia.

MACROCYCLIC ALKALOIDS: N(1)-acetyl N(1)-deoxymayfoline, mayfoline.

Diaz, Ripperger, *Phytochemistry*, **21**, 255 (1982)

M. chuchuhuasca.

TRITERPENOIDS: pristimerin, tingenone.

Martinod *et al.*, *Phytochemistry*, **15**, 562 (1976)

M. dispermus.

DITERPENOIDS: dispermol, dispennone, maytenoquinone.

Martin, *Tetrahedron*, **29**, 2553 (1973)

M. diversifolia.

TRITERPENOIDS: 3,22-dihydroxy-12-oleanen-29-oic acid, maytenolic acid, maytenfolioln, maytensifolin A.

Lac *et al.*, *Tetrahedron Lett.*, 707 (1984)

M. guianensis.

PHENOLICS: 4'-O-methyl-(-)-epigallocatechin, proanthocyanidin A.

STEROIDS: β -sitostenone, β -sitosterol.

TRITERPENOID: friedelan-3,7-dione.

De Sousa *et al.*, *Phytochemistry*, **25**, 1776 (1986)

M. hookeri Loes.

MACROCYCLIC ALKALOID: maytanbutine.

Zhou *et al.*, *Huaxue Xuebao*, **39**, 933 (1982)

M. ilicifolia.

TRITERPENOIDS: maitenin, maytensin.

Delle Monache *et al.*, *Gazz. Chim. Ital.*, **102**, 317 (1972)

M. mossambicensis.

MACROCYCLIC ALKALOIDS: hydroxyisocelabenzine, isocyclocelabenzine.

Wagner, Burghes, *Helv. Chim. Acta*, **65**, 739 (1982)

M. myrsinoides.

MACROCYCLIC ALKALOIDS: acetylmaymyrsine, maymyrsine.
 Baudouin *et al.*, *Heterocycles*, **22**, 2221 (1984)

M. ovatus Loes.

MACROCYCLIC ALKALOIDS: maytine, maytoline.
 Kupchan *et al.*, *J. Am. Chem. Soc.*, **92**, 6667 (1970)

M. rigida.

TRITERPENOID: 11-hydroxy-20(29)-lupen-3-one, rigidanol.
 Marta *et al.*, *Gazz. Chim. Ital.*, **106**, 61 (1979)

M. senegalensis.

TRITERPENOID: maytenonic acid.
 Abraham *et al.*, *J. Pharm. Sci.*, **64**, 1085 (1971)

M. serrata.

PERHYDRONAPHTHALENE ALKALOID: maytolidine.
 MACROCYCLIC ALKALOIDS: maytanbutacine, maytanbutine, maytanprine, maytansine.
 Kupchan, Smith, *J. Org. Chem.*, **42**, 115 (1977)
 Kupchan, Smith, *ibid.*, **42**, 2349 (1977)

MECANOPSIS (Papaveraceae)

M. cambrica (L.) Vig.

APORPHINE ALKALOID: mecambroline.
 PROTOBERBERINE ALKALOID: mecabridine.
 SPIROISOQUINOLINE ALKALOIDS: fungipavine, mecambrine.
 Slavik, Slavikova, *Collect. Czech. Chem. Commun.*, **28**, 1720 (1963)

MEDICAGO (Leguminosae)

M. rugosa L.

FLAVONOIDS: (-)-isosativan, (-)-medicarpin, (-)-vestitol, (\pm)-vestitone.
 PHYTOALEXIN: isosativanone.
 Ingham, *Planta Med.*, **45**, 46 (1982)

M. sativa L.

COUMARIN: sativol.

TRITERPENOID: medicagenic acid.

(C) Kalra *et al.*, *Tetrahedron Lett.*, 2153 (1967)

(T) Walter *et al.*, *J. Am. Chem. Soc.*, **76**, 2271 (1954)

MEDICOSMA

M. cunninghamii.

FURANOQUINOLINE ALKALOID: medicosmine.

CHROMENE: alloevodionol.

(A) Lamberton, Price, *Aust. J. Chem.*, **6**, 173 (1953)

(C) Barnes *et al.*, *ibid.*, **17**, 975 (1964)

MEIOCARPUM

M. lepidatum.

PHENANTHRENE ALKALOIDS: methoxyatherospermine, methoxyatherospermine N-oxide.

Leboeuf *et al.*, *Plant Med. Phytother.*, **11**, 284 (1973)

MELALEUCA

M. alternifolia.

SESQUITERPENE: viridiflorene.

Swords, Hunter, *J. Agric. Food Chem.*, **26**, 734 (1978)

M. cuticularis.

TRITERPENOID: malaleucic acid.

Arthur *et al.*, *Chem. Ind. (London)*, 926 (1956)

M. linearifolia.

SESQUITERPENOID: melalinol.

Davenport *et al.*, *Chem. Abstr.*, 44 3677

M. raphniphylla.

TRITERPENOID: melaleucic acid.

Arthur *et al.*, *Chem. Ind. (London)*, 926 (1956)

M. viminea.

TRITERPENOID: melaleucic acid.

Arthur *et al.*, *Chem. Ind. (London)*, 926 (1956)

M. viridiflora.

SESQUITERPENOID: viridiflorol.

Baker, Smith, *Proc. Roy. Soc., N.S. W.*, 205 (1913)

MELAMPODIUM (Compositae/Heliantheae)

M. americanum.

SESQUITERPENOIDS: 9-deacetylmelampodinin A, leucanthinin, melampodinin, melampodinins A, B and C.

Malcolm *et al.*, *Phytochemistry*, **21**, 151 (1982)

M. argophyllum.

SESQUITERPENOIDS: cinerenin, melampodin C.

Perry, Fischer, *J. Org. Chem.*, **40**, 3480 (1975)

M. cinereum.

SESQUITERPENOIDS: cinerenin, 4,5-dihydromelampodin B, melcanthins A, B and C, melnerin.

Klimash *et al.*, *Phytochemistry*, **20**, 840 (1981)

M. diffusum.

SESQUITERPENOID: melfusin.

Quijano *et al.*, *J. Nat. Prod.*, **44**, 266 (1985)

M. heterophyllum.

SESQUITERPENOID: 11,13-dihydromelampodin.

Dominguez *et al.*, *Phytochemistry*, **20**, 1431 (1981)

M. leucanthum.

SESQUITERPENOIDS: 9-acetoxymelnerin A, 9-acetoxymelnerin B, leucanthins A, B and C, leucanthinin, melampodin, melampodin B, melampodin C, melampodinin.

Perry, Fischer, *J. Org. Chem.*, **40**, 3480 (1975)

Oliver *et al.*, *ibid.*, **45**, 4028 (1980)

M. linearilobum.

SESQUITERPENOIDS: linearilobins A, B, C, D, E, F, G and H.
Seaman *et al.*, *Phytochemistry*, **19**, 849 (1980)

M. longicorne.

SESQUITERPENOIDS: longicornins A, B, C and D.
Malcolm *et al.*, *J. Chem. Soc., Chem. Commun.*, 2759 (1983)

M. longipilum.

SESQUITERPENOIDS: longipilin, longipin.
Seaman, Fischer, *Phytochemistry*, **17**, 2131 (1978)

M. perfoliatum.

DITERPENOID: 18-angeloyloxykaurenoic acid.
Bohlmann, Zdero, *Chem. Ber.*, **109**, 1670 (1976)

M. rosei.

SESQUITERPENOID: melrosin A.
Fischer *et al.*, *J. Chem. Soc., Chem. Commun.*, 1243 (1982)

MELAMPYRUM (Scrophulariaceae)

M. sylvaticum L.

TERPENOID: melampyroside.
Ann, Pacholy, *Tetrahedron*, **30**, 4049 (1974)

MELANDRUM

M. album.

FLAVONOIDS: apigenin, homoorientin, isosaponarin, luteolin.
Zykova *et al.*, *Farm. Zh. (Kiev)*, 61 (1976); *Chem. Abstr.*, 85 156487e

M. firmum.

PHENOLICS: linarin, melandrin.
STEROID: α -spinasterylglucoside.
Woo *et al.*, *Phytochemistry*, **26**, 2099 (1987)

MELANOSELENIUM(Umbelliferae)

M. decipiens.

SESQUITERPENOIDS: decipienins A, B, C, D, E, F, G and H.

Gonzalez *et al.*, *Rev. Latinoam. Quim.*, **7**, 37 (1976)

MELANOXYLON

M. braunia.

ANTHRAQUINONE:

1,2,6,7-tetrahydroxy-8-methoxy-3-methylanthraquinone.

Gottlieb *et al.*, *Phytochemistry*, **10**, 1379 (1971)

MELASMA

M. arvense.

GLUCOSIDE: melasmoside.

Yang *et al.*, *Yunnan Zhiwu Yanjiu*, **5**, 213 (1983)

MELASTOMA(Melastomaceae)

M. bathricum.

TRITERPENOID: melastomic acid.

Manzoor-i-Khuda *et al.*, *J. Bangladesh Acad. Sci.*, **5**, 55 (1981)

M. intermedium Dunn.

PHENOLICS: gallic acid, pyromucic acid.

STEROIDS: β -sitosterol, sitosterol β -D-glucoside.

TRITERPENOID: oleanolic acid.

Yuan, *Zhongcaoyao*, **13**, 12 (1982); *Chem. Abstr.*, 97 212669c

MELIA (Meliaceae)

M. azadirach L.

UNCHARACTERIZED ALKALOIDS: azaridine, margosine, paraisine.

TERPENOIDS: 1-cinnamylmelianolone, kilactone, kulinone, kulolactone, meldenin, melianin A, melianin B, meliandiol, melianone, methylkulonate, minboldin A, minboldin B, minbolin A, minbolin B, ohchinin, ohchinin acetate, ohchinolal, ohchinolide A, ohchinolide B, solannin.

TOXINS: meliatoxins A-1, A-2, B-1 and B-2.

(A) Carratala, *Rev. Assoc. Med. Argent.*, **53**, 338 (1939)

(T) Chang *et al.*, *Tetrahedron*, **29**, 1911 (1973)

(T) Lee *et al.*, *Tetrahedron Lett.*, 3543 (1987)

(Tox) Kraus, Bokel, *Chem. Ber.*, **114**, 267 (1981)

M. azadirach L. var. japonica Makino.

LIMONOIDS: ohchinal, ohchinin acetate, ohchinolide A, ohchinolide B, sendalactone, sendanal, sendanin.

MONOTERPENOIDS: τ -cadinene, δ -cadinene, α -cadinol, δ -cadinol, camphene, citronellol, o-cresol, m-cresol, p-cresol, p-cymene, guaiacol, limonene, linalool, 1-p-menthene, α -pinene, β -pinene, terpinolene.

PHENOLIC: phenol.

Kameoka *et al.*, *Nippon Nogei Kagaku Kaishi*, **50**, 127 (1976); *Chem. Abstr.*, 85 2551j

Ochi *et al.*, *Chem. Lett.*, 1137 (1979)

M. dubia.

TETRANORTriterpenoid: compositolide.

Purushothaman *et al.*, *Phytochemistry*, **23**, 135 (1984)

M. indica.

LIMONOIDS: nimbidinin, nimbin, nimbinin, nimbolide, salannic acid.

Mitra *et al.*, *Phytochemistry*, **10**, 857 (1971)

M. toosendan.

TERPENOIDS: 21-O-acetylisosandantriol, chuanliansu.

Nakanishi *et al.*, *Chem. Lett.*, 69 (1986)

MELIANTHUS

M. comosus Vahl.

STEROIDS: melianthugenin, melianthusigenin.

Anderson, Koekenoer, *J.S. Afr. Chem. Inst.*, **22**, 5119 (1969)

M. major.

ESTER: queretaroic caffeoate.

STEROIDS: β -sitosterol, β -sitosterol- β -D-glucoside.

Agarwal, Rastogi, *Phytochemistry*, **15**, 430 (1976)

MELICOPE (Rutaceae)

M. fareana F.Muell.

FURANOQUINOLINE ALKALOID: acronycidine.

QUINOLONE ALKALOIDS: melicopicine, melicopidine, melicopine.

Price, *Aust. J. Chem.*, **A 2**, 249 (1949)

M. leptococca.

ACRIDONE ALKALOIDS: acronycidine, acronycine, acronydine, kokusaginine, melicopicine, melicopidine.

CARBOLINE ALKALOIDS: 5-methoxy-N,N-dimethyltryptamine, 6-methoxy-2-methyltetrahydro- β -carboline.

INDOLE ALKALOID: 3-dimethylaminoacetyl-5-methoxyindole.

Skaltsioumis *et al.*, *J. Nat. Prod.*, **46**, 732 (1983)

M. octandra.

PYRANS: melisimplexin, meliternatin, octandrenalone.

STEROID: β -sitosterol.

TERPENOID: multiflorenol.

Free *et al.*, *Aust. J. Chem.*, **29**, 695 (1976)

M. perspicuinervia.

FURANOQUINOLINE ALKALOID: halfordinine.

Murphy *et al.*, *Aust. J. Chem.*, **27**, 187 (1974)

MELILOTUS

M. alba Colebr.

PTEROCARPANS: melilotocarpans A, B, C, D and E.

Miyase *et al.*, *Chem. Pharm. Bull.*, **30**, 1986 (1982)

MELINIS (Gramineae)

M. multiflora.

ACIDS: arachidic acid, behenic acid, lauric acid, linoleic acid, linolenic acid, myristic acid, oleic acid, palmitic acid, stearic acid.

CAROTENOID: β -carotene.

STEROIDS: campesterol, cholesterol, β -sitosterol, stigmasterol.

TRITERPENOID: lupeol.

Calle Alvarez *et al.*, *Chem. Abstr.*, 105 206296w

MELISSA

M. officinalis.

MONOTERPENOIDS: caryophyllene, citronellal, geranyl acetate, linalool.

Gasic *et al.*, *Arch. Farm.*, **35**, 93 (1985); *Chem. Abstr.*, 107 194945h

MELITTIS (Labiatae)

M. melissophyllum L.

IRIDOIDS: 8-O-acetylharpagide, ajugol, ajugoside, melittoside.

Guiso *et al.*, *Gazz. Chim. Ital.*, **104**, 25 (1974)

MELOCHIA (Sterculiaceae)

M. corchorifolia.

PEPTIDE ALKALOID: frangufoline.

PYRIDINE ALKALOID: 6-methoxy-3-propenyl-2-pyridine carboxylic acid.

FLAVONOIDS: hibifolin, trifolin.

GLYCOSIDE: melocorin.

(A) Tschesche, Reutel, *Tetrahedron Lett.*, 3817 (1968)

(A) Bhakuni *et al.*, *Chem. Ind. (London)*, 464 (1986)

(F, G) Nair *et al.*, *Indian J. Chem.*, **15B**, 1045 (1977)

M. pyramidata.

PYRIDINE ALKALOID: melochinine.

UNCHARACTERIZED ALKALOID: melochine.

Medina, Spiteller, *Chem. Ber.*, **112**, 376 (1979)

M. tomentosa L.

INDOLONE ALKALOIDS: melosatines A, B and C.

PEPTIDE ALKALOIDS: melonovine A, melonovine B.

QUINOLONE ALKALOIDS: melochinone, melovinone.

Kapadia *et al.*, *Tetrahedron*, **36**, 2441 (1980)

MELODINUS (Apocynaceae)

M. aureus.

INDOLE ALKALOID: (+)-20-epi-ibogamine.

Naassou *et al.*, *Phytochemistry*, **17**, 1449 (1978)

M. australis (F.Muell.) Pierre.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: 6 β -hydroxykopsinine, 14 α -hydroxykopsinine, (+)-17-methoxyquebrachamine, venalstonidine.

INDOLE ALKALOID: stemmadenine.

Linde, *Helv. Chim. Acta*, **48**, 1822 (1965)

M. balansae Baill.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: baloxine, 11-hydroxy-(-)-tabersonine, melobaline.

Mehri *et al.*, *Bull. Soc. Chim. Fr.*, 3291 (1972)

M. balansae var. paucivenosus.

BISIMIDAZOLIDINOCARBAZOLE ALKALOID: paucivenine.

Mehri *et al.*, *Phytochemistry*, **17**, 1451 (1978)

M. celastroides.

IMIDAZOLIDINOCARBAZOLE ALKALOID: (-)-buxomeline.

Rabaron *et al.*, *Phytochemistry*, **17**, 1452 (1978)

M. insulae-pinorum Boiteau.

INDOLE ALKALOIDS: 15 α -hydroxykopsinine, 19 β -hydroxykopsinine, 19 β -hydroxyvenalstonidine, insulopinine, isositsirikine, venalstonidine, (+)-venalstonine, 14-vincanol, 16-epi-14-vincanol.

Batchely *et al.*, *Ann. Pharm. Fr.*, **43**, 359 (1985)

M. monogynus.

TRITERPENOID: lupane- 3β ,20-diol.

Chatterjee *et al.*, *J. Sci. Ind. Res. (India)*, **18B**, 262 (1959)

M. panifera. Triterpenoid,

lupane- 3β ,20-diol

Chatterjee *et al.*, *J. Sci. Ind. Res. (India)*, **18B**, 262 (1959)

M. scandens Forst.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: meloscandonine, (+)-meloscine, (\pm)-epi-meloscine, epi-meloscine N-oxide, scandine.

BISIMIDAZOLIDINOCARBAZOLE ALKALOIDS: scandomeline, epi-scandomeline, scandomelone, scandomelonine, epi-scandomelonine.

Daudon *et al.*, *J. Org. Chem.*, **41**, 3275 (1976)

MENEGAZZIA (Hepaticae)

M. asahinae (Yas. ex Zahlbr.) Sant.

DEPSIDONES: atranorin, constictic acid, menegassaic acid, stictic acid.

PHENOLIC: chloroatranorin.

Hirayama *et al.*, *Chem. Pharm. Bull.*, **24**, 2340 (1976)

M. dispora.

DEPSIDONE: acetylhyponconstic acid.

Elix *et al.*, *Aust. J. Chem.*, **38**, 1735 (1985)

M. terebrata (Hoffm.) Massal.

DEPSIDONES: atranorin, constictic acid, menegazzaic acid, stictic acid.

PHENOLIC: chloroatronorin.

Hirayama *et al.*, *Chem. Pharm. Bull.*, **24**, 2340 (1976)

MENISPERMUM (Menispermaceae)

M. canadense L.

BISBENZYLISOQUINOLINE ALKALOIDS: acutumine, dauricine.

Doskotch, Knapp, *Lloydia*, **34**, 292 (1971)

M. dauricum DC.

BISBENZYLISOQUINOLINE ALKALOIDS: dauricine, dauricinoline, dauricoline, daurinoline, tetrandrine.

APORPHINE ALKALOID: dauriporphine.

HALOGENATED ALKALOIDS: acutumidine, acutuminine.

OXOISOAPORPHINE ALKALOIDS: bianfugecine, bianfugedine, bianfugenine.

PHENANTHRENE ALKALOID: sinomenine.

Tomita *et al.*, *J. Pharm. Soc., Japan*, **90**, 1178 (1970)

Takani *et al.*, *Chem. Pharm. Bull.*, **31**, 3091 (1983)

Hou, Xue, *Yaoxue Xuebao*, **20**, 112 (1985); *Chem. Abstr.*, 103 3691g

MENTHA (Labiatae)

M. aquatica L.

FLAVONOIDS: acacetin, acacetin 7-rutinoside, apigenin, apigenin 7-rutinoside, apigenin 7- β -D-glucopyranoside, eriodictyol 7- β -D-glucopyranoside, eriodictyol 7-rutinoside, hesperetin 7- β -D-glucopyranoside, hesperitin, luteolin, luteolin 7- β -D-glucopyranoside, luteolin 7-rutinoside.

Burzanska-Hermann *et al.*, *Rocz. Chem.*, **51**, 701 (1977)

M. arvensis L. var. piperascens.

MONOTERPENOID:($-$)-2,5-trans-p-menthanediol.

Hashizue *et al.*, *Tetrahedron Lett.*, 3355 (1967)

M. citrata.

MONOTERPENOID: 1-vinylmenth-4(8)-ene.

Singh *et al.*, *Phytochemistry*, **20**, 19 (1981)

M. gattefosse.

MONOTERPENOID: (+)-menthone, (-)-menthone, (+)-pulegone.

Tuttle, Wallach, *Justus Liebigs Ann. Chem.*, **277**, 157 (1899)

M. gentilis.

MONOTERPENOID: (+)-1-acetoxy-p-menth-3-one.

Nagasawa *et al.*, *J. Agr. Chem. Soc., Japan*, **51**, 81 (1977)

M. piperiae.

ACIDS: caffeic acid, p-coumaric acid.

FLAVONOID: apigenin-7-glycoside, luteolin.

Kohlmunzer *et al.*, *Herba Pol.*, **21**, 130 (1975); *Chem. Abstr.*, 84 14683w

M. x piperita L.

MONOTERPENOID: ($-$)-menthol, ($-$)-menthone.

DITERPENOIDS: β -betulenol, (-)-bicycloelemene, mint sulphide.
 Yoshida *et al.*, *J. Chem. Soc., Chem. Commun.*, **512** (1979)

M. piperita L. var. japonica.

MONOTERPENOID: 1 -menthyl- β -D-glucoside.
 Sakata, Mitsui, *Agr. Biol. Chem.*, **39**, 1329 (1975)

M. piperita L. var. kubanskaya.

FLAVONOIDS: dimethylsudachitin, 5-hydroxy-6,7,3',4'-tetramethoxyflavone.
 Zakharova *et al.*, *Khim. Prir. Soedin.*, 645 (1983)

M. piperita L. var. prilwkskaya.

FLAVONOIDS: 5,7-dihydroxy-6,8,4'-trimethoxyflavone, dimethoxysudachitin,
 hymenotoxin, menthocubanone.
 Zakharova *et al.*, *Khim. Prir. Soedin.*, 645 (1983)

M. piperita L. var. vulgaris.

MONOTERPENOID: menthofuran.
 Weinhaus, Dequein, *Angew. Chem.*, **47**, 415 (1934)

M. pulegium L.

MONOTERPENOID: isopulegone, (-)-menthone, piperitenone.
 Brunel, *C.R. Acad. Set.*, **140**, 793 (1905)

M. rotundifolium (L.) Hudson.

MONOTERPENOID: rotundifolone.
 Shimizu *et al.*, *Agr. Biol. Chem.*, **30**, 89 (1966)

M. sylvestris.

MONOTERPENOID: (+)-pulegone.
 Kon, *J. Chem. Soc.*, 1616 (1930)

MENTZELIA

M. decapetala.

IRIDOID: decapetaloside, loasaside, mentzeloside, strictoside.
 El-Naggar *et al.*, *J. Nat. Prod.*, **45**, 539 (1982)

MENYANTHES (Menyanthaceae)

M. trifoliata L.

UNCHARACTERIZED ALKALOID: gentiatibetine.

FLAVONOIDS: hyperoside, rutin.

GLUCOSIDE: menthafolin.

(A) Rulko *et al*, Rocz. Chem., **43**, 1831 (1969)

(F) Mel'chakova *et al*, Khim. Prir. Soedin., 106 (1976)

(G) Battersby *et al*, J. Chem. Soc., Chem. Commun., 1277 (1968)

MERATIA

M. praecox Rehd. et Wils.

QUINOLINE ALKALOID: calycanthine.

Takamizawa *et al*, Tetrahedron, **23**, 2959 (1967)

MERCURIALIS (Euphorbiaceae)

M. leiocarpa

DIMERIC ALKALOID: 3,3'-bis(1,1'-dimethyl-2,2'-dioxo-4,4'-dimethoxy-5,5'-dihydroxy-5,5'-dimethoxycarbonyl-3-pyrroline).

Masui *et al*, Phytochemistry, **25**, 1470 (1986)

M. perennis L.

CHROMOGEN: hermidin.

Swan, J. Chem. Soc., Perkin I, 1757 (1985)

MERENDERA (Liliaceae)

M. bulbocodium Ram.

COLCHICINE ALKALOID: colchicine.

FLAVONOID: multiflorin.

Pijewska *et al*, Collect. Czech. Chem. Commun., 32, 158 (1967)

M. jolanta E.Czerniak.

COLCHICINE ALKALOIDS: colchameine, colchamine, 2-demethylcolchicine, 3-demethylcolchicine, α -lumicolchicine, jolantamine, jolantidine.

Chommadov *et al.*, *Khim. Prir. Soedin.*, 790 (1983)

M. raddeana Rgl.

COLCHICINE ALKALOIDS: colchameine, colchamine, colchicine, 2-demethylcolchicine, 3-demethylcolchicine, 2-demethyl- α -lumicolchicine, 3-demethyl- α -colchicine, N-formyldeacetylcolchicine, α -lumicolchicine, meradinine, merenderine.

Canonica *et al.*, *Chem. Ind. (Milan)*, **49**, 1304 (1967)

M. robusta Bge.

COLCHICINE ALKALOIDS: colchameine, colchamine, colchiceine, colchicine, deacetylcolchiceine, deacetylcolchicine, 3-demethylcolchamine, 2-demethylcolchicine, 3-demethylcolchicine, 3-demethyl- α -lumicolchicine, N-formyldeacetylcolchicine, α -lumicolchicine, β -lumicolchicine, N-methylcolchamine.

Salem *et al.*, *Collect. Czech. Chem. Commun.*, **28**, 3413 (1963)

M. trigina.

ISOQUINOLINE ALKALOID: merenderine.

Badger *et al.*, *J. Chem. Soc.*, 445 (1960)

MERIANDRA (Labiatae)

M. benghalensis (Roxb.) Benth.

FLAVONE: penduletin.

MONOTERPENOID: camphor.

SESQUITERPENOIDS: benghalensin A, benghalensin B, benghalensitriol.

TRITERPENOIDS: $2\alpha,3\alpha$ -dihydroxyolean-12-en-28-oic acid, $2\alpha,3\beta$ -dihydroxyolean-12-en-28-oic acid, $2\alpha,3\alpha$ -dihydroxyurs-12-en-28-oic acid, $2\alpha,3\beta$ -dihydroxyurs-12-en-28-oic acid, oleanolic acid, ursolic acid.

Perales *et al.*, *J. Org. Chem.*, **48**, 5318 (1983)

MERILLIA (Rutaceae)

M. caloxylon.

CHALCONE: 2',3-dihydroxy-4,4',6'-trimethoxychalcone.

Sesquiterpenoid eupatorin.

(C) Fraser *et al.*, *Phytochemistry*, **13**, 1561 (1974)

(T) Adams, Lewis, *Planta Med.*, **32**, 86 (1977)

MERISTROTROPIS

M. triphylla.

TRITERPENOID: meristrotropic acid.

Kir'yalev, Nangol'naya, *J. Gen. Chem., USSR.*, **33**, 694 (1963)

MESEMBRYANTHEMUM (Aizoaceae)

M. anatomicum Harv.

INDOLONE ALKALOID: mesembrine.

Popelak *et al.*, *Naturwissenschaften*, **47**, 156 (1960)

M. expansum L.

INDOLONE ALKALOID: mesembrine.

Popelak *et al.*, *Naturwissenschaften*, **47**, 156 (1960)

M. myrtifolia.

TRITERPENOID: myrtifolic acid.

Gunasakera, Sultanbawa, *J. Chem. Soc., Perkin I*, 6 (1977)

M. tortuosum L.

INDOLONE ALKALOID: mesembrine.

QUINOLONE ALKALOID: mesembrinine.

Bodendorf, Krieger, *Arch. Pharm.*, **290**, 441 (1957)

MESPILUS (Rosaceae)

M. germanica L.

FLAVONOIDS: isoquercitrin, quercetin, quercetin 3- α -L-(4-O-acetyl)-rhamnopyranosido-7- α -L-rhamnopyranoside, quercetin 3,7-di- α -L-rhamnopyranoside, quercetin 3- β -D-glucopyranosido-7- α -L-rhamnopyranoside, quercitrin.Nikolev *et al.*, *Chem. Abstr.*, 105 168913k

MESUA (Guttiferae/Clusiaceae)

M. ferrea L.

COUMARIN: ferruol A.

XANTHONES: 1,5-dihydroxyxanthone,
1,3,6-trihydroxy-7,8-dimethoxyxanthone,
1,5,6-trihydroxyxanthone.

(C) Govindachari *et al.*, *Tetrahedron*, **23**, 4161 (1967)

(X) Locksley *et al.*, *J. Chem. Soc., C*, 1332 (1971)

M. salicina Planch et Triana.

XANTHONES: 1,5-dihydroxyxanthone,
3,7-dihydroxy-1,5,6-trimethoxyxanthone,
5,6-dihydroxy-1,3,7-trimethoxyxanthone,
1,5,6-trihydroxyxanthone.

Gunasekera *et al.*, *J. Chem. Soc., Perkin I*, 2447 (1975)

M. thwaitesii Planch et Triana.

COUMARIN: cyclomammeisin.

XANTHONES: 1,5-dihydroxyxanthone, 1,5,6-trihydroxyxanthone.

(C) Crombie *et al.*, *J. Chem. Soc., Perkin I*, 2248 (1972)

(X) Locksley *et al.*, *J. Chem. Soc., C*, 1332 (1971)

(X) Bandaranake *et al.*, *Phytochemistry*, **14**, 265 (1975)

METANARTHECIUM (Liliaceae)

M. luteo-viride Maxim.

STEROIDS:

2 β -acetoxy-3 α -hydroxy-11 α -(tri-O-acetyl- α -L-arabinopyranosyl)oxy-5 β -25R-spirostane,

2 β -acetoxy-3 β -hydroxy-11 α -(tri-O-acetyl- α -L-arabinopyranosyl)oxy-5 β -25R-spirostane,

11-O- α -L-arabinopyranosylprotometeogenin,

11-- galactosylnogiragenin, luvigenin, metagenin,

3-epi-metagenin, meteogenin, neonogiragenin, nogiragenin.

Yosioka *et al.*, *Tetrahedron*, **30**, 2283 (1974)

Kitagawa *et al.*, *Tetrahedron Lett.*, 1885 (1976)

METAPLEXIS (Asclepiadaceae)

M. japonica Makino.

STEROIDS: gagaimol dibenzoate, gagaimol 7-methyl ether, 7-hydroxy-12-O-benzoyldeacetylmetaplexigenin, 3 β -methoxysarcostin, 7 α -methylsarcostin.
 Nomura *et al.*, *Planta Med.*, **41**, 206 (1981)

METASEQUOIA (Taxodiaceae)

M. glyptostroboides Hu et Cheng.

FLAVONES: amentoflavone, amentoflavone-4',7-dimethyl ether, amentoflavone-4'',7''-dimethyl ether, amentoflavone-4',4'',7''-trimethyl ether, 2,3-dihydrohinokiflavone, ginkgetin, sciadopitysin, sotetsuflavone.

LIGNANS: agatharesinol, athrotaxin, hydroxyathrotaxin, hydroxymetasequirin A, metasequirin A, metasequirin B.

DITERPENOID: 3-acetoxyabd-8(20),13-dien-15-oic acid.

(F) Beckmann *et al.*, *Phytochemistry*, **10**, 1465 (1971)

(L) Enoki *et al.*, *Chem. Abstr.*, 88 71421r, 71422s

(T) Braun, Breiterbach, *Tetrahedron*, **33**, 145 (1977)

METROSIDEROS (Myrtaceae)

M. umbellata.

SESQUITERPENOIDS: α -metrosiderene, β -metrosiderene.
 Corbett, Hanger, *J. Chem. Soc.*, 1179 (1954)

METZGERIA

M. furcata.

FLAVONOID: isofurcatain.
 Markham *et al.*, *Z. Naturforsch.*, **37C**, 562 (1982)

MICARIA (Lichenes)

M. prasina L.

DEPSIDE: prasinic acid.

PHENOLICS: methoxymicareic acid, micareic acid.

Elix *et al.*, *Aust. J. Chem.*, **37**, 2346 (1984)

MICHELIA (Magnoliaceae)

M. alba.

APORPHINE ALKALOIDS: norushinsunine, ushinsunine.

Tomita, Furukawa, *J. Pharm. Soc., Japan*, **82**, 925 (1962)

M. champaca L.

APORPHINE ALKALOID: ushinsunine.

Tomita, Furukawa, *J. Pharm. Soc., Japan*, **82**, 925 (1962)

M. compressa.

APORPHINE ALKALOID: shinsunine.

QUATERNARY ALKALOID: michepressine.

SESQUITERPENOIDS: compressanolide, michelenolide, micheliolide.

(A) Tomita, Furukawa, *J. Pharm. Soc., Japan*, **82**, 925 (1962)

(T) Ogura *et al.*, *Phytochemistry*, **17**, 957 (1978)

M. lanuginosa Wall.

APORPHINE ALKALOID: michelangine.

OXOAPORPHINE ALKALOID: lanuginosine.

SESQUITERPENOID: lanuginolide.

(A) Talapatra *et al.*, *Chem. Ind.*, **31**, 1056 (1969)

(T) Talapatra *et al.*, *J. Chem. Soc., Chem. Commun.*, 1534 (1970)

MICRANDROPSIS

M. scleroxylon.

PHENANTHROID: micrandrol C.

de Alvarenga *et al.*, *Phytochemistry*, **13**, 1283 (1974)

MICROCIONA

M. toxistyla.

SESQUITERPENOIDS: microcionins 1, 2, 3 and 4, toxistylide A, toxistylide B.

Cimino *et al.*, *Tetrahedron Lett.*, 3723 (1975)

Cimino *et al.*, *ibid.*, 3619 (1979)

MICROGLOSSA (Compositae)

M. zeylandica.

FLAVONE: 5,4'-dihydroxy-6,7,8,3'-tetramethoxyflavone.

SESQUITERPENOIDS: caryophyllen-1,10-epoxide, farnesene.

DITERPENOIDS: dihydromicroglossic acid, microglossic acid.

TETRATERPENOID: squalene.

TRITERPENOID: gammadienyl acetate.

Gunatilaka *et al.*, *Phytochemistry*, **26**, 2408 (1987)

MICROLEPIS

M. marginata.

DITERPENOID GLUCOSIDES: microlepin, 6-epi-microlepin.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **24**, 2891 (1976)

MICROMELUM (Rutaceae)

M. minutum (Forst.f.) Seem.

SESQUITERPENOID: micromelin.

Lamberton *et al.*, *Aust. J. Chem.*, **20**, 973 (1967)

M. zeylanicum.

PYRIDINE ALKALOIDS: O-methylhalfordine, O-methylhalfordinol.

Bowen, Perera, *Phytochemistry*, **21**, 433 (1982)

MICROMERIS (Labiatae)

M. benthami.

TRITERPENOIDS: 3,19-dihydroxyurs-12-en-28-oic acid, micromeric acid.

Brieskorn, Wunderer, *An. Quim.*, **64**, 175 (1968)

M. chamaissonis.

FLAVONE: xanthomicrol.

Stout *et al.*, *Tetrahedron.*, **14**, 296 (1961)

MICROPLUMERIA

M. anomala.

IMIDAZOLIDINOCARBAZOLE ALKALOID: anomaline.

Reis Luiz *et al.*, *Phytochemistry*, **22**, 2301 (1983)

MIKANIA (Compositae)

M. alvimii.

DITERPENOID: ent-14-oxo-15-nor-8(17),12-labdadien-18-oic acid.

Bohlmann *et al.*, *Phytochemistry*, **21**, 173 (1982)

M. banisteriae.

DITERPENOIDS: 18-acetoxy-ent-kaurene, 4 β ,19-epoxy-18-nor-ent-kaurene, 18-hydroxy-16 α ,17-epoxy-ent-kaurene, ent-kaur-16-en-18-al.

Castro, Jakupovic, *Phytochemistry*, **24**, 2450 (1985)

M. batatifolia.

FLAVONE: batatifoline.

Herz *et al.*, *Chem. Ber.*, **103**, 1822 (1970)

M. cordata.

FLAVONE: mikanin.

Kiang *et al.*, *Phytochemistry*, **7**, 1035 (1968)

M. cordifolia.

SESQUITERPENOID: micordilin.

Herz *et al.*, *J. Org. Chem.*, **42**, 1720 (1977)

M. goyazensis.

SESQUITERPENOIDS: 4,5-epoxy-1-desoxodeacetylchrysanolide, 1,10-epoxy-6-hydroxyinunolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1349 (1982)

M. micrantha.

SESQUITERPENOID: mikanokryptin.

Herz *et al.*, *Phytochemistry*, **14**, 233 (1975)

M. monogasensis.

SESQUITERPENOID: dihydromikanolide.

Herz *et al.*, *Tetrahedron Lett.*, 3111 (1967)

M. oblongifolia.

DITERPENOID: cinnamoylgrandifloric acid.

Vichnewski *et al.*, *Phytochemistry*, **16**, 2028 (1977)

M. pohlii.

SESQUITERPENOIDS: 1,10-epoxydesacetyllaurenobiolide, 1,10-epoxy-6-hydroxyinunolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1349 (1982)

M. purpurascens.

MONOTERPENOID: 9-acetoxy-8,10-epoxy-2-methoxythymol tiglate.

SESQUITERPENOID: purpurascenolide. Bohlmann *et al.*, *Phytochemistry*, **21**, 705 (1982)

M. scandens.

SESQUITERPENOIDS: dihydromikanolide, mikanolide, miscandenin.

Herz *et al.*, *J. Org. Chem.*, **35**, 1453 (1970)

MILLETIA (Leguminosae)

M. auriculata.

FLAVONES: auriculasin, auriculatin, auriculin, aurmillone, isoauriculasin.

ISOFLAVONE: psitectorigenin.

ROTENOID: summatrol.

(F, R) Kapoor *et al.*, *Tetrahedron*, **32**, 749 (1976)

(I) Dhingra *et al.*, *Indian J. Chem.*, **12**, 1118 (1974)

M. dura.

BENZOPYRAN: tephrosin.

ISOFLAVONES: durlettone, durmillone, milldurone.

(B) Oils *et al.*, *Tetrahedron*, **23**, 4741 (1967)
 (I) Campbell *et al.*, *J. Chem. Soc., C*, 1787 (1969)

M. ovalifolia.

PIPERIDINE ALKALOID: ovaline.

CHALCONES: ovalichalcone A, ovalitenin A, ovalitenin B, ovalitenone.

FLAVANONES: 7-hydroxy-6,8-di-C-prenylflavanone, 7-hydroxy-8-C-prenylflavanone.

(A) Gupta, Krishnamurti, *Phytochemistry*, **18**, 2021 (1979)

(C) Gupta, Krishnamurti, *Indian J. Chem.*, **17B**, 291 (1979)

(F) Gupta *et al.*, *Phytochemistry*, **15**, 832 (1976)

M. pachycarpa.

ROTENOID: cis-12 α -hydroxyrotenone, cis-12 α -hydroxyrot-2-enonic acid, rotenone, rot-2'-enonic acid.

Singhal *et al.*, *Phytochemistry*, **21**, 949 (1982)

M. pendula.

QUINONE: claussequinone.

Gottlieb *et al.*, *Phytochemistry*, **14**, 2495 (1975)

MIMOSA (Mimosaceae/Leguminosae)

M. caesalpiniaefolia.

GLYCOSIDE: 3-O-arabinosylmorolic acid.

De Alencar *et al.*, *Rev. Latinoam. Quim.*, **7**, 44 (1976)

M. pudica.

PYRIDINE ALKALOID: mimosine.

Renz, *Zeit. Physiol. Chem.*, **244**, 153 (1936)

M. rubicaulis.

STEROID, β -sitosterol.

TRITERPENOIDS: β -amyrin, friedelin.

Kumar *et al.*, *Curr. Sci.*, **44**, 889 (1975)

MIMULUS (Scrophulariaceae)

M. guttatus DC.

CAROTENOIDS: deepoxyneoxanthin, mimulaxanthin.

Nitsche, Z. Naturforsch., **28C**, 481 (1973)

MIMUSOPS (Sapotaceae)

M. elengi.

TRITERPENOID: bassic acid.

King *et al.*, J. Chem. Soc., 1338 (1958)

M. heckelii.

SAPONIN: makore saponin.

TRITERPENOID: bassic acid.

King *et al.*, J. Chem. Soc., 1338 (1958)

M. littoralis Kurz.

FLAVONOIDS: quercetin, quercetol.

TRITERPENOIDS: β -amyrin, bassic acid.

Dixit, Srivastava, Indian J. Pharm., **39**, 85 (1977)

MINNEOLA

M. tangor. (Citrus reticulaya x C. sinensis).

CAROTENOID: reticulataxanthin.

Yokoyama *et al.*, J. Org. Chem., **30**, 2482 (1965)

MIOPORUS

M. insulare.

IRIDOID: acetylharpagide, mioporoside.

Bianco *et al.*, Gazz. Chim. Ital., **105**, 175 (1975)

MIRABILIS (Nyctaginaceae)

M. jalapa L.

ALIPHATICS: n-hexacosanol, 12-triacosanone.

AMINO ACIDS: alanine, leucine, glycine, tryptophan, valine.

STEROIDS: β -sitosterol, β -sitosterol β -D-glucoside.

TRITERPENOIDS: β -amyrin, β -amyrin- α -L-rhamnosyl-O- β -D-glucoside.

Behari *et al.*, *Collect. Czech. Chem. Commun.*, **41**, 295 (1975)

MITRAGYNA (Rubiaceae)

M. ciliata Aubr. et Pellegr.

CARBOLINE ALKALOIDS: ciliaphylline, mitraciliatine.

TRITERPENOID: quinovic acid.

(A) Soliman, *J. Chem. Soc.*, 1760 (1939)

(T) Barton, de Mayo, *ibid.*, 3111 (1953)

M. diversifolia Hook f.

INDOLONE ALKALOID: rhyncophylline.

UNCHARACTERIZED ALKALOID: mitraversine.

Field, *J. Chem. Soc.*, **119**, 887 (1921)

Kondo *et al.*, *J. Pharm. Soc., Japan*, **57**, 237 (1937)

M. hirsuta Havis.

CARBOLINE ALKALOID: hirsutine.

Shellard *et al.*, *J. Pharm. Pharmacol.*, **18**, 553 (1966)

M. inermis Kuntze. (M. africana Korth.)

INDOLONE ALKALOIDS: isorhyncophylline N-oxide, rhyncophylline, rhyncophylline N-oxide.

TRITERPENOID: quinovic acid.

(A) Shellard *et al.*, *Phytochemistry*, **10**, 2505 (1971)

(T) Soliman, *J. Chem. Soc.*, 1760 (1939)

M. japonica var. microphylla.

INDOLONE ALKALOID: javaphylline.

Shellard, Alam, *J. Chromatogr.*, **32**, 472 (1968)

M. javanica Koord.

CARBOLINE ALKALOIDS: mitrajavanine, mitrajavine.

INDOLONE ALKALOID: javaphylline.

Shellard *et al.*, *J. Pharm. Pharmacol.*, **18**, 533 (1966)

M. rotundifolia (Roxb.) Kuntze.

INDOLONE ALKALOIDS: isorhyncophylline N-oxide, mitragynol, rhyncophylline, rhyncophylline N-oxide, rotundifoline.

Barger *et al.*, *J. Org. Chem.*, **4**, 418 (1939)

Shellard *et al.*, *Phytochemistry*, **10**, 2505 (1971)

M. rubrostipulata.

INDOLONE ALKALOIDS: (-)-mitraphylline, (+)-mitraphylline, rotundifoline, anti-rotundifoline N-oxide, vinylrotundifoline.

TRITERPENOID: quinovic acid.

(A) Beaton *et al.*, *Can. J. Chem.*, **36**, 1031 (1958)

(A) Lala, *J. Inst. Chem. (India)*, **53**, 30 (1981)

(T) Barton, de Mayo, *J. Chem. Soc.*, 3111 (1953)

M. speciosa Korth.

CARBOLINE ALKALOIDS: mitragynine, paynantheine, speciociliatine, speciogynine.

INDOLONE ALKALOIDS: isomitraphylline, mitragynine, speciofoline, speciophylline, uncarine D.

UNCHARACTERIZED ALKALOID: mitraspecine.

Beckett *et al.*, *Planta Med.*, **14**, 277 (1966)

Hemingway, Phillipson, *J. Pharm. Pharmacol.*, **24**, 169P (1972)

M. stipulosa Kuntze. (M. macrophylla Hiern.).

INDOLONE ALKALOID: rhyncophylline.

Raymond-Hamet *et al.*, *C.R. Acad. Sci.*, **199**, 587 (1934)

MNIOBRYUM

M. vahlenbergii var. glacialis.

STEROIDS: campesterol, cholesterol, β -sitosterol, stigmasterol.

Salberg, *Chem. Abstr.*, 100 20441f

MOCHIA

M. velutina.

SESQUITERPENOID: arbusulin A.

Irwin *et al.*, *Phytochemistry*, **8**, 2411 (1969)

MOGHANIA

M. macrophylla.

ANTHOCYANIN: procyanidin.

ISOFLAVONE: 5,7,2',4'-tetrahydroxyisoflavone.

STEROIDS: β -sitosterol, β -sitosterol glucoside.

TRITERPENOIDS: α -amyrin, lupeol.

Prasad *et al.*, *Phytochemistry*, **16**, 1120 (1977)

M. strobilifera.

STEROIDS: β -sitosterol, stigmasterol.

Cheb *et al.*, *J. Chin. Chem. Soc.*, **23**, 111 (1976); *Chem. Abstr.*, 85 74977a

MOLLUGO

M. hirta.

TRITERPENOIDS: mollugogenols A, B, C, D, E and F.

TRITERPENOID GLYCOSIDE: mollugocin A. Chaudhury, Chakrabarti, *Indian J. Chem.*, **13**, 947 (1975)

M. spargula.

TRITERPENOIDS: spergulagenic acid, spergulagenin, spergulagenol, spergulatriol.

Kitagawa *et al.*, *Tetrahedron Lett.*, 2327 (1976)

MOMORDICA (Cucurbitaceae)

M. charantia L.

STEROIDS: elasterol, 5 α -stigmasta-7,25-dien-3 β -ol, 5 α -stigmasta-7,22,25-trien-3 β -ol.

TRITERPENOIDS: momordicosides A, B, C, D, E, F-1, F-2, G and I.

(S) Sucrow *et al.*, *Chem. Ber.*, **103**, 745, 750 (1970)

(T) Okabe *et al.*, *Tetrahedron Lett.*, 77 (1982)

M. cochinochinensis Sprenger.

SAPONINS: momordins I, II and III.

Iwamoto *et al.*, *Chem. Pharm. Bull.*, **33**, 1 (1985)

MONACHOSORUM (Pteridaceae)

M. arakii Tagawa.

DINORSESQUITERPENOIDs: monachosorin A, monachosorin B, monachosorin C. mukagolactone.

Satake *et al.*, *Chem. Pharm. Bull.*, **33**, 4175 (1985)

MONARDA (Labiatae)

M. fistulosa L.

MONOTERPENOID: thymoquinone.

Liebermann, Iljinski, *Ber. Dtsch. Chem. Ges.*, **3194**, 3220 (1885)

MONASCUS

M. anka.

PIGMENT: ankaflavin.

Manchand *et al.*, *Phytochemistry*, **12**, 2531 (1973)

MONECHMA

M. debile.

TERPENOIDS: monechmol, monechmol 3-O- β -D-glucoside.

Ayoub *et al.*, *Planta Med.*, **50**, 520 (1984)

MONNIERA

M. cuneifolia Michx. (*Herpestis monniera* HB).

UNCHARACTERIZED ALKALOID: herpestrine.

Basu, Walia, *Indian J. Pharm.*, **6**, 85, (1944)

Basu, Walia, *ibid.*, **6**, 91 (1944)

M. trifolia.

FURANOQUINOLINE ALKALOIDS: delbine, montrifoline.

Bhattacharyya, Serur, *Heterocycles*, **16**, 371 (1981)

MONOCLEA

M. forsteri.

FLAVONE: 3',4'-dihydroxywogonin.

Markham *et al.*, *Phytochemistry*, **11**, 2047 (1972)

MONODORA (Annonaceae)

M. angolensis.

APORPHINE ALKALOID: wilsonirine.

Johns *et al.*, *Aust. J. Chem.*, **23**, 363 (1970)

M. myristica.

INDOLE ALKALOID: 6-(3,3-dimethylallyl)-indole.

INDOLES: isomonodoroindole, monodoroindole.

(A) Waterman, Thomas, *Fitoterapia*, **57**, 58 (1986)

(I) Muhammad *et al.*, *J. Bangladesh Acad. Sci.*, **11**, 1 (1987); *Chem. Abstr.*, 107 1724521

M. tenuifolia.

INDOLE: 3-dimethylallylindole.

Adeoye *et al.*, *J. Nat. Prod.*, **49**, 534 (1986)

MONOGYNE

M. alpina.

SESQUITERPENOID: 2-(angeloyloxy)-bakkenolide A.

Harmatha *et al.*, *Collect. Czech. Chem. Commun.*, **41**, 2047 (1976)

MONOMORIUM

M. pharaonis.

TERPENOID: farnal.

Ritter *et al.*, *Tetrahedron Lett.*, 2617 (1977)

MONOTROPA (Pyrrolaceae)

M. hypopitys L.

IRIDOID: monotropein.

Bridel, *C.R. Acad. Sci.*, **176**, 1742 (1923)

MONTANOA

M. frutescens.

SESQUITERPENOID: montefrusin.

Quijano *et al.*, *Phytochemistry*, **18**, 843 (1979)

M. leucantha subsp. leucantha.

SESQUITERPENOID: leucanthanolide.

Oshima *et al.*, *J. Nat. Prod.*, **49**, 313 (1986)

M. speciosa.

SESQUITERPENOID: 1,2-dehydro-3-oxocostic acid

Seaman *et al.*, *Phytochemistry*, **24**, 607 (1985)

M. tomentosa.

DITERPENOIDS: (-)-kaur-9(11),16-dien-19-oic acid, kaurenoic acid, monogynoic acid, montanol, pretomentol, pretomexanthol, prezoapatanol, tomentol, tomexanthol, zoapatanol, zoapatanolide A, zoapatanolide C, zoapatanolide D.

Quijano *et al.*, *Phytochemistry*, **24**, 2337, (1985)

Quijano *et al.*, *ibid.*, **24**, 2741 (1985)

M. tomentosa subsp. xanthiiifolia.

SESQUITERPENOID:

8 α -hydroxy-9 β -senecioyloxy-trans-germa-1(10),4-dien-cis-6,12-olide,
9 β -hydroxy-8 α -senecioyloxy-trans-germa-1(10),4-dien-cis-6,12-olide.

Castro *et al.*, *Phytochemistry*, **24**, 2449 (1985)

MOQUINEA

M. velutina.

SESQUITERPENOID: cyclocostunolide.

Tomassini, Gilbert, *Phytochemistry*, **11**, 1177 (1972)

MORA

M. excelsa Benth.

TRITERPENOID: morolic acid.

Barton, Brooks, *J. Chem. Soc.*, 257 (1951)

MORAEA (Iridaceae)

M. graminicola Oberm.

STEROID: 3-dehydro-16 β -hydroxybovogenin.

van Wyk, *J. S. Afr. Chem. Inst.*, **25**, 82 (1972)

M. polystachya Ker.

STEROID: 3-dehydro-16 β -hydroxybovogenin.

Van Wyk, *J.S. Afr. Chem. Inst.*, **25**, 82 (1972)

MORARDA

M. didyma.

FLAVANONE: didymin.

Kariyone *et al.*, *J. Pharm. Soc., Japan*, **74**, 363 (1954)

MORCHELLA

M. esculenta.

AMINO ACID: cis-3-amino-L-proline.

Hatanaka *et al.*, *Mushroom Sci.*, **9**, 809 (1976); *Chem. Abstr.*, 86 103099u

MORINDA (Rubiaceae)

M. angustifolia.

ANTHRAQUINONE: morindone.

Roberts *et al.*, *Aust. J. Chem.*, **30**, 1553 (1977)

M. citrifolia.

PIGMENTS: damnacanthol, nordamnacanthol, soranjidiol.

Bowie *et al.*, *Aust. J. Chem.*, **15**, 332 (1962)

Murti *et al.*, *Indian J. Chem.*, **10**, 246 (1972)

M. lucida.

PIGMENT: soranjidiol.

TERPENOID: oruwacin.

(P) Bowie *et al.*, *Aust. J. Chem.*, **15**, 332 (1962)

(T) Adesogan, *Phytochemistry*, **18**, 175 (1979)

M. tinctoria var. tomentosa.

PIGMENTS: alizarin-1-methyl ether, ibericin, morindone, morindone 6-primeveroside, rubiadin, soranjidiol.

TRITERPENOID: ursolic acid.

Rao *et al.*, *Indian J. Chem.*, **15B**, 497 (1977)

Rao *et al.*, *J. Indian Chem. Soc.*, **60**, 585 (1983)

M. umbellata.

PIGMENTS: 6-methylxanthopurpurin, soranjidiol.

Stoessl, *Can. J. Chem.*, **47**, 767 (1969)

MORITHAMNUS

M. crassus.

Three sesquiterpenoids.

Bohlmann *et al.*, *Phytochemistry*, **19**, 2769 (1980)

MORONOBEA (Guttiferae/Clusiaceae)

M. pulchra.

BENZOPHENONE: marupone.

Dias *et al.*, *Phytochemistry*, **13**, 1953 (1974)

MORTONIA

M. greggii.

SESQUITERPENOIDS: glucopyranosyldesacetylmortonol B, mortonin, mortonins A, B, C and D, mortonol A, mortonol B.

Martinez *et al.*, *Phytochemistry*, **23**, 1651 (1984)

MORUS (Moraceae)

M. alba L.

ACIDS: cis-5-hydroxy-L-pipecolic acid, trans-5-hydroxy-L-pipecolic acid.

BENZOPYRANS: albefuran C, albanin F, albanin G, albanol A, albanol B.

CHROMENES: mulberrin, mulberrochromin, mulberrofuran M, mulberrofuran Q.

FLAVONOIDS: kuwanons A, B, C, D, J, Y and Z.

(Ac) Hatanaka *et al.*, *Phytochemistry*, **16**, 1041 (1977)

(B) Takasugi *et al.*, *Chem. Lett.*, 1577 (1980)

(B) Rao *et al.*, *Tetrahedron Lett.*, 3013 (1983)

(C) Nomura *et al.*, *Heterocycles*, **9**, 1593 (1978)

(F) Uedaa *et al.*, *Chem. Pharm. Bull.*, **30**, 3042 (1982)

M. australis.

BENZOFURAN: mulberrofuran D.

FLAVONOIDS: cyclomorusin, kuwanon C, kuwanon G, kuwanon H, morusin, oxydihydromorusin.

Nomura *et al.*, *Planta Med.*, **49**, 90 (1983)

M. laevigata.

AMINO ACIDS: asparagine, tyrosine.

Ali *et al.*, *J. Indian Chem. Soc.*, **64**, 230 (1987)

M. Ihou Koidz.

STILBENES: kuwanon P, kuwanon S, kuwanon T, kuwanon X, mulberrofuran H.

Kirakura *et al.*, *Chem. Pharm. Bull.*, **33**, 1088 (1985)

Fukai *et al.*, *ibid.*, **33**, 4288 (1985)

M. rubra.

FLAVONES: rubraflavone A, rubraflavone B.

Deshpande *et al.*, *Indian J. Chem.*, **12**, 431 (1974)

MOSTEA

M. brunonis Didr. var. brunonis.

CARBOLINE ALKALOID: mostueine.

INDOLONE ALKALOID: 20-(N-4)-dehydrogelsemicine.

Onanga *et al.*, *C.R. Acad. Sci.*, **291C**, 191 (1980)

MUCUNA (Leguminosae)

M. pruriens.

UNCHARACTERIZED ALKALOIDS: mucunadine, mucunine.

Santra, Majumder, *Indian J. Pharm.*, **15**, 60 (1953)

MUEHLENBECKIA (Polygonaceae)

M. tamnifolia.

ANTHRAQUINONES: chrysophanic acid, emodin, rhein.

Martinod *et al.*, *Politecnica*, **3**, 111 (1973)

MUNCUNA

M. sloanei.

AMINE: L-dopa.

Rai *et al.*, *Curr. Sci.*, **46**, 778 (1977)

MUNDULEA

M. sericea.

DIPYRAN: sericetin.

IMIDAZOLE: 2-aminoimidazole.

(D) Burrows *et al.*, *Proc. Chem. Soc. (London)*, 177 (1960)

(I) Fellows *et al.*, *Phytochemistry*, **16**, 1399 (1977)

M. suberosa.

DIPYRAN: sericetin.

Burrows *et al.*, *Proc. Chem. Soc. (London)*, 177 (1960)

MUNNOZIA

M. maronii.

SESQUITERPENOID: maroniolide.

Bohlmann, Grenz, *Phytochemistry*, **18**, 334 (1979)

MUNTAFERA

M. sessilifolia.

HOMOCARBOLINE ALKALOID: (-)-3,6-oxidoisovoacagine.

INDOLE ALKALOID: (-)-6-hydroxy-3-oxoisovoacagine.

Panas *et al.*, *Phytochemistry*, **14**, 1120 (1975)

MURRAYA (Rutaceae)

M. elongate.

COUMARONE: murralongin.

Talapatra *et al.*, *Tetrahedron Lett.*, 5005 (1973)

M. euchrestifolia Hayata.

CARBAZOLE ALKALOIDS: bismurrayafoline A, bismurrayafoline B, (\pm)-murrafoline, (-)-murrafoline, murrayaline, murrayastine, pyrayafoline.

QUINONE ALKALOIDS: murrayquinone A, murrayquinone B, pyrayquinone A, pyrayquinone B.

Wu *et al.*, *Heterocycles*, **20**, 1267 (1983)

Furukawa *et al.*, *Chem. Pharm. Bull.*, **34**, 2672 (1986)

M. exotica.

CARBAZOLE ALKALOID: exozoline.

CAROTENOIDS: semi- α -carotenone, semi- β -carotenone.

COUMARIN: murrayatin.

(A) Ganguly, Sarker, *Phytochemistry*, **17**, 1816 (1978)

(C) Barik, Dey, *ibid.*, **22**, 2273 (1983)

(T) Buchecker *et al.*, *Helv. Chim. Acta*, **53**, 1210 (1970)

M. koenigii Spreng.

CARBAZOLE ALKALOIDS: bicyclomahanimbicine, bicyclomahanimbine, currayangine, cyclomahanimbine, girimbine, isomahanimbine, koenigine, koenimbidine, koenimbine, koenine, mahanimbicine, mahanimbidine, mahanimbine, mahanimbinine, mahanimbinol, mahanine, mukonidine, mukonine, mukonal, mukonicine, mukulodine, murrayacine, murrayanine, murrayazolidine, murrayazolinine.

Chakraborty *et al.*, *Phytochemistry*, **17**, 834 (1978)

Roy *et al.*, *J. Indian Chem. Soc.*, **59**, 1369 (1982)

M. paniculata (L.) Jacq.

BISINDOLE ALKALOID: yuehchukine.

COUMARINS: coumurrayin, isomexoxicin, meranzin hydrate, murpanicin, murpanidin, murralongin, murragatin, phebalosin.

(A) Kong *et al.*, *Jiegou Huaxue*, **4**, 30 (1985); *Chem. Abstr.*, 104 31728p

(C) Raj *et al.*, *Phytochemistry*, **15**, 1787 (1976)

(C) Yang *et al.*, *Yaoxue Xuebao*, **18**, 760 (1983); *Chem. Abstr.*, 100 64986s

MUSA (Musaceae)

M. x paradisiaca L.

STEROID:

(24R)-4,14,24-trimethyl-5 α -cholesta-8,25(27)-dien-3 β -ol. Dutta et al., *Phytochemistry*, **22**, 2563 (1983)

M. x sapientum L.

STEROIDS:

(24S)-14 α ,24-dimethyl-9 β ,19-cyclo-5 α -cholest-25-en-3 β -ol, methylenepollinasterol.

Knapp et al., *Phytochemistry*, **11**, 3497 (1972)

Akihisa et al., *Lipids*, **21**, 494 (1986)

MUSANGA

M. cecropioides.

TRITERPENOIDS: 2-acetyl tormentic acid, 3-acetyl tormentic acid, euscaphic acid, tormentic acid.

Ojinnaka et al., *J. Nat. Prod.*, **48**, 337 (1983)

MUSCARI (Liliaceae)

M. comosum (L.) Mill.

SAPONIN: muscaroside A.

TRITERPENOID:

(23S,24S)-17,23-epoxy-24,31-dihydroxy-27-nor-5 α -lanost-8-ene-3,15-dione.

(Sap) Adinolfi et al., *J. Nat. Prod.*, **46**, 559 (1983)

(T) Adinolfi et al., *Can. J. Chem.*, **61**, 2633 (1983)

MUSSAENDA (Rubiaceae)

M. parviflora.

IRIDOID: mossaenoside, shanzhiside methyl ester.

Takeda *et al.*, *Phytochemistry*, **16**, 1401 (1977)

M. shikokiana.

IRIDOID: mussaenoside, shanzhiside methyl ester.

Takeda *et al.*, *Phytochemistry*, **16**, 1401 (1977)

MUTISIA (Compositae)

M. homoeantha.

SESQUITERPENOID: mitusianthol.

Bohlmann *et al.*, *Phytochemistry*, **18**, 99 (1979)

MYCENA

M. megaspora.

METHYL ETHER: drosophilin A methyl ether.

Van Eijk *et al.*, *Phytochemistry*, **14**, 2506 (1975)

M. pura.

AMINO ACID: L- τ -propylidene glutamic acid.

Hatanaka *et al.*, *Mushroom Sci.*, **9**, 809 (1976); *Chem. Abstr.*, 86 103099m

MYCOCALIA (Basidiomycetae)

M. reticulata.

SESQUITERPENOIDS: 6 α ,7 β -dihydroxydrimenin, 7-ketodihydrodrimenin, 7-oxodihydrodrimenin.

Ayer, Fung, *Tetrahedron*, **33**, 2771 (1977)

MYLIA (Hepaticae)

***M. taylori* (Hook.) Gray.**

DITERPENOID:(15S,16S)- β -2,16-epoxyverrucosan-16-ol.

SESQUITERPENOIDS: (-)-dihydromylione A, myliol, taylorione.

Matsuo *et al.*, *Experientia*, **33**, 991 (1977)

Harrison *et al.*, *J. Chem. Res. Synop.*, 212 (1986)

***M. verrucosa*.**

DITERPENOIDS: (-)-9-acetoxy- $2\beta,7\alpha$ -dihydroxyverrucosane,

(-)-1-acetoxy- 2β -hydroxyverrucosane,

(-)-2 β -acetoxy-11-hydroxyverrucosane,

(-)-9-acetoxy- 2β -hydroxyverrucosane,

(-)-11-acetoxy- 2β -hydroxyverrucosane,

(-)-2 β -9 α -diacetoxypheophytin

(-)-2 β -hydroxy-9-oxoverrucosane,

(-)-2 β -hydroxyverrucosane, 2 $\beta,7\alpha$ -verrucosanediol,

2,11-verrucosanediol, 2-verrucosanol.

Takaoka *et al.*, *J. Chem. Soc., Perkin I*, 2711 (1979)

MYOPORUM (Myoporaceae)

***M. acutinatum*.**

SESQUITERPENOID:(-)-10,11-dehydromyoporone.

Blackburne, Sutherland, *Aust J. Chem.*, **25**, 1787 (1972)

***M. betcheanum*.**

SESQUITERPENOID:(-)-10,11-dehydromyoporone.

Blackbume, Sutherland, *Aust. J. Chem.*, **25**, 1787 (1972)

***M. crassifolium*.**

SESQUITERPENOID: anonymol.

Engelmann, Bauer, *Naturwissenschaften*, **40**, 363 (1953)

***M. deserti* A. Cunn.**

IRIDIOIDS: (+)-(1R)-1-acetoxymyodesert-3-ene,

(-)-(1S)-1-acetoxymyodesert-3-ene,

(1R)-1-methoxymyodesert-3-ene.

SESQUITERPENOIDS: (-)-10,11 -dehydromyoporone, myodesmone, myoporone, (-)-ngaione, (+)-ngaione.

Grant *et al.*, *Aust. J. Chem.*, **33**, 853 (1980)

M. lactum.

SESQUITERPENOIDS: myodesmone, myoporone, (-)-ngaione.

Birch *et al.*, *Aust. J. Chem.*, **6**, 385 (1953)

MYRCIA

M. acris.

MONOTERPENOID: myrcene.

Power, Kleber, *Pharm. Rundschau*, **13**, 60 (1895)

MYRIANTHUS (Myrianthaceae)

M. arboreus.

PEPTIDE ALKALOIDS: myrianthines A, B and C.

STEROIDS: β -sitosterol, β -sitosterol 3-O- β -D-glucopyranoside, Triterpenoids euscaphic acid, myrianthic acid, tomentic acid, ursolic acid.

(A) Manchand *et al.*, *Ann. Pharm. Fr.*, **26**, 771 (1968)

(S, T) Qjinnaka *et al.*, *J. Nat. Prod.*, **48**, 1002 (1985)

MYRICA (Myricaceae)

M. gale L.

MACROCYCLICS: galeon, person.

Malterud *et al.*, *Tetrahedron Lett.*, 3069 (1976)

M. nagi.

DITERPENOIDS: myricanol, myricanone.

TRITERPENOIDS: myricardiol, myricolal.

Campbell *et al.*, *J. Chem. Soc., Chem. Commun.*, 1206 (1970)

MYRICARIA (Tamaricaceae)

M. alopecurioides.

PHENOLICS: dehydrodigallic acid, dehydrotrigallic acid.

Chumbalov *et al.*, *Khim. Prir. Soedin.*, 131 (1976)

MYRISTICA (Myristaceae)

M. fragrans.

PHENOLICS:

2-(4-allyl-2,6-dimethoxyphenoxy)-1-(4-hydroxy-3-methoxyphenyl)-1 -propanol,
 2-(4-allyl-2,6-dimethoxyphenoxy)-1-(3,4-methylendioxyphenyl)-1 -propanol,
 2-(4-allyl-2,6-dimethoxyphenoxy)-1-(3,4,5-trimethoxyphenyl)-propane.

Isogai *et al.*, *Agr. Biol. Chem.*, **37**, 1479 (1973)

M. otoba.

DITERPENOID: otobain.

Stevenson, *Chem. Ind. (London)*, 270 (1962)

M. simarum A. DC.

LIGNAN KETONE: 1-oxootobain.

Kuo *et al.*, *Experientia*, **1**, 451 (1971)

MYROXYLON

M. balsamum.

TRITERPENOIDS: 6-hydroxy-3-oxoolean-12-en-28-oic acid, (20R)-24-ocotillone.

Wahlberg, Enzell, *Acta Chem. Scand.*, **25**, 352 (1971)

MYRRHIS (Umbelliferae)

M. octodecimguttata.

QUINOLIZIDINE ALKALOID: myrrhine.

Tursch *et al.*, *Tetrahedron*, **31**, 1541 (1975)

MYRTILLOCACTUS (Cactaceae)

M. cochal.

TRITERPENOIDS: chichipigenin, cochalic acid.

Sandoral *et al.*, *J. Am. Chem. Soc.*, **79**, 4468 (1957)

M. eichlamii.

TRITERPENOID: chichipigenin.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **79**, 3525 (1957)

M. geometrizans.

TRITERPENOID: chichipigenin.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **79**, 3525 (1957)

M. nova.

TRITERPENOID: myrtillogenic acid.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **79**, 3525 (1957)

M. schenckii.

TRITERPENOID: chichipigenin.

Djerassi *et al.*, *J. Am. Chem. Soc.*, **79**, 3525 (1957)

MYRTOPSIS

M. microcarpa.

FURANOQUINOLINE ALKALOID: 8-methoxyflindersine.

Hifnawy *et al.*, *Phytochemistry*, **16**, 1035 (1977)

M. myrtoidea.

AMINE ALKALOID: N-benzyltryptamine.

Hifnawy *et al.*, *Phytochemistry*, **16**, 1035 (1977)

M. sellingii.

FURANOQUINOLINE ALKALOID: myrtopsine.

COUMARINS: myrsellin, myrsellinol.

(A) Hifnawy *et al.*, *Planta Med.*, **26**, 346 (1976)

(C) Hifnawy *et al.*, *Phytochemistry*, **16**, 1035 (1977)

MYRTUS (Myrtaceae)

M. communis.

ANTIBIOTIC: myrtucummulone A.

Rotstein, Lifshitz, *Antimicrobial Agents & Chemotherapy*, **6**, 539 (1974)

MYXOPHYTA (Cyanophyceae/Myxophyceae)

Myxophyta spp.

CAROTENOIDS: myxoxanthin, myxoxanthophyll.

Heilbron, Lythgoe, *J. Chem. Soc.*, 1376 (1936)

MYZODENDRON (Myzodendraceae)

M. punctulatum.

PHENYLBUTANONE: myzodendrone.

Reyes *et al.*, *J. Nat. Prod.*, **49**, 318 (1986)

N

NAEMATOLOMA (Scrophulariaceae)

N. fasciculare (Fr.) Karst.

TRITERPENOIDS: fasciculols A, B, C, D, E, F, G, fasciculol C 2depsipeptide, fasciculol C 3depsipeptide.

Kubo *et al.*, *Chem. Pharm. Bull.*, **33**, 3821 (1983)

NANDINA (Berberidaceae)

N. domestica Thunb.

APORPHINE ALKALOIDS: dehydroisoboldine, dehydronantenine, 4,5-dioxodehydronantenine, domesticine, isoboldine, isodomesticine, nandinine, nantenine.

PROTOBERBERINE ALKALOID: berberine.

QUATERNARY ALKALOID: nandazurine.

Kunimoto, Murakami, *Shyakugaku Zasshi*, **33**, 84 (1979)

N. domestica Thunb. var. leucocarpa.

APORPHINE ALKALOIDS: dehydroisoboldine, hydroxynantenine.

Kunimoto *et al.*, *J. Pharm. Soc., Japan*, **94**, 1149 (1974)

NANOPHYTON (Chenopodiaceae)

N. erinaceum (Pall.) Bge.

PIPERIDINE ALKALOIDS: 2,6-dimethylpiperidine, 1,2,6-trimethylpiperidine.

Yunusov *et al.*, *Nauchn. Tr. Tashk. Gos. Univ.*, **262**, 16 (1964)

NAPOLEONAEA (Lecythidaceae/Napoleonaceae)

N. vogelii.

TRITERPENOIDS: napoleogenin A, napoleogenin B.

Kapundu *et al.*, *Bull. Soc. Chim. Belg.*, **89**, 1001 (1980)

NARCISSUS (Amaryllidaceae)

N. folli.

ISOQUINOLINE ALKALOIDS: lycorine, tazettine.

Abdu'azimov, Yunusov, *Khim. Prir. Soedin.*, 64 (1967)

N. incomparabilis.

ISOQUINOLINE ALKALOID: galanthine.

Fales *et al.*, *J. Am. Chem. Soc.*, **78**, 4145 (1956)

N. jonquilla.

ISOQUINOLINE ALKALOID: jonquilline.

Dopke, Dalmer, *Naturwissenschaften* (1965)

N. kristalli.

DIPHENYL ALKALOID: galanthamine.

ISOQUINOLINE ALKALOIDS: lycorine, tazettine.

UNCHARACTERIZED ALKALOIDS: (+)-narvedine, (\pm)-narvedine.

Smirnova *et al.*, *Dokl. Akad. Nauk SSSR*, **154**, 171 (1964)

N. papyraceus Ker.-Gawl.

ISOQUINOLINE ALKALOID: papyramine.

Hung *et al.*, *Huaxue Xeubao*, **39**, 529 (1981)

N. poeticus L.

INDOLE ALKALOID: narcipoetine.

ISOQUINOLINE ALKALOIDS: lycorine, tazettine.

LUPINANE ALKALOID: pancracine.

PHENOLIC ACID: piscidic acid.

(Acid) Nordal *et al.*, *Acta Chem. Scand.*, **18**, 1979 (1964)

(A) Bopke, *Z. Chem.*, **14**, 57 (1974)

N. poeticus L. var. ornatus.

UNCHARACTERIZED ALKALOID: poetaricine.
Dopke, *Naturwissenschaften*, **50**, 595 (1963)

N. pseudonarcissus L.

HOMOISOQUINOLINE ALKALOID: narcissamine.

ISOQUINOLINE ALKALOID: galanthine.

Fales *et al.*, *J. Am. Chem. Soc.*, **78**, 445 (1956)

N. tazetta L.

ISOQUINOLINE ALKALOIDS: lycorine, maritidine, O-methylmaritidine, pancratine, suisenine, tazettine.

Tani *et al.*, *Chem. Pharm. Bull.*, **29**, 3381 (1981)

N. tazetta L. var. chinensis Roem.

ISOQUINOLINE ALKALOIDS: epi-galanthamine, 6 α -hydroxy-3-O-methyl-epi-maritidine, 6 β -hydroxy-3-O-methyl-epi-maritidine, maritidine-O-lycoramine, 3-O-methylmaritidine.

Ma *et al.*, *Heterocycles*, **24**, 2089 (1986)

NARDIA (Hepaticae)

N. scalaris (Schrad.) Gray.

DITERPENOIDS: ent-hydroxy-9(11),16-kauradien-6-ol, nardiin.

TRITERPENOID:(+)-3-oxo-21-methoxyserrat-14-ene.

Benes *et al.*, *Collect. Czech. Chem. Commun.*, **47**, 1873 (1982)

NARDOSMIA (Compositae)

N. laevigata DC. (Petasites laevigatus Reichb.).

PYRROLIZIDINE ALKALOIDS: platiphylline, renardine, senecionine, senkirikine.

Wunderlich, *Chem. Ind. (London)*, 2089 (1962)

Briggs *et al.*, *J. Chem. Soc.*, 2492 (1965)

NARDOSTACHYS (Valerianaceae)

N. chinensis.

SESQUITERPENOIDS: aristola-1,9-diene, aristola-1(10),8-dien-2-one, aristol-9-en-1-ol, aristolene, isonardosinone, narchinol A, nardosinone.

Rucker *et al.*, *Justus Liebigs Ann. Chem.*, **748**, 211, 214 (1971)

N. jatamsi.

SESQUITERPENOIDS: angelicin, jatamanshic acid, lomatin, maaliol, nardol, nardosiacione, norseychellanone, 224-patchoulene, β -patchoulene, patchouli alcohol.

Stanbhag *et al.*, *Tetrahedron*, **21**, 3591 (1965)

Ruecker *et al.*, *Phytochemistry*, **15**, 224 (1976)

NARTHECIUM (Liliaceae)

N. ossifragum (L.)Hudson.

SAPONINS: narthecin, xylosin.

STEROIDS: cholest-5-ene-3 β ,22-diol, cholest-5-ene-5,22-diol, cholest-5-ene-3 β ,24-diol.

(Sap) Ceh, Hauge, *Acta Vet. Scand.*, **22**, 391 (1982)

(S) Stabursvik, *Acta Chem. Scand.*, **7**, 1220 (1953)

NAUCLEA (Rubiaceae)

N. diderrichii.

CARBOLINE ALKALOIDS: alkaloid ND-305B, alkaloid ND-363C, alkaloid ND-370, nauclechine, naucleidine, naucleonidine, naucleonine.

HOMOCARBOLINE ALKALOID: nauclederine.

INDOLE ALKALOID: nauclexine.

PYRIDINE ALKALOID: 3-methoxycarbonyl-5-vinylpyridine.

SECOIRIDOID: diderroside.

(A) Murray, McLean, *Can. J. Chem.*, **50**, 1478, (1972)

(A) Murray, McLean, *ibid.*, **50**, 1496 (1972)

(A) Dimitrienko *et al.*, *Tetrahedron Lett.*, 2599 (1974)

(I) Adouye *et at.*, *Phytochemistry*, **22**, 975 (1983)

N. latifolia Sm.

CARBOLINE ALKALOIDS: nauclefine, naucleline, naulafine, laufoline.
Hotellier *et al.*, *Phytochemistry*, **14**, 1403 (1975)

N. parva.

CARBOLINE ALKALOID: parvine.
Sainsbury, Webb, *Phytochemistry*, **14**, 2691 (1975)

NAUMBERGIA (Primulaceae)

N. thrysifolia (L.) Reichb. (Lysimachia thrysiflora L.)

SAPONINS: saponins A and B.
Karpova *et al.*, *Khim. Prir. Soedin.*, 364 (1975)

NAVANAX

N. inermis.

SESQUITERPENOIDS: narvenones A, B and C.
Sleeper, Fenical, *J. Am. Chem. Soc.*, **99**, 2367 (1977)

NAVICULA (Haptophyceae)

N. torquetum.

CAROTENOID: ϵ -carotene.
Chapman, Haxo, *Plant Cell Physiol.*, **4**, 57 (1963)

NECTANDRA (Lauraceae)

N. elaiophora.

SESQUITERPENOIDS: (-)-curcumene, (+)-curcumene, (-)- α -curcumene.
Naves, *Bull. Soc. Chim.*, 987 (1951)

***N. rodioei* Hook.**

UNCHARACTERIZED ALKALOID: chondrodine.

Scholtz, *Ber. Dtsch. Chem. Ges.*, **29**, 2054 (1896)***N. rubra* (Mez.) C.K.Allen.**

FURANS: rubrenolide, rubrynolide.

Franca *et al.*, *J. Chem. Soc., Chem. Commun.*, 514 (1972)

NEISOSPERMA

***N. kilneri* (F.V.Muell.) Fosberg et Sachet.**CARBOLINE ALKALOIDS: angustine, 1-carbamoyl- β -carboline, 1-carbamoyl-7-methoxy- β -carboline, cathafoline, descarbomethoxygambirtannine, isoreserpiline, 10-methoxygeissoschizol, ochrolifuanine A, reserpiline.Batchily *et al.*, *Ann. Pharm. Fr.*, **43**, 513 (1985)

NELUMBO (Nymphaeaceae)

***N. lutea* (Willd.) Pers.**

APORPHINE ALKALOIDS: N-norarmepavine, (-)-N-nornuciferine.

Kupchan *et al.*, *Tetrahedron*, **19**, 227 (1963)***N. nucifera* Gaertn.**APORPHINE ALKALOIDS: (\pm)-armepavine dehydronuciferine, dehydroroermerine, 2-hydroxy-1-methoxyaporphine isoliensine, isoliensinine, 4'-methyl-N-methylcoclaurine, neferine, roermerine.

ISOQUINOLINE ALKALOIDS: isoliensinine, liensinine, lotusine, O-methylcorypalline.

BISBENZYLISOQUINOLINE ALKALOID: neferine.

Nishibe *et al.*, *J. Nat. Prod.*, **49**, 548 (1986)

NEMALION (Rhodophyceae)

N. helminthoides.

CAROTENOIDS: α -carotene, β -carotene, α -cryptoxanthin, β -cryptoxanthin, fucoxanthin, lutein, zeaxanthin.

Bjoernland *et al.*, *Phytochemistry*, **15**, 291 (1976)

NEMUARON (Monomiaceae)

N. vaillardii.

APORPHINE ALKALOIDS: laurotetanine, N-methyllaurotetanine, norisocorydine.

BISBENZYLISOQUINOLINE ALKALOID: nemuarine.

OXAAPORPHINE ALKALOID: atheroline.

Bick *et al.*, *Aust. J. Chem.*, **20**, 1403 (1967)

NEOCALLITROPIS

N. araucariooides.

SESQUITERPENOID: araucariol.

Rudloff, *Chem. Ind. (London)*, 2126 (1964)

NEOCHAMAELEA

N. pulverulenta.

CHROMENES: pulverin, spatheliabischromene.

STEROID: β -sitosterol.

DITERPENOID: pulverin.

SESTERTERPENOIDS: cneorin G, cneorin NP-32, cneorin NP-36, cneorin NP-38, cneorin R.

(C, S) Gonzalez *et al.*, *Phytochemistry*, **14**, 1656 (1975)

(T) Mondon *et al.*, *Tetrahedron Lett.*, 2015 (1981)

NEOLITSEA (Lauraceae)

N. aciculata (Blume) Koidz.

ACIDS: dodecanoic acid, cis-4-decenoic acid, cis-4-dodecenoic acid, cis-4-tetradecenoic acid.

SESQUITERPENOIDS: ,i.isolinderalactone, linderadine, linderalactone, linderane, linderine, litseaculane, litsealactone, neoliacine, neolinderane, pseudolinderane, zeylanane, zeylanine.

(Acid) Furukawa *et al.*, *Yukagaku*, **25**, 496 (1976); *Chem. Abstr.*, 85 119617b

(T) Takeda *et al.*, *J. Chem. Soc., C*, 973 (1970)

(T) Nozaki *et al.*, *J. Chem. Soc., Chem. Commun.*, 1107 (1983)

N. aurata (Hay.) Koidz.

SPIROISOQUINOLINE ALKALOIDS: anonaine, N-methyllitsericine, roemerine.

Lu *et al.*, *J. Chin. Chem. Soc.*, **22**, 349 (1975); *Chem. Abstr.*, 84 132659r

N. buisanensis Yamamoto et Kamikoti.

ISOQUINOLINE ALKALOIDS: laurolitsine, litsericine.

Lu *et al.*, *J. Chin. Chem. Soc.*, **22**, 349 (1975); *Chem. Abstr.*, 84 132659r

N. daibuensis Kamikoti.

BENZYLISOQUINOLINE ALKALOID: (S)-(+)-reticuline.

Lu *et al.*, *Chem. Abstr.*, 88 34561r

N. fischeri.

SESQUITERPENOIDS: fischeric acid, isofischeric acid.

Joshi, Kamal, *Indian. J. Chem.*, **9**, 80 (1971)

N. pulchella.

APORPHINE ALKALOIDS: neolitsine, neolitsinine.

TRITERPENOIDS: 3β -methoxy-24,25-dimethyllanosta-9(11)-en-24-ol, 3-methoxy-24,25-dimethyllanosta-9(11)-en-24-ol methyl ether, 24-methoxy-24,25-dimethyllanost-9(11)-en-3-one.

(A) Hui *et al.*, *J. Chem. Soc.*, 2285 (1965)

(T) Chan, Hui, *J. Chem. Soc., Perkin I*, 490 (1973)

N. sericea (Blume) Koidz.

ACIDS: dodecanoic acid, cis-4-decenoic acid, cis-4-dodecenoic acid, cis-4-tetradecenoic acid.

APORPHINE ALKALOID: laurolitsine.

SESQUITERPENOIDS: isosericenin, neosericenin, sericealactone, sericenic acid, sericenin.

(Acid) Furukawa *et al.*, *Yukagaku*, **25**, 496 (1976); *Chem. Abstr.*, 85 119617b

(A) Kozuka *et al.*, *J. Pharm. Soc., Japan*, **82**, 1567 (1962)

(T) Takeda *et al.*, *J. Chem. Soc., C*, 1547 (1970)

N. zeylanica.

SESQUITERPENOIDS: linderalactone, neolinderane, zeylanicin, zeylanidine, zeylanin.

Joshi *et al.*, *Tetrahedron*, **23**, 261 (1967)

Joshi *et al.*, *ibid.*, **23**, 273 (1967)

NEOLLOYDIA

N. texensis.

TRITERPENOID: ocotillol II.

Warnhoff, Walls, *Can. J. Chem.*, **43**, 3311 (1965)

NEORAUTANENIA(Leguminosae/Papilio naceae)

N. amboensis.

PHYTOALEXINS: ambanol, edudiol, edudiol methyl ether, edulane, (6aR,11aR)-edunol, (6aS,11aS)-edunol.

ROTENOID: 12 α -hydroxyisomillettone, neobanol, neobanone, rotenonone.

(P) Brink *et al.*, *Phytochemistry*, **16**, 273 (1977)

(P) Oberholzer *et al.*, *Tetrahedron Lett.*, 1165 (1977)

(R) Oberholzer *et al.*, *Phytochemistry*, **15**, 1283 (1976)

N. edulis.

FURANOFLAVONE: pachyrrhizin.

ISOFLAVONES: dehydroneotenone, neodulin, neotenone.

PHYTOALEXINS: edudiol, edudiol methyl ether, edulane.

Brink *et al.*, *Phytochemistry*, **16**, 273 (1977)

N. ficifolia.

BENZOPYRANS: folinin, folitenol.

PTEROCARPAN: ficifolinol.

Brink *et al.*, *J.S. Afr. Chem. Inst.*, **23**, 24 (1970)

N. pseudopachyrrhiza Harms.

FURANOFLAVONE: pachyrrhizin.

ISOFLAVONES: neotenone, nepseudin.

ROTENOID: dolineone.

Crombie, Whiting, *J. Chem. Soc.*, 1569 (1963)

NEPETA (Labiatae)

N. cataria L.

MONOTERPENOIDS: 5,9-dehydronepetalactone, Iristerogenin acid.

Sastry *et al.*, *Phytochemistry*, **11**, 453 (1972)

N. granatensis.

DITERPENOID: 7,18-dihydroxy-14-abietene.

Gonzalez *et al.*, *An. Quim.*, **72**, 65 (1976)

N. hindostana.

SESQUITERPENOID: nehepediol, nehepetol, nepeticin, nepetidin.

TRITERPENOID: $2\alpha,3\beta,23$ -trihydroxyurs-12-en-28-oic acid.

Ahmad *et al.*, *Phytochemistry*, **25**, 1487 (1986)

N. mussini.

MONOTERPENOID: cis-nepetalactone, $4\alpha,7\beta,7\alpha$ -nepetalactone.

Eisenbaum *et al.*, *Int. Congr. Essent. Oils, 6th*, 149 (1974)

N. taydea.

TERPENOID: two uncharacterized terpenoids.

Gonzalez *et al.*, *An. Quim.*, **69**, 1059 (1973)

NERINE (Amaryllidaceae)

N. bowdenii W.C.R.Wats.

ISOQUINOLINE ALKALOIDS: crinine, 6-hydroxybuphanidine, 6-hydroxypowelline.

Slabaugh, Wildman, *J. Org. Chem.*, **36**, 3202 (1971)

N. corusca.

UNCHARACTERIZED ALKALOID: coruscine.

Boit, Ehmke, *Chem. Ber. Dtsch. Chem. Ges.*, **90**, 369 (1957)

N. crispa Hort.

UNCHARACTERIZED ALKALOID: crispinine.

Dopke, *Naturwissenschaften*, **49**, 469 (1962)

N. falcata.

ISOQUINOLINE ALKALOID: falcatine.

Wildman, Kaufman, *J. Am. Chem. Soc.*, **77**, 4807 (1955)

N. flexuosa.

ISOQUINOLINE ALKALOID: flexinine.

Fales, Wildman, *J. Org. Chem.*, **26**, 181 (1961)*N. flexuosa alba.*

ISOQUINOLINE ALKALOID: undulatine.

Wernhoff, Wildman, *J. Am. Chem. Soc.*, **82**, 1472 (1960)*N. krigeii.*

INDOLE ALKALOIDS: krigenamine, neronine.

Garbett *et al.*, *Chem. Ind. (London)*, 468 (1961)*N. laticonia.*

ISOQUINOLINE ALKALOID: falcatine.

Fales, Wildman, *J. Am. Chem. Soc.*, **80**, 4395 (1958)*N. powellii.*

ALKALOID: criwelline.

Boit, Ehmke, *Chem. Ber.*, **89**, 2093 (1956)*N. sarniensis (L.) Herbert.*

INDOLE ALKALOID: nerinine.

Boit, *Chem. Ber.*, **87**, 1704 (1954)*N. undulata.*

UNCHARACTERIZED ALKALOID: crispine.

Boit, *Chem. Ber.*, 89, 1129 (1956)

NERIUM (Apocynaceae)

N. indicum Mill.

FLAVANOID: kaempferol-3-glycoside.

SAPONIN: oleandrin.

STEROIDS: β -sitosterol, β -sitosterol glucoside.

TRITERPENOIDS: oleanolic acid, ursolic acid.

(F, S, T) Lin *et al.*, *Chem. Abstr.*, 84 118469x(Sap) Neumann, *Ber. Dtsch. Chem. Ges.*, **70**, 1547 (1937)*N. odorum Sol.*

PIGMENTS: neriumosides A-1, A-2, B-1, B-2 and C-1.

SAPONINS: 16-dehydroadynerigenin- α -diginoside, 16-dehydroadynerigenin- α -D-digitaloside, neriaside, neridienone A, neridienone B, odorosides A, B, C, D, E and F.

(P) Yamauchi *et al.*, *Tetrahedron Lett.*, 1115 (1976)
 (Sap) Yamauchi *et al.*, *Chem. Pharm. Bull.*, **22**, 1680 (1974)

N. oleander L.

SAPONINS: adigoside, adynerin, neriantin, oleandrin.

TRITERPENOID: ursolic acid.

(Sap) Jeger *et al.*, *Helv. Chim. Acta*, **42**, 977 (1959)

(T) Hassan *et al.*, *Khim. Prir. Soedin.*, 119 (1977)

NERVILIA (Orchidaceae)

N. purpurea Schlechter.

STEROIDS: cyclohomonerviol, cyclonervilasterol,

24-epi-cyclonervilasterol, cyclonervilasterone, dehydronervilasterol,

dihydrocyclonervilasterol,

24-epi-dihydrocyclonervilasterol, nervilasterol, nervilasterone, nervisterol.

Kikuchi *et al.*, *Chem. Pharm. Bull.*, **34**, 3183 (1986)

NEUROLAENA

N. lobata.

SESQUITERPENOIDS: lobatin A, lobatin B, neurolenin A, neurolenin B.

Borges-del-Castillo *et al.*, *J. Nat. Prod.*, **45**, 762 (1982)

NEUROSPORA

N. crassa.

STEROID: 4 α -methyl-5 α -ergosta-8,24(28)-dien-3 β -ol.

SUBDEN, RENAUD, STEROIDS: 34, 643 (1979)

NEWCASTELIA (Verbenaceae)

N. viscosa E. Pritzel.

DITERPENOID:isopimar-9(11),15-diene-3 β ,19-diol.

Jefferies, Ratajczak, *Aust. J. Chem.*, **26**, 173 (1973)

NICANDRA (Solanaceae)

N. physaloides.

STEROIDS: Nic-1, Nic-2, Nic-3, Nic-7 Nic-10, Nic-11, Nic-12, Nic-17, Nic-1 lactone, nicandrenone.

Begley, Morehead, *J. Chem. Soc., Chem. Commun.*, 125 (1974) Glotter *et al.*, *Phytochemistry*, **15**, 1317 (1976)

N. physaloides var. albiflora.

STEROIDS: nicalbin A, nicalbin B.

Begley, Morehead, *J. Chem. Soc., Chem. Commun.*, 125 (1974)

NICOTIANA (Solanaceae)

N. affinis.

PYRIDINE ALKALOIDS: cis-nicotine-1'-N-oxide, trans-nicotine-1' -N-oxide.

Phillipson, Handa, *Phytochemistry*, **14**, 2683 (1975)

N. debneyi.

SESQUITERPENOIDS: cyclodebneyol, debneyol.

Burden *et al.*, *Phytochemistry*, **25**, 1607 (1986)

N. glauca.

PYRIDINE ALKALOID: anabasine.

Orekhov, *C.R. Acad. Sci.*, **189**, 945 (1929)

N. glutinosa L.

DITERPENOIDS:(13Z)-labda-8,14-diene-2,13-diol,
 (13R)-labda-8,14-dien-13-ol, (12Z)-labda-12,14-dien-8 α -ol,
 (13Z)-labda-8,14-dien-13-ol-2-one,
 (13R)-labd-14-ene-8 α ,13-diol, (13S)-labd-14-ene-8 α ,13-diol.

Colledge, Reid, *Chem. Ind. (London)*, 570 (1975)

N. plumbaginifolia.

STEROIDAL ALKALOID: soloplumbine.

Singh *et al.*, *Phytochemistry*, **13**, 2020 (1974)

N. setchellii.

DITERPENOID: 7,13-labdadien-15-ol.

Suzuki *et al.*, *Phytochemistry*, **22**, 1294 (1983)

N. sylvestris.

PYRIDINE ALKALOIDS: cis-nicotine-1'-N-oxide, trans-nicotine-1'-N-oxide.

Phillipson, Handa, *Phytochemistry*, **14**, 2683 (1975)

N. tabacum L.

PYRIDINE ALKALOIDS: (-)-anatabine, (\pm)-anatabine, anatelline, lathreine, (-)-N-methylanabasine, (-)-N-methylanatabine, 5-methyl-2,3'-bipyridine, myosmine, nicotelline, nicotianamine, nicotimine, nicotine, nicotyrine, nornicotine.

UNCHARACTERIZED ALKALOIDS: α -socratine, β -socratine, τ -socratine.

DIKETONE: prenylnorsolanadione.

PHYTOALEXIN: glutinosone.

POLYPRENOID: norsolenesene.

PYRAN: spiroxabovalide.

DITERPENOIDS:

10-isopropyl-3,7,13-trimethyltetradeca-2,6,11,13-tetraen-1-al.

NORSESQUITERPENOIDS: isonordrimenone, 3-oxo- α -ionol, solanofuran, (+)-solanone.

SESQUITERPENOIDS: 1-oxo- α -cyperone, phytuberol, solanascone, 3,7,13-trimethyl-10-isopropyl-2,6,11,13-tetradecatetraen-1-al., 4-(2,2,6-trimethyl-6-vinylcyclohexyl)-2-butanone.

TOXINS: caffeoylputrescine, caffeoylspermidine, dicaffeoylspermidine.

(A) Spath *et al.*, *Ber. Dtsch. Chem. Ges.*, **69**, 393 (1936)

(A) Kisaki *et al.*, *Phytochemistry*, **7**, 323 (1968)

(Ph) Murai *et al.*, *Bull. Chem. Soc., Japan*, **53**, 1045 (1980)

(Po) Enzell *et al.*, *Tetrahedron Lett.*, 1983 (1971)

(Py) Demole *et al.*, *Helv. Chim. Acta*, **56**, 265 (1973)

(T) Takagi *et al.*, *Agr. Biol. Chem.*, **43**, 2395 (1979)

(Tox.) Deletang, *Ann. Tab. Sect.*, **2**, 123 (1974); *Chem. Abstr.*, 84 147656m

N. tabacum Burley.

DINORSESQUITERPENOIDS:

(E)-5-isopropyl-6,7-epoxy-8-hydroxy-8-methylnonan-2-one,

(E)-5-isopropyl-8-hydroxy-8-methylnon-6-en-2-one, 5-isopropyl-8-hydroxynonan-2-one,

(E)-5-isopropyl-8-hydroxynon-6-en-2-one,

(E)-3-isopropyl-6-methylhepta-4,6-dien-1-ol, 5-isopropylnonane-2,8-diol,

(E)-5-isopropylnon-3-ene-2,8-diol,
3,3,5-trimethyl-8-isopropyl-4,9-dioxabicyclo-[3,3,1]-nonan-2-ol.

MONOTERPENOIDS:

exo-1-(1-methyl-4-isopropyl-7,8-dioxabicyclo-[3,2,1]-oct-6-yl)-ethanol,
exo-1-(1-methyl-4-isopropyl-7,8-dioxabicyclo-[3,2,1]-oxy-6-yl)-methylketone,
endo-2-(1-methyl-4-isopropyl-7,8-oxabicyclo-[3,2,1]-oct-6-yl)-propen-2-ol.

Demole, Demole, *Helv. Chim. Acta*, 58, 1867 (1975)

N. tabacum L. (Greek).

PYRIDINE ALKALOIDS: anabasine, nicotine, nicotyrine, nornicotine.

DINORSESQUITERPENOIDS:

(3S,6R,7E,9R)-megastigmadiene-3,9-diol,
(3S,6R,7E,9S)-megastigmadiene-3,9-diol,
megastigma-5(13),7-diene-6,9-diol,
megastigma-4,6,8-trien-3-one,
6-megastigma-4,7,9-trien-3-one.

NORDITERPENOID: 15-nor-8 α -hydroxy-12E-labden-14-ol.

NORSESQUITERPENOID: 11-nor-8-hydroxy-9-drimenone.

(A) Spath *et al.*, *Ber. Dtsch. Chem. Ges.*, **69**, 393 (1936)

(T) Aasen *et al.*, *Acta Chem. Scand.*, **26**, 2573 (1972)

(T) Behr *et al.*, *ibid.*, **32B**, 391 (1978)

(T) Wahlberg *et al.*, *ibid.*, **36B**, 573 (1982)

N. tabacum PB. (Bergerac).

PYRIDINE ALKALOIDS: anabasine, nicotine, nicotyrine.

DITERPENOIDS:(13E)-15-acetoxy-13-labden-8-ol,

(11E,13R)-labda-11,14-diene-8,13-diol,

(11E,13S)-labda-11,14-diene-8,13-diol.

(A) Kasaki *et al.*, *Phytochemistry*, **7**, 323 (1968)

(T) Colledge, Reid, *Chem. Ind. (London)*, 570 (1975)

N. tabacum L. (Turkish).

PYRIDINE ALKALOIDS: isonicotine, nicotine, nicotoine.

MONOTERPENOIDS:

18-methyl-3-isopropylcyclopentane-1,2-dicarboxylic acid,

2-methyl-5-isopropyl-1-cyclopentene-1-carboxylic acid.

DITERPENOIDS: α -levantanolide, α -levantenolide, β -levantenolide.

(A) Noga, *Tachl. Mitt. Oesterr. Takakregie*, (1914)

(T) Giles *et al.*, *Tetrahedron*, **9**, 107 (1963)

(T) Chuman *et al.*, *Agr. Biol. Chem.*, **42**, 203 (1978)

N. tabacum L. (Virginian).

NORSESQUITERPENOIDS:

3-isopropenyl-5-methyl-1,2-dihydronaphthalene, cis-2-isopropenyl-8-methyl-1,2,3,4-tetrahydro-1-naphthalenol, megastigma-5,8-dien-4-one.

Demole *et al.*, *Helv. Chim. Acta*, **62**, 67 (1979)

NIDORELLA

N. anomala.

DITERPENOIDS: ent-3 β -hydroxy-15-beyer-en-19-oic acid, 3 α -hydroxy-19-stachenoic acid.

BISDITERPENOID: nidoanomalin.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1175 (1982)

N. hottentotica.

BISSESQUITERPENOID: nidhottin, 6 α -nidhottinol, 6 α -nidhottinol, 6-nidhottinone.

DITERPENOIDS: 6-O-angeloyloxyseconidorellalactone, seconidorellalactone.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1109 (1982)

NIGELLA (Ranunculaceae)

N. damascena L.

AMINE ALKALOIDS: damascenine, damascinine.

SESQUITERPENOID: (-)- α -selinene.

(A) Schneider, *Pharm. Zentralbl.*, **31**, 173 (1890)

(A) Dopke, Fritsch, *Pharmazie*, **25**, 69 (1970)

(T) Tillequin *et al.*, *Planta Med.*, **30**, 59 (1976)

NITRARIA (Zygophyllaceae)

N. komakovii.

CARBOLINE ALKALOID: komarovidine.

Sulyaganov *et al.*, *Khim. Prir. Soedin.*, 732 (1980)

N. schoberi L.

QUINOLINE ALKALOID: nitramine.

CARBOLINE ALKALOIDS: nitrarine, tetramethyltetrahydro- β -carboline.

Novgorodova *et al.*, *Khim. Prir. Soedin.*, 196 (1973)

N. sibirica.

INDAZOLE ALKALOID: nitrabirine.

Ibragimov *et al.*, *Khim. Prir. Soedin.*, 213 (1983)

NOLINA (Cactaceae)

N. erumpens.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

N. greeni.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

NOTHOFAGUS (Fagaceae)

N. dombeyi.

FLAVANONE: aromadendrin.

Gripenberg, *Acta Chem. Scand.*, **6**, 1152 (1952)

NOTHOLAENA

N. aschenborniana.

FLAVONOIDS:

5,4'-dihydroxy-3,7,3'-trimethoxy-8-acetoxyflavone,
pentamethoxy-8-acetoxyflavone. 5-hydroxy-3,7,2',3',4'-

Jay *et al.*, *Z. Naturforsch.*, **37C**, 721 (1982)

N. californica.

FLAVONOIDS: apigenin 7-methyl ether, kaempferol 3,7-dimethyl ether, quercetin 3,7-dimethyl ether, quercetin 3,7,4'-trimethyl ether.

Wollenweber *et al.*, *Chem. Abstr.*, 97 212663w

N. candida.

FLAVONOIDS: apigenin, apigenin 7-dimethyl ether,
5-hydroxy-3,3',4',5',7-pentamethoxyflavone.

Farkas *et al.*, *Chem. Ber. Dtsch. Chem. Ges.*, **100**, 2296 (1967)

Wollenweber, *Phytochemistry*, **15**, 2013 (1976)

N. neglecta.

FLAVONOIDS: 5-hydroxy-7-methoxy-8-acetoxyflavanone, 7-O-methyl-8-acetoxygalangin.
Wollenweber et al., J. Nat. Prod., 45, 216 (1982)

N. schaffneri.

FLAVONOID: combretol.

Wollenweber, Phytochemistry, 15, 2013 (1976)

N. standleyi.

FLAVONOIDS: kaempferol, kaempferol 3,7-dimethyl ether, kaempferol 7,4'-dimethyl ether, kaempferol 3-methyl ether, kaempferol 4'-methyl ether.

Wollenweber, Phytochemistry, 15, 2013 (1976)

NOTONIA

N. petraea.

SESQUITERPENOID: notonipetrone.

Bohlmann, Zdero, Phytochemistry, 18, 1063 (1979)

NUMMULARIA (Xylariaceae)

N. broomeiana.

ANTIBIOTIC: pyrenophorin.

Anderson et al., J. Chem. Soc., Perkin 1, 2185 (1983)

NUPHAR (Nymphaeaceae)

N. japonicum.

PIPERIDINE ALKALOID: anhydronupharamine.

Arata et al., J. Pharm. Soc., Japan, 87, 1094 (1967)

N. luteum (L.) Sm.

BISQUINOLIZIDINE ALKALOIDS: allothiobonupharidine, 6,6'-dihydroxyneobinupharidine, neothiobinupharidine, nuphleine, pseudothiobinupharidine,

thiobinupharidine, thiobidesoxynupharidine, thiobinupharidine sulphoxide, thionupharoline, thionuphleine sulphoxide, epi-thionuphleine sulphoxide.

QUINOLIZIDINE ALKALOIDS: 7-epi-deoxynupharidine, nupharoline, nupharolutine.

Achmatowicz, Wrobel, *Tetrahedron Lett.*, 927 (1964)

Wrobel *et al.*, *Bull. Acad. Pol. Sci. Ser. Sci. Chem.*, **24**, 99 (1976)

N. luteum L. subsp. *macrophyllum*.

BISQUINOLIZIDINE ALKALOIDS: bis-6,7-oxidodeoxynupharidine, 6,6'-dihydroxythionuphlutines A and B.

QUINOLIZIDINE ALKALOIDS: deoxynupharidin-7 α -ol, 7-epi-deoxynupharidin-7 α -ol.

Lalonde *et al.*, *J. Am. Chem. Soc.*, **94**, 8522 (1972)

N. luteum L. subsp. *variegatum*.

PIPERIDINE ALKALOIDS: 3-epi-nuphamine, 3-epi-nupharamine.

Forrest, Ray, *Can. J. Chem.*, **49**, 1774 (1971)

N. pumila (Timm.) DC.

QUINOLIZIDINE ALKALOID: nupharopumiline.

Reura, Lounasmaa, *Phytochemistry*, **16**, 1122 (1977)

N. variegatum Engelm.

PIPERIDINE ALKALOIDS: 3-epi-nupharamine, nuphenine.

Forrest, Ray, *Can. J. Chem.*, **49**, 1774 (1971)

NYCTANTHES (Nyctanthaceae)

N. arbor-tristes.

FLAVONOIDS: astragalin, nicotiflorin.

IRIDOID: nyctanthoside.

STEROID: nycosterol.

TRITERPENOID: nyctanthic acid.

(F) Gupta, Bokadia, *Chem. Abstr.*, 87 18988j

(S) Vasista, *J. Benares Hindu Univ.*, **2**, 348 (1938)

(T) Rimpler, Junghanns, *Tetrahedron Lett.*, 2423 (1975)

NYMANIA (NYMPHAEA) **(Nymphaeaceae)**

N. alba L.

UNCHARACTERIZED ALKALOID: nymphine.

HOMOSESTERTERPENOIDS: nymania 1, nymania 2, nymania 3.

(A) Bures, Pizak, *Cas. Cesk. Lek.*, **15**, 223, 243 (1935)

(T) MacLachlin *et al.*, *Phytochemistry*, **21**, 1700 (1982)

O

OCHROCARPUS (Guttiferae/Clusiaceae)

O. odoratus.

XANTHONES: 1,5-dihydroxyxanthone, 1,3,5,6-tetrahydroxyxanthone, 1,3,6,7-tetrahydroxyxanthone, 1,5,6-trihydroxyxanthone, 2,3,4-trihydroxyxanthone.

Quillinan *et al.*, *J. Chem. Soc., Perkin I*, 1382 (1972)

OCHROSIA (Apocynaceae)

O. balansae Guill.

CARBAZOLE ALKALOID: 1,2-dihydro-9-methoxyellipticine.

PROTOPINE ALKALOID: dimethoxypicraphylline.

Bruneton *et al.*, *Ann. Pharm. Fr.*, **30**, 629 (1972)

O. elliptica Labill.

CARBAZOLE ALKALOIDS: ellipticine, elliptimine.

INDOLE ALKALOIDS: apparicine, cathenamine, nephrosine, norfluorocurarine, pleiocarpamine, tetrahydroalstonine.

Goodwin *et al.*, *J. Am. Chem. Soc.*, **81**, 1903 (1959)

Pawekla *et al.*, *Z. Naturforsch.*, **41C**, 381 (1986)

O. lifuana Guill.

BISCARBOLINE ALKALOIDS: dehydro-3-ochrolifuanine, ochrolifuanine, ochrolifuanine A.

CARBOLINE ALKALOID: decarboxydihydrogambertannine.

Peube-Locou *et al.*, *Phytochemistry*, **12**, 199 (1973)

Preaux *et al.*, *ibid.*, **13**, 2607 (1974)

O. moorei.

CARBOLINE ALKALOIDS: 10,11-dimethoxy-19,20-dihydro-16S,20R-sitsirikine, reserpiline N-oxide.

INDOLONE ALKALOID: 3S,7S-ochropposinine oxindole.
 Ahond *et al.*, *Lloydia*, **44**, 193 (1981)

O. nakaiana.

CARBOLINE ALKALOID: 10-methoxycorynantheol methoperchlorate.
 Sakai *et al.*, *J. Pharm. Soc., Japan*, **94**, 1274 (1974)

O. oppositifolia.

CARBAZOLE ALKALOID: 9-methoxyelliptisine.
 CARBOLINE ALKALOIDS: ochroposine, ochropposinine.
 Peube-Locou *et al.* *Phytochemistry*, **11**, 2109 (1972)

O. poweri Bailey.

CARBOLINE ALKALOID: poweridine.
 INDOLE ALKALOIDS: ochropamine, ochropine.
 UNCHARACTERIZED ALKALOIDS: elliptamine, poweramine, powerchrine, powerine.
 Doy, Moore, *Aust. J. Chem.*, **15**, 548 (1962)
 Douglas *et al.*, *ibid.*, **17**, 246 (1964)

O. sandwicensis Gray.

CARBAZOLE ALKALOID: 9-methoxyelliptisine.
 CARBOLINE ALKALOID: ochrosandwine.
 Jordan, Scheuer, *Tetrahedron*, **21**, 3731 (1965)

OCHTODES (Rhodophyceae)

O. crockeri

MONOTERPENOID:(6S*,E)-2,4-ochtodiene-1,6-diol (6S*,Z)-2,4-ochtodiene-1,6-diol
 Paul *et al.*, *J. Org. Chem.*, **45**, 3401 (1980)

O. secundiramea.

HALOGENATED MONOTERPENOID: ochtodene, ochtodiol.
 McConnell, Fenical, *J. Org. Chem.*, **43**, 4238 (1978)

OCIMUM (Labiatae)

O. basilicum.

MONOTERPENOID: ocimene.

SESQUITERPENE: 1-epi-bicyclosesquiphellandrene.
Terhune *et al.*, *Phytochemistry*, **13**, 1183 (1974)

O. gratissimum.

SESQUITERPENOID: gratissimene.
Dembitskii *et al.*, *Khim. Prir. Soedin.*, 398 (1982)

O. spicatum.

STEROIDS: campesterone, β -sitosterol, stigmasterol.
TRITERPENOIDS: maslinic acid, epi-maslinic acid, oleanolic acid.
Xaasen *et al.*, *J. Nat. Prod.*, **46**, 936 (1983)

OCOTEA (Lauraceae)

O. aciphylla.

NEOLIGNANS: ferrearin, 3'-methoxyburchellin, oxaguianin.
Felicio *et al.*, *Phytochemistry*, **25**, 1707 (1986)

O. acutangula (Mez.).

PHENANTHRENE ALKALOIDS: (S)(-)-O-methylpallidine, pallidine, pallidinine.
Vecchietti *et al.*, *J. Chem. Soc., Perkin I*, 578 (1981)

O. barcellensis.

SESQUITERPENOIDS: (-)-curcumene, (-)- α -curcumene.
Herout *et al.*, *Collect. Czech. Chem. Common.*, **18**, 297 (1953)

O. brachybotra.

APORPHINE ALKALOID: predicentrine.
Chen *et al.*, *Phytochemistry*, **15**, 1161 (1976)

O. bucherii.

APORPHINE ALKALOID: 3-hydroxyglaucine.
Roensch *et al.*, *Justus Liebigs Ann. Chem.*, 744 (1983)

O. caparrapi.

SESQUITERPENOIDS: caparrapidiol, caparrapidoxide, caparrapitriol.
Borges-del-Castillo *et al.*, *Tetrahedron Lett.*, 3731 (1966)
Brooks, Campbell, *Phytochemistry*, **8**, 215 (1969)

O. cymbarum.

DITERPENOID: dehydroeugenol B.
de Diaz *et al.*, *Phytochemistry*, **19**, 681 (1980)

O. glaziovii.

APORPHINE ALKALOID: (R)-(-)-3,5-dihydroxy-6-methoxyaporphine.

Gilbert *et al.*, *J. Am. Chem. Soc.*, **86**, 694 (1964)

O. leucoxylon.

APORPHINE ALKALOID: ocoxylonine.

Ahmad, Cava, *Heterocycles*, **7**, 927 (1977)

O. macropoda (H.B.K.) Mez.

APORPHINE ALKALOIDS: dehydrodicentrine, dehydroocopodine, dicentrinone, ocopodine, predicentrine.

Cava, Venkateswarlu, *Tetrahedron*, **27**, 2639 (1971)

O. miniarum.

APORPHINE ALKALOIDS: norleucoxylonine, oocominarine, oocominarone, octominarine.

Vecchietti *et al.*, *Farmaco Ed. Sci.*, **34**, 829 (1979)

O. porosa.

BENZOPYRAN: porosin.

Aiba *et al.*, *Phytochemistry*, **12**, 413 (1973)

O. puberula Nees.

APORPHINE ALKALOIDS: dehydroocoteine, ocoteine, thalmine, thalminine.

Baralle *et al.*, *Phytochemistry*, **12**, 948 (1973)

O. rodiae.

BISBENZYLISOQUINOLINE ALKALOIDS: demerarine, norrodiasine, 2-nortetrandrine, ocodemarine, ocotine, ocotosine, otocamine, rodiasine, sepeanine.

Hearst, *J. Org. Chem.*, **29**, 466 (1965)

Chen *et al.*, *J. Chem. Soc., C*, 2479 (1967)

O. variabilis.

APORPHINE ALKALOID, variabiline.

UNCHARACTERIZED ALKALOID: apoglaziovine.

Cava *et al.*, *Tetrahedron Lett.*, 4647 (1972)

ODONTEA

O. bicolor.

MONOTERPENOID: 4,5-decadiene-7,9-diyn-1-ol.

Bew *et al.*, *J. Chem. Soc., C*, 129 (1966)

ODONTITES (Schophulariaceae)

O. serotina (Lam.) Dum.

Two uncharacterized alkaloids.

Platonova *et al.*, *Med. Prom.*, **3**, 21 (1963)

O. verna (Bellardi) Dum.

IRIDOIDS: aucubigenin-1-O- β -cellobioside, 8-epi-loganin.

Bianco *et al.*, *Gazz. Chim. Ital.*, **111**, 91 (1981)

O. verna subsp. serotina.

IRIDOIDS: aucubigenin-1-O- β -serotinoside, 2-O-benzoylaucubin.

Bianco *et al.*, *J. Nat. Prod.*, **44**, 448 (1981)

OENANTHE (Umbelliferae)

O. aquatica (L.) Poir.

SESQUITERPENOIDS:trans-pentadeca-7,13-diene-9,11-diyn-4-one.

Bohlmann *et al.*, *Chem. Ber.*, **104**, 1322 (1971)

O. crocata L.

ACETYLENIC: oenanthotoxin.

SESQUITERPENOIDS:trans-pentadeca-2,8-diene-4,6-diyn-1-ol, trans-pentadeca-
2,8,10-triene-4,6-diyn, trans-pentadeca-2,8,10-triene-4,6-diyn-12-ol.
Bohlmann, Rode, *Chem. Ber.*, **101**, 1163 (1968)

OENOTHERA (Onagraceae)

O. biennis L.

ACID: cis-6,9,12-octadecatrienoic acid.

STEROIDS: campesterol, β -sitosterol.

Fedeli *et al.*, *Riv. Ital. Sostanze Grasse*, **53**, 25 (1976); *Chem. Abstr.*, 85 59636v

OIDIODENDRON

O. truncatum.

TETRATERPENOID: clerocidin.

Andersen *et al.*, *Tetrahedron Lett.*, 469 (1984)

OKOUBAKA

O. aubrevillei.

PHENOLICS: (-)-epi-allocatechin gallate, (+)-catechin, (+)-epi-catechin, (-)-epi-catechin gallate, (+)-gallocatechin.

Wagner *et al.*, *Planta Med.*, 404 (1985)

OLAX

O. andronensis.

SAPONIN: olaxoside.

Forgacs *et al.*, *Phytochemistry*, **20**, 1689 (1981)

O. glabriflora.

SAPONIN: olaxoside.

Forgacs *et al.*, *Phytochemistry*, **20**, 1689 (1981)

O. psitticorum.

SAPONIN: olaxoside.

Forgacs *et al.*, *Phytochemistry*, **20**, 1689 (1981)

OLDENLANDIA (Rubiaceae)

O. biflora.

UNCHARACTERIZED ALKALOID: biflorine.

Chaudan, Tiwari, *J. Indian Chem. Soc.*, **29**, 386 (1952)

OLEA (Oleaceae)

O. europaea.

MONOTERPENOID: oleuropeic acid.

TERPENE GLYCOSIDE: oleuropein.

TRITERPENOID: erythrodiol.

Huneck, Lehn, *Bull. Soc. Chim.*, 321 (1963)

Panizzi *et al.*, *Gazz. Chim. Ital.*, **95**, 1279 (1965)

OLEANDRA (Cryptogrammataceae)

O. nerifolia.

TRITERPENOIDS: 23-ethoxyhopane, nerifoliol.

Goswami *et al.*, *Tetrahedron Lett.*, 287 (1979)

O. wallichii.

TRITERPENE: wallichienene.

Tsuda, Isobe, *Tetrahedron Lett.*, 3337 (1965)

OLEARIA (Compositae)

O. heterocarpa.

DITERPENOID: olearin.

Pinkey, Simpson, *J. Chem. Soc., Chem. Commun.*, 9 (1967)

O. paniculata.

DITERPENOID: 13-epi-manoyl oxide.

TRITERPENOID: isoursenol.

Cross *et al.*, *J. Chem. Soc.*, 2937 (1963)

OLEUM

O. cinae.

MONOTERPENE: (\pm)-dipentene.

Semmler, *Ber. Dtsch. Chem. Ges.*, **33**, 1457 (1900)

OLIVIA

O. miniata.

CAROTENOID: lutein.

Zechmeister, Tuzson, *Ber. Dtsch. Chem. Ges.*, **67**, 170 (1934)

ONCINOTIS

O. inandensis.

MACROCYCLIC ALKALOIDS: inandenine A, inandenine B.

Veith *et al.*, *Helv. Chim. Acta*, **53**, 1355 (1970)

O. nitida Benth.

PYRIDYL ALKALOID: oncinotine.

Badawi *et al.*, *Helv. Chim. Acta*, **51**, 1813 (1968)

ONOBRYCHIS (Papilionaceae)

O. amoena.

FLAVONOIDS: kaempferol 3-O-glucoside, quercetin 3-O-galactopyranoside, quercetin 3-O-glucopyranoside, quercetin 3-O-rhamnopyranoside, quercetin 3-O-rutinoside.

Luk'yanchikov *et al.*, *Khim. Prir. Soedin.*, 564 (1985)

O. angustifolia.

FLAVONOIDS: hyperin, isorhamnetin, isorhamnetin 3-O- β -D-galactofuranoside, rutin, vitexin.

Moniava *et al.*, *Izv. Akad. Nauk Gruz. SSR*, **2**, 119 (1976)

O. bobrovi.

FLAVONOIDS: arbutin, astragalin, hyperoside, quercetin, rutin.

Nurmukhamedova *et al.*, *Khim. Prir. Soedin.*, 261 (1982)

O. chlorassanica.

FLAVONOIDS: kaempferol 3-O-glucoside, quercetin 3-O-galactopyranoside, quercetin 3-O-glucopyranoside, quercetin 3-O-rhamnopyranoside, quercetin 3-O-rutinoside.

Luk'yanchikov *et al.*, *Khim. Prir. Soedin.*, 564 (1985)

O. cyri.

FLAVONOID: rutin.

Moniava *et al.*, *Izv. Akad. Nauk Gruz. SSR*, 2, 119 (1976)

O. echidna.

FLAVONOIDS: kaempferol 3-O-glucoside, quercetin 3-O-galactopyranoside, quercetin 3-O-glucopyranoside, quercetin 3-O-rhamnopyranoside, quercetin 3-O-rutinoside.

Luk'yanchikov *et al.*, *Khim. Prir. Soedin.*, 564 (1985)

O. ferganica.

FLAVONOIDS: kaempferol 3-O-glucoside, quercetin 3-O-galactopyranoside, quercetin 3-O-glucopyranoside, quercetin 3-O-rhamnopyranoside, quercetin 3-O-rutinoside.

Luk'yanchikov *et al.*, *Khim. Prir. Soedin.*, 564 (1985)

O. grandis.

FLAVONOIDS: kaempferol 3-O-glucoside, quercetin 3-O-galactopyranoside, quercetin 3-O-glucopyranoside, quercetin 3-O-rhamnopyranoside, quercetin 3-O-rutinoside.

Luk'yanchikov *et al.*, *Khim. Prir. Soedin.*, 564 (1985)

O. iberica.

FLAVONOIDS: astragalin, isoastragalin, isoquercitrin, kaempferol, kaempferol 3-O-rutinoside, rutin.

Moniava *et al.*, *Izv. Akad. Nauk Gruz. SSR*, 2, 119 (1976)

O. inermis.

FLAVONOIDS: astragalin, isoquercetrin, rutin.

Moniava *et al.*, *Izv. Akad. Nauk Gruz. SSR*, 2, 119 (1976)

O. kacketica.

FLAVONOIDS: astragalin, isoquercitrin, kaempferol, kaempferol 3-O- β -D-glucofuranoside, kaempferol 3-O-rutinoside, quercetin 3- β -D-glucopyranoside-7-O- β -L-rhamnofructoside.

Moniava *et al.*, *Izv. Akad. Nauk Gruz. SSR*, 2, 119 (1976)

O. kemularia.

COUMARINS: scopoletin, umbelliferone.

Moniava, *Khim. Prir. Soedin.*, 513 (1975)

O. seravschanica.

FLAVONOIDS: kaempferol 3-O-glucoside, quercetin 3-O-galactopyranoside, quercetin 3-O-glucopyranoside, quercetin 3-O-rhamnopyranoside, quercetin 3-O-rutinoside.

Luk'yanchikov *et al.*, *Khim. Prir. Soedin.*, 564 (1985)

O. sosnowski.

FLAVONOIDS: apigenin 6,7-diglucoside, isoquercitrin, quercetin, quercetin 3-O- β -L-arabinofuranoside 7- β -D-glucopyranoside.

Moniava *et al.*, *Izv. Akad. Nauk Gruz. SSR*, 2, 119 (1976)

O. vassiltschenkoi.

FLAVONOIDS: austragalin, hyperoside, kaempferol, quercetin.

Bol *et al.*, *Khim. Prir. Soedin.*, 100 (1976)

O. viciifolia Scop. (O. sativa Lam.).

FLAVONOIDS: afrormosin, formononetin, garbanzol, isoliquiritigenin, liquiritigenin, medicarpin, vestitol, vestitone.

Ingham, *Z. Naturforsch.*, 33C, 146 (1978)

ONOCERIS

O. albicans.

SESQUITERPENOID: onoseriolide.

Bohlmann *et al.*, *Phytochemistry*, 19, 689 (1980)

O. hyssipifolia.

COUMARIN: 4-desmethoxy-4-methylmercaptoperefloflorin.

Bohlmann, Zdero, *Phytochemistry*, 16, 239 (1977)

ONOCLEA (Athyriaceae)

O. sensibilis L.

STEROID: pterosterone.

Rimpler, *Arch. Pharm.*, 305, 746 (1972)

ONONIS (Papilionaceae)

O. arvensis.

ISOFLAVONE: onogenin.

PHENOLIC: 7-O- β -D-glucopyranoside-3',4'-methylenedioxypterocarpan.

(I) Kovalev *et al.*, Khim. Prir. Soedin., 354 (1975)

(P) Kovalev *et al.*, *ibid*, 104 (1976)

O. leiosperma.

FLAVONOIDS: astragalin, hispidulin, hyperoside, kaempferol, populin, quercetin.

Kovalev *et al.*, Khim. Prir. Soedin., 253 (1982)

O. spinosa L.

TRITERPENOID: onocerol.

Schultz, Z. Physiol. Chem., **238**, 35 (1936)

ONOPORDON (Compositae)

O. acanthum L.

ACIDS: caffeic acid, chlorogenic acid, succinic acid.

ANTHOCYANIN: cyanidin 3,5-diglucoside.

FLAVONOIDS: apigenin, apigenin 7-rutinoside, apigenin 7-O-glucuronide, chrysoeriol, eriodictyol, luteolin, quercetin, quercetin-3-glucoside.

AMINO ACIDS: choline, proline, valine.

SESSQUITERPENOID: onopordopicrin.

Drozdz *et al.*, Collect. Czech. Chem. Common., **33**, 1730 (1968)

Karl *et al.*, Dtsch. ApothZtg., **116**, 57 (1976); Chem. Abstr., 84 147639h

ONOSMA (Boraginaceae)

O. echoides.

BENZOQUINONE: (S)-shikonin.

Shukla *et al.*, Phytochemistry, **10**, 1909 (1971)

ONYCHIUM (Cryptogrammataceae)

O. aurantium.

SESQUITERPENOIDS: onitin, onitisin.

Banerji, Tamakrishnan, *Tetrahedron Lett.*, 1369 (1974)

O. siliculosum.

CHALCONES: 2',6'-dihydroxy-4'-methoxychalcone, pashanone.

Wollenweber, *Phytochemistry*, **21**, 1462 (1982)

OPERCULINA (Convolvulaceae)

O. aurea.

DITERPENOID GLYCOSIDES: aureoside, isoaureoside.

Canonica *et al.*, *Gazz. Chim. Ital.*, **107**, 223 (1977)

OPHIOGLOSSUM

O. costatum.

AMINO ACIDS: alanine, arginine, diaminobutyric acid, glutamate, lysine, serine, threonine.

Goswami, *Isr. J. Chem.*, **25**, 211 (1976)

O. gramineum.

AMINO ACIDS: alanine, arginine, diaminobutyric acid, glutamate, lysine, threonine.

Goswami, *Isr. J. Chem.*, **25**, 211 (1976)

O. lusitanicum.

AMINO ACIDS: alanine, arginine, diaminobutyric acid, glutamate, lysine, threonine.

Goswami, *Isr. J. Chem.*, **25**, 211 (1976)

O. nudicaule.

AMINO ACIDS: alanine, arginine, diaminobutyric acid, glutamate, lysine, threonine.

Goswami, *Isr. J. Chem.*, **25**, 211 (1976)

O. petiolatum.

AMINO ACIDS: alanine, arginine, diaminobutyric acid, glutamate, lysine, threonine.

Goswami, *Isr. J. Chem.*, **25**, 211 (1976)

O. polypodium.

AMINO ACIDS: alanine, arginine, diaminobutyric acid, glutamate, lysine, threonine.

Goswami, *Isr. J. Chem.*, **25**, 211 (1976)

O. vulgatum.

AMINO ACIDS: alanine, arginine, diaminobutyric acid, glutamate, lysine, threonine.

Goswami, *Isr. J. Chem.*, **25**, 211 (1976)

OPHIOPOGON (Liliaceae)

O. japonicus Ker-Gawles.

ALDEHYDES: dotriacanal, octacosanal, triacanal. Isono *et al.*, *J. Pharm. Soc., Japan*, **96**, 86 (1976)

O. japonicus Ker.-Gawles var. genuinus Maxim.

SAPONINS: ophiopogonins A, B, B', C, C', D and D'.

STEROIDS: ophiopogenin A, ophiopogenin B, ophiopogenin B', ophiopogenin C, ophiopogenin C', ophiopogenin D, ophiopogenin D', ophiopogenin V.

Watanabe *et al.*, *Chem. Pharm. Bull.*, **25**, 3049 (1977)

OPHIORRHIZA (Rubiaceae)

O. japonica Bl.

INDOLE ALKALOIDS: harman, ophiorine A, ophiorine B. Aimi *et al.*, *Tetrahedron Lett.*, 5299 (1985)

O. kuroiwai Mak.

INDOLE ALKALOIDS: harman, ophiorine A, ophiorine B. Aimi *et al.*, *Tetrahedron Lett.*, 5299 (1985)

OPHOSORIA

O. quadripinnata.

ALIPHATIC: 10-nonacosanone.

Soeder, Hodgin, *Phytochemistry*, **14**, 2508 (1975)

OPHYROSPORUS

O. chilca.

DITERPENOID: 2-oxolabda-8(17),13-dien-15-ol.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1513 (1984)

OPLOPANAX (Araliaceae)

O. japonicus.

SESQUITERPENOIDS: oplodiol, oplopanone.

Minato, Ishikawa, *J. Chem. Soc., C*, 423 (1967)

OPUNTIA (Cactaceae)

O. ficus-indica (L.) Mill.

PHENOLICS: neobetanin, piscidic acid, piscidic acid methyl ester.

Nordal *et al.*, *Acta Chem. Scand.*, **20**, 1431 (1966)

Strack *et al.*, *Phytochemistry*, **26**, 2399 (1987)

ORCHIS (Orchidaceae)

O. militaris.

GLUCOSIDES: loroglossin, miliarin.

Aasen *et al.*, *Acta Chem. Scand.*, **B** **29**, 1002 (1975)

O. papilionacea L.

FLAVONOIDS: quercetin 3,7-diglucoside, quercetin 7-O-glucoside, quercetin 3-O-glucoside-7-O-rhamnoside, quercetin 3-O-glucoside-7-O-rutinoside.

Pagani *et al.*, *Boll. Chim. Farm.*, **121**, 174 (1982); *Chem. Abstr.*, 97 141709c

ORICIA

O. gabonensis.

ACRIDONE ALKALOID: evoxanthine. QUINOLONE ALKALOID: 7-methoxy-N-methylflindersine. TRITERPENOID: lupeol.

Khalid, Waterman, *Phytochemistry*, **20**, 2761 (1981)

O. renieri.

QUINOLONE ALKALOID: 7-methoxy-N-methylflindersine. DIMERIC QUINOLONE ALKALOIDS: vepridimerines A, B, C and D.

Khalid, Waterman, *Phytochemistry*, **20**, 2761 (1981)

Njadju *et al.*, *Tetrahedron*, **23**, 2041 (1982)

O. suaveolens.

QUINOLONE ALKALOIDS: 6,7-dimethoxy-N-methylflindersine, orcine.

Abe, Taylor, *Phytochemistry*, **10**, 1167 (1971)

ORICIOPSIS

O. glaberrima.

TERPENOID: oriciopsin.

Ayafor *et al.*, *Phytochemistry*, **21**, 2602 (1982)

ORIGANUM (Labiatae)

O. heracleoticum.

MONOTERPENOID: 4,5-epoxy-p-menth-1-ene.

Lawrence *et al.*, *Phytochemistry*, **13**, 1012 (1974)

ORIXA (Rutaceae)

O. japonica Thunb.

FURANOQUINOLINE ALKALOIDS: kokusagine, kokusaginine, kokusaginoline, skimmianine.

QUINOLONE ALKALOIDS: japonine, nororixine, orixin orixinone.

UNCHARACTERIZED ALKALOID: orixidine.

Terasaka *et al.*, *J. Pharm. Soc., Japan*, **51**, 99 (1931)

Terasaka *et al.*, *Chem. Pharm. Bull.*, **8**, 1142 (1960)

ORLANDO

O. tangelo x clementina.

TRITERPENOID: citraurinene.

Leuenberger, Stewart, *Phytochemistry*, **15**, 227 (1976)

ORMENSIS

O. multicaulis.

MONOTERPENOID: santolina alcohol.

Cretien-Bessiere *et al.*, *Bull. Soc. Chim. Fr.*, 2018 (1969)

ORMOSIA

O. coutinhai.

SPARTEINE ALKALOID: 11-oxotetrahydrorhombifoline.

McLean *et al.*, *Can. J. Chem.*, **45**, 751 (1967)

O. dasycarpa Jacks.

UNCHARACTERIZED ALKALOID: dasycarpine.

Clarke, Grundon, *J. Chem. Soc.*, 41 (1960)

O. jamaicensis (Urb.).

LUPANINE ALKALOIDS: jamaidine, jamine, ormojanine, ormjine, ormosajine, ormosanine, ormosinine.

Hassall, Wilson, *J. Chem. Soc.*, 2657 (1964)

O. panamensis.

LUPANINE ALKALOID: jamine.

Naegali *et al.*, *Tetrahedron Lett.*, 2069, (1964)

Naegali *et al.*, *ibid.*, 2075 (1964)

O. semicastata.

LUPANINE ALKALOIDS: ormocastrine, 18-epi-ormosanine.

Konovalova *et al.*, *J. Gen. Chem., USSR*, **21**, 773 (1951)

McLean *et al.*, *Can. J. Chem.*, **49**, 1976 (1971)

ORNITHOGLOSSUM (Liliaceae/Iphigenieae)

O. glaucum Salisb. var. grandiflora.

COLCHICINE ALKALOID: 3-demethylcolchicine.

Reichstein *et al.*, *Planta Med.*, **16**, 357 (1968)

O. viride Ait.

COLCHICINE ALKALOIDS: colchicine, N-formyl-N-deacetylcolchicine.

Reichstein *et al.*, *Planta Med.*, **16**, 357 (1968)

OROBANCHE (Orobanchaceae)

O. aegyptiaca Pers.

TROPANE ALKALOIDS: apoatropine, atropine, belladonnine, meteloidine.

Balbaa *et al.*, *Chem. Abstr.*, 87 164210r

O. arenaria.

PHENOLIC ESTERS: arenarioside, pheliposide.

Andary *et al.*, *J. Nat. Prod.*, **48**, 778 (1985)

O. lutea Baumg.

UNCHARACTERIZED ALKALOID: orobanhamine.

Rubinshtein *et al.*, *J. Gen. Chem., USSR*, **23**, 157 (1953)

O. owerinii.

CAROTENOIDS: auroxanthin, violaxanthin.

Dzhumyrko *et al.*, *Khim. Prir. Soedin.*, **7**, 712 (1985)

O. rapum Thuill.

ESTERS: orobanchoside, verbascoside.

Andary *et al.*, *Chem. Abstr.*, **86**, 40165q

O. rapum-genistae Thuill.

ESTERS: orobanchoside, verbascoside.

Andary *et al.*, *Phytochemistry*, **21**, 1123 (1982)

OROBUS (Papilionaceae)

O. tuberosus L. (Lathyrus montana Bernh.)

ISOFLAVONE: oroboside.

Charaux *et al.*, *Bull. Soc. Chim. Biol.*, **21**, 1330 (1939)

OROXYLUM

O. indicum.

FLAVONES: chrysin, oroxylin A.

Asakawa *et al.*, *Bull. Chem. Soc., Japan*, **44**, 2761 (1971)

ORTENTHERA

O. viminea.

SAPONIN: ornine.

STEROIDS: ornogenin, orgogenin, orthenine.

(Sap, S) Kaur *et al.*, *J. Nat. Prod.*, **48**, 938 (1985)

(S) Tiwari *et al.*, *Phytochemistry*, **24**, 2391 (1985)

ORTHOPRETYGIUM

O. huanauy.

TRITERPENOID: 3-oxo-6-hydroxyurs-18-en-28-oic acid methyl ester.

Gonzalez *et al.*, *Phytochemistry*, **22**, 1828 (1983)

ORTHOSIPHON

O. spicatus.

COUMARINS: eupatorin, scutellarein 5,6,7,4'-tetramethyl ether, sinensetin.

Wollenweber, Mann, *Planta Med.*, 459 (1985)

ORTHOSPHENIA (Celastraceae)

O. mexicana Standley.

TRITERPENOID: orthosphenic acid.

Gonzalez *et al.*, *J. Org. Chem.*, **48**, 3759 (1983)

ORYCTES (Solanaceae)

O. nevadensis.

FLAVONOIDS: quercetin 3-O-rutinoside, quercetin 3-O-rutinoside-7-O-glucoside.

Averett *et al.*, *Phytochemistry*, **22**, 2325 (1983)

ORYZA (Poaceae)

O. sativa.

STEROIDS: cellopentaosylsitosterol, cellotetraosylsitosterol.

DITERPENOID: oryzalexin A.

(S) Oinishi *et al.*, *Agr. Biol. Chem.*, **44**, 333 (1980)

(T) Akatsuka *et al.*, *ibid.*, **47**, 445 (1983) *O. sativa var. koshikikeri*.
 DITERPENOIDS: ineketone, momilactones A, B and C.
 NORSESQUITERPENOID: (S)(+)-dehydromovomifoliol.
 Kato *et al.*, *Phytochemistry*, **16**, 45 (1977)

OSCILLATORIA (Cyanophyceae/Oscillatoriaceae)

O. limosa.

CAROTENOID: 4-oxomyxol-2'-glucoside.
 Liaaen-Jensen *et al.*, *Phytochemistry*, **10**, 3132 (1971)

O. rubescens.

CAROTENOIDS: oscillaxanthin, myroxanthophyll.
 Hertzberg, Liaaen-Jensen, *Phytochemistry*, **5**, 557 (1966)

OSMANTHUS (Oleaceae)

O. absolute.

DINORSESQUITERPENOID: (8E)-4,7-epoxymegastigma-5(11),8-diene.
 SESQUITERPENOIDS: (7R,10S,5E)-trimethyl-7,10-epoxy-2,5,11-dodecatriene,
 (7S,10S,5E)-trimethyl-7,10-epoxy-2,5,11-dodecatriene.
 Kaiser, Lamparsky, *Helv. Chim. Acta*, **62**, 1878 (1979)

O. fortunei Carr.

LIGNANS: echinacoside, guaiacylglycerol-4-O- β -D-glucopyranoside,

O. fragrans (Thunb.) Lour.

ALCOHOL: benzyl alcohol.
 ALDEHYDE: pelargonaldehyde.
 KETONE: β -ionone.
 MONOTERPENOIDS: linalool, linalool-cis-furanoid oxide, linalool-trans-furanoid oxide.
 SESQUITERPENOID: famesol.
 IRIDOID: 10-acetoxyoleuropein, 10-acetoxyligustroside.
 Gogiya *et al.*, *Rastit. Resur.*, **22**, 243 (1986)

OSMITOPSIS (Compositae/Inuleae)

O. asteriscoides (L.) Cass.

SESQUITERPENOIDS: 1,8-epoxyosmitopsin, 4,5-epoxyosmitopsin, osmitopsin.

Bohlmann, Zdero, *Chem. Ber.*, **107**, 1409 (1974)

OSMUNDA (Osmundaceae)

O. cinnamomea.

STEROIDS: 24-ethylathosterol, β -sitosterol, spinasterol.

Nes *et al.*, *Lipids*, **12**, 511 (1977)

OSTEOSPERMUM (Calendulaceae)

O. clandestinum (Less.) T.Norl.

One acetylenic compound.

Bohlmann, Zdero, *Chem. Ber.*, **108**, 362 (1975)

O. corymbosum L.

DITERPENOIDS: 11α -acetoxy- 12β -hydroxysandaracopimar-15-en- 8β -ol, 11α -hydroxy- 12β -acetoxy sandaracopimar-15-en- 8β -ol, sandaracopimar-15-en- 8β -ol.

Bohlmann, Zdero, *Chem. Ber.*, **108**, 362 (1975)

O. eklonis.

Two polyacetylenes.

Bohlmann, Zdero, *Chem. Ber.*, **100**, 362 (1975)

O. fruticosum (L.) Norb.

DITERPENOIDS: 11α -acetoxy sandaracopimar-15-ene- $8\beta,12$ -diol.

Bohlmann *et al.*, *Chem. Ber.*, **106**, 826 (1973)

O. junceum Beig.

DITERPENOID: 12β -acetoxy sandaracopimar-15-ene- $8\beta,11\alpha$ -diol.

Bohlmann *et al.*, *Chem. Ber.*, **106**, 826 (1973)

O. oppositifolium (Ait.) Norl.

DITERPENOIDS: 11 α -acetoxyssandaracopimar-15-en-8 β ,12-diol,
acetoxyssandaracopimar-15-en-8 β ,11 α -diol. 12-
Bohlmann *et al.*, *Chem. Ber.*, **106**, 826 (1973)

O. polygaloides L.

DITERPENOID: 11 α -hydroxy-12 β -acetoxyssandaracopimar-15-en-8 β -ol.
Bohlmann, Zdero, *Chem. Ber.*, **108**, 362 (1975)

O. rotundifolium (DC.) Norl.

DITERPENOIDS: 11 α -acetoxy-12 β -hydroxysandaracopimar-15-en-8 β -ol, 11 α -hydroxy-12 β -acetoxyssandaracopimar-15-en-8 β -ol.
Bohlmann, Zdero, *Chem. Ber.*, **108**, 362 (1975)

O. subulatum DC.

DITERPENOID: 11 α ,12 β -diacetoxyssandaracopimar-15-en-8 β -ol..
Bohlmann, Zdero, *Chem. Ber.*, **108**, 362 (1975)

OSTODES

O. paniculata.

PHORBOL TERPENOIDS: ostodin, 12-O-undecadienoylphorbol-13-acetate.
Handa *et al.*, *J. Nat. Prod.*, **46**, 123 (1983)

OSTRYODERIA

O. chevalieri Dunn.

One uncharacterized alkaloid.
Blaansard, Martin, *Bull. Sci. Pharmacol.*, **46**, 268 (1939)

OSYRIS

O. tenuifolia.

SESQUITERPENOID: lanceol.
Bradfield *et al.*, *J. Chem. Soc.*, 1619 (1936)

OTANTHUS (Compositae)

O. maritimus (L.) Hoffm. et Link.

Three sesquiterpenoids.

Price, Pinder, *J. Org. Chem.*, **35**, 2568 (1970)

OTHONNA

O. amplexicaulis Thunb.

SESQUITERPENOIDS: 6β -angeloyloxy- 3β -isobutyryloxyfuranoeremophilan-15-oic acid,

3β -angeloyloxy- 15β -isovaleryloxyfuranoeremophilan-15-oic acid.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 3928 (1974)

O. arborescens.

SESQUITERPENOID: $3\beta,6\beta$ -diangeloyloxyfuranoeremophilan-15-oic acid.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 3928 (1974)

O. barkerae.

SESQUITERPENOIDS: $3\beta,6\alpha$ -diangeloyloxyfuranoeremophilan-15-oic acid, $3\beta,6\beta$ -diangeloyloxyfuranoeremophilan-15-oic acid.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 3928 (1974)

O. bulbosa.

SESQUITERPENOID: 3β -acetoxy- 2β -angeloyloxy- $10\alpha H$ -furanoeremophilane.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 3928 (1974)

O. complexicaulis.

SESQUITERPENOID: 10β -hydroxy- 6β -isovaleryloxyfuranoeremophilane.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 3928 (1974)

O. coronopifolia.

SESQUITERPENOIDS: 3β -angeloyloxyfuranoeremophilan-15-oic acid, $3\beta,6\beta$ -diangeloyloxyfuranoeremophilan-15-oic acid isoeremophilene, isohumulene.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 3928 (1974)

O. dentata.

SESQUITERPENOID: 3β -angeloyloxyfuranoeremophilan-15-oic acid, $3\beta,6\beta$ -diangeloyloxyfuranoeremophilan-15-oic acid.

Bohlmann *et al.*, *Chem. Ber.*, **107**, 3928 (1974)

O. filicaulis.

SESQUITERPENOIDS: 3β -angeloyloxy- 6β -acetoxyfuranoeremophilane, 3β -angeloyloxyfuranoeremophilane, 3β -angeloyloxy- 6β -hydroxyfuranoeremophilane. 3β -Bohlmann *et al.*, *Chem. Ber.*, **107**, 3928 (1974)

O. quercifolia.

SESQUITERPENOIDS: 6β -angeloyloxy- 3β -senecioylfuranoeremophilan-15-oic acid, $3\beta,6\beta$ -diangeloyloxyfuranoeremophilan-15-oic acid. Bohlmann *et al.*, *Chem. Ber.*, **107**, 3928 (1974)

OUROUPARIA

O. formosana Mats.

UNCHARACTERIZED ALKALOID: formosanine.

INDOLONE ALKALOID: uncarine A.

Raymond-Hamet, *C.R. Acad. Sci.*, **203**, 1383 (1936)

Hendrickson *et al.*, *J. Am. Chem. Soc.*, **84**, 650 (1962)

O. gambir Baill. (*Uncaria gambler* Roxb.).

CARBOLINE ALKALOID: (-)-dihydrogambertannine.

Merlin *et al.*, *Tetrahedron*, **23**, 3129 (1967)

O. guianensis.

INDOLONE ALKALOID: rhyncophylline.

Seaton, Marion, *Can. J. Chem.*, **35**, 1102 (1957)

O. kawakami Hayata.

UNCHARACTERIZED ALKALOID: hanadamine.

Kondo, Oshima, *J. Pharm. Soc. Japan*, **52**, 63 (1957)

O. rhyncophylla Mats.

INDOLONE ALKALOIDS: isorhyncophylline, isorhyncophylline N-oxide, rhyncophylline.

Raymond-Hamet *et al.*, *C.R. Acad. Sci.*, **199**, 587 (1934)

OXALIS (Oxalidaceae)

O. acetosella L.

FLAVANOID: 2"-glucoisovitexin.

Tschesche *et al.*, *Chem. Ber.*, **109**, 2901 (1976)

O. cernua.

GLUCOSIDE: cernuoside.

Geissman *et al.*, *J. Am. Chem. Soc.*, **77**, 4622 (1955)

OXYCOCCUS (Ericaceae)

O. quadripetalis.

FLAVANOIDs: hyperoside, myricetin, quercetin.

Shelyuto *et al.*, *Khim. Prir. Soedin.*, 515 (1975)

OXYSTIGMA

O. oxyphyllum.

DITERPENOIDS: enantio-labda-8(20),13-dien-15-oic acid, eperua-7,13-dien-15-oic acid, eperu-7-en-15-oic acid, labda-8(20),13-dien-15-oic acid.

Ekong, Okogun, *J. Chem. Soc., Chem. Commun.*, 72 (1967)

OXYTROPIST (Leguminosae)

O. almaatensis.

Two unidentified phenolcarboxylic acids and three unidentified flavonoids.

Baimukhambetov, *Chem. Abstr.*, 87 2356r

O. komarovii.

FLAVONOIDs: astragalin, kaempferol, kaempferol 7-O- β -L-glucorhamnoside, neoisorutin, nicotiflorin, oxytroside, quercetin.

STEROID: β -sitosterol.

Baimukhambetov, *Chem. Abstr.*, 87 2356r

O. muricata (Pall.) DC.

AMINE ALKALOID: N-benzoylphenylaminoethylcarbinol.

Duboshina, Proskurnina, *J. Gen. Chem. USSR*, **33**, 2071 (1963)

O. myriophylla (Pall.) DC.

FLAVONOIDS: acetylmyrioside, coumaroylisooxymyrioside, oxymyrioside, oxytroside.

Blinova *et al.*, *Rastit. Resur.*, **13**, 466 (1977)

O. pseudoglandulosa.

AMINES: cinnamoyl- β -phenethylamine, (+)-(R)-N-benzoyl-2-phenyl-2-hydroxyethylamine, (+)-(S)-benzoyl-2-phenyl-2-hydroxyethylamine.

FLAVONOIDS: chrysin, isoliquiritigenin.

Huneck *et al.*, *Fitoterapia*, **57**, 423 (1987)

P**PACHYCARPUS*****P. lineolatus.***

STEROID: utendin.

Abisch *et al.*, *Helv. Chim. Acta*, **42**, 1014 (1959)**PACHYCEREUS (Cactaceae)*****P. pectenarboriginum.***

ISOQUINOLINE ALKALOID: heliamine.

Strombon, Bruhn, *Acta Pharm. Suec.*, **15**, 127 (1978)***P. tehauntepecanus.***

ISOQUINOLINE ALKALOID: tehaunine.

Kapadia *et al.*, *J. Chem. Soc., Chem. Commun.*, 856 (1970)***P. weberi.***

ISOQUINOLINE ALKALOIDS: lemaireocereine, nortehaunine, weberidine, weberine.

Mata, McLaughlin, *Phytochemistry*, **19**, 633 (1980)Mata, McLaughlin, *ibid.*, **19**, 673 (1980)**PACHYDICTYON (Phaeophyceae)*****P. coriaceum.***

DITERPENOIDS: acetoxycrenulatin, acetoxypachydiol, acetylcoriacenone, 19-epi-acetylcoriacenone, acetyldictyol C, acetyldictyolal, 6-acetylsanadiol, dilophol acetate, 3-

hydroxyacetylilophol, neodictyolactone, pachyaldehyde, pachydictyol A, pachylactone, sanadaol.

Ishitsuja *et al.*, *J. Chem. Soc., Chem. Commun.*, 906 (1982)

Ishitsuka *et v* *Tetrahedron Lett.*, 2639 (1986)

PACHYGONE

P. ovata.

APORPHINE ALKALOID: reticuline N-oxide.

BISBENZYLISOQUINOLINE ALKALOIDS: N-methylpachygonamine, pachygonamine, pachyovatamine, tiliamosine.

Dasgupta *et al.*, *Lloydia*, **42**, 399 (1979)

Uvais *et al.*, *Heterocycles*, **20**, 1927 (1983)

Sultanbawa *et al.*, *Phytochemistry*, **24**, 589 (1985)

PACHYPODANTHIUM (Annonaceae)

P. confine Engl. et Diels.

STYRENE: 2,4,5-trimethoxystyrene.

Bevalot *et al.*, *Plant Med. Phytother.*, **10**, 179 (1976)

P. staudtii Engl et Diels.

APORPHINE ALKALOID: pachypodanthine.

QUATERNARY ALKALOID: staudine.

Cave *et al.*, *J. Nat. Prod.*, **43**, 103 (1980)

PACHYRRHIZUS(Leguminosae/Papilionaceae)

P. erosus.

ISOFLAVANS: dehydroneotenone, erosenone, neotenone, pachyrrhizine.

ROTENOIDS: erosnin, erosone, 12 α -hydroxyerosone, 12 α -hydroxymunduserone, 12 α -hydroxyrotenon, pachyrrhizone, rotenone.

(I) Crombie *et al.*, *J. Chem. Soc.*, 1569 (1963)

(R) Kalra *et al.*, *Indian J. Chem.*, **15B**, 1084 (1977)

PACHYSANDRA (Buxaceae)

P. terminalis Sieb. et Zucc.

STEROIDAL ALKALOIDS: O-deacetyl pachysandrine A, O-deacetyl pachysandrine B, epipachysamines A, B, C, D, E and F, pachysamine A, pachysamine B, pachysandrines A, B, C, D and E, pachysantermine A, pachysantermine B, pachystermine A, pachystermine B, spiro pachysine, terminaline.

TRITERPENOIDS: pachysana-16,21 -diene-3 β ,28-diol, pachysandienol A, pachysandienol B, pachysandiol A, pachysandiol B, pachysan-16-en-3 β ,28-diol, pachysantriol, pachysonol, 2 α ,3 β ,16 β -trihydroxyfriedelane.

(A) Tomita *et al.*, *Tetrahedron Lett.*, 1053 (1964)

(A) Kikuchi *et al.*, *ibid.*, 2077 (1968)

(T) Yokoi *et al.*, *Chem. Pharm. Bull.*, **33**, 4223 (1985)

PAEDERIA (Rubiaceae)

P. foetida.

AUPHATICS: ceryl alcohol, henrietacontane, henrietacontanol.

IRIDOID: asperuloside, paederoside, scandoside.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

Shukla *et al.*, *Phytochemistry*, **15**, 1989 (1976)

P. scandens.

IRIDOID: scandoside.

THIOIRIDOID: paederoside, paederosidic acid.

Inouye *et al.*, *Phytochemistry*, **13**, 2219 (1974)

P. scandens (Lour.) Merrill var. mairei (Lev.)

HARA IRIDOID: scandoside.

Inouye *et al.*, *Tetrahedron Lett.*, 683 (1968)

PAEONIA (Ranunculaceae/Paeoniaceae)

P. albiflora.

TERPENOIDS: albiflorin, paeoniflorigenone, paeoniflorin, paeonifloriquinone.

Shimizu *et al.*, *Tetrahedron Lett.*, 3069 (1981)

P. chinensis.

TERPENOID: paeoniflorin.

Shibata *et al.*, *Tetrahedron Lett.*, 1991 (1964)

P. lactiflora Pall.

PINENES: lactifloric acid, lactiflorin, (Z)-1S,5R- α -pinen-10-yl- α -vicianoside.

Lang *et al.*, *Yaoxue Xuebao*, **18**, 551 (1983); *Chem. Abstr.*, 100 82714f

PAGIANTHA (Apocynaceae)

P. cerifera (Pasncher et Sebert) Mkgf.

INDOLE ALKALOIDS: (-)-ibogaine, pagicerine, (-)-voacangine, (-)-voacangine hydroxyindolenine.

THIOINDANE: pagisulfine.

(A) Bert *et al.*, *Heterocycles*, **23**, 2505 (1985)

(Th) Bert *et al.*, *Heterocycles*, **24**, 1567 (1986)

PAJANELIA

P. multijuga P.D.C.

FLAVONOIDS: chrysin, oroxylin. A

Joshi *et al.*, *Proc. Indian Acad. Sci.*, **86A**, 41 (1977)

PALEFOXIA

P. arida.

DITERPENOID: darutigenol.

Herz *et al.*, *Phytochemistry*, **17**, 1060 (1978)

P. rosea.

DITERPENOIDS: 18-benzylcardenasol, jesromotetrol, norjulslimdiolone acetonide, 7-pimarene-3 β ,15,16,18-tetraol, 7-pimarene-3,15,16-triol.

Dominguez *et al.*, *Rev. Latinoam. Quim.*, **9**, 99 (1978)

Bohlmann, Czerson, *Phytochemistry*, **18**, 115 (1979)

PALAQUIM

P. trembi.

TRITERPENOID: palireubin.

Jungfleisch, Leroux, *C.R. Acad. Sci.*, **142**, 1218 (1906)

PALICOURIA (Rubiaceae)

P. alpina (Sw.) DC.

DIAZAPHENANTHRENE ALKALOID: calycanthine.

CARBOLINE ALKALOID.: palinine.

Stuart, Woo-Ming, *Tetrahedron Lett.*, 3853 (1974)

P. rigida H.B.K.

UNCHARACTERIZED ALKALOID: douradine.

Santesson, *Arch. Pharm.*, **235**, 143 (1897)

PALYTHOA

P. tuberculosa.

AZINE ALKALOIDS: isopalythazine, palythazine.

Uemura *et al.*, *Chem. Lett.*, 1481 (1979)

PANACIS

P. japonicus.

SAPONIN: glycoside F-1.

Lui *et al.*, *Chem. Pharm. Bull.*, **24**, 253 (1976)

Panax (Araliaceae)

P. ginseng C.A.Meyer.

FLAVONOIDS: kaempferol, panasenoside, trifolin.

SAPONINS: ginsenolide Lb2, ginsenolide Lc, ginsenolide Lc2, ginsenolide Ld, ginsenolide Le, ginsenolide Lg1, ginsenolide Lg2, ginsenoside Rb1, ginsenoside Rd, ginsenoside Re, ginsenoside Rf, ginsenoside Rg, 3-O- β -glucopyranosyl-20S-protopanaxadiol, glycoside P-1, notoginsenoside R-1, notoginsenoside R-2, panaxoside A.

STEROIDS: (20R)-protopanaxadiol, (20S)-protopanaxadiol.

SESQUITERPENOIDS: neoclovene, α -panasinsene, β -panasinsene.

TRITERPENOIDS: panaxadiol, panaxatriol.

(F) Wang *et al.*, *Chem. Abstr.*, 104 85413a

(Sap, S) Lin, Lin, *J. Chin. Chem. Soc.*, **23**, 107 (1981)

(Sap) Cai *et al.*, *Yaoxue Tongbao*, **17**, 500 (1982); *Chem. Abstr.*, 97 212635g

(T) Zhou *et al.*, *Chem. Pharm. Bull.*, **29**, 2844 (1981)

P. ginseng radix rubra.

SAPONIN: ginsenoside Rh-2.

Kitagawa *et al.*, *J. Pharm. Soc., Japan*, **103**, 612 (1983)

P. japonica Major.

SAPONINS: chikusetsusaponins I, Ia, II, III, IV, IVa, L-5, L-9a, L-10, LT-5 and LT-8, majonoside R-1, majonoside R-2.

Lin, Shoji, *J. Chin. Chem. Soc.*, **26**, 29 (1979)

Morita *et al.*, *Chem. Pharm. Bull.*, **30**, 4341 (1982)

P. notoginseng.

SAPONINS: notoginsenoside Fa, notoginsenoside Fc, notoginsenoside Fe, notoginsenoside R-1, notoginsenoside R-2.

Zhou *et al.*, *Chem. Pharm. Bull.*, **29**, 2844 (1981)

Yang *et al.*, *Phytochemistry*, **22**, 1473 (1983)

P. pseudoginseng subsp. himalaicus.

SAPONINS: pseudoginsenoside F-8, pseudoginsenoside F-11.

Tomaka, Yohara, *Phytochemistry*, **17**, 1353 (1978)

***P. pseudoginseng* subsp. *himalaicus* var. *angustifolius*.**

ALIPHATICS: 24-hydroxyhexatetracontanoic acid, 2-methylhexatetracont-1-en-3,21-diol, tritriicontenyl octacosanoate.

SAPONINS: chikusetsusaponin IV, chikusetsusaponin V, ginsenoside R-0, ginsenoside R-b1.

(Al) Shukla *et al.*, *Phytochemistry*, **25**, 2201 (1986)

(Sap) Kondo *et al.*, *Chem. Pharm. Bull.*, **21**, 2705 (1973)

***P. quinquefolium* L.**

SAPONINS: ginsenoside R-0, ginsenoside Rb-1, ginsenoside Re, ginsenoside Rg-1, pseudoginsenoside F-11, quinquenoside R-1.

Basso *et al.*, *Chem. Pharm. Bull.*, **30**, 4534 (1980)

Wei *et al.*, *Zhongcaoyao*, **14**, 389 (1983); *Chem. Abstr.*, 100 3501h

***P. zingiberensis* Wu et Feng.**

SAPONINS: chikusetsusaponin IV, ginsenoside R-0, ginsenoside Rh-1, zingibroside R-1.

Yang *et al.*, *Yaoxue Xuebao*, **19**, 232 (1984); *Chem. Abstr.*, 103 3686j

PANCRATIUM (Amaryllidaceae)

***P. arabicum*.**

UNCHARACTERIZED ALKALOID: sickenbergine.

Ahmad *et al.*, *Lloydia*, **27**, 115 (1964)

***P. biflorum*.**

BENZOPYRAN: biflorin.

Ghosal *et al.*, *Phytochemistry*, **22**, 2591 (1983)

***P. longiflorum* Roxb.**

INDOLE ALKALOID: norneronine.

Rangaswami, Krishna, *Tetrahedron Lett.*, 4481 (1966)

***P. maritimum* L.**

ISOQUINOLINE ALKALOID: lycorine.

LUPINANE ALKALOID: pancracine.

UNCHARACTERIZED ALKALOID: sickenbergine.

Sandberg, Michel, *Lloydia*, **26**, 78 (1963)

Ahmad *et al.*, *ibid.*, **27**, 115 (1964)

***P. sickenbergeri*.**

UNCHARACTERIZED ALKALOID: sickenbergine.

Ahmad *et al.*, *Lloydia*, **27**, 115 (1964)

P. tortuosum.

UNCHARACTERIZED ALKALOID: sickenbergine.

Ahmad *et al.*, *Lloydia*, **27**, 115 (1964)

PANDA

P. oleosa Pierre.

PEPTIDE ALKALOID: pandamine.

Pais *et al.*, *Bull. Soc. Chim. Fr.*, 817 (1964)

PANDACA (Apocynaceae)

P. boiteau.

INDOLE ALKALOID: ervitsine.

Adrianisiferana *et al.*, *Tetrahedron Lett.*, 2587 (1977)

P. caducifolia.

CARBAZOLE ALKALOIDS: pandine, pandoline.

LeMen *et al.*, *Tetrahedron Lett.*, **483**, 3119 (1974)

P. ensepala.

IMIDAZOLIDINOCARBAZOLE ALKALOID: (+)-20S-pseudoaspidospermidine.

Quirin *et al.*, *Phytochemistry*, **14**, 812 (1975)

P. mocquerysii var. pendula.

INDOLE ALKALOIDS: coronaridine, (-)-heyneanine, (-)-19-epi-heyneanine, 19-hydroxycoronaridine, (-)-voacangarine, (-)-19-epi-voacangarine, (-)-voacangine.

Beilefon *et al.*, *Phytochemistry*, **14**, 1649 (1975)

P. multiflora.

One uncharacterized indole alkaloid.

Petitfrere *et al.*, *Phytochemistry*, **14**, 1648 (1975)

P. ochrascens.

CARBAZOLE ALKALOID: 19,20-dihydrocondylocarpine.

HOMOCARBOLINE ALKALOIDS: 19-epi-iboxygaine, 19-epi-iboxygaline.

Panas *et al.*, *Phytochemistry*, **13**, 1369 (1974)

P. retusa.

UNCHARACTERIZED ALKALOID: (-)-pachysiphine.

LeMen *et al.*, *Phytochemistry*, **13**, 280 (1974)

PANELLUS (Agaricales)

P. serotinus.

PIGMENT: 3-methylriboflavin.

Steglich *et al.*, *Z. Naturforsch.*, **32C**, 520 (1977)

PANGIUM (Flacourtiaceae)

P. edule Reinw.

CARBONITRILE: gynocardin, hydrocyanic acid.

Kim *et al.*, *J. Chem. Soc., Chem. Commun.*, 381 (1970)

PANICUM (Gramineae)

P. miliaceum.

TRITERPENOID: miliacin.

Ito, *J. Chem. Soc., Japan*, **55**, 910 (1934)

PAPAVER (Papaveraceae)

P. alborosum Hulten.

QUINAZOLONE ALKALOID: alborine.

PROTOBERBERINE ALKALOID: mecambridine.

Pfeifer, Thomas, *Naturwissenschaften*, **21**, 701 (1966)

P. alpinum L.

HOMOISOQUINOLINE ALKALOIDS: alpinigenine, alpinine.

ISOQUINOLINE ALKALOID: amurensine, amurensinine.

Matureva *et al.*, Collect Czech. Chem. Commun., **32**, 419 (1967)

P. alpinum L. subsp. alpinum.

HOMOISOQUINOLINE ALKALOID: papaverrubine G.

Pfeifer, Dohnert, Pharmazie, **22**, 343 (1967)

P. anomalum.

ESTER ALKALOID: pavanoline.

Pfeifer, Thomas, Pharmazie, **22**, 454 (1967)

P. arenarium.

ISOQUINOLINE ALKALOID: arenine.

Israilov *et al.*, Khim. Prir. Soedin., 417 (1978)

P. armeniacum N.Busch.

BENZYLISOQUINOLINE ALKALOID: armepavine.

Yunusov *et al.*, J. Gen. Chem., USSR, **10**, 641 (1940)

P. atlanticum.

OXOQUINOLIZIDINE ALKALOID: oxopropotropine.

Preininger, Santavy, Pharmazie, **25**, 356 (1970)

P. bracteatum Lindl.

APORPHINE ALKALOIDS: bracetoline, isothebaine.

BENZYLISOQUINOLINE ALKALOID.: papaverine Homoisoquinoline alkaloid alpinigenine.

ISOQUINOLINE ALKALOID: N-methylcorydaldine.

PHENANTHRENE ALKALOIDS: 14 β -hydroxycodeine, 14 β -hydroxycodeinone.

SPIROISOQUINOLINE ALKALOIDS: bracteine, (-)-orientalinone.

UNCHARACTERIZED ALKALOIDS: bractamine, oripavine.

Heydenreich, Pfeifer, Pharmazie, **22**, 124 (1967)

Theuns *et al.*, Phytochemistry, **16**, 753 (1977)

P. californicum.

Uncharacterized glycoalkaloid.

Nemeckova *et al.*, Collect. Czech. Chem. Commun., **35**, 1733 (1970)

P. caucasicum Marsch.-Bieb.

APORPHINE ALKALOIDS: L-(+)-nuciferoline, (-)-nuciferoline.

ISOQUINOLINE ALKALOID: papaverrubine C.

SPIROISOQUINOLINE ALKALOIDS: fungipavine, mecambridine, pronuciferine.

Slavik, Slavikova, Collect. Czech. Chem. Commun., **28**, 1720 (1963)

Pfeifer *et al.*, Pharmazie, **23**, 267 (1968)

***P. commutatum* Fisch et Mey.**

Three uncharacterized non-phenolic alkaloids.

Slavik *et al.*, Collect. Czech. Chem. Commun., **30**, 3961 (1965)***P. dubium* L.**

HOMOISOQUINOLINE ALKALOID: dubirheine.

UNCHARACTERIZED ALKALOIDS: aporheidine, aporheine.

Paves, J. Chem. Soc. Abstr., **1**, 368 (1905)***P. dubium* var. *glabrum*.**

SPIROISOQUINOLINE ALKALOID: oxyhydrastinine.

Hussain *et al.*, Phytochemistry, **22**, 319 (1983)***P. floribundum* Desf.**

UNCHARACTERIZED ALKALOIDS: floripavidine, floripavine.

Yunusov *et al.*, J. Gen. Chem., USSR, **10**, 641 (1940)***P. fugax* Poir.**

BENZYLISOQUINOLINE ALKALOID: armepavine.

APORPHINE ALKALOID: (-)-isoroemerine.

SPIROISOQUINOLINE ALKALOIDS: fungipavine, mecambridine.

UNCHARACTERIZED ALKALOID: floripavine.

Bick, Experientia, **20**, 362 (1964)***P. glaucum* Boiss. et Hauskn.**

HOMOISOQUINOLINE ALKALOIDS: glaucamine, epi-glaucamine, glaudine, papaverrubine C.

Slavik *et al.*, Collect Czech. Chem. Commun., **30**, 2864 (1965)Slavik *et al.*, ibid., **30**, 3687 (1965)***P. hybrideum* L.**

UNCHARACTERIZED ALKALOID: pahybrine.

Platonova *et al.*, J. Gen. Chem., USSR, **26**, 181 (1956)***P. lisae*.**

BENZYLISOQUINOLINE ALKALOID: macrantaline.

Melik-Guseinov *et al.*, Khim. Prir. Soedin., 239 (1979)***P. macrostomum* Boiss.**

BENZYLISOQUINOLINE ALKALOID: sevanine.

BENZYLNAPHTHALENE ALKALOID: macrostomine.

Mnatsakanyan *et al.*, Tetrahedron Lett., 851 (1974)***P. nudicaule* L.**

PROTOBERBERINE ALKALOID: mecambridine.

OXOPROTOBERBERINE ALKALOID: muramine.

Matureva *et al.*, *Planta Med.*, **14**, 22 (1966)

P. nudicaule L. var. amurense.

LUPINANE ALKALOIDS: amurensine, amurensinine.

PHENANTHRENE ALKALOIDS: amurine, nudaurine.

SPIROISOQUINOLINE ALKALOIDS: amuroline, amuronine.

Matureva *et al.*, *Planta Med.*, **14**, 22 (1966)

P. nudicaule L. var. auranticum.

UNCHARACTERIZED ALKALOID: nudaurene.

Boit, Flentje, *Naturwissenschaften*, **47**, 180 (1960)

P. oreophilum Rupr.

HOMOISOQUINOLINE ALKALOIDS: oreodine, oreogenine, papaverrubine F.

PROTOBERBERINE ALKALOID: mecambridine.

OXOPROTOBERBERINE ALKALOID: oreophiline.

SPIROISOQUINOLINE ALKALOIDS: oreoline, oridine, isooreidine, N-methyloreoline.

Matureva *et al.*, *Planta Med.*, **14**, 22 (1966)

Mann, Pfeifer, *Pharmazie*, **22**, 124 (1967)

P. orientale L.

APORPHINE ALKALOID: orientinine.

PHENANTHRENE ALKALOIDS: isothebaine, oripavine, thebaine.

PROTOBERBERINE ALKALOID: orientalidine.

SPIROISOQUINOLINE ALKALOID: dihydroorientalinone.

OXOQUINOLIZIDINE ALKALOID: protopine.

Israilov *et al.*, *Khim. Prir. Soedin.*, 258 (1984)

P. pavonium Schrenk.

OXOQUINOLIZIDINE ALKALOID: protopine.

OXOPROTOBERBERINE ALKALOID: α -allocryptopine.

UNCHARACTERIZED ALKALOID: roemeridine.

Platonova *et al.*, *J. Gen. Chem., USSR*, **26**, 173 (1956)

P. persicum Lindl.

BENZYLISOQUINOLINE ALKALOID: armepavine.

APORPHINE ALKALOIDS: O-demethylnuciferine, funpavine, L-(+)-nuciferolin, roemerine.

OXOQUINOLIZIDINE ALKALOID: protopine.

Preininger *et al.*, *Collect. Czech. Chem. Commun.*, **32**, 2682 (1967)

Israilov *et al.*, *Khim. Prir. Soedin.*, 258 (1984)

P. polychaetum.

APORPHINE ALKALOID: L-(+)-nuciferoline.

Pfeifer *et al.*, *Pharmazie*, **23**, 267 (1968)

P. pseudocanescens.

QUATERNARY ALKALOID: mecambridine methohydroxide.

Novac, Slavik, *Collect. Czech. Chem. Commun.*, **39**, 883 (1974)***P. pseudoorientale.***

BENZYLISOQUINOLINE ALKALOID: macrantaline.

Melik-Guseinov *et al.*, *Khim. Prir. Soedin.*, 239 (1979)***P. radicum.***

HOMOISOQUINOLINE ALKALOID: papaverrubine.

ISOQUINOLINE ALKALOIDS: amurensinine, O-methylthalisopavine.

NAPHTHOISOQUINOLINE ALKALOID: sanguinarine.

OXOQUINOLIZIDINE ALKALOID: protopine.

OXOPROTOBERBERINE ALKALOIDS: β -allocryptopine, cryptopine.

PROTOBERBERINE ALKALOID: berberine.

Boehm *et al.*, *Planta Med.*, **28**, 210 (1975)***P. rhoeas L.***

AMINE ALKALOID: adlumiceine.

HOMOISOQUINOLINE ALKALOIDS: isorhoeadine, isorhoeagenin, papaverrubines A, B, D and E, rhoeadine.

GLYCOALKALOID: isorhoeagenine glucoside.

Preininger *et al.*, *Phytochemistry*, **12**, 2513 (1973)***P. somniferum L.***

AMINE ALKALOID: narceine.

BENZYLISOQUINOLINE ALKALOIDS: (+)-codamine, (+)-reticuline.

ISOQUINOLINE ALKALOIDS: hydrocotarnine, narcotaline, narcotine, narcotoline, palaudine, papaverine, (\pm)-reticuline, thebaine.

HOMOISOQUINOLINE ALKALOIDS: N-methyl-14-deacetylisoporphyrone, papaverrubines A, B and C, porphyrone.

NAPHTHOISOQUINOLINE ALKALOIDS: 6-acetyldehydrodihydrosanguinarine, norsanguinarine.

PHENANTHRENE ALKALOIDS: codeine, 16-hydroxythebaine, morphine.

PROTOBERBERINE ALKALOIDS: (-)-canadine, (-)-scoulerine.

OXOPROTOBERBERINE ALKALOID: 13-oxocryptopine.

UNCHARACTERIZED ALKALOIDS: lanthopine, papaveramine, pseudomorphine.

Manske, *Can. J. Res.*, **18B**, 75 (1940)Manske, *ibid.*, **18B**, 288 (1940)Brockmann-Hanssen *et al.*, *Planta Med.*, **18**, 366 (1970)Furuya *et al.*, *Phytochemistry*, **11**, 3041 (1972)***P. trinifolium.***

APORPHINE ALKALOIDS: floripavidine, L-(+)-nuciferoline.

BENZYLISOQUINOLINE ALKALOID: papaverine.

MORPHINANDIENONE ALKALOIDS: amurine, salutaridine.

PROAPORPHINE ALKALOIDS: mecambridine, sinactine.
 PROTOBERBERINE ALKALOIDS: cheilanthifoline, scoulerine.
 Pfeifer *et al.*, *Pharmazie*, **23**, 276 (1968)
 Sariyar, *Planta Med.*, **49**, 43 (1983)

P. urbanianum.

ISOQUINOLINE ALKALOID: N-methyl-6,7-dimethyltetrahydroisoquinoline.
 PHENANTHRENE ALKALOID: O-methylsalutaridine.
 UNCHARACTERIZED ALKALOID: 6,7-didehydroaporheine.
 Preininger, Tosnavova, *Planta Med.*, **23**, 233 (1973)
 Manustakyan *et al.*, *Khim. Prir. Soedin.*, 849 (1980)

PAPUACEDRUS (Cupressaceae)

P. torricellenis (Schlechter) Li.

TROPOLONE: 3-isopropyl-7-methoxytropone.
 Zavarin, *J. Org. Chem.*, **27**, 3368 (1962)

PARABENZOIN

P. praecox.

SESQUITERPENOID: 8 α -acetoxyelemol.
 Ohara *et al.*, *Bull. Chem. Soc., Japan*, **46**, 641 (1973)

P. trilobum Nakai.

SESQUITERPENOIDS: shiromodiol 6-acetate, shiromodiol diacetate, shiromool.
 Wada *et al.*, *Tetrahedron Lett.*, 4673 (1968)

PARACARYUM (Boraginaceae)

P. himalayense (Klotsch.) C.A.Clarke.

PYRROLIZIDINE ALKALOIDS: viridiflorine, viridiflorine N-oxide.
 Men'shikov *et al.*, *J. Gen. Chem., USSR*, **18**, 1736 (1948)

PARACOFFEA

P. bengalensis.

No caffeine present.

Charrier, Berthand, *Chem. Abstr.*, 84 118445m

P. erbracteolata.

No caffeine present.

Charrier, Berthand, *Chem. Abstr.*, 84 118445m

P. humbertii.

No caffeine present.

Charrier, Berthand, *Chem. Abstr.*, 84 118445m

PARACYNOGLOSSUM (Boraginaceae)

P. imeretinum (Kusn.) M.Pop.

PYRROLIZIDINE ALKALOIDS: echinatine, echinatine N-oxide, heliosupine, heliosupine N-oxide.

Man'ko, Marchenko, *Khim. Prir. Soedin.*, 537 (1971)

PARAGEUM

P. montanum.

FLAVONOIDS: hyperin, quercetin, rutin.

Vainagii *et al.*, *Rastit. Resur.*, **12**, 199 (1976); *Chem. Abstr.*, 85 59886d

PARASTREPHIA

P. lepidophylla.

BENZOFURAN: tremetone.

Bohlmann *et al.*, *Phytochemistry*, **16**, 1973 (1977)

PARAVALLARIS

P. maingayi.

STEROID ALKALOID: maingayine.

Davis *et al.*, *Chem. Ind.*, 627 (1970)

P. microphylla Pitard.

STEROIDAL ALKALOIDS: 7 β -hydroxyparavallardine, 7 α -hydroxyparavallarine, 11 α -hydroxyparavallarine, N-methylparavallardine, N-methylparavallarine, paravallardine, paravallarine.

STEROIDS: 10 β ,20S-dihydroxy-3-oxopregna-1,4-diene-18-carboxylic acid lactone, 16 α ,20S-dihydroxy-3-oxopregn-4-ene-18-carboxylic acid lactone, 20S-hydroxy-3,6-dioxopregnane-18-carboxylic acid-18,20-lactone, 20S-hydroxy-3,6-dioxopregn-4-ene-18-carboxylic acid-18,20-lactone, 20S-hydroxy-3-oxo-4,6-pregnadiene-18-carboxylic acid-18,20-lactone, 20S-hydroxy-3-oxo-4-pregnene-18-carboxylic acid-18,20-lactone.

(A) Husson *et al.*, *Bull. Soc. Chim. Fr.*, 3162 (1969)

(S) Husson *et al.*, *ibid.*, 1686 (1971)

PARENTUCELLA (Schophulariaceae)

P. flaviflora (Boiss.) Nevski.

One uncharacterized alkaloid.

Platonova *et al.*, *Med. Prom.*, 3, 21 (1963)

PARIS (Liliaceae)

P. axialis.

SAPONIN: 24 α -hydroxypennogenin-3-O- α -L-rhamnopyranosyl- α -arabinofuranosyl- β -D-glucopyranoside.

Chen *et al.*, *Yunnan Zhiwu Yanjiu*, 9, 239 (1987); *Chem. Abstr.*, 107 194916z

P. polyphylla L.

SAPONINS: 3-hydroxypregna-5,16-dien-20-one 3-O-chacotrioside, pariphyllin A, pariphyllin B.

Khanna *et al.*, *Indian J. Chem.*, 13, 781 (1975)

PARMELIA (Parmeliaceae)

***P. caperata* (L.) Arch.**

STEROID: ergosterol.

TERPENOID: pinastriic acid.

Serra *et al.*, *J. Pharm. Sci.*, **65**, 737 (1976)

***P. caraccensis*.**

DIOXAPIN: galbinic acid.

TERPENOIDS: acetylsalazinic acid, salazinic acid, usnic acid.

Huneck, Schreiber, *Phytochemistry*, **15**, 437 (1976)

***P. consperma* (Ehrh. ex Ach.) Ach.**

TERPENOID: salazinic acid.

Malik *et al.*, *Indian J. Chem.*, **10**, 1040 (1972)

***P. entotheichroa*.**

TRITERPENOIDS: 6-O-acetylleucotylin, 6-deoxy-16-acetylleucotylin.

Yosioka *et al.*, *Chem. Pharm. Bull.*, **14**, 804 (1966)

***P. formosana*.**

XANTHONE: lichenanthrone.

Ruben *et al.*, *Phytochemistry*, **15**, 1093 (1976)

***P. horrescens* Tayl.**

DEPSIDES: chloroatranorin, 4,5-di-O-methylhiascic acid, gyrophoric acid, lecanoric acid.

Elix, Engkaninan, *Aust. J. Chem.*, **29**, 2701 (1976)

***P. leucotyliza*.**

TRITERPENOIDS: leucotylic acid, leucotylin, zeorin.

Huneck, *Chem. Ber.*, **94**, 614 (1961)

***P. livida*.**

DIOXEPIINS: hydroxycolensoic acid, methoxycolensoic acid.

Culberson *et al.*, *Aust. J. Chem.*, **30**, 599 (1977)

***P. pseudofatiscens*.**

DEPSIDES: atranorin, chloroatranorin, 4,5-di-O-methylhiascic acid, gyrophoric acid, lecanoric acid.

Elix, Engkaninan, *Aust. J. Chem.*, **29**, 2701 (1976)

***P. reptans*.**

ACID: succinoprotocetraric acid.

Baker *et al.*, *Aust. J. Chem.*, **21**, 137 (1973)

P. tinctorium Despr.

TRITERPENOIDS: 3β -acetoxy- $12\beta,22$ -dihydroxyhopane $3\beta,22$ -dihydroxyhopane,
 $6\alpha,22$ -dihydroxyhopane.

Goto *et al.*, *Chem. Abstr.*, 107 194875k

PARMOTREME

P. conformatum.

DEPSIDONE: malonprotocetraric acid.

Keogh, *Phytochemistry*, **16**, 1102 (1977)

PARNARA

P. guttata Bremer.

STEROIDS: cholestan-3-one, cholesterol, β -sitosterol.

Endo, Mitsuhashi, *Chem. Abstr.*, 86 2381z

PARQUETINA

P. nigrescens (Afzel.) Bullock.

STEROIDS: convalloside, nigrescigenin.

Schenker *et al.*, *Helv. Chim. Acta*, **37**, 1004 (1954)

PARSONIA (Apocynaceae)

P. heterophylla A.Cunn.

PYRROLIZIDINE ALKALOIDS: heterophylline, parsonine.

SESQUITERPENOID: heterophyllol.

Edgar *et al.*, *Tetrahedron Lett.*, 3053 (1979)

***P. spiralis* Wall.**

PYRROLIZIDINE ALKALOIDS: heterophylline, spiracine, spiraline, spiranine.
 Edgar *et al.*, *Tetrahedron Lett.*, 2657 (1980)

PARTHENIUM (Compositae)

***P. alpinum* var. *tetraneuris*.**

SESQUITERPENOIDS: tetraneurins A, B and C.
 Ruesch, Mabry, *Tetrahedron*, **25**, 805 (1969)

***P. argentatum*.**

SESQUITERPENOID: parthenol.
 TRITERPENOIDS: argentatines A, B and C.
 Rodriguez-Hahn *et al.*, *Rev. Latinoam. Quim.*, **1**, 24 (1970)

***P. bipinnatifidum*.**

FLAVONOID: quercetagetin-3,7,3'-trimethyl ether.
 Shen *et al.*, *Phytochemistry*, **15**, 1045 (1976)

***P. confertum*.**

SESQUITERPENOIDS: conchosin A, conchosin B.
 Romo de Vivar *et al.*, *Phytochemistry*, **17**, 279 (1978)

***P. confertum* var. *lyratum*.**

SESQUITERPENOID: tetraneurin F.
 Yoshioka *et al.*, *J. Org. Chem.*, **35**, 2888 (1970)

***P. fruticosum*.**

SESQUITERPENOIDS: fruticin A, fruticin B, incaulin, tetraneurin B.
 Matsubara, Romo de Vivar, *Phytochemistry*, **24**, 613 (1985)

***P. glomeratum*.**

FLAVONOID: quercetagetin-3,7,3'-trimethyl ether.
 Shen *et al.*, *Phytochemistry*, **15**, 1045 (1976)

***P. hysterophorus*.**

FLAVONOID: quercetagetin-3,7-dimethyl ether.
 TERPENOIDS: dihydroisoparthenin, 11-hydroxyguaien, isoquaiene, parthenin.
 (F) Shen *et al.*, *Phytochemistry*, **15**, 1045 (1976)
 (T) Bohlmann *et al.*, *Phytochemistry*, **16**, 575 (1977)
 (T) Picman *et al.*, *ibid.*, **21**, 1801 (1982)

P. lozanianum.

SESQUITERPENOIDS: tetraneurins B, C and D.
 Yoshioka *et al.*, *Tetrahedron*, **26**, 2167 (1970)

P. rollinsianum.

FLAVONOIDS: artemetin, crysoplenol, penduletin, polycladin, quercetagin-3,6,7-trimethyl ether, quercetin-3,3'-dimethyl ether.

Maurice *et al.*, *Phytochemistry*, **15**, 517 (1976)
 Shen *et al.*, *ibid*, **15**, 1045 (1976)

P. tomentosum.

SESQUITERPENOIDS: stramonin B.
 Grieco *et al.*, *J. Org. Chem.*, **43**, 4552 (1978)

P. tomentosum var. stramonium.

SESQUITERPENOIDS: stramonin A stramonin B.
 Grieco *et al.*, *J. Org. Chem.*, **43**, 4552 (1978)

PASANIA

P. edulis.

HYDROCARBONS: ditriacontane, heptacosane, hexacosane, monotriacontane, nonacosane, octacosane, pentacosane, triacontane, tritriacontane.

STEROID: β -sitosterol.
 TRITERPENOIDS: friedelanol, epi-friedelanol, friedelin, glutinol, lupeol.
 Tachi *et al.*, *J. Pharm. Soc., Japan*, **98**, 349 (1978)

PASPALIUM

P. delatum.

TRITERPENOID: lupeol methyl ether.
 Ohmoto *et al.*, *J. Chem. Soc., D*, 601 (1969)

PASSIFLORA (Passifloraceae)

P. capsularis.

GLYCOSIDE: passicapsin.

Fischer *et al.*, *Planta Med.*, **45**, 42 (1982)

P. coccinea.

GLYCOSIDE: passicoccin.

Spencer *et al.*, *Phytochemistry*, **24**, 2615 (1985)

P. edulis Sims.

BENZOPYRANS: 8 α -edulan, 8 $\alpha\beta$ -edulan, edulan I, edulan II, 6,7-epoxyedulan.

TERPENOID: passiflorin.

(B) Itoh *et al.*, *Agr. Biol. Chem.*, **44**, 2871 (1980)

(T) Murray *et al.*, *Aust. J. Chem.*, **25**, 1921 (1972)

P. foetida.

FLAVONOIDS: 7,4'-dimethoxyapigenin, ermanin, pachypodol.

Echeverri *et al.*, *Chem. Abstr.*, 105 187580r

P. incarnata.

HARMAN ALKALOID: passiflorine.

Neu, *Arzneim. Forsch.*, **4**, 601 (1954)

P. platyloba.

COUMARIN: esculentin.

FLAVONOIDS: isomollupentin, isovitexin 7-rhamnoglucoside.

Ajanoglu *et al.*, *Phytochemistry*, **21**, 799 (1982)

P. serratodigitata.

COUMARINS: serratin, serratin 7-O- β -glucoside.

FLAVONOIDS: chrysin, isovitexin, orientin, vitexin, 2"-xylosylvitexin.

Ulubelen *et al.*, *Phytochemistry*, **21**, 1145 (1982)

P. warmingii.

GLYCOSIDE: linamarin.

Fischer *et al.*, *Planta Med.*, **45**, 42 (1982)

PASTINACA (Pastinaceae)

P. sativa.

COUMARINS: bergapten, imperatorin, isobergapten, isopimpinellin, pimpinellin, sphondin, umbelliferone.

Gusak *et al.*, *Chem. Abstr.*, 86 68378k

PASTINACOPSIS (Pastinaceae)

P. glacialis.

COUMARINS: bergapten, imperatorin, isobergapten, isopimpinellin, pimpinellin, sphondin, umbelliferone.

Gusak *et al.*, *Chem. Abstr.*, 86 68378k

PATAGONULA (Boraginaceae)

P. americana L.

SESQUITERPENOIDS: cordiachrome G, cordiachrome H, peuchdiachrome H.

Moir, Thomson, *J. Chem. Soc., Perkin I*, 1556 (1973)

PATENA

P. lucida.

TRITERPENOID: bassic acid.

King *et al.*, *J. Chem. Soc.*, 1338 (1955)

PATRINIA

P. intermedia.

SAPONINS: patrinosides C, C-1 and D.

Bucharov *et al.*, *Khim. Prir. Soedin.*, 17 (1967)

P. scabiosaeifolia.

IRIDOID: patrinoside.

SAPONINS: scabiosides A, B, C, D, E, F and G.

Taguchi, Endo, *Chem. Pharm. Bull.*, **22**, 1935 (1974)

P. sibirica.

SAPONINS: sibirosides A, B and C.

Bukharov, Karlin, Mater. Nauch. Konf. Inst. Org. Fiz. Khim. Akad Nauk, SSSR, 55 (1969)

P. villosa.

IRIDOIDS: villoside, villosol, villosolside.

Taguchi *et al.*, *J. Pharm. Soc., Japan*, **93**, 607 (1973)

Xu *et al.*, *Yaoxue Xuebao*, **20**, 652 (1985); *Chem. Abstr.*, 104 65906k

PAULLINIA (Sapindaceae)

P. cupana.

PURINE ALKALOIDS: theobromine, theophylline.

Blout *et al.*, *J. Am. Chem. Soc.*, **72**, 479 (1950)

PAULOWNIA (Scrophulariaceae)

P. tomentosa (Thunb.) Steud.

IRIDOID: paulownioside.

Adrian *et al.*, *J. Nat. Prod.*, **44**, 739 (1981)

PAURIDIANTHA (Rubiaceae)

P. callicarpoides.

CARBOLINE ALKALOIDS: pauridianthine, pauridianthinine.

Pousset *et al.*, *C.R. Acad. Sci.*, **272C**, 665 (1971)

***P. lyalli* Brem.**

CARBOLINE ALKALOIDS: 6-trans-feruloyllyaloside, hydroxylyalidine, lyalidine, lyaloside.

Levesque *et al.*, *Tetrahedron*, **38**, 1417 (1982)

PAUSINYSTALIA

P. angolensis.

One carboline alkaloid.

Van der Meulen, Van der Kerk, *Recl. Trav. Chim. Pays-Bas*, **83**, 141, 148 (1964)

P. macroceras.

CARBOLINE ALKALOID: yohimbine.

Witkop, *Justus Liebigs Ann. Chem.*, **554**, 83 (1943)

Witkop, *ibid.*, **554**, 127 (1943)

P. mayumbensis.

CARBOLINE ALKALOID: mayumbine.

Raymond-Hamer, *C.R. Acad. Sci.*, **232**, 2354 (1951)

***P. paniculata* Welw.**

CARBOLINE ALKALOIDS: paniculatine, yohimbine.

Clemo, Swan, *J. Chem. Soc.*, 617 (1946)

P. trillesi.

CARBOLINE ALKALOID: yohimbine.

Schomer, *Chem. Zentralbl.*, II, 2309 (1927)

***P. yomhinbe* (*Corynanthe yohimbe*).**

CARBOLINE ALKALOID: dihydrositsirikine, yohimbine, α -yohimbine.

Witkop, *Justus Liebigs Ann. Chem.*, **554**, 83 (1943)

Witkop, *ibid.*, **554**, 127 (1943)

Le Hir, Goutarel, *Bull. Soc. Chim. Fr.*, 1023 (1953)

PAVETTA

P. lanceolata.

CARBOLINE ALKALOID: pavettine.

Jordaan *et al.*, *J.S. Afr. Chem. Inst.*, **21**, 22 (1968)

PAVONIA (Malvaceae)

P. zeylanica.

SAPONIN: paraphylline.

Tiwari, Minocha, *Phytochemistry*, **19**, 701 (1980)

PAXILLUS

P. atrototnentosus.

PIGMENT: xerocomic acid.

Besl *et al.*, *Chem. Abstr.*, 88 117773n

PECHUEL-LOESCHEA

P. leibnitziae.

SESQUITERPENOIDS: methylpechueloate, norpechuelol, norpechuelone, pechuelol, pechuelone.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1160 (1982)

PECTUMCULUS

P. glycymeris.

CAROTENOID: glycymerin.

Fabre, Lederer, *Bull. Soc. Chim. Biol.*, **36**, 105 (1934)

PEDICULARIS (Schophulariaceae)

P. dolichorrhiza Schrenk.

QUINOLIZIDINE ALKALOID: N-methylcytisine.

UNCHARACTERIZED ALKALOIDS: indicamine, plantagonine.

Danilova, Konovalova, *J. Gen. Chem. USSR*, **22**, 2237 (1952)

P. lapponica.

IRIDOIDS: aucubin, euphoroside, mussaenoside.

Berg *et al.*, *Phytochemistry*, **24**, 491 (1985)

P. ludwigii Rgl.

UNCHARACTERIZED ALKALOIDS: indicamine, plantagonine.

Danilova, Konovalova, *J. Gen. Chem. USSR*, **22**, 2237 (1952)

P. macrochloa Vved.

PYRIDINE ALKALOIDS: gentianamine, noractinidine.

UNCHARACTERIZED ALKALOID: plantagonine.

Abdusamatov, *Avtoref. Dokl. Diss. Tashkent*, (1972)

P. olgae Rgl.

QUATERNARY ALKALOID: indicainine.

QUINOLIZIDINE ALKALOID: N-methylcytisine.

PYRIDINE ALKALOIDS: pedicularidine, pedicularine, pedicularinine, pediculidine, pediculine, pediculinine, plantagonidine.

UNCHARACTERIZED ALKALOIDS: indicamine, plantagonine.

Abdusamatov, Yunusov, *Khim. Prir. Soedin.*, 334 (1969)

P. palustris.

IRIDOIDS: aucubin, boschnaloside, 3-hydroxyboschnaloside, scandoside methyl ester.

Berg *et al.*, *Phytochemistry*, **24**, 491 (1985)

P. rhinanthoides Schrenk.

PYRIDINE ALKALOID: tecostidine.

UNCHARACTERIZED ALKALOID: plantagonine.

Danilova, Konovalova, *J. Gen. Chem., USSR*, **22**, 2237 (1952)

P. silvatica.

IRIDOIDS: euphoroside, epi-loganin, plantarenaloside.

Berg *et al.*, *Phytochemistry*, **24**, 491 (1985)

P. violescens Schrenk.

PYRIDINE ALKALOID: incanine.

UNCHARACTERIZED ALKALOID: plantagonine.

Danilova, Konovalova, *J. Gen. Chem., SSSR*, **22**, 2237 (1952)

PEGANUM (Zygophyllaceae)

P. harmala L.

ACID: 9,14-dihydroxyoctadecanoic acid.

CARBOLINE ALKALOIDS: harmaline, harmalol, ruine.

QUINAZOLINE ALKALOIDS: deoxypeganidine, deoxypeganine, dipegnine, deoxyvascinone, peganine, (\pm)-peganine, (-)-peganine, pegamine, (+)-peganine, peganol, (+)-vascinone, (\pm)-vascinone.

ANTHRAQUINONES: peganone 1, peganone 2.

(Ac) Ahmad *et al.*, *Phytochemistry*, **16**, 1761 (1977)

(A) Khashmirov *et al.*, *Khim. Prir. Soedin.*, 453 (1970)

(A) Telezhenetskaya *et al.*, *ibid.*, 849 (1971)

(An) Pitre *et al.*, *Planta Med.*, **53**, 106 (1987)

PEGOLETTIA

P. senegalensis.

SESQUITERPENOIDS: 8-hydroxypegolettiolide, pegolettiolide.

Bohlmann *et al.*, *Phytochemistry*, **22**, 1637 (1983)

PELARGONIUM (Geraniaceae)

P. graveolens L 'Herit. ex Ait.

MONOTERPENOID: citronellyl diethylamine.

Rojohn, Klein, *Dragoco Rep. (Engl. Ed.)*, **24**, 150 (1977)

P. odoratissimum (L.) L'Herit. ex Ait.

MONOTERPENOID: (-)-menthone, geraniol.

Samophralov, *Dokl. Akad. Nauk SSSR*, **84**, 1179 (1952)

P. roseum.

SESQUITERPENOIDS: furopelargones A, B, C and D.

Gianotti *et al.*, *Tetrahedron*, **24**, 2055 (1968)

PELLIA

P. barbigeria.

FURANOQUINOLINE ALKALOID: isoplatydesmine.

Higa, Scheuer, *Phytochemistry*, **13**, 1269 (1974)

P. endiviaefolia.

DITERPENOID: succulatal.

Asakawa *et al.*, *Planta Med.*, **32**, 362 (1977)

PELTIGERA (Peltigeraceae)

P. aphthosa (L.) Willd.

PHENOLICS: aphtosin, tenuiorin.

TRITERPENOIDS: phlebic acid A, phlebic acid B.

(P) Bryan *et al.*, *Aust. J. Chem.*, **29**, 1079 (1976)

(P) Bryan *et al.*, *ibid.*, **29**, 1147 (1976)

(T) Takahashi *et al.*, *Phytochemistry*, **9**, 2037 (1970)

PELTOBOYKINIA

P. watanabii.

TERPENOIDS: α -peltoboykinolic acid, β -peltoboykinolic acid.

Izawa *et al.*, *Phytochemistry*, **12**, 1508 (1973)

PELTOPHORUM

P. africanum.

FLAVONOIDS: kaempferol, myricetin, myricetin 3-rutinoside, quercetin, quercetin 3-glucoside, quercetin 3-rutinoside.

PHENOLICS: chlorogenic acid, gallic acid, trans-4-hydroxypipelic acid 4-sulphate.

El-Sherbeiny *et al.*, *Planta Med.*, **32**, 165 (1977)

Evans *et al.*, *Phytochemistry*, **24**, 2593 (1985)

P. ferrugineum.

ANTHOCYANIN: (+)-leucocyanidin.
 CATECHIN: (-)-epi-catechin.
 FLAVONOIDS: bergenin, quercetin.
 Sastry *et al.*, *Chem. Abstr.*, 87 98803h

PELTOPHYLLUM (Saxifragaceae)

P. peltatum.

FLAVONOIDS: kaempferol, myricetin 3-O-arabinoside, myricetin 3-O-glucoside, myricetin 3-O-rhamnoside, myricetin 3-O-xyloside, quercetin 3-O-arabinoside, quercetin 3-O-glucoside, quercetin 3-O-rhamnoside.

Bohm *et al.*, *Phytochemistry*, **15**, 2012 (1976)

PELVETIA (Phaeophyceae)

P. canaliculata Dane et Thur.

STEROID: 24-oxocholesterol.
 Motzfeldz, *Acta Chem. Scand.*, **24**, 1846 (1970)

PENIOCEREUS (Cactaceae)

P. fosterianus Cut.

STEROIDS: peniocerol, peniosterol.
 Djerassi *et al.*, *Proc. Chem. Soc.*, 450 (1961)
 Djerassi *et al.*, *J. Chem. Soc.*, 1160 (1965)

P. macdougallii.

STEROID: macdougallin.
 Djerassi *et al.*, *J. Am. Chem. Soc.*, **85**, 835 (1963)

PENIOPHORA

P. aurantiaca.

CAROTENOID: astaxanthin.

Tischer, Z. Physiol. Chem., **240**, 191 (1941)

PENSTEMON (Scrophulariaceae)

P. barbatus (Cav.) Roth.

IRIDOIDS: barbatoside, penstemonoside, penstemoside.

Junior, Planta Med., **45**, 127 (1962)

P. deutus.

SPIROIRIDOIDS: penstemide.

Jolad *et al.*, Tetrahedron Lett., 4119 (1976)

P. serrulatus.

IRIDOIDS: serrulatoside, serruloside, 8-epi-valerosidate.

Junior, Planta Med., **50**, 417 (1984)

PENTACERAS

P. australis Hook f.

CARBOLINE ALKALOIDS: canthin-6-one, 5-methoxycanthin-6-one.

Haynes *et al.*, Aust. J. Sci. Res., **5A**, 387 (1952)

PENTACLETHRA

P. eetveldeana Wild et Th. Dur.

Uncharacterized saponins.

Welter *et al.*, Bull. Soc. R. Sci. Liege, **44**, 687 (1975)

P. macrophylla Benth.

AMIDE ALKALOID: paucine.
Merck, *Merck's Jahresbl.*, 11(1894)

PENTADESMA (Guttiferae/Clusiaceae)

P. butyracea Sabine.

XANTHONES: jacarubein, osajaxanthone, pentadesmaxanthone.
Gunasekera *et al.*, *J. Chem. Soc., Perkin I*, 11 (1977)

PENTADIPLANDRA

P. brazzeana.

THIOUREA:N,N'-bis(4-methoxybenzyl)-thiourea.
Migirab *et al.*, *Phytochemistry*, 16, 1719 (1977)

PENTAPHALANGIUM (Guttiferae/Clusiaceae)

P. solomonse Warb.

BIPHENYL: 3,5-dihydroxy-4-(3-hydroxy-3-methylbutyryl)-biphenyl.

STEROIDS: campesterol, α -sitosterol, stigmasterol.

XANTHONES: 6-deoxyisojacareubin, 1-hydroxy-3,5-dimethoxy-4(3-methylbut-2-enyl)-xanthen-9-one, 1-hydroxy-3,6,7-trimethoxyxanthen-9-one, 1,3,5-trihydroxy-2-(3-methylbut-2-enyl)-xanthen-9-one, 1,3,7-trihydroxy-2-(3-methylbut-2-enyl)-xanthone.

(B) Cotterill *et al.*, *J. Chem. Soc., Perkin I*, 2423 (1974)

(X) Owen, Scheinmann, *ibid.*, 1018 (1974)

PENTZIA

P. elegans.

SESQUITERPENOIDS: dehydroleucodin, isoepoxyestafietin.

Bohlmann, Zdero, *Tetrahedron Lett.*, 621 (1972)

PEREIRA

P. madagascariensis.

CARBOLINE ALKALOID: 4,7-dimethoxy-1-vinyl- β -carboline.

Boutgaigynon-Zylber, Polonsky, *Chim. Ther.*, **5**, 396 (1970)

PERESKIA (Cactaceae)

P. grandiflora.

SAPONIN: saponin P-0.

Sahu *et al.*, *Phytochemistry*, **13**, 529 (1974)

PEREZIA (Compositae/Mutisieae)

P. alamani var. oolepis.

COUMARIN: 8-hydroxypereflorin.

SESQUITERPENOIDS: diperezone, isoparvifolinone.

Joseph-Nathan *et al.*, *Phytochemistry*, **21**, 1129 (1982)

P. carpholepis.

SESQUITERPENOIDS: curcuquinol isovalerate, cyperene, cyperenone, parvifoline, perezone, α -pipitzol, β -pipitzol.

Joseph-Nathan *et al.*, *Phytochemistry*, **21**, 669 (1982)

P. coerulescens.

COUMARIN: 5-formyl-3,4,8-trimethoxycoumarin.

Angeles *et al.*, *Phytochemistry*, **23**, 2094 (1984)

P. cuernavacana.

SESQUITERPENOIDS: α -pipitzol, β -pipitzol.

Walls *et al.*, *Tetrahedron Lett.*, 1577 (1965)

P. hebeclada.

SESQUITERPENOIDS: α -perezol, β -perezol, τ -perezol.

Gonzalez *et al.*, *Phytochemistry*, 11, 1803 (1972)

P. multiflora (H. et B.) Less.

COUMARINS: 3,8-dimethoxypereflorin, 3-methoxypereflorin, 8-methoxypereflorin, pereflorin.

SESQUITERPENOID: 8-angeloyloxyproutianol acetate.

(C) Bohlmann *et al.*, *Phytochemistry*, 16, 239 (1977)

(T) Bohlmann, Zdero, *Chem. Ber.*, 112, 427 (1979)

P. runcinata.

QUINONES: hydroxyperezone isovalerate, O-isovalerylperezone.

Joseph-Nathan *et al.*, *Phytochemistry*, 16, 1086 (1977)

PERGULARIA

P. extensa.

TRITERPENOIDS: 3-hydroxyfriedelan-7-one, roxburghalone.

Garg *et al.*, *Phytochemistry*, 7, 2035 (1968)

P. pallida.

PHENANTHROINDOLIZIDINE ALKALOIDS: deoxypergularinine, pergularine, pergularinine.

Mulchandam, Venkatachalan, *Phytochemistry*, 15, 1561 (1976)

PERIANDRA

P. dulcis.

SAPONINS: periandrins I, II and III.

TRITERPENOIDS: 3-dehydroperiandric acid, periandric acid.

(S) Hashimoto *et al.*, *Phytochemistry*, 21, 2335 (1982)

(T) Yamasa Shoyu Co., *Japanese Patent*, 82 144, 240

PERICOPSIS

***P. angolensis* Baker.**

BENZOPYRAN: 3,4,9-trimethoxypterocarpan.

ISOFLAVANOID: 7,4'-dihydroxyisoflavanone.

STILBENE: astringenin.

(B) Harper *et al.*, *J. Chem. Soc., Chem. Commun.*, 309 (1965)

(F) Fitzgerald *et al.*, *J. Chem. Soc., Perkin I*, 186 (1976)

(St.) Grassman *et al.*, *Chem. Ber.*, **89**, 2523 (1956)

***P. elata* Harms.**

ISOFLAVANOID: 7,4'-dihydroxyisoflavanone.

PHENOLIC: 2-O-methylangolensin.

Fitzgerald *et al.*, *J. Chem. Soc., Perkin I*, 186 (1976)

***P. laxiflora* Benth.**

ISOFLAVANOID: 7,4'-dihydroxyflavanone.

Fitzgerald *et al.*, *J. Chem. Soc., Perkin I*, 186 (1976)

***P. mooniana* Tkw.**

ISOFLAVANOID: 7,4'-dihydroxyisoflavanone.

Fitzgerald *et al.*, *J. Chem. Soc., Perkin I*, 186 (1976)

***P. schliebenii* Harms.**

QUINOLIZIDINE ALKALOID: N-methylcytisine.

Fitzgerald *et al.*, *J. Chem. Soc., Perkin I*, 186 (1976)

PERIDINIUM (Pyrrhophyceae/Peridiniaceae)

***P. balticum* UTEX 1563.**

CAROTENOID. peridinin.

STEROID: peridinosterol.

Swenson *et al.*, *Tetrahedron Lett.*, 4663 (1980)

***P. foliaceum* UTEX 1688.**

STEROIDS: 4 α -methyl-5 α -gorgostanol, peridinosterol.

Swenson *et al.*, *Tetrahedron Lett.*, 4663 (1980)

PERILLA

P. frutescens.

MONOTERPENOIDS: limonene, linalool, α -pinene.

SESQUITERPENOIDS: (2E,4E,6E,)-allofaraesene, (2Z,4E,6E)-allofarnesene.

Sakai *et al.*, Bull. Chem. Soc., Japan, **42**, 3615 (1969)

Sugisawa *et al.*, Agr. Biol. Chem., **40**, 231 (1976)

P. frutescens var. acuta.

COUMARIN: scutellerein.

GLYCOSIDES: (R)-2-(2-O- β -D-glucopyranosyl- β -D-glucopyranosyloxy)-phenylacetonitrile, prunasin.

PHENOLICS: caffèic acid, rosmarinic acid.

Aritomi *et al.*, Phytochemistry, **24**, 2438 (1985)

P. frutescens f. viridis.

SESQUITERPENOIDS: 2-cis-4-trans-allofarnesene, 2-trans-4-trans-allofarnesene.

Naves, Helv. Chim. Acta, **49**, 1029 (1966)

P. nankinensis.

GLYCOSIDE: shisonin.

MONOTERPENOID: (-)-perillaldehyde.

(G) Takeda *et al.*, Proc. Japan. Acad., **40**, 510 (1964)

(T) Schimmel, Chem. Zentralbl., II, 1758 (1910)

P. ocimoides.

GLYCOSIDE: shisonin.

SESQUITERPENOIDS: β -caryophyllene, germacrene D, perilla ketone, perillene, rosefurran.

(G) Takeda *et al.*, Proc. Japan. Acad., **40**, 510 (1964)

(T) Misra, Husain, Planta Med., **53**, 379 (1987)

PERIPENTADENIA

P. mearnsii.

ALKALOID: peripentadenine.

TROPANE ALKALOID: 3-acetyl-6-hydroxytropane.

Lamberton *et al.*, J. Nat. Prod., **46**, 235 (1983)

PERIPLOCA (Periplocaceae/Asclepiadaceae)

P. calophylla.

GLYCOSIDES: calocin, plocinin.

Srivastava *et al.*, *J. Nat. Prod.*, **45**, 211 (1982)

Deepak *et al.*, *Phytochemistry*, **24**, 3015 (1985)

P. sepium.

STEROIDS: glycoside E, glycoside F, 21-O-methylpregn-5-ene-3,14,17,21-tetrahydroxy-20-one.

Ishizone *et al.*, *Chem. Pharm. Bull.*, **20**, 2402 (1972)

PERIPTERYGIA (Celastraceae)

P. marginata Loes.

MACROCYCLIC ALKALOIDS: dihydroperiphylline isoperiphylline, neoperiphylline, periphylline.

Hocquemiller *et al.*, *Tetrahedron*, **33**, 645 (1977)

PERITASSA (Celastraceae)

P. campestris.

MAYTENSANOID: maytensin.

De Lima *et al.*, *Rev. Inst. Antibiotics*, **9**, 17 (1969)

PERNETTYA (Ericaceae)

P. furens.

SESQUITERPENOIDS: pernetal, pernetic acids A, B, C, D and E, pernetol.

Hosozawa *et al.*, *Phytochemistry*, **24**, 2317 (1985)

PEROVSKIA (Labiatae)

P. abrotanoides.

SESQUITERPENOID: abrotanol.

Serkabaeva, Bazalitskaya, *Izv. Akad. Nauk Kaz. SSR, Ser. Tekh. Nauk*, 3 (1963)

P. scrophulariaeefolia.

SESQUITERPENOID: alloaromadendrene.

Dolejs *et al.*, *Collect. Czech. Chem. Common.*, **25**, 1483 (1960)

Dolejs *et al.*, *ibid.*, **25**, 1877 (1960)

PERSCIA

P. vulgaris.

ALIPHATICS: dotricontane, hentriacontane, heptacosane, hexacosane, hexacosanol, nonacosane, octacosane, octacosanol, pentacosane, tetracosanol, triacontane, triacontanol, tritriacontane.

STEROID: β -sitosterol.

Sadykov, *Khim. Prir. Soedin.*, 133 (1977)

PERSOONIA

P. elliptica.

ALCOHOL: persoonol.

Cannon *et al.*, *Aust J. Chem.*, **24**, 1925 (1971)

PERTUSARIA (Pertusariaceae)

P. coraxillina.

PHENOLIC: thamnolic acid.

Wachtmeister *et al.*, *Acta Chem. Scand.*, **24**, 1395 (1955)

P. globularis.

ACID: confluentin acid.

Culberson *et al.*, *Bryologist*, **75**, 362 (1972)

P. rhodesiaca.

DEPSIDE: haemathamnolic acid.

Harper *et al.*, *J. Chem. Soc., C*, 1603 (1967)

P. sulphurata.

XANTHONE: lichexanthone.

Ruben *et al.*, *Phytochemistry*, **15**, 1093 (1976)

P. tuberculifera.

ACID: confluentin acid.

Culberson *et al.*, *Bryologist*, **75**, 362 (1972)

PERTYA (Compositae)

P. glabrescens.

SESQUITERPENOID: pertilide.

Nagumo *et al.*, *Chem. Pharm. Bull.*, **30**, 586 (1982)

P. robusta (Maxim.) Beauv.

SESQUITERPENOID: glucozaluzanin C.

DITERPENOID: pertoyl methyl ether.

Nagumo *et al.*, *J. Pharm. Soc., Japan*, **100**, 427 (1980)

PERYMENTIUM

P. ecuadoricum.

DITERPENOIDS: perymenic acid, perymenuimic acid.

Bohlmann, Zdero, *Phytochemistry*, **16**, 986 (1977)

PESCHIERA (Apocynaceae)

P. affinis (Muell. Arg.) Miers.

CARBOLINE ALKALOIDS: affinine, affinisine.

Cava *et al.*, *Chem. Ind. (London)*, 1193 (1964)

P. lacta.

CARBOLINE ALKALOIDS: affinine, akuammidine, conodurine, geissochizol, tombozine, voacamidine, vobasine.

Voticky *et al.*, *Collect. Czech. Chem. Common.*, **42**, 1403 (1977)

P. lundii (DC.) Miers.

HOMOCARBOLINE ALKALOID: iboxygaine hydroxyindolenine.

Whang *et al.*, *J. Org. Chem.*, **34**, 412 (1969)

PETALOSTYLIS

P. labicheoides.

CARBOLINE ALKALOID: tetrahydroharman.

Paris *et al.*, *Bull., Soc. Chim. Fr.*, 780 (1957)

PETASITES (Compositae)

P. albus (L.) Gaertner.

SESQUITERPENOIDS: eremophilene.

DITERPENOIDS: petasitolide A, petasitolide B.

THIODITERPENOIDS: S-petasitolide A, S-petasitolide B.

Hochmannova *et al.*, *Collect. Czech. Chem. Common.*, **27**, 1870 (1962)

P. hybridus (L.) Gaertner, Meyer et Scherb.

SESQUITERPENOIDS: 2-angeloyloxy-9-oxo-10 α H-furanoeremophilane, isobutyrylneopetasyl ester, isopetasane, isopetaside, isopetasyl ester isobutyrate, methylacrylylneopetasyl ester, methylacrylylpetasyl ester, cis-2-methyl-2-but enyl-3-deoxy-13-petasyl ester, cis-2-methyl-2-but enylneopetasyl ester, cis-2-methyl-2-but enylpetasyl ester, (Z)-3-methylthioacryloylisopetasyl ester, neopetasan, senecioylneopetasyl ester, senecioylpetasyl ester.

Novotny *et al.*, *Phytochemistry*, **11**, 2795 (1972)

Neuenschwander *et al.*, *Helv. Chim. Acta*, **62**, 605 (1979)

P. japonicus Maxim.

PYRROLIZIDINE ALKALOIDS: fukinotoxin, petasinine, petasinoside.

SESQUITERPENOIDS: 9-acetoxyfukinanolide, 6-acetyl furanofukinol, bakkenolides A, B, C, D and E, eremofukinone, isopetasoside, S-japonin, petasitin, petasitalone, petasoside.

(A) Yamada *et al.*, *Tetrahedron Lett.*, 4543 (1978)

(T) Naya *et al.*, *ibid.*, 2961 (1971)

P. kablikianus.

SESQUITERPENOID: eremophilene, kablicin.

Hochmannova *et al.*, *Collect. Czech. Chem. Common.*, **24**, 360 (1976)

P. officinalis L.

SESQUITERPENOID: eremophilene, eremophilenolide, petasene, petasitolides A and B.

THIODITERPENOID: S-petasitolide A, S-petasitolide B.

Hochmannova *et al.*, *Collect. Czech. Chem. Common.*, **24**, 360 (1976)

P. paradoxus.

SESQUITERPENOID: kablicin.

Novotny *et al.*, *Tetrahedron Lett.*, 1401 (1968)

Novotny *et al.*, *ibid.*, 2281 (1968)

PETCHIA (Apocynaceae)

P. ceylanica Wight.

DIMERIC ALKALOIDS: peceylanine, peceyline, pelankine.

Kunesch *et al.*, *Tetrahedron Lett.*, 1727 (1980)

PETERAVANIA

P. schultzii.

Three sesquiterpenoids.

Bohlmann, Suwita, *Phytochemistry*, **17**, 567 (1978)

PETILIUM (Liliaceae)

P. eduardi (Rgl.) Vved.

STEROIDAL ALKALOIDS: edpetilidine, edpetiline, edpetilinine, edpetine, edpetisidinine, eduardine, imperialine, imperialone, peisimine.

Nuriddinov *et al.*, Khim. Prir. Soedin., 333 (1968)

Shakirov *et al.*, *ibid.*, 584 (1979)

P. raddeana (Rgl.) Vved.

STEROIDAL ALKALOIDS: alvanidine, alvanine, edpetiline, imperialine, petilidine, petilidinine, petilimine, petiline, petilinine, raddeanine.

Babaev, Shakirov, Khim. Prir. Soedin., 682 (1972)

Nakhatov *et al.*, *ibid.*, 747 (1983)

PETROSELINUM (Umbelliferae)

P. crispum.

FLAVONOID: myristicin.

MONOTERPENOIDS: apiole, 4-isopropenyl-1-methylbenzene, p-mentha-1,3,8-triene, β-phellandrene, 2-(p-tolyl)propan-2-ol.

MacLeod *et al.*, Phytochemistry, 24, 2623 (1985)

PETTERIA (Leguminosae)

P. ramentacea.

QUINOLIZIDINE ALKALOIDS: anagyrine, cytisine, 5,6-dehydrolupanine, luponine, N-methylcytisine, rhombifoline.

Wink, Withe, Phytochemistry, 24, 2567 (1985)

PETUNIA

P. hybrida.

CHALCONE: 4,2',4',6'-tetrahydroxychalcone.

De Vleming, Kho, *Phytochemistry*, **15**, 348 (1976)

PEUCEDANUM (Umbelliferae)

P. arenarium.

COUMARINS: peuarin, peuchloridin, peuchlorin, peuchlorinin.

Zheleva *et al.*, *Phytochemistry*, **15**, 209 (1976)

P. baicalense (Redow.) Koch.

COUMARINS: bergapten, deltoin, isoimperatorin, 5-methoxy-8-hydroxypsoralen, phellopterin.

Avramenko *et al.*, *Khim. Prir. Soedin*, 421 (1975)

P. bourgaei Lange in Wilk. et Lange.

COUMARINS: athamantin, 3'-hydroxy-4'-isovaleryloxy-2',3'-dihydrooroselol, 3'-hydroxy-4'-senecioyloxy-2',3'-dihydrooroselol, oroselol, oroselone, umbelliferone.

Gonzalez *et al.*, *An. Quim.*, **72**, 568 (1976)

P. dhana.

COUMARINS: 5-geranoxypsoralenn, imperatorin, isoimperatorin.

Agarwal *et al.*, *Indian J. Chem.*, **13**, 1108 (1975)

P. grande.

COUMARIN: columbianadin.

Willette *et al.*, *J. Pharm. Sci.*, **53**, 275 (1964)

P. mogoltavicum.

COUMARIN TERPENOIDS: mogoltavinin, tavimolidin.

Khasanov *et al.*, *Khim. Prir. Soedin.*, 480 (1979)

P. oreoselinum.

BENZOPYRAN: 9-acetoxy-O-isovaleryldihydrooreoselol.

COUMARIN: vaginidin.

DITERPENOID: peucelinendiol.

(B) Bohlmann *et al.*, *Chem. Ber.*, **102**, 1963 (1969)

(C) Lemmich *et al.*, *Acta Chem. Scand.*, **24**, 2893 (1970)

(T) Lemmich, *Phytochemistry*, **18**, 1195 (1979)

P. ostruthium (L.) Koch.

BENZOPYRAN: alatol.

COUMARINS: isoxyypeucedanin, tert-O-methoxyypeucedanin hydrate, oxypeucedanin, oxypeucedanin hydrate, pabulenone.

(B) Abyshev *et al.*, *Khim. Prir. Soedin.*, 722 (1973)(C) Reisch *et al.*, *Phytochemistry*, **14**, 1889 (1975)***P. palustre (L.) Moench.***

COUMARINS: columbianadin, columbianadinoxide.

Nielsen *et al.*, *Acta Chem. Scand.*, **18**, 1379 (1964)Nielsen *et al.*, *ibid.*, **18**, 2111 (1964)***P. pauciradiatum.***

COUMARINS: crocalone, radiatinal, radiatinin.

Bagirov, Belyi, *Khim. Prir. Soedin.*, 250 (1982)***P. praeruptorum Dunn.***

COUMARIN: praeruptin E.

Ye *et al.*, *Yaoxue Xuebao*, **17**, 431 (1982); *Chem. Abstr.*, 97 178696x***P. stenocarpum.***

COUMARINS: byakangelicin, 6-carboxy-7-isobutyryloxycoumarin, gosferol, heraclenol, 5-hydroxy-8-(1,1-dimethylallyl)-psoralen, stenocarpin, umbelliprenin.

Gonzalez *et al.*, *An. Quim.*, **73**, 858 (1977)***P. terebinthaceum Fisher et Turcz.***

COUMARINS: decursin, umbelliferone.

STEROIDS: α -sitosterol, stigmasterol.Yook *et al.*, *Yakhak Hoechi*, **30**, 73 (1986); *Chem. Abstr.*, 105 102407s***P. turcomanicum.***

NORDITERPENOID: oxypeucedanin hydrate.

Abyshev *et al.*, *Khim. Prir. Soedin.*, 847 (1979)***P. turgeniifolium Wolff.***COUMARINS: (\pm) -diisovalerylkhellactone, (\pm) -7-hydroxy-8-(2',3'-dihydroxy-3'-methylbutyl)coumarin, isopeucedanin, (\pm) -cis-khellactone, (\pm) -transkhellactone, (\pm) -peuformosin, turgeniifolin A, turgeniifolin B.Sun *et al.*, *Chem. Abstr.*, 100 82755v

PEUCEPHYLLUM

P. schottii Gray.

SESQUITERPENOID: peucephyllin.

Begley *et al.*, *Tetrahedron Lett.*, 1105 (1975)

PEUMUS (Monimiaceae)

P. boldus Molina.

APORPHINE ALKALOID: norisocorydine.

Ruegger, *Helv. Chim. Acta*, **42**, 754 (1959)

PFAFFIA

P. paniculata.

NORTRITERPENOIDS: 3-acetoxypfaffic acid, 3-acetoxypfaffic acid methyl ester, pfaffic acid, pfaffic acid methyl ester.

SAPONINS: pfaffosides A, B and C.

(Sap) Nishimoto *et al.*, *Phytochemistry*, **23**, 139 (1984)

(T) Takemoto *et al.*, *Tetrahedron Lett.*, 1057 (1983)

PHAEANTHUS

P. ebracteolatus.

BISBENZYLISOQUINOLINE ALKALOID: phaeanthine.

Santes, *Ber. Dtsch. Chem. Ges.*, **65**, 472 (1932)

PHALAENOPSIS (Orchidaceae)

P. amabilis (L.) Blume.

One uncharacterized pyrrolizidine alkaloid.

Brandage, Luning, *Acta Chem. Scand.*, **23**, 1151 (1969)

P. cernu-cervi Reichb.

PYRROLIZIDINE ALKALOID: cornucervine.

Brandage *et al.*, *Acta Chem. Scand.*, **25**, 349 (1971)

P. mannii.

One uncharacterized pyrrolizidine alkaloid.

Brandage, Luning, *Acta Chem. Scand.*, **230**, 1151 (1969)

PHALARIS (Gramineae)

P. aquatica.

INDOLE ALKALOID: 7-methoxygramine.

Mulvena *et al.*, *Phytochemistry*, **22**, 2885 (1983)

P. arundinacea L.

CARBOLINE ALKALOIDS: 1,2,3,4-tetrahydro-6-methoxy-2,9-dimethyl- β -carboline, 1,2,3,4-tetrahydro-6-methoxy-2-methyl- β -carboline

INDOLE ALKALOID: dimethyltryptamine.

Culvenor *et al.*, *Aust. J. Chem.*, **17**, 1301 (1964)

Vijayanagar *et al.*, *Lloydia*, **38**, 442 (1975)

P. tuberosa.

CARBOLINE ALKALOID: 1,2,3,4-tetrahydro-6-methoxy-2-methyl- β -carboline.

INDOLE ALKALOIDS: dimethyltryptamine, 5-methoxy-N,N-dimethyltryptamine, 5-methoxy-N-methyltryptamine.

Culvenor *et al.*, *Aust. J. Chem.*, **17**, 1301 (1964)

Filho *et al.*, *Phytochemistry*, **14**, 821 (1975)

PHALLINUS

P. gilvas.

STEROIDS: ergosta-7,22-dien-3 β -ol, ergostadienol acetate, ergosterol.

TRITERPENOID: trametenolic acid.

Ahmad *et al.*, *Phytochemistry*, **15**, 2000 (1976)

P. pomaceus.

COUMARINS: 3,14'-bihispidinyl, hispidin.

Klaar *et al.*, *Chem. Ber.*, **103**, 1058 (1977)

PHARBITIS

P. nil.

GIBBERELLINS: gibberellin A-26, gibberellin A-27, gibberellin A-29, pharbitic acid.

Yokota *et al.*, *Planta*, **87**, 180 (1969)

PHASCOLION

P. strombi.

GUANIDINES: (-)-phascoline, phascolosomine.

Guillou *et al.*, *J. Biol. Chem.*, **248**, 5668 (1973)

PHASEOLUS (Papilionaceae)

P. aureus Roxb.

AMINO ACID: τ -glutamylcystenyl- β -alanine.

COUMESTANS: aureol, phaseol.

(Am) Carnegie, *Biochem. J.*, **89**, 459 (1963)

(Am) Carnegie, *ibid.*, **89**, 471 (1963)

(C) O'Neill, *Z. Naturforsch.*, **38C**, 698 (1983)

P. coccineus.

ISOFLAVONOIDS: cyclokievitone, daidzein, demethylvestitol, 7,4'-dihydroxy-5,2'-dimethoxyisoflavone, genistein, glycuol, 2'-hydroxydihydrodaidzein, 2'-hydroxygenistein, 2'-hydroxisoprunetin, isoferreirin, isoprunetin, kievitone, phaseollidin, phaseollin, phaseollinisoflavone, phaseoluteone.

GIBBERELLIN: 3-O- β -D-glucopyranosylgibberellin A-8.

DITERPENOIDS: abscisic acid, 7 β ,13-dihydroxykaurenolide, 16,17-mono-O-propylidene-6 α ,7 α ,16 β ,17-tetrahydroxykauranic acid, ent-6 α ,7 α ,13-trihydroxykaurenoic acid, ent-6 α ,7 α ,17-trihydroxykauranoic acid.

(Gib) Schreiber *et al.*, *Tetrahedron Lett.*, 4285 (1967)

(I) Adesanya *et al.*, *Phytochemistry*, **24**, 2699 (1985)

(T) Gaskin, McMillan, *ibid.*, **14**, 1575 (1975)

P. multiflorus.

GIBBERELLINS: bamboo gibberellin, gibberellin A-18, gibberellin A-20.

SESQUITERPENOID: phaseic acid.

Pryce *et al.*, *Tetrahedron Lett.*, 5009 (1967)

MacMillan *et al.*, *J. Chem. Soc., Chem. Commun.*, 124 (1968)

P. radiatus.

SAPONINS: adzukisapogenin, adzukisaponin.

Miyamichi, Onishi, *Chem. Zentralbl.*, I, 3195 (1932)

P. vulgaris.

ACID: phaselic acid.

BENZOPYRANS: phaseollidin, phaseollin.

FLAVAN: phaseollinisoflavan.

GIBBERELLINS: gibberellin A-37, gibberellin A-38.

SAPONINS: phaseolides A, B, C, D and E.

(Acid) Scarpati *et al.*, *Gazz. Chim. Ital.*, **90**, 212 (1960)

(B, F) Burden *et al.*, *Tetrahedron Lett.*, 4175 (1972)

(G, Sap) Hiraga *et al.*, *Agr. Biol. Chem.*, **36**, 354 (1972)

PHEBALIUM (Rutaceae)

P. drummondi.

COUMARIN: phebalosin.

Chow *et al.*, *Aust. J. Chem.*, **19**, 483 (1966)

P. nudum.

COUMARIN: phebalin.

ESTER: phebalarin.

Briggs *et al.*, *Tetrahedron*, **2**, 256 (1958)

P. rude.

DITERPENOIDS: 15 α -hydroxykaur-16-en-19-oic acid, kaur-16-en-19-oic acid.
 Carman *et al.*, *Aust. J. Chem.*, **19**, 861 (1966)

P. squamulosum Vent.

SESQUITERPENOID: squamulosone.
 Batey *et al.*, *Aust. J. Chem.*, **24**, 2173 (1971)

P. tuberculosum.

COUMARIN: phebalosin.
 Chow *et al.*, *Aust. J. Chem.*, **19**, 483 (1966)

PHEGOPTERIS

P. polypodioides.

FLAVONE: phegopolin.
 Dawson *et al.*, *Aust. J. Chem.*, **18**, 1871 (1965)

PHELLINE

P. billardieri.

HOMOERYTHRINA ALKALOID: phellibidine.
 Langlois *et al.*, *Phytochemistry*, **19**, 1279 (1980)

P. brachyphylla.

HOMOERYTHRINA ALKALOIDS: homoerythratine, O-methylphellinine, phellinine.
 Debourges, Langlois, *J. Nat. Prod.*, **45**, 163 (1982)

P. comosa.

HOMOERYTHRINA ALKALOIDS: schelhammericine, 3-epi-schelhammericine,
 schelhammerine, 3-epi-schelhammerine.
 Langlois *et al.*, *Bull. Soc. Chim. Fr.*, **10**, 3535 (1970)

P. lucida.

HOMOERYTHRINA ALKALOID: 1,2-dihydrocomosidine, halidinine.
 Razofimbelo *et al.*, *C.R. Acad. Sci.*, **301**, 519 (1985)

PHELLINUS (Poriales)

***P. pomaceus* (Pers.) Maire.**

TRITERPENOIDS: javeroic acid, phellinic acid.

Gonzalez *et al.*, *J. Chem. Soc., Perkin I*, 551 (1986)

PHELLODENDRON (Rutaceae)

***P. amurense* Rupr.**

BENZOPYRAN: amurensin.

FLAVONOIDS: phellamurin, phellatin.

PROTOBERBERINE ALKALOIDS: berberine, palmatine.

TRITERPENOID: limonin.

(A) Gupta, Spenser, *Can. J. Chem.*, **43**, 133 (1965)

(B) Hasegawa *et al.*, *J. Am. Chem. Soc.*, **75**, 5507 (1953)

(F) Glyzin *et al.*, *Khim. Prir. Soedin.*, 762 (1970)

(F) Otryahenkova *et al.*, *ibid.*, 662 (1976)

(T) Enina, *Nauka-Prakt. Farm.*, 90 (1974); *Chem. Abstr.*, 86 40157p

***P. chinense*.**

FLAVONOID: phellarin.

Ostryashenkova *et al.*, *Khim. Prir. Soedin.*, 662 (1976)

***P. japonicum*.**

FLAVONOIDS: phellarin, phellodendroside.

Ostryachenkova *et al.*, *Khim. Prir. Soedin.*, 662 (1976)

***P. lavallei*.**

FLAVONE: phellatin.

Glyzin *et al.*, *Khim. Prir. Soedin.*, 762 (1970)

***P. piriforme*.**

FLAVONOID: phellarin.

Ostryachenkova *et al.*, *Khim. Prir. Soedin.*, 662 (1976)

***P. sacchalense*.**

FLAVONOID: phellarin.

Ostryachenkova *et al.*, *Khim. Prir. Soedin.*, 662 (1976)

PHELLOPTERUS

P. littoralis.

BENZOPYRAN: phellopterin.

Chatterjee *et al.*, *Arch. Pharm.*, **295**, 248 (1962)

PHILLIPSIA

P. carminia.

CAROTENOID: phillipsiaxanthin.

Arpin, Liaaen-Jensen, *Bull. Soc. Chim. Biol.*, **49**, 527 (1967)

PHILLYREA (Oleaceae)

P. latifolia L.

TRITERPENOIDS: betulin, lupeol, ursolic acid.

Stout, Stevens, *J. Org. Chem.*, **28**, 1259 (1963)

P. media.

GLUCOSIDE: oleuropeine.

IRIDOID: ligustroside.

Popov *et al.*, *Dokl. Bolg. Akad. Nauk*, **28**, 1509 (1975); *Chem. Abstr.*, 84 102359a

PHLOJODICARPUS

P. sibiricus.

PYRANOCOUMARINS: isoimperatorin, methylbutanoate), saxdorphone, umbelliferone.

cis-kellactone-3'-O-acetyl-4'-(2-

Gantimur *et al.*, *Khim. Prir. Soedin.*, 108 (1986)

PHLOMIS (Labiatae)

P. fruticosa L.

IRIDOID: lamiide, lamiidioside, phlomiol.

Bianco *et al.*, *Gazz. Chim. Ital.*, **107**, 67 (1977)

P. umbrosa Turez.

IRIDOID: umbroside.

Chung *et al.*, *Soengyak Hakhoe Chi*, **12**, 82 (1981)

PHLOX (Polemoniaceae)

P. decussata.

AMINO ACID: oxypinnatanine.

Pollard, Steward, *Plant Physiol., Suppl. 31 (XI)* (1956)

PHOEBE (Lauraceae)

P. cinnamomifolia.

PHENOLIC: (-)-catechin.

SESSQUITERPENOID: α -faniessene.

Martinez-Alvares *et al.*, *Rev. Latinoam. Quim.*, **14**, 76 (1983)

P. clemensii Allan.

APORPHINE ALKALOID:

2,11-dihydroxy-1,10-dimethoxyaporphine.

Johns, Lamberton, *Aust. J. Chem.*, **20**, 1277 (1967)

P. formosana.

SPIROISOQUINOLINE ALKALOID: lauformine.

Lu, Tsei, *Heterocycles*, **22**, 1031 (1984)

P. molicella.

APORPHINE ALKALOID: norpreocoteine.

Stermitz, Castro, *J. Nat. Prod.*, **46**, 913 (1983)

PHOENIX (Palmae)

P. dactylifera.

STEROIDS: 5α -campesterane-3,6-dione, 5α -stigmast-22-ene-3,6-dione.

DITERPENOID: 3-O-caffeoyleshikimic acid.

(S) Fernandez *et al.*, *Phytochemistry*, **22**, 2087 (1983)

(T) Harbourne *et al.*, *Phytochemistry*, **13**, 1557 (1974)

P. dactylifera var. zahdi.

PHENOLICS: chlorogenic acid, isochlorogenic acid.

Abdul-Wahab *et al.*, *Bull. Coll. Sci. Univ. Baghdad*, **14**, 239 (1973); *Chem. Abstr.*, 84 176722k

PHOLIDOTA

P. chinensis.

TRITERPENOIDS: cyclopholidone, cyclopholidonol.

Lin *et al.*, *Planta Med.*, 4 (1986)

PHOLIOTA (Agericaceae)

P. articulata.

PHENANTHROPYRANS: isoflavidinin, isooxoflavidinin.

Majumder *et al.*, *Phytochemistry*, **21**, 2713 (1982)

P. imbricata.

PHENANTHROPYRAN: imbricatin.

Majumder *et al.*, *Phytochemistry*, **21**, 2713 (1982)

PHOMA

P. exigua var. non-oxydabilis.

SESQUITERPENOID: phomerone.

Riche *et al.*, *Tetrahedron Lett.*, 2765 (1974)

P. lingam.

ALKALOID: phomamide.

Ferezou *et al.*, *J. Chem. Soc., Perkin I*, 113 (1980)

PHORMIUM (Agavaceae/Liliaceae)

P. tenax J.R. et G. Forst.

TRITERPENOIDS: isocucurbitacin D, 3-epi-cucurbitacine D.

Kupchan *et al.*, *Phytochemistry*, **17**, 767 (1978)

PHOTINIA (Rosaceae)

P. glabra.

TRITERPENOID: epi-friedelenol.

Brownlie *et al.*, *Chem. Ind.*, **686**, 1156 (1955)

PHRYMA

P. leptostachya.

DIOXOBICYCLOCLOOCTANES: phrymarolin I, phrymarolin II.

Taniguchi *et al.*, *Agr. Biol. Chem.*, **36**, 1489 (1972)

PHYLICA

P. fengeriana.

APORPHINE ALKALOID: lauroscholtzine.

Baarschers, Arndt, *Tetrahedron*, **21**, 2155 (1965)

P. rogersii Pillans.

APORPHINE ALKALOIDS: lauroscholtzine, N-methyllaurotetanine, (+)-reticuline, rogersine.

Baarschers, Arndt, *Tetrahedron*, **21**, 2155 (1965)

Baarschers, Arndt, *ibid.*, **21**, 2159 (1965)

PHYLLANTHUS (Euphorbiaceae)

P. brasiliensis.

SESQUITERPENE ESTER: phyllanthoside

Kupchan *et al.*, *J. Am. Chem. Soc.*, **99**, 3199 (1977)

P. discoides Muell. Arg.

ALKALOIDS: phyllalbine, phyllanthine, phyllantidine, allo-securinine.

Horii *et al.*, *Tetrahedron Lett.*, 1877 (1972)

P. niruri.

ALKALOIDS: 4-methoxynorsecurinine, nirurine.

FLAVONOIDS: astragalin, isoquercitrin, quercetin, quercitrin, rutin.

LIGNANS: hypophyllanthin, lintetralin, niranthin, nirtetralin, phyllanthin, phyltetralin.

PHTHALIC ESTER: phyllester. Steroid β -sitosterol.

(A) Mulchandani, Hassarajani, *Planta Med.*, **50**, 104 (1984)

(A) Petchnaree *et al.*, *J. Chem. Soc., Perkin* **1**, 1551 (1986)

(F) Nara *et al.*, *Plant Med. Phytother.*, **11**, 82 (1977)

(L, P, S) Singh *et al.*, *Indian J. Chem.*, **25B**, 600 (1986)

P. orbiculatus L.C.Rich.

FLAVONOIDS: astragalin, isoquercitrin, quercetin, quercitrin, rutin.

Nara *et al.*, *Plant Med. Phytother.*, **11**, 82 (1977)

P. reticulatus.

STEROID: sitosterol.

TRITERPENOIDS: betulinic acid, friedelin, 21α -hydroxyfriedel-4(23)-en-3-one.

Hui *et al.*, *Phytochemistry*, **15**, 797 (1976)

P. urinaria L.

FLAVONOIDS: astragalin, isoquercitrin, quercetin, quercitrin, rutin.

Nara *et al.*, *Plant Med. Phytother.*, **11**, 82 (1977)

PHYLLANTHRON

P. comorense.

NAPHTHOPYRANS: dehydrotectol, tectol.

Joshi *et al.*, *Phytochemistry*, **13**, 663 (1944)

PHYLLOCLADUS (Podocarpaceae)

P. alpinus.

DITERPENE: phyllocladene.

Briggs, *J. Soc. Chem. Ind.*, **56**, 137 (1937)

P. rhomboideus.

DITERPENE: phyllocladene.

Briggs, *J. Soc. Chem. Ind.*, **56**, 137 (1937)

PHYLLODOCE (Ericaceae)

P. nipponica.

STEROID: β -sitosterol.

TRITERPENOIDS: α -amyrin, betulinic acid, lupeol, oleanolic acid, taraxerol, ursolic acid.

Kawai *et al.*, *Chem. Abstr.*, 88 34499b

PHYLLOGEITON

P. zeyheri Sond.

FLAVANONES: aromadendrin, kaempferol, naesopsin, zeyherin.

Volstaedt, Roux, *Tetrahedron Lett.*, 1647 (1971)

PHYLLOSPADIX

P. iwatensis.

ALKALOID: phyllospadine.

Takagi *et al.*, *Agr. Biol. Chem.*, **44**, 3019 (1980)

PHYLLOSTACHYS (Gramineae)

P. edulis.

GIBBERELLIN: gibberellin A-19.

Tamura *et al.*, *Tetrahedron Lett.*, 2465 (1966)

PHYMASPERMUM (Compositae/Anthemideae)

P. parvifolium.

SESQUITERPENOID: phymaspermone.

Bohlmann, Zdero, *Tetrahedron Lett.*, 851 (1972)

PHYSALIS (Solanaceae)

P. alkekengi L.

TROPANE ALKALOIDS: hygrine, 3-tigloyltropane.

CAROTENOID: physalien.

STEROID: physalactone.

(A) Zito, Leary, *J. Pharm. Sci.*, **55**, 1150 (1966)

(Car.) Kuhn, Wiegund, *Helv. Chim. Acta*, **12**, 499 (1929)

(S) Masslenikova *et al.*, *Khim. Prir. Soedin.*, 531 (1977)

P. alkekengi var. francheti.

BITTER PRINCIPLES: physalins A and B.

Matsuura *et al.*, *Phytochemistry*, **19**, 1175 (1980)

P. angulata.

BITTER PRINCIPLES: physalins E, F, G, H, I, J and K.
 Row *et al.*, *Phytochemistry*, **17**, 1641 (1978)

P. francheti.

BITTER PRINCIPLES: physalins A, B and C.
 CAROTENOID: physalien.
 STEROIDS: physanol A, physanol B.
 Sharma *et al.*, *Phytochemistry*, **13**, 2239 (1974)

P. ixocarpa Brot.

TERPENOIDS: ixocarpalactone A, ixocarpalactoneB.
 Kirson *et al.*, *J. Chem. Res.*, 1178 (1979)

P. lancifolia.

BITTER PRINCIPLES: physalins E, F, G, H, I and J.
 Row *et al.*, *Phytochemistry*, **17**, 1641 (1978)
 Row *et al.*, *ibid.*, **17**, 1647 (1978)

P. minima.

BITTER PRINCIPLES: physalins A, B, B-1 and D.
 STEROIDS: withaphysalins A, B and C.
 Glotter *et al.*, *J. Chem. Soc., Perkin I*, 1370 (1975)

P. peruviana.

STEROIDS: 4-deoxyphysalolactone, 2,3-dihydrowithanolide E, 3-O- β -D-glucopyranoside, 4 β -hydroxywithanolide E.
 4 β -HYDROXYWITHANOLIDE F.; physalactone B, physalin A, physalolactone, physalolactone B, withanolide E, withaperuvin A.
 Kirson *et al.*, *Phytochemistry*, **15**, 340 (1976)
 Salai *et al.*, *J. Chem. Res. Synop.*, 152 (1983)

P. peruviana L. var. 'Varansai'.

STEROIDS: 4-deoxyphysalolactone, perulactone.
 Frolow *et al.*, *J. Chem. Soc., Perkin I*, 1029 (1981)

P. pubescens L.

STEROIDS: physapubenolide, physapubescin, pubescenin, pubescenol.
 Row *et al.*, *Phytochemistry*, **23**, 427 (1984)
 Glotter *et al.*, *J. Chem. Soc., Perkin I*, 2241 (1985)

P. viscosa.

STEROIDS: viscosalactone A, viscosalactone B, withphysanolide.
 Pelletier *et al.*, *Heterocycles*, **15**, 317 (1981)

PHYSCIA (Hepaticae)

P. aipolia (Ehrh. ex Humb.) Furnrohr.

TRITERPENOIDS: 6,22-hopanediol 20-acetate, leucotylin 6-acetate, leucotylin 6,16-diacetate.

Elix *et al.*, *Aust. J. Chem.*, **35**, 641 (1982)

P. caesia (Hoffm.) Furnrohr.

TRITERPENOID: zeorin.

Huneck, Lehn, *Bull. Soc. Chim.*, 1702 (1963)

PHYSOCHLAINA (Solanaceae)

P. alaica E.Korst.

TROPANE ALKALOIDS: apoatropine, apohyoscine, α -belladonine, β -belladonine, 6-hydroxyhyoscyamine N-oxide, hyoscyamine, 6-oxohyoscyamine, 6-oxyatropine, physochlaine, scopolamine.

Mirzamatov *et al.*, *Khim. Prir. Soedin.*, 415 (1974)

P. dubia Pasch.

TROPANE ALKALOIDS: 6-hydroxyhyoscyamine, 6-hydroxyhyoscyamine diacetate.

Mirzamatov *et al.*, *Khim. Prir. Soedin.*, 493 (1972)

P. orientalis (MB.) G.Don.

TROPANE ALKALOIDS: apoatropine, hyoscyamine, scopolamine, tropine.

Mirzamatov *et al.*, *Khim. Prir. Soedin.*, 493 (1972)

PHYSOSTIGMA (Leguminosae)

P. venenosum Balf.

PHYSOSTIGMINE ALKALOIDS: eseramine, eseridine, physostigmine, physovenine.

UNCHARACTERIZED ALKALOIDS: calabacine, calabatine.

Dopke, *Naturwissenschaften*, **50**, 713 (1963)

PHYTOLACCA (Phytolaccaceae)

P. acinosa.

TRITERPENOIDS: epi-acetylaleuritiolic acid, acinosolic acid, jaligonic acid, phytolaccanol, spergulagenic acid.

Razdan *et al.*, *Phytochemistry*, **21**, 2339 (1982)

P. americana.

BENZODIOXIN: americanin.

SAPONINS: phytolaccasaponins A, B, C, D, E and G, phytolacoside A, phytolacoside B, phytolaccatoxin.

TRITERPENOIDS: 3-acetylaleuritolic acid, 3-oxo-30-carbomethoxy-24-norolean-12-en-29-oic acid, phytolaccinic acid, phytolaccogenic acid, pokeberrygenin.

(B) Woo *et al.*, *Tetrahedron Lett.*, 3239 (1978)

(Sap, T) Kang, Woo, *J. Nat. Prod.*, **43**, 516 (1980)

P. dodecandra L.

SAPONINS: lemnatoxin, lemnatoxin C.

Parkhurst *et al.*, *Can. J. Chem.*, **52**, 702 (1974)

P. esculenta.

TRITERPENOIDS: esculentosides A, B, C, D, E and F, jaligonic acid.

Woo, *Lloydia*, **36**, 326 (1973)

P. octandra.

SAPONINS: yiamoloside A, yiamoloside B.

Moreno, Rodriguez, *Phytochemistry*, **20**, 1446 (1981)

P. rivinoides.

TRITERPENOID: 20-carbomethoxyoleanic acid.

Gonzalez *et al.*, *An. Quim.*, **68**, 1057 (1972)

PICEA (Pinaceae)

P. abies (L.) Karsten.

DITERPENOID: (3R)-(-)-geranylinalool.

TRITERPENOIDS: 4 α -methoxyserrat-14-en-21 β -ol, 21 α -methoxyserrat-14-en-3-one.

Kimland, Norin, *Acta Chem. Scand.*, **21**, 825 (1967)

Norin, Winell, *ibid*, **26**, 2289 (1972)

P. ajanensis.

ACIDS: p-coumaric acid, ferulic acid, p-hydroxybenzoic acid, protocatechuic acid, vanillic acid.

DITERPENOIDS: abietic acid, dehydroabietic acid, isopimara-8,15-dien-18-oic acid, isopimaric acid, laevopimaric acid, neoabietic acid, palustric acid, pimaric acid, sandaracopimaric acid.

GLUCOSIDES: p-coumaric acid β -glucoside, ferulic acid β -glucoside, p-hydroxybenzoic acid β -glucoside, protocatechuic acid β -glucoside, vanillic acid β -glucoside.

MONOTERPENOIDS: camphene, 3-carene, p-cymol, limonene, myrcene, β -phellandrene, α -pinene, β -pinene, τ -terpinene.

SESQUITERPENOID: ajanol.

(A, G) Ivanova et al., *Khim. Prir. Soedin.*, 415 (1975)

(T) Babkin et al., *ibid.*, 736 (1978)

(T) Schmidt et al., *Izv. Sib. Otd. Akad. Nauk SSSR*, 133 (1978); *Chem. Abstr.*, 88 166736m

P. glehnii L.

MONOTERPENOIDS: camphene, 3-carene, p-cymol, limonene, myrcene, β -phellandrene, α -pinene, β -pinene, τ -terpinene, terpinolene.

SESQUITERPENOID: gleenol.

DITERPENOIDS: abietic acid, dehydroabietic acid, isopimara-8,15-dien-18-oic acid, isopimaric acid, laevopimaric acid, neoabietic acid, palustric acid, pimaric acid, sandaracopimaric acid.

Kurvyakov et al., *Khim. Prir. Soedin.*, 164 (1979)

P. koraiensis.

MONOTERPENOIDS: camphene, 3-carene, p-cymol, limonene, myrcene, β -phellandrene, α -pinene, β -pinene, τ -terpinene, terpineol.

DITERPENOID: abietic acid, dehydroabietic acid, isopimara-8(15)-en-18-oic acid, isopimaric acid, laevopimaric acid, neoabietic acid, neocembrene, palustric acid, pimaric acid, sandaracopimaric acid.

Schmidt et al., *Khim. Prir. Soedin.*, 694 (1970)

Schmidt et al., *Izv. Sib. Otd. Akad. Nauk SSSR*, 133 (1978); *Chem. Abstr.*, 88 166736m

P. obovata.

DITERPENOIDS: R(-)-cembrene A, neocembrene.

FLAVONOIDS: dihydroquercetin, kaempferol, quercetin.

GLUCOSIDES: p-coumaric acid β -glucoside, 3,4-dihydroxyacetophenone glucoside, ferulic acid β -glucoside, p-hydroxyacetophenone glucoside, p-hydroxybenzoic acid β -glucoside, 3-methoxy-4-hydroxyacetophenone glucoside, vanillic acid β -glucoside.

MONOTERPENOIDS: 3-carene, β -phellandrene, α -pinene, β -pinene.

PHENOLICS: p-coumaric acid, ferulic acid, p-hydroxybenzoic acid, protocatechuic acid, vanillic acid.

STILBENES: astringenin, astringin, isorhapontigenin, isorhapontin, resveratrol.

(G, P) Ivanova et al., *Khim. Prir. Soedin.*, 107 (1976)

(F, P) Shibanova et al., *Chem. Abstr.*, 87 197315g

(T) Schmidt *et al.*, *ibid.*, 694 (1970)

P. schrenkiana.

MONOTERPENOID: (+)-cis- α -bisabolene, camphene, β -carene, p-cymol, dipentene, geraniol, linalool, β -phellandrene, α -pinene, β -pinene, terpinolene.

Pentegova *et al.*, *Khim. Prir. Soedin.*, 459 (1987)

P. sitchensis L.

TRITERPENOID: 3 β ,21 α -dimethoxyserrat-14-ene, 3 α -methoxy-21 β -hydroxysserratene, 3 β -methoxy-21 α -hydroxysserratene, 3 β -methoxy-21 β -hydroxysserratene, 3 α -methoxysserrat-13-en-21 β -ol, 3 α -methoxysserrat-14-en-21 β -ol, 3 β -methoxysserrat-14-en-21 β -ol, 3 β -methoxysserrat-14-en-21-one.

Rogers, Rozon, *Can. J. Chem.*, **48**, 1021 (1970)

PICRADENIOPSIS

P. woodhousei.

SESQUITERPENOID: 3,10-dihydroxy-2-oxo-8-tigloyloxy-3,11(13)-guaiadien-12,6-olide.

Herz *et al.*, *J. Org. Chem.*, **45**, 3163 (1980)

PICRALIMA

P. klaineanas Pierre.

CARBOLINE ALKALOIDS: akuammicine, (\pm)-akuammicine, akuammidine, akuammigine, akuammigine hydrate, akuammiline, akuammamine, picraline.

Clinquart, *J. Pharm. Belg.*, **9**, 187 (1927)
Henry, Sharp, *J. Chem. Soc.*, 1950 (1927)

P. nitida Stapf.

CARBOLINE ALKALOIDS: burnamine, picraphylline.

Taylor *et al.*, *Bull. Soc. Chim. Fr.*, 392 (1964)

PICRAMNIA

P. pentandra.

TRITERPENOID: 3-epi-betulinic acid.

Robinson *et al.*, *Phytochemistry*, **9**, 907 (1970)

PICRASMA (Simaroubaceae)

P.

AILANTHOIDES: Carboline alkaloid 1-hydroxymethyl- β -carboline.

TERPENOIDS: nigakialcitol, nigakiheniacetals A, B, C, D, E and F, nigakilactones A, B, C, D, E, F, G, H, I, J, K, L, M and N, picrasinides A, B, C, D, E, F and G.

(A) Kondo *et al.*, *Chem. Pharm. Bull.*, **21**, 837 (1973)

(T) Okano *et al.*, *Tennen Yuti Kagobutsu Toronkai Koen Yoshishu*, **26**, 54 (1983)

P. crenata.

UNCHARACTERIZED ALKALOID: sigmine.

Pereira, *Ann. Fac. Med., Univ. San Paulo*, **14**, 269 (1938)

P. excelsa.

CARBOLINE ALKALOID: N-methoxy-1-vinyl- β -carboline.

Wagner *et al.*, *Planta Med.*, **36**, 113 (1979)

P. javanica Bl.

CARBOLINE ALKALOID: 4-methoxy-1-vinyl- β -carboline.

Johns *et al.*, *Aust. J. Chem.*, **23**, 629 (1970)

P. quassoides D.Don. Benn.

CARBOLINE ALKALOIDS: 1-carboxy- β -carboline, picrasidines A, B, L, M and P.

QUASSINOIDS: kumijians A, B, C and G, picrasins A, B, C, D, E, F, G, N, O and Q, kusulactone.

(A) Koike *et al.*, *Chem. Pharm. Bull.*, **34**, 2090 (1986)

(Q) Ohmoto *et al.*, *ibid.*, **33**, 4901 (1985)

PICRIS (Compositae)

P. echiooides L. (*Helminzia echiooides (L.) Gaertn.*).

Two sesquiterpenoids.

Bohlmann *et al.*, *Phytochemistry*, **20**, 2029 (1981)

P. fel-terrae.

TRITERPENOIDS: picfeltarragenins I, II, III, IV, V and VI. Gan *et al.*, *Yuaxue Xuebao*, **40**, 812 (1982)

P. hieracioides L. var. japonica Regel.

SESQUITERPENOIDS: picrisides A, B and C.

PHENOLICS: crepidiaside A, 1 β ,13-dihydrolactucin, ixerin F, lactucin.

Nishimura *et al.*, *Chem. Pharm. Bull.*, **34**, 2518 (1986)

PICRIDIUM

P. crystallinum.

SESQUITERPENOID: picridine.

Gonzalez *et al.*, *An. Quim.*, **66**, 419 (1970)

PICROLEMMA

P. pseudocoffea.

TERPENOIDS: 15-deacetylsergeolide, sergeolide.

Polonsky *et al.*, *J. Nat. Prod.*, **47**, 994 (1984)

PICRORHIZA

P. kurrooa.

IRIDOID: picroside I and II.

SAPONIN: 25-acetoxy-2 β -glucosyloxy-3,16,20-trihydroxy-9-methyl-18-norlanosta-5,23-dien-22-one.

TERPENOID: kutkiol.

Laurie *et al.*, *Phytochemistry*, **24**, 2659 (1985)

PIERIS (Ericaceae)

***P. japonica* D.Don.**

STEROID: β -sitosterol.

TOXINS: asebotoxins I, II, III, IV, V, VI, VII, VIII, IX and X, picroside A, pieristoxins A, B, C, D, E, F, G, H, I, J and K.

TRITERPENOIDS: α -amyrin, betulinic acid, lupeol, oleanolic acid, taraxerol, ursolic acid.

(S, T) Kawai *et al.*, *Chem. Abstr.*, 88 34499b

(Tox) Hikino *et al.*, *Chem. Pharm. Bull.*, **28**, 3124 (1980)

***P. taiwanensis*.**

FLAVONOIDS: asebotin, hyperin, phloridzin, quercetin 3-arabinoside.

STEROIDS: campesterol, β -sitosterol.

TRITERPENOIDS: β -amyrin, lupeol, oleanolic acid.

Chou *et al.*, *Chem. Abstr.*, 100 82782b

PIERREODENDRON (Simaroubaceae)

***P. kerstingii* Little.**

AMIDE: aurantiamide acetate.

CARBAZOLE ALKALOID: 8-hydroxyxanthin-6-one.

QUASSINOIDS: 2'-acetylglucarubin, ailanthinone, dehydroailanthinone, excelsin, glucarubin, glucarubinone.

Kupchan *et al.*, *J. Org. Chem.*, **40**, 654 (1975)

Ampofo *et al.*, *J. Nat. Prod.*, **48**, 863 (1985)

PILGERODENDRON

***P. uniferus*.**

SESQUITERPENOID: (-)- δ -cadinol.

Motl *et al.*, *Collect. Czech. Chem. Common.*, **23**, 1297 (1958)

PILOCARPUS (Rutaceae)

***P. jaborandi* Holmes.**

FURANE ALKALOIDS: isopilocarpidine, isopilocarpine, pilocarpidine, pilocarpine.
Wagenaar, *Pharm. Weekbl.*, **67**, 285 (1930)

***P. microphyllus* Stapf.**

FURANONE ALKALOIDS: iso-epi-pilosine, isopilosine, pilocarpine, pilosine.
Roche, Lynch, *Analyst*, **73**, 311 (1948)

***P. pennatifolius* Lem.**

FURANE ALKALOIDS: isopilocarpine, pilocarpine.
Jowett, *J. Chem. Soc.*, **77**, 483 (1900)

***P. racemosus* Wahl.**

FURANE ALKALOID: pilocarpine.
Preobrashenski *et al.*, *Ber. Dtsch. Chem. Ges.*, **63**, 460 (1930)

***P. sellianus* Engl. (*P. pennatifolius* Lem.)**

FURANE ALKALOID: pilocarpine.
Roche, Lynch, *Analyst*, **73**, 311 (1948)

***P. spicatus*.**

FURANE ALKALOID: pseudopilocarpine.
Petit, Polonsky, *J. Pharm.*, **5**, 369 (1897)

***P. trachyophus*.**

FURANE ALKALOID: pilocarpine.
Gerrard, *Pharm. J.*, **5**, 865 (1875)
Gerrard, *ibid.*, 965 (1875)

PILOCEREUS (Cactaceae)

***P. chrysacanthus*.**

AMINE ALKALOID: N-methyl-3,4-dimethoxyphenethylamine.
Bruhn *et al.*, *Phytochemistry*, **16**, 622 (1977)

***P. guerreroronicis*.**

ISOQUINOLINE ALKALOID: O-methylcorypalline.

Lindgren *et al.*, *Lloydia*, **39**, 464 (1976)

PIOPLEURA

P. kozo-poljanskii.

BENZOPYRAN: pilopleurine.

Avvamenko *et al.*, *Khim. Prir. Soedin.*, **18** (1973)

PIMELEA (Thymelaeaceae)

P. prostrate (J.R. et G.Forst.) Willd.

DITERPENOID: prostratin.

McCormick *et al.*, *Tetrahedron Lett.*, **1735** (1976)

P. simplex.

TRITERPENOID: simplexin.

Roberts *et al.*, *Aust. J. Chem.*, **51**, 325 (1975)

PIMPINELLA (Umbelliferae)

P. diversifolia.

ALKALOID: arnottianamide.

COUMARIN: isoangenomelin.

(A) Ishii *et al.*, *Tetrahedron Lett.*, **1203** (1976)

(C) Bohlmann *et al.*, *Chem. Ber.*, **108**, 433 (1975)

P. thellungiata Wolff.

PHENOLIC: 3-methoxy-5-(1-ethoxy-2'-hydroxyphenyl)phenol.

STEROIDS: β -sitosterol, τ -sitosterol.

Wang *et al.*, *Yaoxue Xuebao*, **18**, 522 (1983); *Chem. Abstr.*, **100** 64982n

PINELLIA

P. pedatisecta.

ACID: palmitic acid.

AMINE ALKALOIDS: pedatisectine A, pedatisectine B, pedisectine A, pedisectine B.

CARBOLINE ALKALOIDS: 1-acetyl- β -carboline, β -carboline.

PYRIDINE ALKALOID: 2-methyl-3-hydroxypyridine.

AMIDE: nicotinamide.

STEROID: β -sitosterol.

URACILS: 5-methyluracil, uracil.

Qin *et al.*, *Zhongcaoyao*, **17**, 197 (1986); *Chem. Abstr.*, 105 94501a

PINGUICULA (Lentibulariaceae)

P. vulgaris L.

FLAVONE: scutellarin

IRIDOIDS: globularin, globularicisin, scutellarioside II.

(F) Arisawa *et al.*, *Chem. Pharm. Bull.*, **18**, 916 (1970)

(I) Marco, *J. Nat. Prod.*, **48**, 338 (1985)

PINUS (Pinaceae)

P. albicans.

SESQUITERPENOID: albicaulene.

Haagen-Smith *et al.*, *J. Am. Pharm. Assoc.*, **40**, 557 (1951)

P. banksiana.

DITERPENOID: agathadiol.

NORDITERPENOIDS: 18-norabietta-8,11,13-trien-4-ol, 19-norabietta-8,11,13-trien-4-ol.

TRITERPENOIDS: serrat-14-ene-3 α ,21 β -diol, serrat-14-ene-3 β ,21 α -diol.

Enzell, *Acta Chem. Scand.*, **15**, 1303 (1961)

Tsuda *et al.*, *Tetrahedron Lett.*, 1279 (1964)

Rowe, *ibid.*, 2347 (1964)

P. caribea.

DITERPENOID: isodextropimarinal.

Harris, Sanderson, *J. Am. Chem. Soc.*, **70**, 3870 (1948)

P. Clausena.

FLAVANONE: pinobanksin 7-methyl ether.

Lindstedt *et al.*, *Acta Chem. Scand.*, **4**, 1042 (1950)

P. contorta.

DITERPENOIDS: agathadiol, agatholal, (+)-13-epi-manool, 18-norlabda-8(17),13-diene-4 α ,15-diol, epi-torulosol.

GLUCOSIDES: benzoic acid β -D-glucopyranoside, chavicol β -D-glucopyranoside, rheosmin β -D-glucopyranoside, zingerone β -D-glucopyranoside.

(Gly) Iguchi *et al.*, *Phytochemistry*, **16**, 1587 (1977)

(T) Rowe, Scroggins, *J. Org. Chem.*, **29**, 1554 (1964)

(T) Manning, *Aust. J. Chem.*, **26**, 2735 (1973)

P. densiflora.

SESQUITERPENE: longifolene.

Corey *et al.*, *J. Am. Chem. Soc.*, **86**, 438 (1964)

P. edulis.

DITERPENOID: 8,9-isopimaric acid.

Joye *et al.*, *J. Org. Chem.*, **31**, 320 (1964)

P. eldarica.

DITERPENOIDS: δ -cadinene, τ -cadinene, caryophyllene, chamazulene, humulene, longifolene, α -muurolene.

MONOTERPENOIDS: bornyl acetate, camphor, citral, terpineal.

Kolesnikova *et al.*, *Rastit. Resur.*, **13**, 351 (1977); *Chem. Abstr.*, 87 35863g

P. elliottii.

DITERPENOID: trans-communic acid.

Joye *et al.*, *J. Org. Chem.*, **30**, 429 (1965)

P. jeffreyi.

PIPERIDINE ALKALOID: pinidine.

Tallent, Horning, *J. Am. Chem. Soc.*, **78**, 4467 (1956)

P. kochiana.

MONOTERPENOIDS: bornyl acetate, citral, terpineal.

DITERPENOIDS: δ -cadinene, τ -cadinene, caryophyllene, chamazulene, humulene, longifolene, α -muurolene.

Kolesnikova *et al.*, *Rastit. Resur.*, **13**, 351 (1977); *Chem. Abstr.*, 87 35863g

P. koraiensis.

DITERPENOIDS: (-)-cembrene A, α -pinacene, β -pinacene, τ -pinacene, pinusolide.

Birch *et al.*, *J. Chem. Soc., Perkin I*, 2653 1972

P. lambertiana.

DITERPENOID: lambertianic acid.

TRITERPENOIDS: serrat-14-ene- $3\beta,21\beta$ -diol, serrat-14-ene- $3\beta,21\alpha$ -diol 3-methyl ether, 21-epi-serratenol 21 methyl ether.

Dauben, Gorman, *Tetrahedron*, **22**, 679 (1966)

Rowe *et al.*, *Phytochemistry*, **11**, 365 (1972)

P. longifolia L.

SESQUITERPENE: longicyclene.

Nayak, Dev, *Tetrahedron Lett.*, 243 (1963)

P. luchuensis.

TRITERPENOIDS: $3\beta,21\alpha$ -dimethoxyserrat-14-ene, 3β -hydroxyserrat-14-en-21-one, 3β -methoxyserrat-14-en-21 α -ol, 3β -methoxyserrat-14-en-21-one, serrat-14-en-3,21-dione.

Cheng *et al.*, *J. Chin. Chem. Soc.*, **22**, 341 (1975); *Chem. Abstr.*, 84 132658q

P. merkusi.

DITERPENOID: mercusic acid.

Weissman, *Holtzforschung*, **28**, 186 (1974)

P. monticola L.

DITERPENOIDS: 8,11,13-abietatrien-7-ol, 8,11,13-abietatrien-15-ol, anticopalic acid, 9,10-epoxy-9,10-seco-8,11,13-abietatriene.

NORTRITERPENOID:30-nor- 3β -methoxyserrat-14-en-21-one. Conner *et al.*, *J. Org. Chem.*, **46**, 2987 (1981)

P. pallasiana L.

DITERPENOIDS: 8,11,13-abietatriene, δ -cadinene, τ -cadinene, caryophyllene, chamazulene, dehydroabietane, humulene, longifolene, α -muurolene.

MONOTERPENOIDS: bornyl acetate, camphor, citral, terpineal.

Vlad *et al.*, *Khim. Prir. Soedin.*, 20 (1971)

Kolesnikova *et al.*, *Rastit. Resur.*, **13**, 351 (1977); *Chem. Abstr.*, 87 35863g

P. palustris L.

DITERPENOIDS: isodextropimarinal, palustric acid.

Wenkert *et al.*, *J. Am. Chem. Soc.*, **86**, 2038 (1935)

P. ponderosa.

MONOTERPENOIDS: 3-carene, limonene, myrcene, α -pinene, β -pinene.

Smith, *U.S. Dept. Agric. Tech. Bull.*, 1532 (1977); *Chem. Abstr.*, 87 98798k

P. pumila.

NORDITERPENOID: fichtelite.

Ruzicka, Waldman, *Helv. Chim. Acta*, **18**, 611 (1935)

P. radiata.

51 terpenoids.

Simpson *et al.*, *Phytochemistry*, **15**, 328 (1976)

P. roxburghii.

PHENOLIC: hexacosylferulate.

Chatterjee *et al.*, *Phytochemistry*, **16**, 397 (1977)

P. sabiniana Dougl.

PIPERIDINE ALKALOIDS: pinidine, (-)- α -pipecoline.

Tallant *et al.*, *J. Am. Chem. Soc.*, **77**, 6361 (1955)

P. sibirica L.

DITERPENOIDS: agathenediol, isocembrene, isocembrol, methylisocupressate, methyl trans-sciadopate, α -pinacene, β -pinacene, τ -pinacene, pinusolide.

CATECHINS: (+)-catechin, (-)-epi-catechin.

MONOTERPENOIDS: 3-carene, β -phellandrene, α -pinene, β -pinene.

SESQUITERPENOID: sibirene.

(C) Polyakova *et al.*, *Aktual. Vopr. Bot. Resur. Sib.*, 190 (1976); *Chem. Abstr.*, 85 189201k

(T) Kashianova *et al.*, *Khim. Prir. Soedin.*, 52 (1968)

(T) Lisina *et al.*, *ibid.*, 300 (1972)

P. sosnowskyi.

DITERPENOIDS: δ -cadinene, τ -cadinene, caryophyllene, chamazulene, humulene, longifolene, α -muurolene.

MONOTERPENOIDS: bornyl acetate, camphor, citral, terpineal.

Kolesnikova *et al.*, *Rastit. Resur.*, **13**, 351 (1977); *Chem. Abstr.*, 87 35863g

P. strobus L.

DITERPENOIDS: strobol, strobic acid, strobol.

Zinkel, Evans, *Phytochemistry*, **11**, 3387 (1972)

P. sylvestris L.

CATECHINS: (+)-catechin, (-)-epi-catechin.

DITERPENOIDS: abieto-8,11,13-triene-15,18-diol, dehydropinifolic acid, isopimara-7,15-dien-18-al, isopimara-7,15-diene, isopimaric acid, 8,9-isopimaric acid, α -longipinene, 18-nordehydroabietan-4 α -ol, 18-nordehydroabietan-4(19)-ene, 19-norisopimara-8(14),15-dien-3-one, 18-norpimara-8,15-dien-4 α -ol, 19-norpimara-8(14),15-dien-3-one, (+)-pinifolic acid, sapientic acid.

MONOTERPENOIDS: 3-carene, β -phellandrene, α -pinene, β -pinene.

(C) Polyakova *et al.*, *Aktual. Vopr. Bot. Resur. Sib.*, 190 (1976); *Chem. Abstr.*, 85 189201k

(T) Conner *et al.*, *Phytochemistry*, **16**, 1777 (1977)

(T) Norm *et al.*, *Acta Chem. Scand., B* **34**, 301 (1980)

P. sylvestris L. var. sylvestris.

DITERPENOIDS: δ -cadinene, τ -cadinene, caryophyllene, chamazulene, humulene, longifolene, α -muurolene.

MONOTERPENOIDS: bornyl acetate, camphor, citral, terpineal.

Kolesnikobva *et al.*, *Rastit. Resur.*, **13**, 351 (1977); *Chem. Abstr.*, 87 35863g

P. thunbergi L.

STEROID: 2-deoxycastasterone.

SESQUITERPENOIDS: longifolene, longifol-7(15)-en-5-ol.

(S) Yokota *et al.*, *Agr. Biol. Chem.*, **47**, 2419 (1983)

(T) Simonsen, *J. Chem. Soc.*, **123**, 2642 (1923)

P. torreyana.

PIPERIDINE ALKALOID: pinidine.

Corey *et al.*, *J. Am. Chem. Soc.*, **83**, 1251 (1961)

PIPER (Piperaceae)

P. auranticum.

ALKALOIDS: aurantiamide, aurantiamide acetate, piperettine.

Banerji, Das, *Ind. J. Chem.*, **13**, 1234 (1975)

P. auritum.

APORPHINE ALKALOIDS: cepharadione A, cepharadione B.

Haensel *et al.*, *Lloydia*, **38**, 529 (1975)

P. beetle L.

PYRIDINE ALKALOIDS: arecaidine, arecoline Diterpenoid chavibetol.

Bertrum, Gildmeister, *J. Prakt. Chem.*, **39**, 349 (1889)

P. callosum.

AMIDE ALKALOIDS: pipercallosidine, pipercallosine, piperovatine.

Pring *et al.*, *J. Chem. Soc., Perkin I*, 1493 (1982)

P. clusti.

PIPERIDINE ALKALOID: piperine.

Peinmann, *Arch. Pharm.*, **234**, 245 (1896)

P. communis L.

TRITERPENOID: 19(20)-dehydroursolic acid.

Brieskorn, Suss, *Tetrahedron Lett.*, 515 (1972)

P. cubeba.

SESQUITERPENOID: bicyclosesquiphellandrene.

Terhune *et al.*, *Phytochemistry*, **13**, 1183 (1974)

P.fadyenii.

PYRONE: fadyenolide.

Pelter *et al.*, *Tetrahedron Lett.*, 1545 (1981)

P.farnechoni.

PIPERIDINE ALKALOID: piperine.

Rugheuner, *Ber. Dtsch. Chem. Ges.*, **15**, 1391 (1882)

P.futokadsura Sieb. et Zucc.

DITERPENOIDS: futoenone, piperenone.

NEOLIGNANS: kadsurenone, kadsurin A, kadsurin B.

QUINOL: futoquinol.

(N) Chang *et al.*, *Phytochemistry*, **24**, 2079 (1985)

(Q) Takahashi *et al.*, *Chem. Pharm. Bull.*, **18**, 100 (1970)

(T) Matsui, Munakata, *Tetrahedron Lett.*, 1905 (1975)

P.guineense Schum. et Thom.

PIPERIDINE ALKALOIDS: dihydrowisanidine, dihydrowisanine, 2'-methoxypiperine, olasaline, wisanidine, wisanine.

AMIDES: dihydropiperine, N-isobutyryloctadeca-trans-2-trans-4-dienamide, dihydropiperlonguminine, piperine, sylvatine, trichostachine.

Dwuma-Badu *et al.*, *Lloydia*, **39**, 60 (1976)

Sondengam *et al.*, *Phytochemistry*, **16**, 1121 (1977)

Addae-Mensa *et al.*, *Planta Med.*, **41**, 200 (1981)

P.jaborandi.

UNCHARACTERIZED ALKALOID: jaborandine.

Wiesner, *Can. J. Chem.*, **29**, 353 (1951)

P.longum L.

PIPERIDINE ALKALOIDS: chavichie, piperine, piperlongumine, piperonaline, piperundecalidine.

AMIDE: piperlonguminine.

LIGNANS: diaeudesmin, sesamin, sylvatin.

(A, Am) Ott *et al.*, *Ber. Dtsch. Chem. Ges.*, **55**, 2653 (1922)

(A, Am) Tabuneng *et al.*, *Chem. Pharm. Bull.*, **31**, 3562 (1983)

(L) Dutta *et al.*, *Phytochemistry*, **14**, 2090 (1975)

P.marginatum.

PIPERIDINE ALKALOID: piperine.

Peinemann, *Arch. Pharm.*, **234**, 245 (1896)

P.methysticum Forst.

PYRIDINE ALKALOID: pipermethystine.

CHALCONE: flavokawain C.

NORSESQUITERPENOID: dihydrokawain-5-ol.

PYRAN: 5,6,7,8-tetrahydroyangonin.

(A) Smith, *Tetrahedron*, **35**, 437 (1979)

(C) Dutta *et al.*, *Indian J. Chem.*, **11**, 509 (1973)

(P) Achenbach *et al.*, *Chem. Ber.*, **104**, 2688 (1971)

(T) Achenbach, Wittmann, *Tetrahedron Lett.*, 3259 (1970)

P. nigrum L.

PIPERIDINE ALKALOIDS: chavicine, piperine, piperoleins A and B.

PYRROLIDINE ALKALOID: piperyline.

MONOTERPENOID: 1(7),2-p-menthadien-6-ol, 3,8(9)-menthadien-1-ol, methyl cyclohepta-2,4-dien-6-one, β -pinone.

SESQUITERPENOID: sesquisinabinene.

Ott *et al.*, *Ber. Dtsch. Chem. Ges.*, **57**, 214 (1924)

Terhune *et al.*, *Can. J. Chem.*, **53**, 3285 (1975)

P. novae-hollandiae.

PIPERIDINE ALKALOID: dihydropiperine.

Loder *et al.*, *Aust J. Chem.*, **22**, 1531 (1969)

P. officinatum L.

PIPERIDINE ALKALOIDS: chavicine, piperine.

AMIDES: eicosa-2,4,8-trienoic acid isobutylamide, N-isobutyltrideca-13-(3,4-methylenedioxyphenyl)-trienamide.

Gupta *et al.*, *Phytochemistry*, **15**, 425 (1976)

P. ovatum.

PIPERIDINE ALKALOID: piperovatine.

Dunstan, Garnett, *J. Chem. Soc.*, **67**, 94 (1895)

P. peepuloides Roxb.

PIPERIDINE ALKALOID: peepuloidine.

Atal *et al.*, *Tetrahedron Lett.*, 1397 (1968)

P. retrofractum.

AMIDE ALKALOIDS: retrofractamide A, retrofractamide C.

Banerji *et al.*, *Phytochemistry*, **24**, 279 (1985)

P. sanctum.

FURAN: epoxypiperolide.

Pelter, Haansal, *Z. Naturforsch.*, **27B**, 1186 (1972)

P. sylvaticum Roxb.

AMIDES: N-isobutyldeca-2,4-dienamide, sylvatine.

FLAVONOIDS: 5-hydroxy-7-methoxyflavone, 5-hydroxy-7,3',4'-trimethoxyflavone.
 (Am) Banerji *et al.*, *Experientia*, **30**, 223 (1974)
 (F) Banerji *et al.*, *Indian J. Chem.*, **15B**, 495 (1977)

P. trichostachya DC.

PYRROLIDINE ALKALOIDS: cyclostachines A and B, piperstachine, trichonine, trichostachine.

Joshi *et al.*, *Helv. Chim. Acta*, **58**, 2295 (1975)

P. tuberculatum.

DIMERIC ALKALOID: piplartine dimer A.
 Filho *et al.*, *Phytochemistry*, **20**, 345 (1981)

PIPTADENIA (Leguminosae)

P. macrocarpa.

FLAVAN: 3,3',4',7,8-pentahydroxyflavan.
 PHENOLICS: dalbergin, 3,54-dimethoxydalbergione, kuhlmannin.
 STEROIDS: β -sitosterol, β -sitosterol glucoside, β -sitosterol palmitate.
 TRITERPENOIDS: lupenone, lupeol.
 Miyauchi *et al.*, *Mokuzai Gakkaishi*, **22**, 47 (1976); *Chem. Abstr.*, 84 147704a

P. peregrina Benth.

INDOLE ALKALOID: bufotenine.
 Stromberg *et al.*, *J. Am. Chem. Soc.*, **76**, 1707 (1954)

PIPTANTHUS (Leguminosae)

P. nanus M.Pop.

ALKALOIDS: isopiptanthine, piptamine, piptanthine.
 UNCHARACTERIZED ALKALOID: nanine.
 Yakovleva, Proskurnina, *J. Gen. Chem., USSR*, **34**, 3841 (1964)

P. nepalensis (Hook.) D.Don.

QUINOLIZIDINE ALKALOIDS: anagyrine, cytisine, luponine, N-methylcytisine, (+)-sparteine.

ISOFLAVONES: daidzein, daidzein β -diglucoside, daidzein β -monoglucoside, formononetin, formononetin β -diglucoside, formononetin β -monoglucoside, genistein,

genistein β -diglucoside, genistein β -monoglucoside, ononin, ononin β -diglucoside, ononin β -monoglucoside.

(A) Faugeras *et al.*, *Plant Med. Phytother.*, **9**, 273 (1975)

(I) Markham *et al.*, *Phytochemistry*, **7**, 791 (1968)

(I) Paris *et al.*, *Planta Med.*, **29**, 32 (1976)

PIPTOCALYX (Trimeniaceae)

P. moorei.

GLUCOSIDE: piptoside.

LIGNAN: caloiptin.

STEROID: α -sitosterol.

McAlpine *et al.*, *Aust. J. Chem.*, **21**, 2095 (1968)

PIPTOCARPHA (Asteraceae)

P. chontalensis Pall.

SESQUITERPENOIDS: piptocarphins A, B, C, D, E, F, G and H.

Cowall *et al.*, *J. Org. Chem.*, **46**, 1108 (1981)

P. paradoxa.

TRITERPENOIDS: bazzanene, bazzanenol, lupenyl acetate, lupeol.

Mathur *et al.*, *J. Nat. Prod.*, **45**, 495 (1982)

PIPTOLEPIS

P. ericoides.

SESQUITERPENOIDS: 8-angeloyloxyxexbrevanolide, 5-hydroxy-6-methacryloxy-14,15-isogoyazansanolide.

DITERPENOID: piptolepolide.

Bohlmann *et al.*, *Phytochemistry*, **20**, 731 (1981)

P. leptospermoides.

SESQUITERPENOIDS: 15-hydroxyeremantholide C, piptospermolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1439 (1982)

PIPTOPORUS (Basidiomycetae)

P. australiensis (Wakefield) Cunn.

PIGMENTS: piptoporic acid, piptoporic acid acetate, piptoporic acid methyl ester.

POLYENE: 3-acetoxy-18-methyl-5,7,9,11,13,15,17-icosoheptanoic acid.

Gill *et al.*, *J. Chem. Soc., Perkin I*, 1449 (1982)

PIPTOTRIX

P. aureolare.

MONOTERPENOID: aureolal.

Hernandez *et al.*, *Phytochemistry*, **25**, 1743 (1986)

PIQUIERA

P. trinerva Cav.

DITERPENOIDS: α -santolal, trinervinol.

Jiminez *et al.*, *Rev. Latinoam. Quim.*, **14**, 20 (1983)

PISCIDIA (Papilionaceae)

P. erythrina L. One uncharacterized alkaloid.

BENZOPYRAN: piscidone.

TERPENOIDS: 3-O-methylfukiic acid, piscidic acid methyl ester.

(A) Dankworth, Schutte, *Arch. Pharm.*, **272**, 701 (1934)

(B) Falshaw *et al.*, *Tetrahedron, Suppl. No. 7*, 333 (1966)

(T) Heller, Tamm, *Helv. Chim. Acta*, **58**, 974 (1975)

PISOLITHUS (Basidiomycetae)

P. tinctorius.

STEROID: ergosterol peroxide.

TRITERPENOID: pisolactone.

(S) Voigt *et al.*, *Z. Chem.*, **25**, 405 (1985)

(T) Lobo *et al.*, *Tetrahedron Lett.*, 2205 (1983)

PISTACIA (Anacardiaceae)

P. terebinthus L.

TRITERPENOIDS: dihydromasticadienol, dihydro-3-epi-masticadienoic acid methyl ester, dihydromasticadienolic acid methyl ester, isomasticadienol, isomasticadienolic acid, 3-epi-isomasticadienolic acid, masticadienolic acid, 3-epi-masticadienolic acid, oleanolic acid, oleanolic aldehyde, oleanonic aldehyde.

Caputo, Mangoni, *Gazz. Chim. Ital.*, **100**, 317 (1970)

P. vera.

ANTHOCYANIN: cyanidin 3-O- β -galactoside.

MONOTERPENOIDS: 9,10-cyclo-2,4-menthanediol, 9,10-cyclo-2,4-menthen-4-ol.
Triterpenoid 3,11,13-trihydroxyoleanane.

(An) Miniaty, *Fitoterapia*, **52**, 267 (1981)

(T) Mangoni *et al.*, *Phytochemistry*, **21**, 811 (1982)

(T) Monaco *et al.*, *ibid.*, **21**, 2408 (1982)

PISUM (Leguminosae)

P. sativum L.

BENZOPYRANS: 3-hydroxy-2,9-dimethoxypterocarpan, 4-hydroxy-2,3,9-trimethoxypterocarpan, 2,3,9-trimethoxypterocarpan.

Pueppke *et al.*, *J. Chem. Soc., Perkin I*, 946 (1975)

PITARIA

P. punctata.

COUMARINS: braylin, neobraylin.

Hlubucek *et al.*, *Aust. J. Chem.*, **24**, 2347 (1971)

PITHECILLOBIUM

P. arboreum.

TRITERPENE ALKALOID: O(3)-acetylamino-2-deoxy- β -D-glucopyranosyloleanolic acid.

Ripperger *et al.*, *Phytochemistry*, **20**, 2434 (1981)

P. dulce.

STEROID: 7,22-stigmastadien-3-ol- β -D-glucopyranoside.

Nigam *et al.*, *Indian J. Chem.*, **5**, 395 (1967)

P. saman.

SAPONIN: samanin C.

Varshney *et al.*, *Indian J. Pharm.*, **39**, 80 (1977)

PITHECOLOBIUM

P. saman Benth.

MACROCYCLIC ALKALOID: pithecolobine. SAPONIN: samanin B.

(A) Greshoff, *Ber. Dtsch. Chem. Ges.*, **23**, 3541 (1890)

(Sap) Varshney, Vyas, *J. Indian Chem. Soc.*, 992 (1978)

PITTOSPORUM (Pittosporaceae)

P. brevicalyx.

TRITERPENOIDS: barrigenol R-1, pittobrevigenin, theasapogenol D.

Yang *et al.*, *Yaoxue Tongbao*, **21**, 12 (1986); *Chem. Abstr.*, 105 94488b

P. buchananii.

ACETYLENICS: trans-pentadeca-1,8,10-triene-4,6-diyn-3-ol, trans-pentadeca-1,8,10-triene-4,6-diyn-3-one.

P. nilghrense Wr. et Arn.

SAPONINS: pittoside A, pittoside B.

Jain *et al.*, Indian J. Pharm., **42**, 12 (1980)

P. phillyraeoides.

TRITERPENOID: phillyrigenin.

Beckwith *et al.*, Aust. J. Chem., **9**, 428 (1956)

P. tobira.

TRITERPENOID: barrigenol R-1.

Ito *et al.*, Tetrahedron Lett., 2289 (1967)

P. undulatum Vent.

TRITERPENOIDS: barrigenol A-1, pittosapogenin.

Cornforth, Earl, J. Proc. Roy. Soc., N.S. W., **72**, 249 (1938)

Cornforth, Earl, *ibid.*, **72**, 252 (1938)

PITURANTHUS

P. tortuosus (Desf.) Benth. et Hook.

ACETYLENES: falcarinone, trans-heptadeca-1,8-diene-4,6-diyne-3-ol-10-one.

Schulte *et al.*, Arch. Pharm., **310**, 945 (1977)

PITYRODIA (Verbenaceae)

P. lepidota (F.Muell.) Pritzel.

DITERPENOID: 6,18-dihydroxy-3,13-clerodien-15-oic acid methyl ester.

Ghisalberti *et al.*, Aust. J. Chem., **34**, 1009 (1981)

PITYROGRAMMA

P. austroamericana.

GHALCX)NE:2',6'-dihydroxy-4,4'-dimethoxychalcone.

Wollenweber, Z. Pflanzenphysiol., **78**, 344 (1976); Chem. Abstr., 85 17060x

P. calomelanus.

SESQUITERPENOID: calomelanolactone.

Bardouille *et al.*, Phytochemistry, **17**, 275 (1978)

P. triangularis.

CHALCONE: triangularin.

FLAVONES: ceroptin, 3,5-dihydroxy-7,4'-dimethoxyflavone, 5,7-dihydroxy-3-methoxy-6,8-dimethylflavone, 4'-methoxy-3,5,7-trihydroxyflavone, 6-methyl-8-methoxy-3,5,7-trihydroxyflavone, pityrogrammin.

(C) Star *et al.*, Phytochemistry, **17**, 586 (1978)

(F) Dietz *et al.*, ibid., **20**, 1181 (1981)

P. triangularis var. triangularis.

FLAVONE:5,7-dihydroxy-6,8-dimethoxyflavone.

Dietz *et al.*, Phytochemistry, **20**, 1181 (1981)

P. trifoliata.

COUMARINS: 8-cinnamoyl-3,4-dihydro-5,6-dihydroxy-4-phenylcoumarin, 3',4',5,7-tetrahydroxy-8-cinnamoyl-4-phenylcoumarin, 4',5,7'-trihydroxy-8-cinnamoyl-4-phenylcoumarin.

Dietz *et al.*, Z. Naturforsch., **35**, 36 (1980)

PLACODIUM

P. saxicolum.

TRITERPENOID: zeorin.

Huneck, Lehn, Bull. Soc. Chim., 1702 (1963)

PLAGIOCHILA (Hepaticae)

P. acanthophylla.

SESQUITERPENOIDS: bicyclohumulenone, (-)-maalioxide.

Matsuo *et al.*, *J. Chem. Soc., Chem. Commun.*, 174 (1979)

***P. acanthophylla* subsp. *japonica*.**

SESQUITERPENOIDS: (+)-bicyclohumulenone, fuscoplagin A, fuscoplagin B.

Hashimoto *et al.*, *Tetrahedron Lett.*, 6473 (1985)

***P. asplenoides* (L.) Dumort.**

SESQUITERPENOIDS: plagiochilins C, D, E and F.

Asakawa *et al.*, *Phytochemistry*, **18**, 1355 (1979)

***P. hattoriana*.**

SESQUITERPNOIDS: hanegokedial, plagiophilin B.

Asakawa *et al.*, *Phytochemistry*, **17**, 1794 (1978)

***P. ovalifolia*.**

SESQUITERPENOIDS: (+)-acetoxyovalifoliene, (+)-hanegoketrial, (-)-maalian-5-ol,

(+)-ovalifolienal, (+)-ovalifolienalone, plagiophilin G.

Matsuo *et al.*, *J. Chem. Soc., Perkin I*, 2816 (1981)

***P. semidecurrens*.**

SESQUITERPENOIDS: (+)-acetoxyovalifoliene, (+)-ovalifolienal, (+)-ovalifolienalone,

(+)-ovalifoliene, ovalimethoxy I, ovalimethoxy II, (+)-oxaplagiochene A, (-)-

plagiophilodial.

Atsumi *et al.*, *Koen Yoshishu—Koryo Terupen Oyobi, Seiyu Kagakuin, Kansuru Toronkai*, 23rd, 267 (1979)

***P. yokogurensis*.**

SESQUITERPENOIDS: furanoplagiochilal, plagiophilide, plagiophilin A, plagiophilin H,

plagiophilin I.

Asakawa *et al.*, *Phytochemistry*, **19**, 2147 (1980)

PLANALTOA

***P. lychnophoroides*.**

DITERPENOID: ent-15,16-epoxy-3-hydroxy-8(17),13(16)-labdadien-2,12-dione.

Bohlmann *et al.*, *Phytochemistry*, **21**, 465 (1982)

PLANCHONELLA (Sapotaceae)

***P. anteridifera* (White et Francis) Lam.**

PYRROLIZIDINE ALKALOIDS: 1-benzoylmethyl-8H-pyrrolizidine, planchonelline, 1 β -tigloylmethyl-8H β -pyrrolizidine.

Hart, Lamberton, *Aust. J. Chem.*, **19**, 1259 (1966)

***P. chartacea* Lam.**

No alkaloids present.

Hart, Lamberton, *Aust. J. Chem.*, **19**, 1259 (1966)

***P. cotinifolia* (A.DC.) Dubard.**

No alkaloids present.

Hart, Lamberton, *Aust. J. Chem.*, **19**, 1259 (1966)

***P. myrsinoides* (A.Cunn. ex Benth.) S.T.Blake.**

No alkaloids present.

Hart, Lamberton, *Aust. J. Chem.*, **19**, 1259 (1966)

***P. thrysoides* White.**

PYRROLIZIDINE ALKALOID: planchonelline.

Hart, Lamberton, *Aust. J. Chem.*, **19**, 1259 (1966)

***P. torricellensis*.**

No alkaloids present.

Hart, Lamberton, *Aust. J. Chem.*, **19**, 1259 (1966)

PLANCHONIA (Barringtoniaceae)

***P. caraya* F.Muell.**

TRITERPENOID: 16,21,22,28-tetrahydroxyolean-12-en-3-one.

Khong, Lewis, *Aust. J. Chem.*, **30**, 1311 (1977)

PLANCKIA

***P. populnea*.**

TERPENOID: populnomic acid.

Delle Monache *et al.*, *Gazz. Chim. Ital.*, **102**, 317 (1972)

PLANTAGO (Plantaginaceae)

P. arenaria Waldst. et Kit.

ALKALOID: arenaine.

IRIDOID: plantarenaloside.

(A) Rabaron *et al.*, *J. Am. Chem. Soc.*, **93**, 6270 (1971)

(T) Popov *et al.*, *Izv. Khim.*, **14**, 175 (1981)

P. indica L.

PYRIDINE ALKALOIDS: indicaine, indicamine, plantagonine.

Danilova, Konovalova, *J. Gen. Chem., USSR*, **22**, 2237 (1952)

P. lanceolata.

FLAVONOID: apigenin 7-O-glucoside.

INDANONE: loliolide.

IRIDOID: aucuboside.

PHENOLICS: caffeoic acid, β -coumaric acid, ferulic acid, genistic acid, p-hydroxybenzoic acid, p-hydroxyphenylacetic acid, protocatechuic acid, syringic acid, vanillic acid.

(F) Haznagy *et al.*, *Pharmazie*, **31**, 482 (1976)

(In) Toth *et al.*, *Pharmazie*, **31**, 51 (1976)

(Ir, P) Swiatek, *Herba Pol.*, **23**, 20 (1977); *Chem. Abstr.*, 88 148981h

P. major.

FLAVONOIDS: apigenin, luteolin 7-O- β -D-glucoside, luteolin 7-O- β -D-glucuronide.

Lebedev-Kosov, *Khim. Prir. Soedin.*, 812 (1976)

P. media.

IRIDOID: aucuboside.

PHENOLICS: caffeoic acid, p-coumaric acid, ferulic acid, genistic acid, p-hydroxybenzoic acid, p-hydroxyphenylacetic acid, protocatechuic acid, synringic acid, vanillic acid.

Swiatek, *Herba Pol.*, **23**, 201 (1977); *Chem. Abstr.*, 88 148981h

P. olgae.

PYRIDINE ALKALOID: plantagonine.

Abdusamatov, Yunusov, *Khim. Prir. Soedin.*, 334 (1969)

P. psyllium L.

IRIDOID: plantarenaloside.

Popov *et al.*, *Izv. Khim.*, **14**, 175 (1981)

***P. ramosa* Aschers.**

PYRIDINE ALKALOID: indicamine.

Danilova, Konovalova, *J. Gen. Chem., USSR*, **22**, 2237 (1952)

PLATANUS (Platanaceae)

***P. acerifolia*.**

FLAVONE: platanetin.

Egger *et al.*, *Z. Pflanzenphysiol.*, **68**, 92 (1972)

***P. hybrida*.**

TRITERPENOID: 3-oxoplatanic acid.

Aplin *et al.*, *J. Chem. Soc.*, 3269 (1963)

***P. occidentalis*.**

TRITERPENOID: platanic acid.

Ruzicka, Lamberton, *Helv. Chim. Acta*, **23**, 1338 (1940)

***P. orientalis*.**

ALIPHATICS: n-hebtriacontanol, 16-hentriacontanone, 12-tricosanol.

BENZOPYRAN: amurensin.

GLUCOSIDE: amurensin.

STEROID: β -sitosterol stearide.

Dhar, Munjal, *Planta Med.*, **29**, 91 (1976)

PLATHYNEMIA

***P. reticulata*.**

DITERPENOIDS: plathyterpol, vinhaticoic acid methyl ester.

King, Rodrigo, *J. Chem. Soc., Chem. Commun.*, 575 (1967)

PLATISMATIA (Hepaticae)

P. glauca (L.) Culb. et Culb.NORTRITERPENOID: 30-nor-21 α -hopen-22-one.Hveding-Bergseth *et al.*, *Phytochemistry*, **22**, 1826 (1983)**PLATITENIA*****P. absinthifolia.***

COUMARIN: suberosin.

Sood *et al.*, *J. Indian Chem. Soc.*, **55**, 850 (1978)**PLATONIA (Guttiferae/Clusiaceae)*****P. insignis.***

XANTHONE: 1,7-dihydroxyxanthone.

Locksley *et al.*, *J. Chem. Soc., C*, 430 (1966)**PLATYCARYA (Juglandaceae)*****P. glomerate.***

SESQUITERPENOIDS: 8-desoxysalonitenolide, 11,13-dihydro-8-desoxysalonitenolide.

Bohlmann, Zdero, *Phytochemistry*, **16**, 1832 (1977)**PLATYCODON*****P. grandiflorum.***

SAPONINS: deaploplatycodin, deaploplatycodin D-3, 2-methoxy-methylplatyconate A, platycodin, platycodins A, B, C, D and D-2, platycodosides A, B and C.

TRITERPENOIDS: platycodigenin, platycogenic acids A, B and C.

Ishii *et al.*, *Chem. Lett.*, 719 (1978)

PLATYDESMA (Rutaceae)

***P. campanulata* Mann.**

FURANOQUINOLINE ALKALOIDS: pilokeanine, platydesmine.

Werner, Scheuer, *Tetrahedron*, **19**, 1293 (1963)

***P. spathulatum* (A.Gray) DC.**

FURANOQUINOLINE ALKALOID: 6-methoxydictamnine.

Scheuer, Werner, *Symp. Phytochem., Hong Kong* (1964)

PLATYMYSCIUM

***P. praecox*.**

FLAVANONE: (\pm)-liquiritigenin.

Shimoda *et al.*, *Ber. Dtsch. Chem. Ges.*, **67**, 434 (1934)

PLATYTAENIA

***P. dasycarpa*.**

COUMARINS: bergapten, scopoletin, suberosin, O-tigloyl-4',5'-dihydrooroselol, umbelliferone, zosimin.

Zhukov *et al.*, *Khim. Prir. Soedin*, 574 (1977)

PLECTANIA

***P. coccinea*.**

CAROTENOIDS: 2'-dehydroplectaniaxanthin, plectaniaxanthin.

Arpin, Liaen-Jensen, *Phytochemistry*, **6**, 995 (1967)

PLECTOCOMIOPSIS

P. geminiiflorus.

CARBOLINE ALKALOID: plectocomine.

Kiang *et al.*, *Lloydia*, **30**, 189 (1967)

PLECTRANTHUS (Labiatae)

P. caninus.

DITERPENOIDS: coleons M, N, O, P, Q, R, S and T.

Arihara *et al.*, *Helv. Chim. Acta*, **58**, 343 (1975)

P. ecklonii Benth.

DITERPENOID: parviflorone.

FLAVONES: cirsimarinin, 2(S)-5,4'-dihydroxy-6,7-dimethoxyflavone.

QUINONE: ecklonoquinone.

Uchida *et al.*, *Helv. Chim. Acta*, **63**, 225 (1980)

P. edulis.

DITERPENOID: edulone A.

Buchbauer *et al.*, *Helv. Chim. Acta*, **61**, 1969 (1978)

P. grandidentatus.

ANTHRAQUINONES: grandidores A, B, C and D, 2-epi-grandidone B.

Ruedi *et al.*, *Helv. Chim. Acta*, **64**, 2227 (1981)

Ruedi et el., *ibid.*, **64**, 2251 (1981)

P. lanuginosus.

DITERPENOIDS: 6,7-dehydrororooleanone, lanugones A, B, C, D, E, F, G, H, I, J, K, K', L, M, N, O, P, Q, R and S.

Schmid *et al.*, *Helv. Chim. Acta*, **62**, 2136 (1982)

P. madagascariensis.

DITERPENOID: coleon I.

Ruedi *et al.*, *Helv. Chim. Acta*, **58**, 1899 (1975)

P. myrianthus Briq.

DITERPENOIDS: coleons V and W.

Miyase *et al.*, *Helv. Chim. Acta*, **60**, 2770 (1977)

P. nilgherricus.

DITERPENOIDS: 3-acetoxyfuerstone, nilgherrons A and B.

Miyase *et al.*, *Helv. Chim. Acta*, **60**, 2789 (1977)

***P. parviflorus* Willd.**

DITERPENOIDS: parviflorones B, D, E and F.

Ruedi, Eugster, *Helv. Chim. Acta*, **61**, 709 (1978)

***P. purpuratus* Harv.**

DITERPENOID: 16,17,19-trihydroxy-3-phyllocladanone-17,19-diacetate.

Katti *et al.*, *Helv. Chim. Acta*, **65**, 2189 (1982)

***P. rugosus*.**

ALIPHATICS: ceryl alcohol, cetyl alcohol, triacontanol.

FLAVONOIDS: 5,7-dihydroxy-6,3'-dimethoxyflavone, 5,4'-dihydroxy-3,6,7-trimethoxyflavone.

PHENOLIC: E-3,4-dihydroxycinnamic acid.

STEROID: β -sitosterol.

TRITERPENOIDS: 3-acetylplectranthic acid, 3β -hydroxyurs-12-en-28-oic acid, plectranthic acid, plectranthoic acid A, plectranthoic acid B, 12-ursane-3,29-diol.

(Al, F, P, S) Kumar *et al.*, *Chem. Abstr.*, 100 64974m

(T) Razdan *et al.*, *Phytochemistry*, **21**, 408 (1982)

***P. strigosus* Benth.**

DITERPENOIDS: parviflorone G, parviflorone H.

Alder *et al.*, *Helv. Chim. Acta*, **67**, 1534 (1984)

PLEIOCARPA (Apocynaceae)

***P. mutica* Benth.**

CARBOLINE ALKALOIDS: isotuboflavine, N(a)-methylcarpagine, norisotuboflavine.

DIMERIC ALKALOID: pleiomutine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: N(a)-carbomethoxy-10,22-isoxokopsane, huntabrine, kopsinilam, kopsinoline, N(a)-methyl-10,22-dioxokopsane, pleiocarpamine, pleiocarpine, pleiocarpinilam, pleiocarpinine, pleiocarpline, pleiocarpolinine.

Khan *et al.*, *Helv. Chim. Acta*, **48**, 1957 (1965)

Kump *et al.*, *ibid.*, **48**, 1007 (1965)

***P. pycnantha* (K.Schum.) Stapf.**

DIMERIC IMIDAZOLIDINOCARBAZOLE ALKALOID: pycnanthinine.

orman, Schmid, *Monatsh. Chem.*, **98**, 1554 (1967)

P. pycnantha (K.Schum.) Stapf. var. pycnantha M.Pichon.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: (+)-pycnanthine, pycnanthinol.

Gorman *et al.*, *Helv. Chim. Acta*, **52**, 33 (1969)***P. pycnantha (K.Schum.) Stapf. var. tubicina (Stapf.) M.Pichon.***

CARBAZOLE ALKALOIDS: 19,20-dihydroakuammicine, tubifolidine, tubifoline.

Weismann *et al.*, *Helv. Chim. Acta*, **44**, 1977 (1961)***P. talbotii Wernham.***

CARBOLINE ALKALOIDS: deformyltalbotinic acid, deformyltalbotinic acid methyl ester, didehydrotalbotine, 16-epi-affinine, talbotine, talcarpine, talpinine, tetrahydrotalbotine.

Naranjo *et al.*, *Helv. Chim. Acta*, **55**, 752 (1972)Pinar *et al.*, *ibid.*, **56**, 2719 (1973)***P. tubicina Stapf.***

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: aspidofractine, (-)-1,2-dehydroaspidospermatine, kopsinoline, pleiocarpoline, pleiocarpolinine, (+)-quebrachamine, tubiflavine, tuboxenine.

CARBAZOLE ALKALOID: tubotaiwine.

Bycroft *et al.*, *Helv. Chim. Acta*, **47**, 1147 (1964)Kump *et al.*, *ibid.*, **48**, 1002 (1965)

PLEIOSPERMUM (Rutaceae)

P. alatum (Wight et Arn.) Swingle.

ACRIDONES: 1,5-dihydroxy-2,3-dimethoxy-10-methyl-9-acridone, 1,6-dihydroxy-2,3,5-trimethoxy-10-methyl-9-acridone.

ALKALOID: alatamide.

(Ac) Bowen *et al.*, *Phytochemistry*, **25**, 429 (1986)(A) Chatterjee *et al.*, *Aust J. Chem.*, **28**, 457 (1975)

PLENASIUM

P. banksiaeefolium.

STEROIDS: ecdysterone, ponasterone A.

Hikino *et al.*, *Planta Med.*, **31**, 71 (1977)

PLEOCARPUS

P. revolutens.

SESQUITERPENOID: hydroxyisopatchoulenone.

de Silva *et al.*, *Phytochemistry*, **16**, 379 (1977)

PLEOPELTIS

P. farinosa.

TRITERPENOID:24-methyldammara-12,25-diene.

Wij, Rangaswami, *Indian J. Chem.*, **13**, 748 (1975)

PLEUROCORONIS

P. plurisetia.

DITERPENOID: dihydrodendroidinic acid.

Bohlmann *et al.*, *Phytochemistry*, **20**, 2433 (1981)

PLEUROSPERMUM (Umbelliferae)

P. angelicoides.

MONOTERPENOID: angelicoidenol.

Mahmood *et al.*, *Phytochemistry*, **22**, 774 (1983)

P. lindleyanum.

FLAVONOIDS: bergapten, galuteolin, glucoluteolin, isoimperatorin, isopimpinellin, (\pm)-oxypeucedanin.

Chen *et al.*, *Zhongcaoyao*, **18**, 290 (1987); *Chem. Abstr.*, 107 172506p

PLEUROSTYLA (Celastraceae)

P. africana.

MACROCYCLIC ALKALOID: pleurostyline.

Wagner *et al.*, *Tetrahedron Lett.*, 781 (1978)

P. opposita (Wall.) Alston.

Four tetraterpenoids.

Dantanarayana *et al.*, *J. Chem. Soc., Perkin I*, 2717 (1981)

PLEUROTUS

P. sajor-caju (Fr.) Singer.

AMINO ACIDS: alanine, arginine, aspartic acid, glutamic acid, histidine, leucine, lysine, phenylalanine, threonine, valine.

Jendaik, Kapoor, *Mushroom Sci.*, **41**, 154 (1976); *Chem. Abstr.*, 87 98800e

PLOCAMIUM (Rhodophyceae/Plocamiaceae)

P. cartilagineum (L.) Dixon.

HALOGENATED MONOTERPENOID: 7-(bromochloromethyl)-3,4,8-trichloro-3-methyl-1,5,7-octatriene, 4-bromo-1,5-dichloro-2-chlorovinyl-1,5-dimethylcyclohexane, 2-chloro-4-bromo-1-chlorovinyl-1-methyl-5-methylenecyclohexane, 2-chloro-trans-1-chlorovinyl-4-cyclohexane, plocamene A, plocamene B, plocamenone.

Stierle, Sims, *Tetrahedron*, **35**, 1261 (1979)

Crews *et al.*, *J. Org. Chem.*, **49**, 1371 (1984)

P. coccineum.

MONOTERPENOID: coccinene.

Castedo *et al.*, *J. Nat. Prod.*, **47**, 724 (1984)

P. costata.

HALOGENATED MONOTERPENOID: costatolide, costatone.

Stierle *et al.*, *Tetrahedron Lett.*, 4455 (1976)

P. mertensii.

HALOGENATED MONOTERPENOID: 2-bromo-1-chloro-4-(2-chlorovinyl)-1-methyl-5-methylenecyclohexane, 2-bromo-4,5-dichloro-1-(2-chlorovinyl)-1,5-dimethylcyclohexane, mertensene.

Capon *et al.*, *Aust. J. Chem.*, **37**, 537 (1984)

P. oregonum.

HALOGENATED MONOTERPENOID: oregonene A.

Crews, *J. Org. Chem.*, **42**, 2674 (1977)

P. violaceum.

HALOGENATED MONOTERPENOID: plocamenes D and E, violacene.

Crews *et al.*, *J. Org. Chem.*, **43**, 116 (1978)

PLUCHEA (Compositae/Inuleae)

P. chingoyo.

SESQUITERPENOID: pluchein, plucheinol, 3-epi-plucheinol.

Chiang *et al.*, *Rev. Latinoam. Quim.*, **10**, 95 (1979)

Chiang *et al.*, *Phytochemistry*, **18**, 2033 (1979)

P. dioscordia.

One eudesmolid.

Omar *et al.*, *Phytochemistry*, **22**, 779 (1983)

P. foetida.

SESQUITERPENOID: 4-acetoxy-3-(2-methyl-2,3-epoxybutyryloxy)-11-hydroxy-6,7-dehydroeudesman-8-one.

Bohlmann, Mahanta, *Phytochemistry*, **17**, 1189 (1978)

P. indica.

SESQUITERPENOID: 3-(2',3'-diacetoxy-2'-methylbutyryl)-cuauhtenone.

Mukhoparhyay *et al.*, *J. Nat. Prod.*, **46**, 671 (1983)

P. odorata.

SESQUITERPENOID: cuauhtenone.

Nakanishi *et al.*, *J. Am. Chem. Soc.*, **96**, 609 (1974)

P. rosea.

SESQUITERPENOID: ixtlixochilin I, ixtlixochilin II, ixtlixochilin III.

Dominguez *et al.*, *Phytochemistry*, **20**, 2297 (1981)

P. sagittalis.

FLAVONOIDS: centaureidin, chrysosplenol, 3',4',5,7-tetrahydroxy-3,6,8-trimethoxyflavone.

Martino *et al.*, *Phytochemistry*, **15**, 1086 (1976)

Martino *et al.*, *An. Asoc. Quim. Argent.*, **73**, 401 (1985); *Chem. Abstr.*, 104 31793f

P. sericea.

FLAVONOID: quercetin 3,3'-dimethyl ether.

SESQUITERPENOIDS: (11S)-11,13-dihydrotesmaric acid, tessaric acid.

TRITERPENOID: taraxeryl acetate.

Romo de Vivar *et al.*, *Chem. Lett.*, 957 (1982)

PLUMBAGO (Plumbaginaceae)

P. zeylanica.

AMINO ACIDS: alanine, glycine, histidine, hydroxyproline, methionine, threonine, tryptophan.

BENZOQUINONES: 3,3'-biplumbagin, chitranone, isoshinanolone, 1,2(3)-tetrahydro-3,3'-biplumbagin.

STEROID: β -sitosterol.

(Am) Dinda *et al.*, *J. Indian Chem. Soc.*, **64**, 261 (1987)

(B) Sankaram *et al.*, *Phytochemistry*, **15**, 237 (1976)

(B, S) Gunaherath *et al.*, *ibid.*, **22**, 1245 (1983)

PLUMIERA (Apocynaceae)

P. acutifolia.

ANTIBIOTIC: fulvoplumerin.

IRIDOID: plumeride.

(Antib) Schmid, Bencze, *Helv. Chim. Acta*, **36**, 205 (1953)

(Antib) Schmid, Benze, *ibid.*, **36**, 1468 (1953)

P. lancifolia.

IRIDOID: plumeride.

Boorsma, *Meded. Lds. Pttuin.*, **13**, 27 (1894)

P. rubra L. var. alba.

IRIDOID: plumeride.

Franchimont, *Recl. Trav. Chim. Pays-Bas*, **18**, 334 (1899)

Franchimont, *ibid.*, **18**, 477 (1899)

P. sericifolia.

ALKALOID: vincubine.

Cueller *et al.*, *Rev. Cubana Farm.*, **10**, 31 (1976); *Chem. Abstr.*, 86 1285878j

PODALYRIA

P. buxifolia.

LUPANE ALKALOIDS: (+)-lupanine, (\pm)-lupanine.

Clemo *et al.*, *J. Chem. Soc.*, 432 (1931)

P. calyptropa.

LUPANE ALKALOID: (-)-lupanine.

Davis, *Arch. Pharm.*, **235**, 199 (1897)

Davis, *ibid.*, **235**, 218 (1897)

Davis, *ibid.*, **235**, 229 (1897)

P. sericea.

LUPANE ALKALOIDS: (+)-lupanine, (\pm)-lupanine.

Clemo *et al.*, *J. Chem. Soc.*, 432 (1931)

PODANTHUS

P. mitiqui.

SESQUITERPENOIDS: arturin, deacetylovalifolin, erioflorin methacrylate.

Hoeneisen *et al.*, *Phytochemistry*, **19**, 2765 (1980)

P. ovalifolium.

SESQUITERPENOIDS: erioflorin, erioflorin acetate, erioflorin methacrylate, ovalifolin.

Gneccio *et al.*, *Phytochemistry*, **12**, 2469 (1973)

PODOCARPUS (Podocarpaceae)

P. amarus.

COUMARINS: biochanin A, daidzein, genistein.

Carman *et al.*, *Aust. J. Chem.*, **38**, 485 (1985)

P. blumei.

TERPENOIDS: blumenols A, B and C.

Galbraith *et al.*, *J. Chem. Soc., Chem. Commun.*, 113 (1972)

P. cupressina var. imbricata.

TERPENOID: podocarpic acid.

Haworth, Moore, *J. Chem. Soc.*, 633 (1946)

P. dacrydoides.

DITERPENOID: pododacric acid.

SESQUITERPENOID: kongol.

Corbett *et al.*, *Tetrahedron Lett.*, 1009 (1967)

P. dactyloides.

TERPENOIDS: podocarpic acid, pododacric acid, selin-11-en-4 β -ol.

Corbett, Smith, *Tetrahedron Lett.*, 1009 (1967)

P. elatus R.Br.

DITERPENOID: ar-abietatriene.

STEROIDS: crustecdysone, podocdysones A, B and C.

(S) Galbraith *et al.*, *Experientia*, **29**, 782 (1973)

(T) Kitadani *et al.*, *Chem. Pharm. Bull.*, **18**, 402 (1975)

P. elongatus.

FLAVONOIDS: armentoflavone, bilobetin, isoginkgetin, podocarpusflavone.

Prasad, Krishnamurty, *Indian J. Chem.*, **14B**, 727 (1976)

P. ferrugineus.

DITERPENOIDS: 8,11,13-abietatriene-12,19-diol, cryptojaponol, isomiropinic acid, (+)-kaurene, mirene, 2-oxoferruginol.

Cambie *et al.*, *Phytochemistry*, **23**, 333 (1984)

P. gracilior.

FLAVONES: 4,7-dimethylamentoflavone, podocarpusflavone, podocarpusflavone A.

NORDITERPENOID: podolide.

(F) Prasad *et al.*, *Indian J. Chem.*, **16B**, 727 (1976)

(F) Kubo *et al.*, *Rev. Latinoam. Quim.*, **14**, 59 (1983)

(T) Kupchan *et al.*, *Experientia*, **31**, 137 (1975)

P. hallii.

NORDITERPENOIDS: hallactone A, hallactone B, halliol, sellowin A.

Cambie *et al.*, *J. Org. Chem.*, **40**, 3789 (1975)

P. intermedium.

STEROID: ponasterone C 2-cinnamate.

Russell *et al.*, *Aust. J. Chem.*, **25**, 1935 (1972)

P. lambertianus.

STEROID: 3,5-dihydroxy-5-stigmastan-6-one.

DITERPENOIDS: 5 α -carboxytotarol, 17-isophyllocladenol, lambertic acid, macrophylllic acid.

Campello *et al.*, *Phytochemistry*, **14**, 243 (1975)

P. macrophyllus.

FLAVONES: podocarpusflavone A, podocarpusflavone B, sciadopitysin.

STEROIDS: 24-ethyl-5-cholestene-3 β ,26-diol, makisterone A, makisterone B.

TERPENOIDS: macrophylllic acid, numakilactones A, B, C, D and E, numakilactone A glycoside.

(F) Chexal *et al.*, *Chem. Ind. (London)*, 28 (1970)

(S) Ohmoto *et al.*, *Chem. Pharm. Bull.*, **28**, 1894 (1980)

(T) Hayashi *et al.*, *Tetrahedron Lett.*, 3385 (1972)

P. manni.

DITERPENOID: 16-hydroxytotarol.

Brandt, Thomas, *Nature*, **170**, 1018 (1952)

P. milanjianus.

NORDITERPENOIDS: milanjilactone A, milanjilactone B, nagilactone A, nagilactone G, podolactones A, B and C.

Hembree *et al.*, *Phytochemistry*, **18**, 1691 (1979)

Cassady *et al.*, *J. Org. Chem.*, **49**, 942 (1984)

P. nagi.

FLAVONE: podocarpusflavone A.

NORDITERPENOIDS: 1-deoxy-2-hydroxynagilactone B, 16-hydroxypodolide, 15-methoxycarbonylnagilactone D, nagilactones A, B and C, ponalactone A, ponalactone C, ponalactone A- β -D-glucopyranoside.

(F) Chexal *et al.*, *Chem. Ind. (London)* 28 (1970)

(T) Hembree *et al.*, *Phytochemistry*, **18**, 1691 (1979)

P. nakaii Hay.

STEROIDS: ponasterones A, B and C.

Nakanishi *et al.*, *Tetrahedron Lett.*, 1105 (1968)

Nakanishi *et al.*, *ibid.*, 1111 (1968)

P. neriifolius.

FLAVONE: podocarpusflavone.

NORDITERPENOIDS: podolactone B, podolactone C, podolactone D, podolactone E.

(F) Chexal *et al.*, *Chem. Ind. (London)*, 28 (1970)(T) Galbraith *et al.*, *J. Chem. Soc., Chem. Commun.*, 1362 (1971)***P. nubigenus.***

DITERPENOID: nubilactone A.

de Silva *et al.*, *Phytochemistry*, **12**, 883 (1973)***P. odocarpus.***

NORDITERPENOID: nagilactone C.

Hembree *et al.*, *Phytochemistry*, **18**, 1691 (1979)***P. salignus D.Don.***

TERPENOIDS: salignone, salignones A, B, C, D, H and J.

Martin *et al.*, *Phytochemistry*, **23**, 2867 (1984)***P. sellowii.***

NORDITERPENOID: nagilactone G.

Hembree *et al.*, *Phytochemistry*, **18**, 1691 (1979)***P. spicatus.***

ISOFLAVONE: podospicatin.

PHENOLIC: isolariciresinol.

(I) Briggs *et al.*, *Tetrahedron*, **6**, 143 (1959)(I) Briggs *et al.*, *ibid.*, **6**, 145 (1959)(P) Freudenberg, Weinges, *Tetrahedron Lett.*, **17**, 19 (1959)***P. totara L.***

DITERPENOIDS: 17-hydroxytotarol, pododacric acid, podototarin, totarol.

Cambie *et al.*, *Tetrahedron*, **19**, 209 (1963)***P. urbanii.***

NORDITERPENOIDS: 2,3-dihydroxypodolide, urbalactone.

Dasgupta *et al.*, *Phytochemistry*, **20**, 153 (1981)***P. vulgare.***

STEROID: crustecdysone.

Hoffmeister, Grutzmacher, *Tetrahedron Lett.*, 407 (1966)

PODOCHAENIUM

P. eminens.

SESQUITERPENOIDS: 13-acetoxy-11,13-dihydro-7,11-dehydro-3-deoxyzaluzanin C, 11,13-dihydro-7,11-dehydro-3-deoxyzaluzanin C, 7-hydroxy-3-deoxyzaluzanin C, 7-hydroxy-3-deoxy-11,13-dihydrozaluzanin C.

Bohlmann, Ngo Le Van, *Phytochemistry*, **16**, 1304 (1977)

PODOPETALUM (Leguminosae)

P. ormondii F.Muell.

QUINOLIZIDINE ALKALOID: podopetaline.

Hart *et al.*, *Tetrahedron Lett.*, 5333 (1972)

PODOPHYLLUM (Podophyllaceae/Berberidaceae)

P. emodi Wall. ex Royle. (P. hexandrum Royle).

TOXINS: 4'-demethyldeoxypodophyllotoxin-4'-(O- β -D-glucopyranoside), podophyllotoxin-O- β -D-glucopyranoside.

Kupchan *et al.*, *J. Pharm. Sci.*, **54**, 459 (1965)

P. peltatum.

TOXINS: 4'-demethyldeoxypodophyllotoxin-4'-(O- β -D-glucopyranoside), podophyllotoxin-O- β -D-glucopyranoside.

Kupchan *et al.*, *J. Pharm. Sci.*, **54**, 459 (1965)

P. pleianthum.

TOXINS: desoxyphyllotoxin, desoxyphyllotoxin 4'-methyl ether, isopicropodophyllone, isopicropodophyllone 4'-methyl ether, podophyllotoxin, podophyllotoxin 4'-methyl ether, podophyllotoxone, podophyllotoxone 4'-methyl ether.

Jackson, Dewick, *Phytochemistry*, **24**, 2407 (1985)

POGONOPUS

P. tubulosus (DC.) Schumann.

UNCHARACTERIZED ALKALOIDS: pogonopamine, pogonopeine, pogonopidine, pogonopine.

CARBOLINE ALKALOID: tubulosine.

Brauchi *et al.*, *J. Am. Chem. Soc.*, **86**, 1895 (1964)

POGOSTEMON (Labiatae)

P. cablin.

SESQUITERPENOIDS: cycloseychellene, pogostol.

Terhune *et al.*, *Tetrahedron Lett.*, 4705 (1973)

P. formosanus.

SESQUITERPENOID: germacrone.

Ognyanov *et al.*, *Collect. Czech. Chem. Common.*, **23**, 2033 (1958)

P. parviflorus Benth.

SESQUITERPENOID: parvinolide.

Nanda *et al.*, *J. Chem. Res. Synop.*, (12), 394 (1984)

P. patchouli Pellet.

PYRIDINE ALKALOIDS: guaipyridine, epi-guaipyridine, patchoulipyridine.

PYRANONE: dhelwangin.

TERPENOIDS: norpatchoulenol, patchoulene, patchouli alcohol, pogostol, seychellene.

(A) Buchi *et al.*, *J. Am. Chem. Soc.*, **88**, 3109 (1966)

(P) Klein *et al.*, *Tetrahedron Lett.*, 2279 (1969)

(T) Tesseire *et al.*, *Recherches*, **19**, 8 (1974)

P. plectranthoides Desf.

SESQUITERPENOID: stemonolone.

Phadnis *et al.*, *J. Chem. Soc., Perkin I*, 937 (1984)

POINSETTIA

P. pulcherrima.

ALIPHATIC: octacosanol.

STEROID: β -sitosterol.

TRITERPENOIDS: germanicol, germanicyl acetate, epi-germanicyl acetate.

Gupta *et al.*, *J. Nat. Prod.*, **46**, 937 (1983)

POLEMONIUM (Polemonaceae)

P. coeruleum L.

TRITERPENOID: polemorniogenin.

Tandon *et al.*, *Indian J. Chem.*, **20B**, 46 (1981)

POLIANTHES

P. tuberosa L.

FURANONES: 5-(1-butenyl)-dihydro-2(3H)-furanone, 5-(2-hexenyl)-dihydro-2(3H)-furanone.

MONOTERPENOIDS: (+)-jasmine lactone, tuberolide.

(F) Maurer *et al.*, *Helv. Chim. Acta*, **65**, 462 (1982)

(T) Kaiser, Lamparsky, *Tetrahedron Lett.*, 1659 (1976)

P. tuberosa var. azucena.

STEROID: 9(11)-dehydrohecogenin.

Wagner *et al.*, *J. Am. Chem. Soc.*, **73**, 2494 (1951)

POLYALTHIA (Annonaceae)

P. fragrans.

DITERPENOID: polyalthic acid.

Gopinath *et al.*, *Helv. Chim. Acta*, **44**, 1040 (1961)

P. nitidissima.

BISBENZYLISOQUINOLINE ALKALOIDS: N,'-dimethylindoldhamine, 7-O-methyllindoldhamine.

Jossang *et al.*, *Planta Med.*, **49**, 20 (1983)

P. oligosperma.

APORPHINE ALKALOIDS: noroconovine, oconovine, polygispermine.

Guinedeau *et al.*, *Plant Med. Phytother.*, **12**, 166 (1978)

P. olivieri Engl.

APORPHINE ALKALOIDS: oliveridine, oliverine, oliveroline.

TRITERPENOIDS: polyanthenol, polycarpol.

(A) Hamonniere *et al.*, *Phytochemistry*, **16**, 1029 (1977)

(T) Leboeuf *et al.*, *Tetrahedron Lett.*, 3559 (1976)

P. suaveolens.

APORPHINE ALKALOIDS: noroliverine, pachypodanthine, polyalthine, polyveoline.

INDOLE ALKALOIDS: isopolyalthenol, neopolyalthenol, polyavolensine, polyavolensinol, polyavolensinone, polyavolinamide.

Okorie *et al.*, *Phytochemistry*, **20**, 2575 (1981)

Kunesch *et al.*, *Tetrahedron Lett.*, 4937 (1985)

POLYANTHUS

P. tuberosa var. azucena.

STEROID: 9(11)-dehydrohecogenin.

Padilla *et al.*, *Rev. Cubana Farm.*, **9**, 251 (1975)

POLYGALA (Polygalaceae)

P. arillata.

XANTHONE: 1,2,3-trimethoxyxanthone.

Ghosal *et al.*, *J. Chem. Soc., Perkin I*, 740 (1977)

P. caudata Rehd. et Wils.

XANTHONES: wubangziside A, wubangziside, B wubangziside C.

Pan *et al.*, *Yaoxue Xuebao*, **20**, 662 (1985); *Chem. Abstr.*, 104 31792e

P. chinensis.

NAPHTHALENES: chinensin, chinensinaphthol, 4-methoxychinensin.

SAPONIN: saponin PC.

(N) Ghosal *et al.*, *Phytochemistry*, **13**, 2281 (1974)

(Sap) Brieskorn, Kilbinger, *Arch. Pharm.*, **306**, 824 (1975)

P. macradenia.

XANTHONES: 1,2,3,4,6,7-hexamethoxyxanthone, 1-methoxy-2,3:6,7-bis(methylenedioxy)xanthone, polygalaxanthone A, 1,2,3-trihydroxy-6,7-methylenedioxyxanthone, 1,3,4-trihydroxy-6,7-methylenedioxyxanthone.

Dreyer *et al.*, *Tetrahedron*, **25**, 4415 (1969)

P. paenea.

TOXIN: 7-dehydroxy-4-demethylpodophyllotoxin.

TRITERPENOID: polygalacic acid.

XANTHONES: polygalaxanthone A, polygalaxanthone B, 1,2,3-trihydroxy-6,7-methylenedioxi-xanthone.

(Tox) Polonsky *et al.*, *Bull. Soc. Chim. Fr.*, 1722 (1962)

(T) Rondest, Polonsky, *ibid.*, 1253 (1963)

(X) Dreyer *et al.*, *Tetrahedron*, **25**, 4415 (1969)

P. senega.

TRITERPENOIDS: cyclosenegin, polygalacic acid, presenegin, senegenin, senegin, tenuifolin.

Yosioka *et al.*, *Tetrahedron Lett.*, 6303 (1966)

P. senega var. latifolia.

SAPONINS: senegines I, II, III and IV.

TRITERPENOID: senegenic acid.

Pelletier *et al.*, *Tetrahedron Lett.*, 3065 (1964)

P. spectabilis DC.

XANTHONES: 2-hydroxy-1,3-dimethoxy-7,8-methylenedioxyxanthone, 1,2,3,7,8-pentamethoxyxanthone, 1,2,3-trihydroxy-7,8-methylenedioxyxanthone.

Andrade *et al.*, *Lloydia*, **40**, 344 (1977)

P. tenuifolia Willd.

PHENOLIC: 3,4,5-trimethoxycinnamic acid.

TRITERPENOID: tenuifolin.

XANTHONES: 6-hydroxy-1,2,3,7-tetramethoxyxanthone, 1,2,3,7-tetramethoxyxanthone, 1,2,3,7-tetramethoxyxanthone.

(P, X) Ito *et al.*, *Phytochemistry*, **16**, 1614 (1977)

(T) Pelletier *et al.*, *Tetrahedron*, **27**, 4417 (1971)

POLYGONATUM (Liliaceae)

***P. multiflorum* (L.) All.**

FLAVONOIDS: 8-C-galactosylapigenin, 6-C-galactosyl-8-C-arabinosylapigenin.

STEROIDS: saponoside A, saponoside B.

(F) Chopin *et al.*, *Phytochemistry*, **16**, 1999 (1977)

(S) Janeczko, *Acta Pol. Pharm.*, **37**, 559 (1980)

***P. odoratum* (Mill.) Druce var. *pluriflorum* (Mig.) Ohwi.**

COUMARINS: cosmosin, saponarin, vitexin, vitexin 2"-O-glucoside, vitexin 2"-O-sophoroside.

Morita *et al.*, *J. Pharm. Soc., Japan*, **96**, 1180 (1976)

***P. officinale* All.**

FLAVONOIDS: kaempferol glucoside, kaempferol glucorhamnoside, quercetin glucorhamnoside, quercetin rhamnoside.

Nakov *et al.*, *Farmatsiya (Sofia)*, **26**, 43 (1976); *Chem. Abstr.*, 87 65311t

***P. sewerzowii*.**

GLUCOFRUCTAN: sewerin.

Rakhmanberdyeva *et al.*, *Khim. Prir. Soedin.*, 146 (1986)

***P. stenophyllum*.**

SAPONINS: polygonatosides C-1 and C-2.

Strigina *et al.*, *Khim. Prir. Soedin.*, 848 (1980)

POLYGONUM (Polygonaceae)

***P. affine* D.Don.**

FLAVONOIDS: isoaffinetin, isoorientin, isoorientin X"-O-arabinoside, isovitexin, isovitexin X"-O-arabinoside.

Krause *et al.*, *Z. Pflanzenphysiol.*, **79**, 372 (1976); *Chem. Abstr.*, 85 156479d

***P. hydropiper* L.**

SESQUITERPENOIDS: isodrimenol, isodrimeninol, polygodial, polygonal.

Asakawa, Takemoto, *Experientia*, **35**, 1420 (1979)

***P. multiflorum*.**

GLUCOSIDE: polygoacetophenoside.

Yoshizaki *et al.*, *Planta Med.*, **53**, 273 (1987)

P. nepalense.

FLAVONES: 5,4'-dimethoxy-6,7-methylenedioxyflavanone, 5,6,7,2',3',4',5'-heptamethoxyflavone, 5,6,7,4'-tetramethoxyflavanone.

STEROID: α -sitosterol.

TRITERPENOID: taraxerone.

Rathore *et al.*, *Phytochemistry*, **25**, 2223 (1986)

P. sachalinense.

PHENOLICS: emodin, emodin 8-O- β -D-glucoside, physcion, physcion 8-O- β -D-glucoside.

Kang *et al.*, *Chem. Abstr.*, 97 141734g

P. weyrichii.

PHENOLICS: (–)-epi-allocatechol, (–)-epi-catechol, (–)-epi-catechol gallate, gallic acid, (+)-gallocatechol, (–)-epi-gallocatechol gallate.

Varnaite, Cekelyte, *Chem. Abstr.*, 87 197347u

POLYMNIA (Compositae)

P. canadensis.

SESQUITERPENOID: polymnolide.

Bohlmann *et al.*, *Phytochemistry*, **19**, 115 (1980)

P. fruticosa.

FLAVONOIDS: naringenin, sakuranetin.

PHENOLIC: cinnamic acid 2-phenethyl ester.

DITERPENOIDS: kaurenoic acid, kaurenoic aldehyde.

Bohlmann, Zdero, *Phytochemistry*, **16**, 492 (1977)

P. maculata Cav.

DITERPENOID: maculatin.

Herz, Bhat, *Phytochemistry*, **12**, 1737 (1973)

P. maculata Cav. var. maculata.

SESQUITERPENOIDS: polymatins A, B and C.

Le Ven Ngo, Fischer, *Phytochemistry*, **18**, 851 (1979)

P. uvedalia (L.) L.

SESQUITERPENOIDS: polydalin, uvedalin.

Herz, Bhat, *J. Org. Chem.*, **35**, 2605 (1970)

POLYPODIUM (Polypodiaceae)

P. aureum.

STEROID: polypodaurein.

Jizba *et al.*, *Phytochemistry*, **13**, 1915 (1974)

P. faurei.

TRITERPENOIDS: α -polypodatetraene, β -polypodatetraene.

Shiojima *et al.*, *Tetrahedron Lett.*, 3733 (1983)

P. formosanum.

TRITERPENOIDS: cyclomargenol, cyclomargenols A, B and C, cyclomargenone.

Ageta *et al.*, *Chem. Lett.*, 881 (1982)

P. intermedium.

STEROIDS: polypodine B 2-cinnamate, polypodine D 2-cinnamate.

Russell *et al.*, *Aust. J. Chem.*, **25**, 1935 (1972)

P. juglandifolium.

TRITERPENOIDS: 4-desmethyl-24,24-dimethyllanost-20(21)-en-3-ol, 9(11)-fernene-6-ol, 9(11)-fernene-20-ol, polypodinols A, B and C.

Sunder, Rangaswami, *Indian J. Chem.*, **15B**, 541 (1977)

P. someyeh.

TRITERPENOID: eupha-7,24-diene.

Arai *et al.*, *Chem. Pharm. Bull.*, **30**, 2419 (1980)

P. subpetiolatus.

TRITERPENOID: farnesol palmitate.

Anderson *et al.*, *J. Nat. Prod.*, **42**, 168 (1979)

P. virginianum.

STEROIDS: ecdysone,ecdysterone.

Hikino *et al.*, *Lloydia*, **39**, 246 (1976)

P. vulgare L.

NORTRITERPENOID: 31-norcycloartenol.

SAPONINS: osladin, polypodosaponin.

STEROIDS: crustecdysone, $5\beta,20$ -dihydroxyecdysone, 5α -hydroxycrustecdysone.

TRITERPENOID: serratene.

(Sap) Jizba *et al.*, *Collect Czech. Chem. Common.*, **32**, 2867 (1971)

(S) Russell *et al.*, *J. Chem. Soc., Chem. Common.*, 71 (1971)

(T) Inubushi *et al.*, *Tetrahedron Lett.*, 1303 (1964)

POLYPORUS (Polyporaceae)

P. anthracophilus.

MONOTERPENOID: 2,8-decadiene-4,6-diynedioic acid, (E,E)-decadiene-4,6-diynedioic acid.

TRITERPENOIDS: acetyleburicoic acid, eburicoic acid, eburicoic acid methyl ester.

Yokoyama *et al.*, *Chem. Pharm. Bull.*, **22**, 877 (1974)

P. australiensis.

TRITERPENOID: tumulosic acid.

Cort *et al.*, *J. Chem. Soc.*, 3713 (1954)

P. betulinus.

TRITERPENOIDS: polyporenic acids, A, B and C, tumulosic acid.

Cort *et al.*, *J. Chem. Soc.*, 3713 (1954)

P. guttulatus.

SESQUITERPENOID: cis and trans-matricarianol.

Bohlmann *et al.*, *Chem. Ber.*, **105**, 1919 (1979)

P. officinalis L.

TRITERPENOID: agaricolic acid.

Valentin, Knulte, *Pharm. Zeit.*, **96**, 478 (1957)

P. pinicola.

TRITERPENOID: lanosta-7,9(11),24-triene-3 β ,21-diol.

Halsall, Sayer, *J. Chem. Soc.*, 2031 (1959)

P. sulphureus.

TRITERPENOID: eburicoic acid.

Holker *et al.*, *J. Chem. Soc.*, 2422 (1953)

P. tumulosus.

TRITERPENOID: tumulosic acid.

Cort *et al.*, *J. Chem. Soc.*, 3713 (1954)

P. versicolor.

STEROIDS: cerivisterol, 5 α ,6-dihydroergosterol, ergosterol, 3 β ,5 α ,6 β ,9 α -tetrahydroxyergosta-7,22-diene.

Valisolalao *et al.*, *Tetrahedron*, **39**, 2779 (1983)

POLYPTERIS

P. texana.

SEQUITERPENOID: 9-angelyloxy-2,3-dihydro-7-hydroxy-8-isovaleryloxy-1-oxo- α -longipinene.

Bohlmann, Zdero, *Chem. Ber.*, **108**, 3543 (1975)

POLYSIPHONIA (Rhodophyceae)

P. brodiaei.

CAROTENOIDS: α -carotene, β -carotene, α -cryptoxanthin, β -cryptoxanthin, lutein, zeaxanthin.

Bjoernland *et al.*, *Phytochemistry*, **15**, 291 (1976)

P. nigrescens.

HALOGENATED PHENOLICS: 2,3-dibromo-4,5-dihydroxybenzyl alcohol, 3,5-dibromo-p-hydroxybenzyl alcohol, 2,3,2',3'-tetrabromo-4,5,4',5'-tetrahydroxyphenylmethane, 2,3,6-tribromo-4,5-dihydroxybenzyl alcohol.

Pedersen, *Phytochemistry*, **17**, 291 (1978)

P. urceolata.

CAROTENOIDS: α -carotene, β -carotene, α -cryptoxanthin, β -cryptoxanthin, lutein, zeaxanthin.

Bjoernland *et al.*, *Phytochemistry*, **15**, 291 (1976)

POLYSTHICUM (Dryopteridaceae)

P. aculeatum (L.) Roth.

TRITERPENOID: polysthicol.

Laonigro *et al.*, *Tetrahedron Lett.*, 3109 (1980)

POLYSTICHUM

P. acrostichoides.

STEROIDS: 2-ethyl-lathosterol, β -sitosterol, spinasterol.

Nes *et al.*, *Lipids*, **12**, 511 (1977)

POLYSTICTUS

P. cinnabarinus.

PIGMENT: cinnabarine.

Lemberg *et al.*, *Austral. J. Expt. Biol. Med. Sci.*, **30**, 271 (1952)

POLYSTIGMA

P. rubricum.

CAROTENOID: lycoxanthin.

Karrer *et al.*, *Helv. Chim. Acta*, **13**, 268 (1930)

Karrer *et al.*, *ibid.*, **13**, 1084 (1930)

PONCIRUS (Rutaceae)

P. trifoliata.

COUMARINS: bergapten, 7-geranyloxycoumarin, imperatorin, isoponcimarin, 6-methoxy-7-geranyloxycoumarin, poncimarin, poncitrin, ponfolin.

Guiotto *et al.*, *Phytochemistry*, **16**, 1257 (1977)

Furukawa *et al.*, *Chem. Pharm. Bull.*, **34**, 3922 (1986)

PONDRAEA

P. ricasoliana.

IRIDOID: pondraneoside.

Guiso *et al.*, *J. Nat. Prod.*, **45**, 462 (1982)

PONGAMIA

P. glabra.

PIPERIDINE ALKALOID: glabrin.

BENZOFURANS: pongamol, pongapin.

CHALCONES: pongachalcones I and II.

CHROMENE: glabrochromene.

FLAVANOIDS: gematin, kanjone, karanjin, 2'-methoxyfurano[2",3":7,8]flavone, 7-methoxyfurano-(4",5",6,5)-flavone, 8-methoxyfurano-(4",5",6,7)-flavone, 3'-methoxypongapin pinnatin, pongaglabrone.

(A) Aneja *et al.*, *J. Chem. Soc.*, 163 (1963)

(B, F) Subrahmanyam *et al.*, *Indian J. Chem.*, **15B**, 12 (1977)

(C, Chr) Saini *et al.*, *J. Nat. Prod.*, **46**, 936 (1983)

P. pinnata.

BENZOPYRAN: gematin.

FLAVONES: pinnatin, pongapin.

(B) Row, *Aust. J. Sci. Res.*, 754 (1952); *Chem. Abstr.*, 47 12372

(F) Mahey *et al.*, *Indian J. Chem.*, **10**, 585 (1972)

POPOWIA (Annonaceae)

P. cauliflora.

FLAVANONE: 5,7,8-trimethoxyflavanone.

Ponichpol *et al.*, *Phytochemistry*, **17**, 1363 (1978)

POPULUS (Salicaceae)

P. balsamifera.

SESQUITERPENOIDS: α -bisabolol, ($-$)-curcumene, ($-$)- α -curcumene.

Kergomard *et al.*, *Tetrahedron*, **33**, 2215 (1977)

P. grandidentata.

GLUCOSIDE: populoside.

Erickson *et al.*, *Phytochemistry*, **9**, 857 (1970)

P. lasiocarpa.

COUMARIN: 1,3-p-coumaryl-2-acetylglycerol.

PHENOLICS: lasiocarpin A, lasiocarpin B, lasiocarpin C.

(C) Asakawa *et al.*, *Phytochemistry*, **15**, 811 (1976)

(P) Asakawa *et al.*, *ibid.*, **16**, 1791 (1977)

P. pseudosimonii.

PHENOLICS: azelaic acid, caffeic acid, o-dihydroxybenzene, 2,6-dimethoxy-p-benzoquinone, ferulic acid, p-hydroxybenzoic acid, p-hydroxycinnamic acid, salicylic acid, saligenin, salireposide, vanillic acid.

STEROID: β -sitosterol.

Pei *et al.*, *Zhongcaoyao*, **14**, 433 (1983); *Chem. Abstr.*, 100 32203t

P. tremula L.

STEROIDS: citrostadienol, (Z)- α -sitosterol.

TRITERPENOIDS: α -amyrin, β -amyrin, butyrospermol, cycloartenol, lupeol.

Roschein *et al.*, *Khim. Prir. Soedin.*, 516 (1986)

P. tremuloides L.

STEROIDS: citrostadienol, stigmasta-3,5-dien-7-one, tremulone.

Abramovitch, Micetich, *Can. J. Chem.*, **40**, 2017 (1962)

PORANTHERA

P. corymbosa.

QUINOLIZIDINE ALKALOIDS: acetylporanthericine, poranthericine, porantheridine, porantheriline, porantherine.

Johns *et al.*, *Aust. J. Chem.*, **27**, 2025 (1974)

PORELLA (MUSCI)

P. arboris-vitae (With.) Grolle. (*P. laevigata* (Schrad) Lindb.)

SESQUITERPENOID: isodriminol.

Asakawa *et al.*, *J. Hattori Bot. Lab.*, **46**, 163 (1979)

P. fauriei.

SESQUITERPENOID: tadeonal.

Asakawa *et al.*, *Chem. Abstr.*, 88 166708d

P. gracillima.

SESQUITERPENOIDS: ent-gurjunene, β -pinguisene, tadeonal.

Asakawa *et al.*, *Phytochemistry*, **17**, 457 (1978)

P. japonica.

SESQUITERPENOID: porelladiolide.

Asakawa *et al.*, *Phytochemistry*, **20**, 257 (1981)

P. perrottetiana.

DITERPENOIDS: perrottianals A and B.

Asakawa *et al.*, *Phytochemistry*, **18**, 1681 (1979)

P. platyphylla (L.) Pfeiff.

SESQUITERPENOIDS: pinguisanin, β -pinguisanediol, pinguisanolide.

Asakawa *et al.*, *Phytochem* **18**, 1348 (1979)

P. vernicosa.

SESQUITERPENOIDS: ent-bicyclogermacrene, ent-gurjunene, β -pinguisene.

Asakawa *et al.*, *Phytochemistry*, **17**, 457 (1978)

PORIA (POLYPODACEAE)

P. carbonica.

TRITERPENOID: eburicoic acid.

Kariyone, Kurono, *J. Pharm. Soc., Japan*, **60**, 318 (1940)

P. sinuosa Fr.

ACETYLENES: trans-dec-2-ene-4,6,8-triynedioic acid, trans-dec-2-ene-4,6,8-triyne-1,10-diol, trans-dec-2-ene-4,6,8-triyne-1-ol, 2,10-dihydroxydec-4-ene-6,8-diynoic acid, trans-non-2-ene-4,6-diyn-1,9-diol, trans-non-2-ene-4,6,8-triynoic acid, trans-non-2-ene-

4,6,8-triyn-1-ol, (N)-trans-non-2-ene-4,6,8-triynolyl valine, cis-tetradec-9-ene-2,4,6-triynedioic acid.

Gamble *et al.*, *J. Chem. Soc.*, 2056 (1963)

PORONIA

P. punctata.

ANTIBIOTICS: punctatins A, B and C.

Anderson *et al.*, *J. Chem. Soc., Chem. Commun.*, 917 (1984)

PORPHYRIDIUM (Rhodophyceae/Porphyridiaceae)

P. cruentum.

STEROIDS: 4,24-dimethyl-5 α -cholesta-8,22-dien-3 β -ol, 4-methyl-5 α -cholesta-5,22-dien-3 β -ol.

Beastall *et al.*, *Eur. J. Biochem.*, **41**, 301 (1973)

PORTULACA (Portulacaceae)

***P. grandiflora* Hook.**

DITERPENOIDS: portulanol, portulene, portulenol, portulenone.

Ohsaki *et al.*, *Chem. Lett.*, 1585 (1986)

P. oleracea.

PIGMENTS: betanidin 5-O- β -cellobioside, isobetanidin 5-O- β -cellobioside.

Imperato, *Phytochemistry*, **14**, 2091 (1975)

POSOQUERIA

P. latifolia.

IRIDOIDS: latifonin, posoquenin.

Chao, Svoboda, *J. Nat. Prod.* **43**, 571 (1980)

POTAMOGETON (Potamogetonaceae)

P. ferrugineus.

DITERPENOID: potamogetonin.

Smith *et al.*, *J. Org. Chem.*, **41**, 593 (1976)

POTENTILLA (Rosaceae)

P. asiatica.

ACIDS: linoleic acid, linolenic acid, oleic acid.

Grigienova *et al.*, *Khim. Prir. Soedin.*, 491 (1977)

P. desertorum.

ACIDS: linoleic acid, linolenic acid, oleic acid.

Grigienova *et al.*, *Khim. Prir. Soedin.*, 491 (1977)

P. erecta (L.) Raenschel.

PROCYANIDINS: procyanidin B-3, cis-procyanidin B-3, procyanidin B-6.

Schleep *et al.*, *J. Chem. Soc., Chem. Commun.*, 392 (1986)

P. orientalis.

ACIDS: linoleic acid, linolenic acid, oleic acid.

Grigienova *et al.*, *Khim. Prir. Soedin.*, 491 (1977)

P. tormentilla Stokes (P. erecta (L.) Rausch.).

TRITERPENOID: tormentic acid.

Potier *et al.*, *Bull. Soc. Chim. Fr.*, 3458 (1966)

POTERIUM (Rosaceae)

P. lasiocarpum.

SAPONIN: poterioside.

Shukyurov *et al.*, Khim. Prir. Soedin., 531 (1974)

P. polygamum Waldst. et Kit.

ACIDS: linoleic acid, linolenic acid, oleic acid.

SAPONIN: poterioside.

(Ac) Grigienova *et al.*, Khim. Prir. Soedin., 491 (1977)

(Sap) Shukyurov *et al.*, Khim. Prir. Soedin., 531 (1974)

POUTERIA

P. caimito.

TRITERPENOID: dammarenediol.

Velliccari *et al.*, Planta Med., 22, 196 (1972)

PRANGOS (Umbelliferae)

P. alata.

BENZOPYRAN: alatol.

Abyshev *et al.*, Khim. Prir. Soedin., 722 (1973)

P. biebersteinii.

COUMARIN: prandiol.

Abyshev *et al.*, Khim. Prir. Soedin., 574 (1974)

P. bucharica.

COUMARINS: deltoin, imperatorin, isoimperatorin, marmesin, osthole, oxypeucedanin hydrate, pranchingin, prangenin, prangenin hydrate, scopoletin, suberosin.

Danchul *et al.*, Khim. Prir. Soedin., 575 (1977)

P. ferulacea.

COUMARIN: pranferin.

NORSESQUITERPENOID: prangoferol.

(C) Nikonorov *et al.*, Khim. Prir. Soedin., 255 (1971)

(T) Abyshev *et al.*, *ibid.*, 114 (1972)

P. latiloba.

COUMARINS: isoimperatorin, isooxypeucedanin, isopeucedanin, latilobinol, marmesin, oxypeucedanin, oxypeucedanin hydrate, pranchimgin.

Abyshev *et al.*, *Khim. Prir. Soedin.*, 90 (1979)

P. lophotera.

BENZOPYRAN: isogosphorol.

Abyshev *et al.*, *Khim. Prir. Soedin.*, 83 (1974)

P. pabularia Lindl.

COUMARINS: prangosin, suberosin.

COUMARIN ALKALOID: prangosine.

(A) Akramov *et al.*, *Khim. Prir. Soedin.*, 287 (1967)

(C) Unaev *et al.*, *ibid.*, 248 (1974)

PREMNA (Verbenaceae)

P. integrifolia L.

UNCHARACTERIZED ALKALOIDS: ganiarine, premnmine.

FLAVONE: 6-C- β -D-glucopyranosyl-8-C- β -D-xylopyranosylapigenin.

(A) Basu, Dandiya, *J. Am. Pharm. Assoc.*, **36**, 389 (1947)

(F) Ramana *et al.*, *Indian J. Pharm. Sci.*, **47**, 165 (1985); *Chem. Abstr.*, 105 94492y

P. latifolia Roxb.

SESQUITERPENOIDS: 2-isopropenyl-6,10-dimethylspiro-[4,5]-dec-6-ene, 2-isopropenyl-6-formyl-10-methylspiro-[4,5]-dec-6-ene.

DITERPENOIDS: 5,6-dehydronellionol, nellungol, premnaspiradiene, premnaspiral, premnolal.

Rao *et al.*, *Indian J. Chem.*, **21B**, 267 (1982)

PRIMULA (Primulaceae)

P. denticulata.

TRITERPENOIDS: pridentagenins A, B, C and D.

Ahmad *et al.*, *Sci. Pharm.*, **50**, 26 (1982)

P. elatior (L.) Hill.

SAPONINS: elatioric acid, primula saponins Sc, Sci and Sf, primula saponin A, saponin PS4.

TRITERPENOID: elatigenin.

(Sap) Tschesche, Ziegler, *Justus Liebigs Ann. Chem.*, **674**, 185 (1964)

(Sap) Kitagawa *et al.*, *Tetrahedron Lett.*, 5377 (1968)

(T) Rhykopf, Mohs, *Ber. Dtsch. Chem. Ges.*, **69**, 1522 (1936)

P. farinosa.

FLAVONOID: 5-hydroxy-2'-methoxyflavone, 2'-methoxyflavone.

Wollenweber, Mann, *Biochem. Physiol. Pflanz.*, **181**, 667 (1986); *Chem. Abstr.*, 105 222754z

P. florindae.

FLAVONE: 2',5-dihydroxyflavone.

Bouillant *et al.*, *C.R. Acad. Sci.*, **273C**, 1629 (1971)

P. hirsuta All.

ANTHOCYANIN: hirsutin.

Karrer *et al.*, *Helv. Chim. Acta*, **10**, 758 (1927)

P. officinalis L.

GLYCOSIDES: primeverin, primulaverin.

TRITERPENOIDS: primulagenins A, B, F and G.

(G) Jones *et al.*, *J. Chem. Soc.*, 1618 (1933)

(T) Tschesche, Ziegler, *Justus Liebigs Ann. Chem.*, **674**, 185 (1964)

P. sieboldii E.Morren.

SAPONIN: sakuraso saponin 1.

TRITERPENOID: protoprimulagenin A.

Kitagawa *et al.*, *Tetrahedron Lett.*, 5377 (1968)

P. veris L.

SAPONIN: primulaverin.

TRITERPENOIDS: priverogenin A, priverogenin A acetate, priverogenin B, priverogenin B acetate, protoprimulagenin A.

Tschesche *et al.*, *Justus Liebigs Ann. Chem.*, **696**, 160 (1966)

PRINTZIA

P. laxa.

DITERPENOIDS: isoprintzianic acid, printzianic acid.

Bohlmann, Zdero, *Phytochemistry*, **17**, 487 (1978)

PRIONOSTEMMA

P. aspera.

TRITERPENOIDS: prionostemmadione, pristimerinine.

Delle Monache *et al.*, *J. Chem. Soc., Perkin I*, 2649 (1979)

PRIORIA

P. copaifera.

DITERPENOID: cativic acid.

Kalman, *J. Am. Chem. Soc.*, **60**, 1423 (1938)

PROCLEMA (Rubiaceae)

P. pendula Ait.

ANTHRAQUINONES: alizarin 1-methyl ether, damnecanthol ethyl ether, 1,5-dihydroxy-2-methylantraquinone, 1-hydroxy-2-methylantraquinone, morindone 5-methyl ether, rubiadin.

Gonzalez *et al.*, *An. Quim.*, **73**, 869 (1977)

PRONEPHRIUM

P. triphyllum.

FLAVANOIDS: triphyllins A, B and C.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **33**, 5231 (1985)

PROSOPIS

***P. africana* Taub.**

PIPERIDINE ALKALOIDS: isoprosopinines A and B, prosafrine, prosafrinine, prosopine, prosopinine.

Khuong-Huu *et al.*, *Bull. Soc. Chim. Belg.*, **81**, 425 (1972)

Khuong-Huo *et al.*, *ibid.*, **81**, 443, (1972)

***P. glandulosa*.**

AMINE ALKALOID: N-methyltyramine.

STEROID: β -sitosterol.

TRITERPENOID: oleanolic acid.

(A) Keller *et al.*, *J. Pharm. Sci.*, **62**, 408 (1973)

S, T) Ahmed *et al.*, *Fitoterapia*, **57**, 457 (1986)

***P. juliflora*.**

PIPERIDINE ALKALOIDS: julifloricine, julifloridine, juliflorine, juliprosopine.

Ott-Longoni *et al.*, *Helv. Chim. Acta*, **63**, 2119 (1980)

***P. kuntzei*.**

PHENOLIC: 3,4-dimethoxydalbergiobie.

Yoshimoto *et al.*, *Mokuzai Gakkaishi*, **21**, 686 (1975); *Chem. Abstr.*, 84 147705b

***P. nigra*.**

AMINE ALKALOID: N-methyltryptamine.

Moro *et al.*, *Phytochemistry*, **14**, 827 (1975)

***P. spicigera*.**

PIPERIDINE ALKALOID: spicigerine.

FLAVONE: prosogerin E.

STEROIDS: campesterol, cholesterol, β -sitosterol, stigmasterol.

(A, S) Jewers *et al.*, *Phytochemistry*, **15**, 238 (1976)

(F) Bhardwaj *et al.*, *Indian J. Chem.*, **20B**, 446 (1981)

PROSOPIDASTRUM

***P. globosum*.**

FLAVANOID: corniculatusin 3 β -O-robinobioside, limocitrin 3 β -O-galactoside.

Agnese *et al.*, *J. Nat. Prod.*, **49**, 528 (1986)

PROSTANTHERA (Labiatae)

P. prunellioides.

SESQUITERPENOID: maaliol.

Hellyer, *Aust. J. Chem.*, **15**, 157 (1962)

PROTEA (Proteaceae)

P. rubropilosa.

SUGAR: D-allose.

Christensen *et al.*, *Carbohyd. Res.*, **7**, 510 (1968)

PROTUSNEA

P. malacea.

PHENOLICS: divaric acid, divaricatic acid, ethyl divaricatinate, usnic acid.

Chamy *et al.*, *J. Nat. Prod.*, **48**, 307 (1985)

PROUSTIA (Compositae/Mutisieae)

P. pyrifolia Hosas.

SESQUITERPENOID: proustianol angelate.

Bohlmann, Zdero, *Chem. Ber.*, **112**, 427 (1979)

PRUNUS (Rosaceae)

P. avium.

ACIDS: caffeic acid, chlorogenic acid, o-coumaric acid, p-coumaric acid, p-coumarylquinic acid.

FLAVONE: jaceidin.

(Ac) Yu *et al.*, *J. Am. Soc. Hortic. Sci.*, **100**, 536 (1975); *Chem. Abstr.*, 84 56510t
 (F) Wollenweber *et al.*, *Z. Naturforsch.*, **27B**, 567 (1972)

P. cerasus.

FLAVANONES: aromadendrol, cerasidin, cerasin, cerasinone.
 Nagarajan *et al.*, *Phytochemistry*, **16**, 1317 (1977)

P. domestica.

FLAVONE: prudomestin.

PIGMENT: persicaxanthin.

(F) Nagajaran *et al.*, *Phytochemistry*, **3**, 477 (1964)

(P) Gross *et al.*, *ibid.*, **20**, 2267 (1981)

P. lusitanica.

TRITERPENOID: 2 α ,3 α -dihydroxyurs-12-en-28-oic acid.

Biessels *et al.*, *Phytochemistry*, **13**, 203 (1974)

P. mahaleb.

ACID: o-coumaric acid.

COUMARINS: herniarin, kaempferol.

Yu *et al.*, *J. Am. Soc. Hortic. Sci.*, **100**, 536 (1975); *Chem. Abstr.*, 84 56510t

P. mume Sieb. et Zucc.

ACIDS: caproic acid, caprylic acid, isovaleric acid, linoleic acid, oleic acid, valeric acid.

MONOTERPENOID: o-cresol, p-cresol, p-cymene, eugenol, guaiacol, cis-3-hexen-1-ol, linalool, cis-linalool oxide, trans-linalool oxide, α -terpineol.

Kameoka *et al.*, *Nippon Kogei Kagaku Kaishi*, **50**, 389 (1976); *Chem. Abstr.*, 86 2358x

P. persica (L.) Batsch.

FLAVANONES: 3',5-dihydroxy-4',7-dimethoxyflavanone, kaempferol 3-rhamnoside, multiflorin A, multiflorin B, multinoside, quercetin.

GIBBERELLINS: gibberellin A-5, gibberellin A-32, gibberellin A-32 acetonide.

SEQUITERPENOID: (+)-abscisic acid.

(F) Takagi *et al.*, *J. Pharm. Soc., Japan*, **97**, 109 (1977)

(G) Yamaguchi *et al.*, *Agr. Biol. Chem.*, **34**, 1439 (1970)

(T) Yamaguchi *et al.*, *ibid.*, **39**, 2399 (1975)

P. puddum.

ISOFLAVONE: prunetin.

Farkas *et al.*, *Tetrahedron*, **25**, 1013 (1969)

P. serotina.

TRITERPENOID: 2 α ,3 α -dihydroxyurs-12-en-28-oic acid.

Biessels *et al.*, *Phytochemistry*, **13**, 203 (1974)

P. verecunda.

FLAVONE: glucogenkwanin.

Hasegawa *et al.*, *J. Am. Chem. Soc.*, **76**, 5559 (1954)***P. yedoensis.***

FLAVANONES: naringenin 7-methyl ether, sakuranin.

Asahina *et al.*, *Chem. Zentralbl.*, I, 1672 (1928)**PSAMMOSILENE*****P. unicoides.***NORDITERPENOID:3 β -hydroxy-12,17-diene-28-norolean-23-al. Pu *et al.*, *Yunnan Zhiwu Yanjiu*, **6**, 463 (1984)**PSEUDEVERNIA (Lichenes)*****P. furfuracea (L.) Ach.***

DEPSIDONE: furfuric acid.

Gunzinger *et al.*, *Helv. Chim. Acta*, **68**, 1936 (1985)**PSEUDOCEDRELA*****P. kotschyii.***

SAPONINS: pseudrelone A1, pseudrelone A2.

Taylor, *Phytochemistry*, **18**, 1574 (1979)**PSEUDOCINCHONA*****P. africana.***YOHIMBINE ALKALOIDS: corynantheine, corynanthidine, (-)-corynanthidine, corynanthine, corynoxeine, α -yohimbine.

Janot, Goutarel, *C.R. Acad. Sci.*, **218**, 852 (1944)

PSEUDOCYPHELLARIA (Stictaceae)

P. amphisticta.

STEROID: amphistictinic acid.

Ronaldson *et al.*, *Aust J. Chem.*, **31**, 215 (1978)

P. degelii.

Three terpenoids.

Goh *et al.*, *J. Chem. Soc., Perkin I*, 1560 (1978)

P. durville.

TRITERPENOIDS: durvillidiol, durvillonol.

Huneck, Williams, *Z. Naturforsch.*, **22B**, 1182 (1967)

P. impressa.

TRITERPENOID: stictic acid.

Fox *et al.*, *Phytochemistry*, **9**, 2057 (1970)

P. intricate var. thoursii (Delise) Vainio.

TRITERPENOID: 7 β -acetoxy-22-hydroxyhopane.

Huneck, Follinam, *Z. Naturforsch.*, **22B**, 1182 (1967)

P. physciospora.

DEPSIDONE: methyl 5-chlorovirensate.

DIOXEPIN: physciosporin.

Maass *et al.*, *Can. J. Chem.*, **55**, 2839 (1977)

P. quercifolia.

ACID: O-methylgyrophoric acid.

Maass, *Bryologist*, **78**, 178 (1975)

PSEUDOEROTUM

P. ovalis.

STEROIDS: pseurotins A, B, C, D and E.

SESQUITERPENOID: ovalicin.

Sigg, Weber, *Helv. Chim. Acta*, **51**, 1395 (1968)

PSEUDOLARIX (Pinaceae)

P. kaempferi.

DITERPENOIDS: pseudolaric acids A, B, C, C-1 and C-2.

Shou *et al.*, *Planta Med.*, **47**, 35 (1983)

PSEUDOLOBIVIA

P. kermesina.

AMINE ALKALOIDS: hordenine, N-methyltyramine, tyramine.

Follas *et al.*, *Phytochemistry*, **16**, 1459 (1977)

PSEUDOPanax (Araliaceae)

P. arboreum.

TRITERPENOIDS: 2,3-seco-24-nor-12-ursen-2,3,28-trioic acid, 4-oxo-3,24-dinor-2,3-secours-12-ene-2,28-dioic acid, 3-oxo-24-norurs-12-en-28-oic acid, 2 α ,3 α ,23-trihydroxy-12-oleanen-28-oic acid.

Bowden *et al.*, *Aust. J. Chem.*, **28**, 91 (1975)

PSEUDOPARMELIA

P. texana.

TRITERPENOID: 3-acetoxyhopan-1,22-siol.

Huneck *et al.*, *Phytochemistry*, **22**, 2027 (1983)

PSEUDOPLEXAURA

P. porosa.

DITERPENOID: crassin.

STEROIDS: 24-ethyl-22-dehydro-19-norcholesterol, 24-methyl-19-norcholesterol, 19-norcholesterol.

(S) Popov *et al.*, *Tetrahedron Lett.*, 3421 (1976)

(T) Hossain, vander Helm, *Recl. Trav. Chim. Pays-Bas*, **88**, 1413 (1969)

PSEUDOPOTAMILLA

P. occelata.

STEROID: occelasterol.

Kobayashi, Mitsuhashi, *Steroids*, **24**, 399 (1974)

PSEUDOTSUGA (Rambusiodaceae)

P. japonicum.

SESQUITERPENOID: germacrene D.

Yoshihara *et al.*, *Tetrahedron Lett.*, 2263 (1969)

P. menziesii (Mirb.) Franco.

BENZOPYRAN: methylnarigenin.

FLAVANONE3',4',5,7-tetrahydroxy-6-methylflavanone.

GLUCOSIDE: poriolin.

TERPENOIDS: pseudotsugonal, ar-pseudotsugonal, pseudotsugonoxide, ar-pseudotsugonoxide, thunbergol, ar-todomatuic acid.

(B, Gl) Barton *et al.*, *Can. J. Chem.*, **45**, 1020 (1967)

(F) Barton *et al.*, *ibid.*, **47**, 869 (1969)

(T) Sakai, Hirose, *Chem. Lett.*, 491 (1973)

PSEUDOWINTERA (Winteraceae)

P. colorata.

SESQUITERPENOID: colorata-4(13),8-dienolide.

Corbett, Chee, *J. Chem. Soc., Perkin I*, 850 (1976)

PSEUDOXANDRA

P. off. lucida.

BENZYLISOQUINOLINE ALKALOIDS: oxandrine, oxandrinine, pseudoxandrine, pseudoxandrinine.

Cave *et al.*, *Can. J. Chem.*, **64**, 1390 (1986)

PSEUDOXYNSSA

P. pitys.

Four sesquiterpenoids.

Wratten, Faulkner, *Tetrahedron Lett.*, 1395 (1978)

PSEUDUVARIA

P. cf. dolichonema J Sinclair.

NORAPORPHINE ALKALOID: 1,2,9,10-tetramethoxynoraporphine.

Johns *et al.*, *Aust. J. Chem.*, **23**, 423 (1970)

PSIADIA

P. altissima.

DITERPENOIDS: 6-deoxysiadiol, isopsiadiol, psiadiol.

Canonica *et al.*, *Gazz. Chim. Ital.*, **99**, 260 (1969)

Canonica *et al.*, *ibid.*, **99**, 276 (1969)

PSIDIUM (Myrtaceae)

P. guaijava.

TRITERPENOID: guaijavolic acid.

UNCHARACTERIZED TERPENOID: sesquiguavene.

Arthur, Hui, *J. Chem. Soc.*, 1403 (1954)

PSILOCYBE

P. pelliculosa.

TOXIN: psilocybin.

Repke *et al.*, *J. Pharm. Sci.*, **66**, 113 (1976)

P. semilanceata.

TOXINS: baeocystin, psilocybin.

Repke *et al.*, *J. Pharm. Sci.*, **66**, 113 (1976)

PSILOTHONNA

P. tagetes.

ACETYLENIC: 1,3-undecadiene-5,7,9-triyne.

Bohlmann *et al.*, *Chem. Ber.*, **104**, 954 (1971)

PSILOTROPHE

P. cookeri.

SESQUITERPENOID: psilotropin.

de Silva *et al.*, *Phytochemistry*, **9**, 59 (1970)

P. villosa.

SESQUITERPENOID: 4-hydroxypsilotropine.

Bohlmann *et al.*, *Phytochemistry*, **19**, 1491 (1980)**PSILOTUM*****P. nudum.***

PHENOLIC: psilotic acid.

Shamsuddin *et al.*, *Phytochemistry*, **24**, 2458 (1985)**PSORALEA (Leguminosae)*****P. corylifolia.***

CHALCONE: neobavachalcone.

CHROMENES: psoralen, psoralidin.

DITERPENOIDS: (S)-(E)-bakuchiol, bavachalone, bavachin, (-)-bavachinin, corylidin, isobavachalcone, isobavachin.

ISOFLAVONE: corylinal.

(Chal) Seshadri *et al.*, *Phytochemistry*, **16**, 1995 (1977)(Chr) Austin *et al.*, *ibid.*, **12**, 1657 (1973)(I) Gupta *et al.*, *ibid.*, **17**, 164 (1978)(T) Gupta *et al.*, *ibid.*, **16**, 403 (1977)(T) Jungk *et al.*, *Experientia*, **34**, 1121 (1978)**PSOROMA (Pannariaceae)*****P. contorta.***

BIPHENYL: contortin.

Elix *et al.*, *Aust J. Chem.*, **37**, 1531 (1984)***P. dimorphum.***

DEPSIDONES: diploicin, pannarin, vicanicin.

Piovano *et al.*, *J. Nat. Prod.*, **48**, 854 (1985)***P. pallidum.***

DEPSIDONES: dechloropannarin, pannarin, vicanicin.
Piovano et al., J. Nat. Prod., 48, 854 (1985)

P. pulchrum.

DEPSIDONES: pannarin, vicanicin.
Piovano et al., J. Nat. Prod., 48, 854 (1985)

P. reticulatum.

DEPSIDONES: pannarin, vicanicin.
Piovano et al., J. Nat. Prod., 48, 854 (1985)

PSYCHOTRIA

P. adenophylla.

STEROID: β -sitosterol.
 TRITERPENOIDS: α -amyrin, bauerenol, betulinic acid.
Dan et al., Fitoterapia, 57, 445 (1986)

P. beccariooides.

PENTAMERIC ALKALOID: psychotridine.
Hart et al., Aust J. Chem., 27, 639 (1974)

P. ipecacuanha.

ISOQUINOLINE ALKALOID: emetamine.
Oyman, J. Chem. Soc., 111, 428 (1917)

PTAEROXYLON

P. obliquum.

BENZOPYRANS: prenyletin, umtatin.
 SESQUITERPENOID: nieshoutin, obliquetin, obliquetol, obliquin.
 (B) *Dean et al., J. Chem. Soc., C, 114 (1966)*
 (T) *McCabe et al., ibid., 145 (1967)*

PTELEA (Rutaceae)

P. trifoliata L.

FURANOQUINOLINE ALKALOIDS: (+)-hydroxyruine, maculosidine, preleine, ptelefolidine, ptelefoline, ptelefructine, pteleoline, skimmianine.

QUATERNARY ALKALOID: O-methylptelefolium.

QUINOLONE ALKALOIDS: N-methylflindersine, ptelecortine, pteledimeridine, 1,2,3,4-tetrahydro-2-isopropenyl-5,7-dimethoxy-4-methylfuro-[2,3b]-quinolin-9-one.

COUMARINS: aurapten, imperatorin, phellopterin.

(A) Brown *et al.*, *Aust. J. Chem.*, **7**, 181 (1954)

(A) Mester *et al.*, *Justus Liebigs Ann. Chem.*, 1785 (1979)

(C) Reisch *et al.*, *Phytochemistry*, **14**, 1678 (1975)

PTERIDIUM

P. aquilinum (L.) Kuhn.

OXOINDANE: 2,4,6-trimethyl-3-oxo-5-indanacetic acid.

TERPENOIDS: aquilide A, pterosides A, B, C, D, M and Z.

(O) Yoshihara *et al.*, *Chem. Pharm. Bull.*, **19**, 1491 (1971)

(T) Van der Howven *et al.*, *Carcinogenesis (London)*, **4**, 1587 (1983)

P. aquilinum Kuhn. var. latisculum Underw.

STEROID: ponasteroside A.

SESSQUITERPENOIDS: ptaquiloside, pterosins A, B, C, D, E, G, I, J, K, L, N, O, P and Z, pteroside P.

(S) Takemoto *et al.*, *Tetrahedron Lett.*, 4199 (1968)

(T) Kuroyama *et al.*, *Chem. Pharm. Bull.*, **22**, 723 (1974)

(T) Niwa *et al.*, *Tetrahedron Lett.*, 4117 (1983)

PTERIDOPHYLLUM

P. racemosum.

SPIROISOQUINOLINE ALKALOID: corydalispirone.

Itokawa *et al.*, *Phytochemistry*, **15**, 577 (1976)

PTERIS (Pteridaceae)

P. aquilinum.

GLYCOSIDE: (3R)-pterosin 3-O- β -D-glucopyranoside.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **30**, 3640 (1982)

P. bella.

SESQUITERPENOIDS: 2-hydroxypterosin C, 11-hydroxypterosin C, (3R)-hydroxypterosin H, 11-hydroxypterosin T.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **30**, 3640 (1982)

P. cretica.

DITERPENOIDS: creticosides A, B, C and E.

Murakami *et al.*, *Chem. Pharm. Bull.*, **22**, 1686 (1974)

P. dispar.

DITERPENOID: ent-7 β ,9-dihydroxy-15-oxokaur-16-en-19,6 β -olide.

Murakami *et al.*, *Chem. Pharm. Bull.*, **24**, 549 (1976)

P. fauriei.

SESQUITERPENOIDS: pterosin W, pterosin X.

Murakami *et al.*, *Chem. Pharm. Bull.*, **24**, 1961 (1976)

P. kiushinensis.

SESQUITERPENOIDS: pterosins S, T and U.

Murakami, Satake, *Chem. Pharm. Bull.*, **23**, 936 (1975)

P. livida.

DITERPENOID: ent-6 β ,9-dihydroxy-15-oxokaur-16-en-19-oic acid 19-O- β -D-glucopyranoside.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **29**, 3455 (1981)

P. longipes.

DITERPENOIDS: pretokaurenes L-2 and L-4.

Murakami *et al.*, *Chem. Pharm. Bull.*, **29**, 657 (1981)

P. longipinna.

CHROMENES: pterochromenes L-1, L-2, L-3 and L-4.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **26**, 1339 (1978)

P. oshinensis.

SESQUITERPENOIDS: pterosin C 3- α -L-arabinopyranoside, pterosin Q 3- α -L-arabinopyranoside, pteroside Q, pterosin Q.

Mutakami, Tanaka, *Chem. Pharm. Bull.*, **23**, 1890 (1975)

P. plumbea.

DITERPENOIDS: pterokaurane P-1, pterokaurane P-1 2-O- β -D-glucopyranoside, pterokauranes -2, P-3 and P-4.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **26**, 3260 (1978)

P. ryukyensis.

DITERPENOID: pterokaurane R.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **26**, 1339 (1978)

P. wallichiana.

SESQUITERPENOIDS: isopteroside C, pterosin B, pterosin C, pterosin C 3-O- β -D-glucopyranoside, wallichioside.

STEROIDS: β -sitosterol, β -sitosterol palmitate.

(S) Sengupta *et al.*, *Indian J. Chem.*, **14B**, 817 (1976)

(T) Murakami *et al.*, *Chem. Pharm. Bull.*, **24**, 173 (1976)

(T) Sengupta *et al.*, *Phytochemistry*, **15**, 995 (1976)

PTEROCARPUS (Juglandaceae)

P. erinaceus.

SAPOGENIN: pseudobaptigenin.

Schmidt *et al.*, *Monatsh. Chem.*, **53**, 454 (1929)

P. indicus.

BENZOFURAN: pterofuran.

Cooke *et al.*, *Aust. J. Chem.*, **17**, 379 (1964)

P. macrocarpus.

ISOFLAVANONE: macrocarposide.

TRITTERPENOID:eudes-4(15)-ene-2,11-diol.

(I) Verma *et al.*, *Planta Med.*, 315 (1986)

(T) Bahl *et al.*, *Tetrahedron*, **24**, 6231 (1968)

P. marsupium.

FLAVONOIDS: 7-hydroxy-5,4'-dimethoxy-8-methylisoflavone 7-rhamnoside, irisolidol 7-O- β -D-glucopyranoside, retusin 7-O- β -D-glucopyranoside.

Mitra, Joshi, *Phytochemistry*, **22**, 2326 (1983)

P. osun.

ISOFLAVANONE: santal.

Navasimhachari *et al.*, *Proc. Indian Acad. Sci.*, **37A**, 531 (1953)

P. santalinus.

STEROIDS: β -sitosterol, stigmasterol.

SESQUITERPENOID: isopterocarpolone.

TRITERPENOIDS: β -amyrin, β -amyrone, betulin, erythrodiol, eudes-4(15)-ene-2,11-diol, lup-20(29)-ene-2 α ,3 β -diol, lupenone, lupeol, epi-lupeol, pterocarpdiolone, pterocarpol, pterocarpriol.

Kumar, Seshadri, *Phytochemistry*, **15**, 1417 (1976)

PTEROCARYA

P. rhoifolia.

NAPHTHOQUINONES: 3,3'-bijuglone, cyclotrijuglone, juglone.

Hirakawa *et al.*, *Phytochemistry*, **25**, 1494 (1986)

PTEROCAULON

P. balansae.

COUMARIN: 2',3'-dihydroxypuberulin.

Magalhaes *et al.*, *Phytochemistry*, **20**, 1369 (1981)

P. lanatum. Coumarins,

2',3'-dihydroxypuberulin. 2',3'-epoxypuberulin.

Magalhaes *et al.*, *Phytochemistry*, **20**, 1369 (1981)

PTEROCEPHALUS (Dipsacaceae)

P. plumosus.

PHENOLIC: swertiajaponin.

Zemtzova *et al.*, *Khim. Prir. Soedin.*, 705 (1977)

PTEROCEREUS (Cactaceae)

P. gaumeri.

ISOQUINOLINE ALKALOID: pterocereine.

Mohamed *et al.*, *Lloydia*, **42**, 197 (1979)

PTERODON (Leguminosae)

P. apraricioi.

ISOFLAVONES: 3',7-dihydroxy-4',6-dimethoxyisoflavone, 4',7-dihydroxyisoflavone, 4',7-dimethoxyisoflavone, 7-hydroxy-2',4',5',6-tetramethoxyisoflavone, 2',3',4',6,7-pentamethoxyisoflavone, 3',4',5',6,7-pentamethoxyisoflavone, 3',4',6,7-tetramethoxyisoflavone, 2',7,8-trimethoxy-4',5'-methylenedioxyisoflavone.

STEROIDS: β -sitosterol, stigmasterol.

Galina *et al.*, *Phytochemistry*, **13**, 2593 (1974)

de Almeida *et al.*, *Phytochemistry*, **14**, 2716 (1975)

P. emarginatus.

DITERPENOIDS: 6-acetoxy-6,7-dihydroxyvouacapan-17-oic acid, 7-acetoxyvouacapane, 6-acetoxyvouacapano-17,7-lactone, methyl 7β -acetoxy- 6α -hydroxycouacapan-17 β -oate, methyl- 6α , 7β -dihydroxyvouacapan-17-oate.

Mahajan, Montiero, *J. Chem. Soc., Perkin I*, 520 (1973)

P. obliquum.

CHROMONES: ptaerochromenol, ptaerocyclin, ptaeroglycol, ptaeroxylin, ptaeroxylone.

Dean *et al.*, *Tetrahedron Lett.*, 2737 (1967)

P. poligaiiflorus.

DITERPENOID: methyl 7-hydroxy-6-acetoxyvouacapan-17-oate.

Mahajan, Montiero, *J. Chem. Soc., Perkin I*, 520 (1973)

P. pubescens.

ISOFLAVONE: 3',4',6,7-tetramethoxyisoflavone.

Campbell *et al.*, *J. Chem. Soc., C*, 1787 (1969)

PTEROGYNE

P. nitens.

GUANIDINE ALKALOIDS: pterogynidine, pterogynine.

Corral *et al.*, *Rev. Latinoam. Quim.*, **2**, 179 (1972)

PTERONIA (Umbelliferae)

P. ciliata Thunb.

COUMARIN: isofraxidin-(3,3-dimethylallyl ether).

Bohlmann *et al.*, *Chem. Ber.*, **108**, 2955 (1975)

P. glabra L.

COUMARIN: -(3-methyl-2,3-epoxybutyloxy)-5,6-methylenedioxycoumarin.

Bohlmann *et al.*, *Chem. Ber.*, **108**, 2955 (1975)

PTEROXYLON

P. loblquum.

SESQUITERPENOIDS: heteropeucenin, heteropeucenin dimethyl ether.

Dean, Taylor, *J. Chem. Soc., C*, 114 (1966)

PTERYXIA

P. terebinthina.

BENZOPYRANS: pterybinthinone, pteryxin.

Thompson *et al.*, *J. Nat. Prod.*, **42**, 120 (1979)

PTILIDIUM (MUSCI)

P. ciliare (Hedw.) Hampe.

SESQUITERPENOID: deoxopinguisone.

Krutow *et al.*, *Phytochemistry*, **12**, 1405 (1973)

PTILOSARCUS

P. gurneyi.

DITERPENOID: ptilosarcone.

Wratten *et al.*, *Tetrahedron Lett.*, 1559 (1977)

PTILOSTEMON

P. chamepuce.

SESQUITERPENOIDS: ptilostemonal, ptilostemonol.

Takeda *et al.*, *Bull. Chem. Soc., Japan*, **56**, 1125 (1983)

PUCCINIA

P. dispersa.

CAROTENOIDS: β -carotene, τ -carotene, lycopene.

Serova *et al.*, *Chem. Abstr.*, 84 102303c

PUERARIA

P. chinensis.

ISOFLAVANONE: kakkatin.

Kubo *et al.*, *Chem. Pharm. Bull.*, **23**, 2449 (1975)

P. lobata.

ISOFLAVONES: daidzin, 4',7-dihydroxyisoflavone.

Markham *et al.*, *Phytochemistry*, **7**, 791 (1968)

P. mirifica.

ISOFLAVANOIDs: coumestrol, daidzein, daidzin, genisteine, mirificin, puerarin.

Ingham *et al.*, *Z. Naturforsch.*, **41C**, 403 (1986)

P. radix.

TERPENOID: kadsusapogenol C.

Kinjo *et al.*, *Chem. Pharm. Bull.*, **33**, 1293 (1985)

P. thunbergiana.

FLAVONOIDs: biochanin A, formononetin, genistin, kakkalide, ononin, puerarin, sissotrin.

STEROIDS: β -asitosterol, β -sitosterol 3-O- β -D-glucopyranoside.

(F) Kurihara *et al.*, *J. Pharm. Soc., Japan*, **95**, 1283 (1975)

(F, S) Kurihara *et al.*, *ibid.*, **96**, 1486 (1976)

P. tuberosa.

BENZOPYRAN: tuberoside.

Joshi *et al.*, *Indian J. Chem.*, **10**, 1112 (1972)

PULICARIA (Compositae)

P. crispa.

SESQUITERPENOIDS: pulicariolide, scocrispolide.

Bohlmann, Knoll, *Phytochemistry*, **18**, 1112 (1972)

P. dysenterica (L.) Bernh.

SESQUITERPENOIDS: 1a-acetoxyisocomene, 12-deoxy-14-hydroxy-9-caryophyllenone 14-acetate, (E)-12,14-dihydroxy-9-caryophyllenone, (E)-12,14-dihydroxycaryophyllenone 1-acetate, (E)-12,14-dihydroxycaryophyllenone 14-acetate, (E)-12,14-dihydroxycaryophyllenone 12,14-diacetate, (Z)-12,14-dihydroxy-9-caryophyllenone, (Z)-12,14-dihydroxycaryophyllenone 12-acetate, (Z)-12,14-dihydroxycaryophyllenone 14-acetate, (Z)-12,14-dihydroxycaryophyllenone 12,14-diacetate.

TRITERPENOID: pulidisenterin.

Bohlmann *et al.*, *Phytochemistry*, **20**, 2529 (1981)

P. gnaphaloides.

DITERPENOID: ent-15,16-epoxy-3,13(16),14-clerodatriene-18,6-olide.

Ruataiyan *et al.*, *Phytochemistry*, **20**, 2772 (1981)

P. salviifolia.

FLAVONOID: rutin.

DITERPENOID: salvinicin.

Nurmukhamedova *et al.*, *Khim. Prir. Soedin.*, 299 (1986)

P. scabra.

DIMERIC SESQUITERPENOID: puliscabrin.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1659 (1982)

P. undulata.

ACETOPHENONE: 2-hydroxy-4,6-dimethoxyacetophenone.

Ayoub *et al.*, *Fitoterapia*, **52**, 247 (1981)

PULSATILLA (Ranunculaceae)

P. cernua.

SAPONIN: pulsatilla saponin I.

Shimizu *et al.*, *Chem. Pharm. Bull.*, **26**, 1666 (1978)

P. rubra D.

FLAVONOIDS: kaempferol 3-p-coumaroylglicoside, kaempferol 3-glucoside, kaempferol 7-glucoside.

Reynaud *et al.*, *Plant Med. Phytother.*, **11**, 87 (1977)

PULTNAEA (Leguminosae/Podalyriace)

P. altissima F.Muell. ex Benth.

INDOLE ALKALOID: (S)(+)-N(b)-dimethyltryptophan methyl ester.

Johns *et al.*, *Aust. J. Chem.*, **24**, 439 (1971)

PUNICA (Punicaceae)

P. granatum L.

PIPERIDINE ALKALOIDS: isopelletierine, methylisopelletierine, N-methylpelletierine, (\pm)-pelletierine, ($-$)-pelletierine, pseudopelletierine.

TANNINS: 2-O-galloylpunicalin, punicafolin, punicalagin, punicalin.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **34**, 650 (1986)

PUTRANJIVA

P. roxburghii.

FLAVONE: podocarpusflavone.

SAPONINS: putranjiva saponins A, B, C and D, putranosides A, B, C and D.

TRITERPENOIDS: friedelane-3,7-dione, putranjic acid, iputranjivadione, putranjivic acid, putrankivanonol, putrone, roxburghonic acid.

(F) Chexal *et al.*, *Chem. Ind. (London)*, 28 (1970)

(Sap) Seshadri *et al.*, *Indian J. Chem.*, **13**, 444 (1975)

(T) Sengupta *et al.*, *Tetrahedron*, **24**, 1205 (1968)

PUTTERLICKIA

P. verrucosa.

MACROCYCLIC ALKALOIDS: maytanacine, maytansine.

Kupchan *et al.*, *J. Org. Chem.*, **42**, 2349 (1977)

PYCNANTHUS

P. kombo.

POLYPRENOID: kombic acid.

Groenawegan *et al.*, *Phytochemistry*, **22**, 1973 (1983)

PYCNARRHENA

P. australiana.

BISBENZYLISOQUINOLINE ALKALOID: 2-N-norberbamine.

Sioumis, Vashist, *Aust. J. Chem.*, **25**, 2251 (1972)

P. longifolia.

ISOQUINOLINE ALKALOID: pycnarrhine.

BISBENZYLISOQUINOLINE ALKALOIDS: berbacolorflammine, colorflammine, krukovine.

Siwon *et al.*, *Phytochemistry*, **20**, 323 (1981)

Van Beek, Verpoorte, *J. Org. Chem.*, **47**, 898 (1982)

P. manillensis Vidal.

UNCHARACTERIZED ALKALOIDS: ambaline, ambalinine.

Santos *et al.*, *Univ. Philipp. Nat. Appl. Sci. Bull.*, **3**, 353 (1933)

P. ozantha Diels.

BISBENZYLISOQUINOLINE ALKALOIDS: N,N-bisnoraromoline, 2'-N-noromabegine.

Loder, Nearn, *Aust. J. Chem.*, **25**, 2193 (1972)

PYGEUM

P. acuminatum.

TRITERPENOIDS: acuminatic acid, 2,3,19-trihydroxy-12-ursen-28-oic acid.

Chandel, Rastogi, *Indian J. Chem.*, **15B**, 914 (1977)

PYGMACOPREMNA

P. herbacea.

TERPENOID: bharangin.

Sankaram *et al.*, *IUPAC Int. Symp. Chem. Nat. Prod., 11th*, **2**, 97 (1978)

PYRETHRUM (Compositae)

P. parthenifolium.

SESQUITERPENOID: pyrethrin.

Yunusov *et al.*, *Khim. Prir. Soedin.*, 532 (1983)

P. pyrethroides.

SESQUITERPENOIDS: isopyrethroidinin, pyrethroidinin.

Abduazimov *et al.*, *Khim. Prir. Soedin.*, 574 (1985)

PYRACANTHA

P. angustifolia.

CAROTENOID: phytofluene.

Goodwin, *Biochem. J.*, **53**, 538 (1953)

PYROLA (Pyrolaceae)

P. media Swartz.

SESQUITERPENOIDS: 5-geranyl-2-methyl-1,4-benzoquinone, 2-methy-5-(3-methylbut-2-enyl)-1,4-benzoquinone. Burnett,

Thomson, *J. Chem. Soc.*, 847 (1968)

P. renifolia.

GLUCOSIDE: renifolin.

Inouye *et al.*, *Chem. Pharm. Bull.*, **12**, 533 (1964)

PYRUS (Rosaceae)

P. communis L.

GIBBERELLIN: gibberellin A-45.

GLUCOSIDE: 6-O-acetylarbutin.

PHYTOALEXINS: α -pyrufuran, β -pyrufuran.

(Gib) Bearder *et al.*, *Tetrahedron Lett.*, 669 (1975)

(Glu) Durkeia *et al.*, *J. Food Sci.*, **33**, 461 (1968)

(Ph) Kemp *et al.*, *J. Chem. Soc., Perkin I*, 2267 (1983)

P. malus L. (Malus sylvestris Mill.).

TRITERPENOIDS: 19-hydroxyursolic acid, 20-hydroxyursolic acid, 19-hydroxyursonic acid, pomolic acid, pomonic acid.

Brieskorn, Wunderer, *Z. Naturforsch.*, **21**, 1005 (1966)

Lawrie *et al.*, *J. Chem. Soc., C*, 851 (1967)

PYXINE

P. coccifera.

TRITERPENOID:(20S,24R)-epoxy-25-acetoxydammaran-3-one.

Huneck, *Phytochemistry*, **15**, 799 (1976)

P. endochrysina.

TRITERPENOIDS: pyxinic acid, pyxinic acid methyl ester, pyxinic acid 3-acetate, pyxinic acid methyl ester 3-acetate, pyxinol, pyxinol 3-acetate, pyxinol 3,25-diacetate.

Yosioka *et al.*, *Chem. Pharm. Bull.*, **20**, 502 (1972)

Q

QUALEA

Q. labouriauanas.

BENZOPHENONE: bis-(2-hydroxy-4,6-dimethoxy-3-methylphenyl)-methanone.

Correa *et al.*, *Phytochemistry*, **20**, 305 (1981)

QUARARIBEA (Bombacaceae)

Q. funebris (Lieve.) Vischer.

ALKALOID: funebrin.

Raffauf *et al.*, *J. Org. Chem.*, **49**, 2714 (1984)

QUASSIA (Simarubaceae)

Q. africana.

QUASSINOIDES: simalikilatones A, B, C and D.

Tresca *et al.*, *C.R. Acad. Sci.*, **273C**, 601 (1971)

Q. amara.

CARBOLINE ALKALOIDS: 1-methoxycarbonyl- β -carboline, 3-methylcanthin-2,6-dione, 1-vinyl-4,8-dimethoxy- β -carboline.

QUASSINOIDES: quassimarin, simalikilactones A, B, C and D.

STEROIDS: α -sitostenone, stigmast-4-en-3-one.

(A) Barbetti *et al.*, *Planta Med.*, **53**, 289 (1987)

(S) Lavie, Kaye, *J. Chem. Soc.*, 5001 (1963)

(T) Kupchan, Streelman, *J. Org. Chem.*, **41**, 3481 (1978)

QUERCUS (Fagaceae)

Q. acuta.

ALIPHATICS: hentriaccontane, heptacosane, nonacosane, tritriacontane.

STEROID: β -sitosterol.

TRITERPENOIDS: β -amyrin, β -amyrin acetate, friedelanol acetate, epi-friedelanol, friedelin, lupeol, taraxanol.

Kamano *et al.*, *J. Pharm. Soc., Japan*, **96**, 1202 (1976)

Q. acutissima.

HYDROCARBONS: ditriaccontane, heptacosane, hexacosane, monotriaccontane, nonacosane, octacosane, pentacosane, triacontane, tritriacontane.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelanol, epi-friedelanol, friedelin, glutinol, lupeol.

Tachi *et al.*, *J. Pharm. Soc., Japan*, **98**, 349 (1978)

Q. aegilops.

TANNIN: valolaginic acid.

Mayer *et al.*, *Ann. Chem.*, 987 (1976)

Q. aliena.

HYDROCARBONS: ditriaccontane, ,i.heptacosane, hexacosane, monotriaccontane, nonacosane, octacosane, pentacosane, triacontane, tritriacontane.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelanol, epi-friedelanol, friedelin, glutinol, lupeol.

Tachi *et al.*, *J. Pharm. Soc., Japan*, **98**, 349 (1978)

Q. bambusaefolia.

TRITERPENOIDS: taraxer-1,4-dien-3-one, 14-taraxerene-3,16-diol.

Hui, Li, *J. Chem. Soc., Perkin I*, 897 (1977)

Q. championi.

TRITERPENOIDS: 21-(H)-hopane-3 β ,22-diol, hop-17(21)-en-3 β -ol, hop-17(21)-en-3 β -ol 3-acetate.

Hui, Li, *J. Chem. Soc., Perkin I*, 897 (1977)

Q. dentata.

HYDROCARBONS: ditriaccontane, heptacosane, hexacosane, monotriaccontane, nonacosane, octacosane, pentacosane, triacontane, tritriacontane.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelinol, epi-friedelinol, friedelin, glutinol, lupeol.

Tachi *et al.*, *J. Pharm. Soc., Japan*, **98**, 349 (1978)

Q. gilva Blume.

ALIPHATICS: hentriaccontane, heptacosane, nonacosane tritriacontane.

STEROID: β -sitosterol.

TRITERPENOIDS: β -amyrin, β -amyrin acetate, 24,24-dimethyllanosta-9(11),25-dien-3-acetate, friedelanol acetate, epi-friedelanol, friedelin, gilvanol, lupeol, taraxanol.

(Al, S, T) Kamano *et al.*, *J. Pharm. Soc., Japan.*, **96**, 1202 (1976)

(T) Tackie *et al.*, *J. Pharm. Soc., Japan*, **96**, 1213 (1976)

Q. glauca Thunb.

ALIPHATICS: hentriaccontane, heptacosane, nonacosane, tritriacontane.

STEROID: β -sitosterol.

TRITERPENOIDS: β -amyrin, β -amyrin acetate, cyclobalanone, friedelanol acetate, epi-friedelanol, friedelin, taraxanol.

(Al, S, T) Kamano *et al.*, *J. Pharm. Soc., Japan*, **96**, 1202 (1976)

(T) Tackie *et al.*, *Chem. Pharm. Bull.*, **19**, 2193 (1971)

Q. ilex.

TRITERPENOID: 2,3,19,23-tetrahydroxy-12-ursen-28-oic acid- β -D-glucopyranosyl ester.

Ramussi *et al.*, *Ann. Chim.*, 1448 (1983)

Q. lusitanica.

GLUCOSIDE: tannin.

Armitage *et al.*, *J. Chem. Soc.*, 1842 (1961)

Q. macrolepis.

PHENOLIC: valoneaic acid.

Schmidt *et al.*, *Justus Liebigs Ann. Chem.*, **591**, 156 (1955)

Q. microlepis.

TANNIN: valolaginic acid.

Mayer *et al.*, *Ann. Chim.*, 987 (1976)

Q. mongolica.

ALIPHATICS: ditriaccontane, heptacosane, hexacosane, monotriaccontane, nonacosane, octacosane, pentacosane, triaccontane, tritriacontane.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelanol, epi-friedelanol, friedelin, glutinol, lupeol.

Tachi *et al.*, *J. Pharm. Soc., Japan*, **98**, 349 (1978)

Q. mongolica var. grosseserrata.

ALIPHATICS: ditriaccontane, heptacosane, hexacosane, monotriaccontane, nonacosane, octacosane, pentacosane, triaccontane, tritriacontane.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelanol, epi-friedelanol, friedelin, glutinol, lupeol.

Tachi *et al.*, *J. Pharm. Soc., Japan*, **98**, 349 (1978)

Q. myrsinæfolia.

ALIPHATICS: hentriaccontane, heptacosane, nonacosane, tritriacosane.

STEROID: β -sitosterol.

TRITERPENOIDS: 3-acetoxy-24,25-dimethylolanosta-9(11),23-diene, β -amyrin, β -amyrin acetate, friedelanol acetate, epi-friedelanol, friedelin, lupeol, taraxanol, taraxera-1,14-dien-3-ol.

(P, S, T) Kamano *et al.*, *J. Pharm. Soc., Japan.*, **96**, 1202 (1976)

(T) Hui, Li, *J. Chem. Soc., Perkin I*, 897 (1977)

Q. phyllyracoides.

ALIPHATICS: hentriaccontane, heptacosane, nonacosane, tritriaccontane.

STEROID: β -sitosterol.

TRITERPENOIDS: β -amyrin, β -amyrin acetate, friedelanol acetate, epi-friedelanol, friedelin, lupeol, taraxanol.

Kamano *et al.*, *J. Pharm. Soc., Japan.*, **96**, 1202 (1976)

Q. robur.

TRITERPENOID: 2 α -acetoxyfriedel-3-one.

Talapatra *et al.*, *Indian J. Chem.*, **16B**, 361 (1978)

Q. sessilifolia Salisb. (Q. petraea (Mattuschka) Liebl.).

ALIPHATICS: hentriaccontane, nonacosane, tritriaccontane.

BENZOFURANS: vescalegin, vescalin.

STEROID: β -sitosterol.

TRITERPENOIDS: β -amyrin, β -amyrin acetate, friedelanol acetate, epi-friedelanol, friedelin, lupeol, taraxanol.

(A, S, T) Kamano *et al.*, *J. Pharm. Soc., Japan.*, **96**, 1202 (1976)

(T) Mayer *et al.*, *Justus Liebigs Ann. Chem.*, **707**, 177 (1967)

Q. serrata.

ALIPHATICS: ditiaccontane, heptacosane hexacosane, monotriaccontane, nonacosane, octacosane, pentacosane, triaccontane, tritriaccontane.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelanol, epi-friedelanol, friedelin, glutinol, lupeol.

Tachi *et al.*, *J. Pharm. Soc., Japan.*, **98**, 349 (1978)

Q. stenophylla Makino.

ALIPHATICS: hentriaccontane, heptacosane, nonacosane, tritriaccontane.

STEROID: β -sitosterol.

TANNINS: stenophynin A, stenophynin B.

TRITERPENOIDS: β -amyrin, β -amyrin acetate, friedelanol acetate, epi-friedelanol, friedelin, lupeol, taraxanol.

(A, S, T) Kamano *et al.*, *J. Pharm. Soc., Japan.*, **96**, 1202 (1976)

(B) Nishimura *et al.*, *Chem. Pharm. Bull.*, **34**, 3223 (1986)

Q. valonea.

PHENOLIC: valoneaic acid.

TANNIN: valolaginic acid.

(P) Schmidt *et al.*, *Justus Liebigs Ann. Chem.*, **591**, 156 (1955)

(Tan) Mayer *et al.*, *Ann. Chem.*, 987 (1976)

Q. variabilis.

ALIPHATICS: ditriaccontane, heptacosane, hexacosane, monotriaccontane, nonacosane, octacosane, pentacosane, triaccontane, tritriaccontane.

STEROID: β -sitosterol.

TRITERPENOIDS: friedelanol, epi-friedelanol, friedelin, glutinol, lupeol.

Tachi *et al.*, *J. Pharm. Soc., Japan*, **98**, 349 (1978)

QUISQUALIS (Combretaceae)

Q. fructus.

OXODIAZOLIDINE: quisqualic acid.

Takemoto, *J. Pharm. Soc., Japan*, **95**, 326 (1975)

Q. indica.

OXODIAZOLIDINE: quisqualic acid.

Takemoto, *J. Pharm. Soc., Japan*, **95**, 326 (1975)

R

RABDOSIA (Labiatae)

R. adenantha.

DITERPENOID: adenanthin.

Xu *et al.*, *Chem. Nat. Prod. Sin-Am. Symp.*, 275 (1980)

R. amethystoides.

DITERPENOID: amethystoidin A.

Cheng *et al.*, *Chem. Abstr.*, 96 139670

R. effusa.

DITERPENOIDS: effusanins A, B, C, D and E, effusin.

Fujita *et al.*, *Chem. Lett.*, 1635 (1980)

R. eriocalyx.

DITERPENOIDS: eriocalyxin A, eriocalyxin B.

Wang *et al.*, *Yunnan Zhiwu Yanjiu*, **4**, 407 (1982)

R. excisa.

DITERPENOIDS: excisanin A, excisanin B.

Taiho Pharmaceuticals Co., *Japanese Patent*, 82 167, 938

R. henryi.

DITERPENOID: henryin.

Li *et al.*, *Yunnan Zhiwu Yanjiu*, **6**, 453 (1984)

R. inflexa.

DITERPENOIDS: inflexin, inflexinol.

Fujita *et al.*, *Phytochemistry*, **21**, 903 (1982)

R. japonica.

DITERPENOIDS: rabdosins A, B and C.

Liu *et al.*, *Yaoxue Xuebao*, **17**, 682, (1982)

Liu *et al.*, *ibid.*, **17**, 750 (1982)

***R. japonica* var. *glaucocalyx*.**

DITERPENOIDS: glaucocalyxin A, glaucocalyxin B.

Zu et al., *Yunnan Zhiwu Yanjiu*, **3**, 283 (1981)***R. lasiocarpa*.**

DITERPENOIDS: carpalasionin, rabdolasional.

Takeda et al., *Chem. Lett.*, 833 (1982)***R. latifolia* var. *reniformis*.**

DITERPENOIDS: reniformins A, B and C.

Wang et al., *Zhiwu Xuebao*, **28**, 292 (1986); *Chem. Abstr.*, 105 222711h***R. longituba*.**

DITERPENOIDS: longikaurins A, B, C, D, E and F.

Fujita et al., *J. Chem. Soc., Chem. Commun.*, 205 (1980)***R. macrocalyx*.**

DITERPENOIDS: macrocalin A, macrocalin B, macrocalyxins A, B, C, D and E.

Wang et al., *Zhiwu Xuebao*, **28**, 415 (1986); *Chem. Abstr.*, 106 47185m***R. macrocalyx* var. *jiuhua* Z.W.Xue et X.W.Wang.**

DITERPENOIDS: excisanin A, excisanin B, jiuhuanin A, macrocalyxin A.

Wang et al., *Zhiwu Xuebao*, **28**, 185 (1986); *Chem. Abstr.*, 105 75888r***R. macrophylla*.**

DITERPENOID: rabdophyllin G.

Cheng et al., *Yaoxue Tongbao*, **17**, 174 (1982)***R. microphylla*.**

DITERPENOID: rabdophyllin G.

Cheng et al., *Yaoxue Xuebao*, **17**, 917 (1982)***R. rosthornii*.**

DITERPENOID: rosthorin.

Li, Wang, *Yaoxue Xuebao*, **19**, 590 (1984)***R. rubescens*.**

DITERPENOIDS: ludongin, rubescensins A, B and C.

Zheng et al., *Yunnan Zhiwu Yanjiu*, **6**, 316 (1984)***R. sculponeata*.**

DITERPENOIDS: sculponeata A, B and C, sculponeatins A, B and C.

Wang et al., *Zhongcaoyao*, **13**, 491 (1982)***R. shikokiana* (Makino) Hara.**

DITERPENOIDS: rabdo-epi-gibberellolide, rabdosians A, B, C and D, shikodomedin, shikodiamedin, shikokianoic acid, shikokiaside, shikokoanal acetate.

Ochi *et al.*, *J. Chem. Soc. Chem. Commun.*, 810 (1982)

R. shikokiana var. occidentalis.

DITERPENOIDS: O-methylshikoccin, shikoccin, shikoccidin.

Node *et al.*, *Chem. Pharm. Bull.*, **33**, 1029 (1985)

R. ternifolia.

DITERPENOIDS: isodonic acid, sodoponin, ternifolin.

Wang *et al.*, *Zhiwu Xuebao*, **27**, 520 (1985); *Chem. Abstr.*, 104 31723h

R. trichocarpa.

DITERPENOIDS: trichorabdials A, B and C.

Node *et al.*, *Chem. Lett.*, 2023 (1982)

R. umbrosa.

DITERPENOIDS: leukannenins A, B, C, D, E and F, rabdohakusin.

Kubo *et al.*, *Chem. Lett.*, 1613 (1984)

R. umbrosa var. latifolia.

DITERPENOID: rabdolatifolin.

Takeda *et al.*, *Phytochemistry*, **22**, 2531 (1983)

R. umbrosa var. leucantha f. kameba.

DITERPENOID: leukamenins A, B, C, D, E and F.

Takeda *et al.*, *Chem. Lett.*, 1229 (1981)

RADERMACHERA (Bignoniaceae)

R. sinica Hemsl.

SESQUITERPENOIDS:(2R,3R)-3-hydroxydehydroiso- α -lapachone, (2S,3R)-3-hydroxydehydroiso- α -lapachone.

Inouye *et al.*, *J. Chem. Soc., Perkin I*, 2764 (1981)

RADIX (Cucurbitaceae)

R. bryonica alba.

One uncharacterized alkaloid.

Gulubov, Venkov, *Nauch. Tr. Viss. Pedagog. Inst. Resvdy. Mat. Fis. Khim. Biol.*, **8**, 137 (1970)

R. hellebore niger.

STEROID: hellebrigenin.

Karrer, *Helv. Chim. Acta*, **26**, 1353 (1943)

R. pareira brava.

BISBENZYLISOQUINOLINE ALKALOIDS: (−)-curine, isococlaurine.

King, *J. Chem. Soc.*, 744 (1940)

R. sarsaparillae.

STEROIDS: parillin, sarsasapogenin, sarsasaponin.

Marker, Lopez, *J. Am. Chem. Soc.*, **69**, 2389 (1947)

RADULA (Hepaticae)

R. perrottetii.

SESQUITERPENOID: 2,3-cuparenediol.

Asakawa *et al.*, *Phytochemistry*, **21**, 2481 (1982)

RAMALINA (Usneaceae)

R. ceruchis.

TRITERPENOID: ceruchdiol.

Bendz *et al.*, *Acta Chem. Scand.*, **19**, 1185 (1965)

R. stenospora.

PHENOLIC: tenosporic acid.

Culberson *et al.*, *Phytochemistry*, **9**, 841 (1970)

R. tingitana.

ACID: usnic acid.

Dean *et al.*, *J. Chem. Soc.*, 1250 (1953)

RANDIA (Rubiaceae)

R. canthioides.

IRIDOID: randioside.

Uesato *et al.*, *Phytochemistry*, **21**, 353 (1982)

R. dumetorum.

SAPONINS: dumetoronsins A, B, C, D, E and F.

TRITERPENOIDS: randialic acid A, randialic acid B.

(Sap) Varshney *et al.*, *J. Indian Chem. Soc.*, **55**, 397 (1978)

(T) Tandon *et al.*, *Indian J. Chem.*, **4**, 483 (1966)

R. formosa.

IRIDOID: 10-caffeoyledeacetylaphylloside.

Sainty *et al.*, *J. Nat. Prod.*, **45**, 676 (1982)

R. spinosa.

TRITERPENOID: spinosic acid, spinosic acid A, spinosic acid B.

Aplin *et al.*, *J. Chem. Soc., C*, 1067 (1971)

RANUNCULUS (Ranunculaceae)

R. acer.

CAROTENOID: taraxanthin.

Kuhn, Lederer, *J. Physiol. Chem.*, **200**, 108 (1931)

R. baudotii.

FLAVONOID: quercetin.

PHENOLICS: caffeic acid, p-coumaric acid, ferulic acid, p-hydroxybenzoic acid, vanillic acid.

Barandiaran *et al.*, *Fitoterapia*, **58**, 59 (1987)

RAPANEA (Myrsinaceae)

R. laetevirens.

BENZOQUINONES: embelin, rapanone.

PHENOLIC: tridecenylresorcinol.

Murthy *et al.*, *Tetrahedron*, **21**, 1445 (1965)
 Madrigal *et al.*, *Lipids*, **12**, 402 (1977)

RAUWOLFIA (Apocynaceae)

***R. caffra* Sonder.**

CARBOLINE ALKALOIDS: raucaffricine, raucaffridine, raucaffriline, raucaffrinoline, rauwolfine.

Khan, Siddiqui, *Experientia*, **28**, 127 (1972)

***R. canescens* L.**

CARBOLINE ALKALOIDS: ajmalicine, ajmaline, aricine, carpagine, deserpidine, isoreserpamine, raujemicine, reserpidine, reserpiline, rauwolscine, α -yohimbine.

Khan *et al.*, *Chem. Ind. (London)*, 1264 (1954)

Ulshafer *et al.*, *J. Org. Chem.*, **21**, 923 (1956)

***R. confertiflora*.**

CARBOLINE ALKALOIDS: raufloricine, raufloridine, rauflorine.

Daniel *et al.*, *Chem. Ind. (Milan)*, **51**, 1042 (1971)

***R. cummingsii*.**

CARBOLINE ALKALOIDS: N-demethyldihydropurpeline, purpeline, raupurpeline.

Iwu, Court, *Experientia*, **33**, 1268 (1977)

***R. discolor* M.Pichon.**

CARBOLINE ALKALOID: tetraphyllinine.

Combes *et al.*, *Phytochemistry*, **5**, 1065 (1966)

***R. heterophylla* Roem. et Sch.**

UNCHARACTERIZED ALKALOIDS: chalchupine A, chalchupine B, heterophylline.

Hochstein *et al.*, *J. Am. Chem. Soc.*, **77**, 3351 (1955)

***R. ligustrina*.**

CARBOLINE ALKALOID: isoreserpiline pseudoindozyll.

Finch *et al.*, *Experientia*, **19**, 296 (1963)

***R. mauiensis* Sherff.**

CARBOLINE ALKALOID: sandwicine.

INDOLE ALKALOID: mauiensine.

Borman *et al.*, *Tetrahedron*, **1**, 328 (1957)

***R. media*.**

CARBOLINE ALKALOIDS: cabucine, 12-hydroxymauiensine, mauiensine, reserpiline.
 Kan *et al.*, *Phytochemistry*, **25**, 1783 (1986)

R. mombasiana.

CARBOLINE ALKALOID: endolobine.

Iwu, Court, *Planta Med.*, **33**, 232 (1978)

R. nitida Jacq.

CARBOLINE ALKALOIDS: acetylalloyohimbine, 17-O-acetylnortetraphyllicine, deserpidine, N-methylvellosimine, rauniticine, raunitidine.

Smith *et al.*, *Lloydia*, **27**, 440 (1964)

Ayer, Court, *Phytochemistry*, **20**, 2569 (1981)

R. obscura.

CARBOLINE ALKALOID: 10-methoxygeissoschizol.

Timmins, Court, *Planta Med.*, **27**, 105 (1975)

R. oreogiton.

Six carboline alkaloids.

Akinloye, Court, *Phytochemistry*, **19**, 2741 (1980)

R. parakensis.

CARBOLINE ALKALOIDS: pelirine, perakine, peraksine.

Kiang *et al.*, *J. Chem. Soc.*, 1394 (1960)

R. reflexa.

CARBOLINE ALKALOID: flexicorine.

Chatterjee *et al.*, *J. Org. Chem.*, **47**, 1732 (1982)

R. salicifolia Griseb.

CARBOLINE ALKALOID: raucubaine.

Kutney *et al.*, *Heterocycles*, **14**, 1309 (1980)

R. sandwicensis A.DC.

CARBOLINE ALKALOID: sandwicine.

Gorman *et al.*, *Tetrahedron*, **1**, 328 (1957)

R. sellowii Muell.

CARBOLINE ALKALOID: ajmalicine.

Pakrashi *et al.*, *J. Am. Chem. Soc.*, **77**, 6687 (1955)

R. serpentina Benth ex Kurz.

CARBOLINE ALKALOIDS: ajmalimine, ajmaline, ajmalinine, chandrine, isoraunitidine, raubasine, raugalline, rauhimbine, raupine, rauwolfinine, rescidine, reserpiline, reserpine, reserpinine, sandwicolidine, sarpagine, serpentine, serpentinine, serpine, serpinine.

Stoll *et al.*, *Helv. Chim. Acta*, **38**, 270 (1955)
 Shamma *et al.*, *J. Am. Chem. Soc.*, **85**, 2507 (1963)
 Siddiqui *et al.*, *Planta Med.*, **53**, 288 (1987)

***R. suaveolens* S.Moore.**

CARBOLINE ALKALOID: suaveoline.
 Majumder *et al.*, *Tetrahedron Lett.*, 1563 (1972)

***R. sumatrana* Jack.**

CARBOLINE ALKALOID: N-demethylseradamine.
 Hanaoka *et al.*, *Helv. Chim. Acta*, **53**, 1723 (1970)

***R. tetraphylla*.**

CARBOLINE ALKALOIDS: tetraphyllicine, tetraphylline.
 Djerassi, Fishman, *Chem. Ind.*, 627 (1955)

***R. volkensii*.**

CARBOLINE ALKALOIDS: O-acetylpreperakine, volkensine.
 Akinloye, Court, *Planta Med.*, **37**, 361 (1979)
 Akinloye *et al.*, *Phytochemistry*, **19**, 307 (1980)

***R. vomitoria* Afz.**

CARBOLINE ALKALOIDS: 17-acetylajmaline, ajmalinine, deacetyldeformylakuammiline, deacetyldeformylpicraline, isocarapanaubine, isosandwicine, mitoridine, neonorreserpine, isoreserpiline pseudoindoxyl, perakine, raumitorine, raunitidine, rauvanine, rauvomiline, rauvomitine, rauvoxine, rauvoxinine, renoxydine, rescidine, rescinamine, seredine, serpentine.

Voelter, *Z. Naturforsch.*, **35B**, 920 (1980)
 Malik *et al.*, *Heterocycles*, **16**, 1727 (1981)

RAVENIA (Rutaceae)

***R. spectabilis* (*Lemonia spectabilis*).**

QUINOLONE ALKALOIDS: atanine, ravenine, ravenoline, spectabiline.
 Paul *et al.*, *Indian J. Chem.*, **7**, 678 (1969)
 Talapatra *et al.*, *Tetrahedron Lett.*, 4789 (1969)

READEA (Rubiaceae)

R. membranacea Gillespie.

LUPANE ALKALOIDS: 2,3-dehydro-O-(2-pyrrolylcarbonyl)-virgiline, O-(2-pyrrolylcarbonyl)-virgiline.

Manchand *et al.*, *J. Chem. Soc., C*, 615 (1968)

REAUMURIA

R. mucronata.

FLAVONOID: kaempferol 3,7-disulphate.

Nawwar *et al.*, *Phytochemistry*, **16**, 1319 (1977)

REHMANNIA (Scrophulariaceae)

R. glutinosa (Gaertn.) Libosch. ex DC.

IRIDOID: rehmaglutins A, B, C and D, rehmanniosides A, B, C and D.

Kitagawa *et al.*, *Chem. Pharm. Bull.*, **34**, 1399, (1986)

Kitagawa *et al.*, *ibid.*, **34**, 1403 (1986)

REICHARDIA

R. tingitana L.Roth. var. *orientalis* (L.) Asch. et Schweinf.

SESQUITERPENOID: 14-deoxylactucin.

El-Masry *et al.*, *Acta Pharm. Suec.*, **17**, 137 (1980)

REINECKIA

R. carries Kunth.

STEROIDS: carneagenin, convallamarogenin, isocarnesgenin, isoreineckiagenin, kitagenin, pentogenin, reineckiagenin.

Tschesche *et al.*, Ber. Dtsch. Chem. Ges., **94**, 1699 (1961)

Takeda *et al.*, Tetrahedron Lett., 1107 (1962)

REINKELLA (Lichenes)

R. parishii.

BENZOFURAN: schizopeltic acid.

Santesson *et al.*, Acta Chem. Scand., **21**, 1111 (1967)

REJOUA (Apocynaceae)

R. aurantiaca Gaud.

INDOLONE ALKALOID: iboluteine.

Guise *et al.*, Aust. J. Chem., **18**, 927 (1965)

RELHANIA

R. acerosa.

DITERPENOID: relhanic acid.

Bohlmann *et al.*, Phytochemistry, **18**, 631 (1979)

REMERIA

R. maritima.

NORSESQUITERPENOIDS: isoevodionol, preremirol, remirol.

Allan *et al.*, *Tetrahedron Lett.*, 4669, (1969)
 Allan *et al.*, *ibid.*, 4673 (1969)

REMIJA

R. pedunculata.

ISOQUINOLINE ALKALOIDS: cupreine, quinidine, quinine.
 Woodward *et al.*, *J. Am. Chem. Soc.*, **67**, 860 (1945)

R. purdieana.

INDOLE ALKALOID: cinchonamidine.
 UNCHARACTERIZED ALKALOIDS: chairamidine, chairamine.
 Hesse, *Justus Liebigs Ann. Chem.*, **185**, 296, (1877)
 Hesse, *ibid.*, **185**, 323 (1877)

REMIREA (Cyperaceae)

R. maritima.

BENZOFURANS: remiridiol, remirol.
 BENZOPYRAN: remirin.
 Allan *et al.*, *Tetrahedron Lett.*, 4673 (1969)

RESEDA (Resedaceae)

R. lutea.

NAPHTHYLAMINE: phenyl- β -naphthylamine.
 Sultankhodzhaev *et al.*, *Khim. Prir. Soedin.*, 406 (1976)

R. luteola L.

ALKALOIDS: resedine, residinine.
 AMINE: β -hydroxyphenylethylamine.
 NAPHTHYLAMINE: phenyl- β -naphthylamine.
 (A) Tadshibaev *et al.*, *Khim. Prir. Soedin.*, 270 (1976)
 (Am) Lutfullin *et al.*, *ibid.*, 625 (1976)
 (N) Sultankhodzhaev *et al.*, *ibid.*, 406 (1976)

RETAMA

R. raetam.

FLAVONOIDS: apigenin 6,8-di-C-glucoside, apigenin 7-glucoside, chrysoeriol 7-glucoside, daidzein, daidzein 7,4'-dimethyl ether, luteolin 7-glucoside, orientin, orientin 4'-glucoside.

Abdalla, Saleh, *J. Nat. Prod.*, **46**, 755 (1983)

***R. sphaerocarpa* Boiss.**

SPARTEINE ALKALOIDS: (−)-epi-baptifoline, retamine.

UNCHARACTERIZED ALKALOID: sphaerocarrine.

Ribas, Vega, *Ion (London)*, **13**, 148 (1953)

RETANILLA

R. ephedra.

UNCHARACTERIZED ALKALOID: integerssine.

Bhakuni *et al.*, *Rev. Latinoam. Quim.*, **5**, 158 (1974)

RHAMNUS (Rhamnaceae)

R. alaternus.

PIGMENTS: alaternin, aloe emodin.

Briggs *et al.*, *J. Chem. Soc.*, 3069 (1953)

***R. catharticus* L.**

ANTHRACENE: emodinanthrone.

Perkin, *J. Chem. Soc.*, **65**, 937 (1894)

R. formosana.

ANTHRAQUINONE: emodin.

FLAVANOLS: kaempferol, rhamnetin, rhamnocitrin.

Lin *et al.*, *Chem. Abstr.*, 105 39398x

***R. frangula* L.**

PEPTIDE ALKALOIDS: franganine, frangufoline, frangulanine B.

GLUCOSIDE: emodin-8-glucoside.

NAPHTHALENES: glucofrangulin A, glucofrangulin.
 (A) Tschesche *et al.*, *Tetrahedron Lett.*, 2993 (1968)
 (G, N) Rosca, Cucu, *Planta Med.*, **28**, 178, (1975)
 (G, N) Rosca, Cucu, *ibid.*, **28**, 343 (1975)

R. japonica.

FURANONES: α -sorigenin, β -sorigenin.
 Haber *et al.*, *Helv. Chim. Acta*, **39**, 1654 (1956)

R. nakaharai.

GLYCOSIDE: rhamnustrioside.
 Lin *et al.*, *Phytochemistry*, **21**, 1466 (1982)

R. oleoides L. subsp. *graecus* (Boiss. et Reut.) Holmboe.

ANTHRACENES: chrysophanol, chrysophanol glucoside, emodin, emodin glucoside, physcion, physcion glucoside.

Baytop *et al.*, *Chem. Abstr.*, 88 148948c

R. virgata.

PHENOLICS: maesopin, 5-methoxy-7-hydroxyphthalide, 6-O-methylalaterin.
 Kalidhar, Sharma, *J. Indian Chem. Soc.*, **62**, 411 (1985)

RHAPONTICUM

R. carthamoides.

SAPONINS: chaponticosides A, B, C, D, E, F, G and H.
 Vereskovskii *et al.*, *Khim. Prir. Soedin.*, 578 (1977)

R. integrifolium.

STEROIDS: 24(25)-dehydromalsisterone, 24(28)-dehydromalsisterone, integristerone A, integristerone B.
 Baltaev *et al.*, *Khim. Prir. Soedin.*, 463 (1978)

RHAZYA

R. orientalis A.DC.

CARBOLINE ALKALOIDS: 5 α -carboxystrictosidine, strictosidine.
 INDOLE ALKALOIDS: secamine, tetrahydropresecamine, tetrahydrosecamine, 16,17:15,20-tetrahydrosecodine, 16,17:15,20-tetrahydrosecodin-17-ol.

Atta-ur-Rahman, Zaman, *Heterocycles*, **22**, 2023 (1984)

R. stricta Decaisne.

CARBAZOLE ALKALOID: sewarine.

CARBOLINE ALKALOIDS: akuammidine, 5 α -carboxystrictosidine, (+)-1,2-dehydroaspidospermidine, N(b)-methylstrictamine, rhazimal, rhazimol, strictalamine, strictamine, stricticine, strictosidine.

INDOLE ALKALOIDS: presecamine, secamine, tetrahydropresecamine, tetrahydrosecamine, 16,17:15,20-tetrahydrosecodine, 16,17:15,20-tetrahydrosecodin-17-ol.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: (+)-vincadiformine, (\pm)-vincadifformine.

UNCHARACTERIZED ALKALOIDS: rhazidine, rhazinaline, rhazinilam, rhazinine.

Ahmad *et al.*, *J. Chem. Soc., Pakistan*, **1**, 69 (1979)

Atta-ur-Rahman, Zaman, *Heterocycles*, **22**, 2023 (1984)

Atta-ur-Rahman *et al.*, *Z. Naturforsch.*, **42**, 91 (1987)

RHEEDIA

R. gardneriana Planch, et Triana.

XANTHONES: 4',5'-dihydro-1,5,6-trihydroxy-4',5',5'-trimethylfurano-(2',3':3,2)-4-(1,1-dihydro-2-enyl)xanthone, 1,5-dihydroxy-6',6'-dimethylpyrano-(2',3':6,7)xanthone, 1,5-dihydroxyxanthone, 1,7-dihydroxyxanthone.

Delle Monache *et al.*, *J. Nat. Prod.*, **46**, 655 (1983)

RHEI

R. rhizoma.

PHENOLIC: (+)-catechin.

STILBENES: 3,5,4'-trihydroxystilbene 4'-O- β -D-(6"-O-galloyl)-glucopyranoside, 3,5,4'-trihydroxystilbene 4'-O- β -D-glucopyranoside.

Nonaka *et al.*, *Chem. Pharm. Bull.*, **25**, 2300 (1977)

RHEUM (Polygonaceae)

R. palmatum.

PIGMENTS: aloe emodin, aloe emodin 8- β -D-glucoside.

Tutin *et al.*, *J. Chem. Soc.*, **99**, 946 (1911)

R. undulatum.

PIGMENT: aloe emodin

Tutin *et al.*, *J. Chem. Soc.*, **99**, 946 (1911)

RHIGIOCARYA

R. racemifera.

UNCHARACTERIZED ALKALOID: O-methylflavinantine.

Tackie *et al.*, *Phytochemistry*, **13**, 2884 (1974)

RHINOPETALUM

R. bucharicum.

STEROIDAL ALKALOIDS: rhinoline, rhinolinine.

Samikov *et al.*, *Khim. Prir. Soedin.*, 350 (1979)

R. stenatherum.

STEROIDAL ALKALOIDS: stenantidine, stenantine.

Samikov *et al.*, *Khim. Prir. Soedin.*, 349 (1981)

RHIPOCEPHALUS (Chlorophyceae)

R. phoenix.

SESQUITERPENOIDS: rhipocephalin, rhipocephenal.

Sun, Fenical, *Tetrahedron Lett.*, 685 (1979)

RHIZOBIUM

R. japonicum.

AMINO ACIDS: dihydrorhizobitoxine, rhizobitoxine.

Owens *et al.*, *Plant Physiol.*, **40**, 927 (1965)

RHIZOCTONIA

R. leguminicola.

INDOLIZIDINE ALKALOID: slaframine.

PYRIDINE ALKALOID: 3,4,5-trihydroxyoctahydro-1-pyridine.

Rainet *et al.*, *Nature*, **205**, 203 (1965)

RHIZOPUS

R. nigricans.

PTERIDINE: rhizopterine.

Rickes *et al.*, *J. Am. Chem. Soc.*, **69**, 2751 (1947)

RHODEA

R. japonica Roth.

GLYCOSIDE: rhodexoside.

STEROIDS: digitoxigenin, periplogenin, rhodeasapogenin, rhodexins A, B, C and D, steroid Br-1, 25(27)-spirostene-1,2,3,4,5,6,7-heptaol.

(Gly) Kuchukhidze *et al.*, *Izv. Akad. Nauk Gruz. SSR*, **8**, 157 (1982); *Chem. Abstr.*, 97 141773u

(S) Miyahara *et al.*, *Tetrahedron Lett.*, **83** (1980)

RHODIOLA

R. algida.

LACTONE: alginoside.

Pangarova *et al.*, Khim. Prir. Soedin., 334 (1975)

RHODNIUS

R. prelixus.

PIGMENT: rhodnitin.

Visconti *et al.*, Helv. Chim. Acta, **46**, 2509 (1963)

RHODODENDRON (Ericaceae/Rhododendraceae)

R. catanbiensis.

DITERPENOIDS: acetylandromed-10(18)-enol, acetylandromedol, andromedol.

von Kuerten *et al.*, Arch. Pharm., **304**, 753 (1971)

R. caucasicum.

STEROIDS: cholesterol, β -sitosterol, stigmasterol.

Ushishvili *et al.*, Soobshch. Akad. Nauk Gruz. SSR, **80**, 180 (1975); Chem. Abstr., 84 86734m

R. dauricum L.

COUMARINS: andromedotoxin, scopoletin, umbelliferone.

FLAVONOIDS: 8-demethylfarrerol, farrerol, hyperoside, isohyperoside, kaempferol, myricetin, quercetin.

MONOTERPENOIDS: α -eudesmol, β -eudesmol, τ -eudesmol, germacrone, juniper camphor, menthol.

QUINONE: hydroquinone.

(C, Q) Fu *et al.*, Chem. Abstr., 88 60107s

(F) Liu *et al.*, Hua Hsueh Hsueh Pao, **34**, 211 (1976); Chem. Abstr., 88 85995t

(T) Hsu *et al.*, Chem. Abstr., 88 60139d

R. degronianum Carr.

TRITERPENOIDS: α -amyrin, β -amyrin, α -amyrin acetate, β -amyrin acetate, dendropanoxide, friedelin, epi-friedelinol, ursolic acid, uvaol.

Kurihara *et al.*, *J. Pharm. Soc., Japan*, **96**, 1407 (1976)

R. dilatatum.

STEROID: β -sitosterol.

TRITERPENOIDS: α -amyrin, betulinic acid, lupeol, oleanolic acid, taraxerol, ursolic acid.

Kawai *et al.*, *Chem. Abstr.*, 88 34499b

R. falconeri.

TRITERPENOID: uvaol 3-acetate.

Sengupta *et al.*, *J. Indian Chem. Soc.*, **46**, 775 (1969)

R. farrerae.

FLAVANONE: farrerol.

Arthur, *J. Chem. Soc.*, 3740 (1955)

R. hymenanthus.

TRITERPENOID: ursolic acid.

Stout, Stevens, *J. Org. Chem.*, **28**, 1259 (1963)

R. japonicum.

STEROID: β -sitosterol.

DITERPENOIDS: rhodojaponins I, II, III, IV, V, VI and VII. TRITERPENOIDS: α -amyrin, betulinic acid, lupeol, oleanolic acid, taraxerol, ursolic acid.

Kawai *et al.*, *Chem. Abstr.*, 88 34499b

R. linearifolium.

TRITERPENOIDS: adianene- $2\beta,3\beta$ -diol, 7-fernene-2,3-diol, 9(11)-fernene-2,3-diol, 7-fern-3-ol, motiol, motodiol, neomotiol.

Nakamura *et al.*, *Tetrahedron Lett.*, 3461 (1966)

R. macrocephalum.

TRITERPENOID: 7-feraene-2,3-diol.

Nakamura *et al.*, *Tetrahedron Lett.*, 2017 (1965)

R. macrophyllum.

TRITERPENOID: campanulin.

Kimura *et al.*, *Chem. Pharm. Bull.*, **8**, 1145 (1960)

R. metternichii.

STEROID: β -sitosterol.

TRITERPENOIDS: α -amyrin, betulinic acid, lupeol, oleanolic acid, taraxerol, ursolic acid.

Kawai *et al.*, *Chem. Abstr.*, 88 34499b

R. molle G.Don.

DITERPENOID: rhomotoxin.

Pu, *Zhongcaoyao*, **14**, 293 (1983)***R. simiarum.***

TRITERPENOID: simiarenol.

Aplin *et al.*, *J. Chem. Soc., C*, 1251 (1966)***R. simsii.***

BENZOPYRANS: matteucinin, matteucinol.

Arthur *et al.*, *J. Chem. Soc.*, 3197 (1960)***R. westlandii.***

TRITERPENOID: epoxyglutinane.

Arthur, Hui, *J. Chem. Soc.*, 55 (1961)**RHODOMELA (Rhodophyceae)*****R. confervoides.***

HALOGENATED PHENOLICS: 2,3-dibromo-4,5-dihydroxybenzyl alcohol, 3,5-dibromo-p-hydroxybenzyl alcohol, 2,3,2',3'-tetrabromo-4,5,4',5'-tetrahydroxydiphenylmethane, 2,3,6-tribromo-4,5-dihydroxybenzyl alcohol.

Pedersen, *Phytochemistry*, **17**, 291 (1978)***R. larix.***

HALOGENATED PHENOLICS: 2,2',3,3'-tetrabromo-4,4',5,5'-tetrahydroxydiphenylmethane, 2,2',3-tribromo-3',4,4',5-tetrahydroxy-6'-methoxymethyldiphenylmethane.

Kurata *et al.*, *Chem. Lett.*, 1435 (1977)**RHODOMYRTUS*****R. tomentosa.***TRITERPENOIDS: 3 β -acetoxy-11 α ,12 α -epoxyolean-28,13 β -olide, 3 β -acetoxy-12 α -hydroxyolean-28,13-olide.Hui, Li, *Phytochemistry*, **15**, 1741 (1976)

RHODOPAXILLUS

R. nudus (*Bull. ex Fr.*) Maire.

STEROID: portensterol.

Regerat *et al.*, *Ann. Pharm. Fr.*, **34**, 323 (1976)

RHODOPHIALA

R. biflida.

ISOQUINOLINE ALKALOIDS: O-acetylmontanine, pancracine.

Wildman *et al.*, *Pharmazie*, **22**, 725 (1967)

RHODOPHYLLUS

R. crassipes.

AMINO ACID: 2-amino-3-butenoic acid.

Matsumoto, *Chem. Abstr.*, 103 3724v

RHODYMENIA(Rhodophyceae/Rhodymeniaceae))

R. palmata.

CAROTENOIDS: α -carotene, β -carotene, α -cryptoxanthin, β -cryptoxanthin, lutein, zeaxanthin.

STEROIDS: cholest-5,25-dien-3 β ,14-diol, desmosterol.

(Car) Bjoernland *et al.*, *Phytochemistry*, **15**, 291 (1976)

(S) Morisaki *et al.*, *Chem. Pharm. Bull.*, **24**, 3214 (1976)

RHUS (Anacardiaceae)

R. parviflora.

FLAVONOIDs: afzelin, kaempferol, myricetin, myricitrin, quercetin, quercitrin.

Nair *et al.*, *Curr. Sci.*, **46**, 448 (1977)

R. succedanea.

FLAVANONES: rhusflavanone, succedaneaflavanone.

GLYCOSIDE: rhoifolin.

(F) Chen *et al.*, *J. Chem. Soc., Perkin* **1**, 98 (1976)

(G) Coussio *et al.*, *Experientia*, **20**, 562 (1964)

R. typhina.

GLUCOSIDE: tannin.

Armitage *et al.*, *J. Chem. Soc.*, 1842 (1961)

R. wallichii.

ACID: gallic acid.

FLAVANONES: kaempferol, myricetin, quercetin, quercetin 3-O-arabinopyranoside, quercetin 3-O-galactoside, quercetin 3-O-xyloside.

STEROIDS: β -sitosterol, β -sitosterol glucoside.

Sinha *et al.*, *J. Nat. Prod.*, **49**, 546 (1986)

RHYNCHOSIA

R. minima.

FLAVONOIDs: 8-C-arabinosylapigenin, 6,8-di-C-glucoside, 6-C-glucosylapigenin, 6-C-glucosyl-8-C-xylosylapigenin, di-C-hexosylapigenin, 6-C-hexosyl-8-C-pentosylapigenin, C-pentosyl-C-hexosylapigenin.

Besson *et al.*, *Phytochemistry*, **16**, 498 (1977)

RICCARDIA (Hepaticae)

R. incurvata Lindb.

INDOLE ALKALOIDs: 6-3-methyl-2-butenyl-indole, 7-(3-methyl-2-butenyl)-indole.

Benesova *et al.*, *Collect. Czech. Chem. Common.*, **34**, 1807 (1969)

R. sinuata (Hook.) Trev.

INDOLE ALKALOIDS: 6-(3-methyl-2-butenyl)-indole, 7-(3-methyl-2-butenyl)-indole.

Benesova *et al.*, *Collect. Czech. Chem. Commun.*, **34**, 1807 (1969)

RICCIA

R. fluitans L.

ACETYLENIC: 9-octadecen-6-yneic acid.

FLAVONOIDS: apigenin 7-O-glucuronide, lucenin, luteolin, luteolin 7-O-glucuronide, luteolin 7-O-glucuronide-3'-O-rhamnoside.

(A) Kohn *et al.*, *Phytochemistry*, **26**, 2101 (1987)(F) Vandekerckhove, Z. *Pflanzenphysiol.*, **86**, 217 (1978); *Chem. Abstr.*, 88 86025p

RICINOCARPUS (Euphorbiaceae)

R. muricatus.

DITERPENOIDS: eperuane-8,15-diol, eperuane-8,15,18-triol, 8(17)-eperuene-15,18-dioic acid, enantio-13-epi-labdane-8,15-diol.

FLAVONE: 3',4',5-trihydroxy-3,7,8-trimethoxyflavone.

Henrick, Jefferies, *Tetrahedron*, **21**, 1175, (1965)Henrick, Jefferies, *ibid.*, **21**, 3219 (1965)***R. stylosus.***DITERPENOIDS: (-)-1 α ,19-dihydroxy-16 α -kauran-17-oic acid, (-)-16 α ,17-dihydroxy-16 α -kauran-19-oic acid, 16 α -kaurane-17,19-dioic acid, 16 α -kaurane-16 α ,17,19-triol, kaur-16-en-19-oic acid.

FLAVONES: 3,3',4',5,5',7-hexainethoxyflavone, 3',5,5'-trihydroxy-3,4',7-trimethoxyflavone.

(F) Henrick *et al.*, *Aust. J. Chem.*, **17**, 934 (1964)(T) Henrick, Jefferies, *Tetrahedron Lett.*, 1507 (1964)

RICINUS (Euphorbiaceae).

R. communis L.

PYRIDONE ALKALOID: ricinine.

DITERPENE: casbene.

NORTRITERPENOID:30-norlupan-3 β -ol-20-one.

TOXIN: ricin.

Robinson, West, *Biochem. J.*, **9**, 70 (1970)

RIELLA

R. affinis.

FLAVONOIDS: apigenin 7-O-glucoside, chrysoeriol, luteolin 7-O-glucoside.

Markham *et al.*, *Phytochemistry*, **15**, 151 (1976)

R. americana.

FLAVONOIDS: apigenin 7-O-glucoside, chrysoeriol, luteolin 3'-O-glucoside, luteolin 7-O-glucoside.

Markham *et al.*, *Phytochemistry*, **15**, 151 (1976)

RINDERA (Boraginaceae)

R. austroechinata M.Pop.

PYRROLIZIDINE ALKALOIDS: echinatine, echinatine N-oxide.

Tsuda, Marion, *Can. J. Chem.*, **41**, 1919 (1968)

R. baldchuanica Kuzn.

PYRROLIZIDINE ALKALOIDS: echinatine, rinderine, trachelanthamine, turkestanine.

Akramov *et al.*, *Dokl. Akad. Nauk Uzb. SSR*, **6**, 28 (1964)

R. cyclodonta Bge.

PYRROLIZIDINE ALKALOIDS: echinatine, lindelofine, lindelofine N-oxide.

Akramov *et al.*, *Dokl. Akad. Nauk Uzb. SSR*, **6**, 28 (1964)

R. echinata Rgl.

PYRROLIZIDINE ALKALOIDS: echinatine, trachelanthamine, trachelanthine N-oxide.

Akramov *et al.*, *Dokl. Akad. Nauk Uzb. SSR*, **6**, 28 (1964)

R. oblongifolia M.Pop.

PYRROLIZIDINE ALKALOIDS: echinatine, turkestanine.

UNCHARACTERIZED ALKALOID: caratagine.

Akramov *et al.*, *Dokl. Akad. Nauk Uzb. SSR*, **6**, 28 (1964)

ROBINIA (Leguminosae)

R. pseudacacia L.

BENZOPYRAN: acacin.

CHALCONE: robtein.

FLAVANONE: 3',4',5',7-tetrahydroxyflavanone.

DITERPENOID: hydroxymethylglutamylhydroxyabscicic acid.

(B) Plouvier *et al.*, *C.R. Acad. Sci.*, **269**, 646 (1969)

(Ch, F) Roux *et al.*, *Biochem. J.*, **82**, 324 (1962)

(T) Hirai *et al.*, *Phytochemistry*, **17**, 1625 (1978)

ROCCELLA (Roccellaceae)

R. canariensis.

PEPTIDE: roccanin.

Bohlmann *et al.*, *Tetrahedron Lett.*, 3065 (1970)

R. fuciformis (L.) DC.

DIAZINE ALKALOID: picrocelline.

CHROMENE: 6-ethoxymethyl-5-hydroxy-7-methoxy-2-methylchromene.

(A) Forster *et al.*, *J. Chem. Soc.*, **121**, 816 (1922)

(C) Aberhart *et al.*, *J. Chem. Soc., C*, 704 (1969)

R. portentosa.

CHROMENE: portenol.

Aberhart *et al.*, *J. Chem. Soc., C*, 1612 (1970)

ROEMERIA (Papaveraceae)

R. carica.

BENZYLISOQUINOLINE ALKALOID: (+)-roemecasrine.

Gozler *et al.*, *Heterocycles*, **24**, 1227 (1986)

R. hybrida (L.) DC. (R. orientalis Boiss.).

OXOQUINOLIZIDINE ALKALOID: protopine.

UNCHARACTERIZED ALKALOID: roemeridine.

Platonova *et al.*, *J. Gen. Chem., USSR*, **26**, 173 (1956)

R. refracta (Stev.) DC.

AMINE ALKALOIDS: (-)-ephedrine, (+)-pseudoephedrine.

APORPHINE ALKALOIDS: anonaine, isoroemerine, (-)-mecambridine, remrefidine, roemerine, roemerinine.

ISOQUINOLINE ALKALOIDS: reframidine, reframine, reframoline.

SPIROISOQUINOLINE ALKALOID: roemeramine.

Cooke, Haynes, *Aust. J. Chem.*, **7**, 99 (1954)

Slavik, Slavikova, *Collect. Czech. Chem. Commun.*, **33**, 4066 (1968)

ROLANDRA (Compositae/Vernonieae)

R. fruticosa (L.) Kuntze.

SESQUITERPENOIDS: 13-acetoxyrolandrolide, 13-ethoxyrolandrolide, isorolandrolide, rolandrolide.

Herz *et al.*, *J. Org. Chem.*, **46**, 761 (1981)

R. heterogama.

Three sesquiterpenoids.

Bohlmann, Zdero, *Phytochemistry*, **17**, 565 (1978)

ROLLINIA (Annonaceae)

R. emarginata.

APORPHINE ALKALOIDS: (-)-anonaine, (-)-asimilobine, (+)-reticuline.

Nieto, *J. Nat. Prod.*, **49**, 717 (1986)

R. mucosa.

TETRAHYDROFURAN: rolliniastatin 1.

Pettit *et al.*, *Can. J. Chem.*, **65**, 1433 (1987)**ROMNEYA (Papaveraceae)*****R. coulteri var. trichocalyx (Eastwood) Jepson.***

APORPHINE ALKALOIDS: (−)-reticuline, romneine.

OXOPROTOBERBERINE ALKALOID: coulteropine.

Stermitz *et al.*, *Tetrahedron*, **22**, 1167 (1980)**RONDELETIA (Rubiaceae)*****R. panamensis.***

DITERPENOIDS: oxidopanamensin, panamensin, rondeletin.

Koike *et al.*, *Tetrahedron*, **36**, 1167 (1980)**ROSA (Rosaceae)*****R. acicularis.***

CATECHINS: (−)-1-gallocatechin, (−)-1-epi-gallocatechin.

Pankov, Safronova, *Rastit. Resur.*, **11**, 520 (1975)***R. amblyotis.***

CATECHINS: (+)-catechin, (−)-epi-catechin gallate, (−)-gallocatechin, (−)-epi-gallocatechin.

Pankov, Safronova, *Rastit. Resur.*, **11**, 520 (1975)***R. canina L.***

CAROTENOID: rubixanthin.

Lederer, *Bull. Soc. Chim. Belg.*, **20**, 611 (1938)***R. damascena Mill.***

AMINE: β-phenethylamine.

CAROTENOID: rubixanthin.

FLAVONES: kaempferol, quercetin.
 FLAVONE GLUCOSIDES: kaempferol 3-O- β -galactopyranoside, kaempferol 3-O- β -D-glucopyranoside.
 GENIN: pectolinarigenin.
 MONOTERPENOIDS: citronellol, geraniol, nerol, methyleugenol.
 NORSESQUITERPENOID: damascenone.
 STEROID: β -sitosterol.
 Papanov *et al.*, *Chem. Abstr.*, 105 94467u

R. davurica.

CATECHINS: (–)-gallocatechin, (–)-1-epi-gallocatechin.
 Pankov, Safranova, *Rastit. Resur.*, **11**, 520 (1975)

R. foetida.

CAROTENOIDS: antheroxanthin, auroxanthin, β -carotene, lutein, luteoxanthin, mulatoxanthin, violaxanthin, zeaxanthin.
 Buchecker, Eugster, *Helv. Chim. Acta*, **60**, 1754 (1977)

R. gallica.

GLUCOSIDE: β -phenethyl- β -D-glucopyranoside.
 GLYCOSIDES: gallicoside A, gallicoside B, gallicoside C.
 (Glu) Nel'nikov *et al.*, *Khim. Prir. Soedin.*, 807 (1975)
 (Gly) Bugorskii *et al.*, *ibid.*, 420 (1977)

R. gracilipes.

CATECHINS: (–)-gallocatechin, (–)-epi-gallocatechin.
 Pankov, Safranova, *Rastit. Resur.*, **11**, 520 (1975)

R. koreana.

CATECHINS: (–)-gallocatechin, (–)-epi-gallocatechin.
 Pankov, Safranova, *Rastit. Resur.*, **11**, 520 (1975)

R. maximowicziana.

CATECHINS: (+)-catechin, (–)-epi-catechin gallate, (–)-gallocatechin, (–)-epi-gallocatechin.
 Pankov, Safranova, *Rastit. Resur.*, **11**, 520 (1975)

R. multiflora Thunb.

FLAVONOIDS: glycoside f-1, glycoside f-3, multiflorin A, multiflorin B, quercitrin.
 STEROID: β -sitosterol.
 TRITERPENE GLUCOSIDES: 2 α ,19 α -dihydroxyursolic acid β -D-glucopyranoside, rosamultin.
 TRITERPENOID: 2 α ,19 α -dihydroxyursolic acid.
 (F) Yamaki *et al.*, *J. Pharm. Soc., Japan*, **96**, 284 (1976)
 (T) Du *et al.*, *Yaoxue Xuebao*, **18**, 314 (1983)

R. roxburgii.

TRITERPENOID: roxburgic acid.

Liang, *Yaoxue Xuebao*, **22**, 121 (1987); *Chem. Abstr.*, 107 4276v***R. rugosa L.***

CAROTENOID: rubixanthin.

de Ville *et al.*, *J. Chem. Soc., Chem. Commun.*, 1311 (1969)***R. rugosa.***

CATECHINS: (−)-gallocatechin, (−)-epi-gallocatechin.

GLYCOSIDE: β-phenylethyl-β-D-glucopyranoside.

(C) Pankov, Safranova, *Rastit. Resur.*, **11**, 520 (1975)(Gl) Sikkharulidze *et al.*, *Prikl Biokhim. Mikrobiol.*, **12**, 759 (1976); *Chem. Abstr.*, 86 13813t

ROSMARINUS (Labiatae)

R. officinalis L.

DITERPENE ALKALOIDS: isorosmaricine, N-methylrosmaricine, rosmaricine.

FLAVONE: repitrin.

DITERPENOIDS: picrosalvin, rosmadiol, rosmanol, rosmarinol, rosmarinquinone.

(F) Imre *et al.*, *Phytochemistry*, **16**, 799 (1977)(F) Nakatani *et al.*, *Agr. Biol. Chem.*, **47**, 353 (1983)(T) Houlihan *et al.*, *J. Am. Oil Chem. Soc.*, **62**, 98 (1985)

ROTHMANNIA

R. globosa.

IRIDOID: gardenoside, α-gardiol, β-gardiol, genipin, geniposide, mussaenoside, scandoside methyl ester.

Jensen *et al.*, *Phytochemistry*, **22**, 1761 (1983)

ROTTLERA

R. tinctoria.

BENZOPYRAN: rottlerin.

Reio, *J. Chromatogr.*, **68**, 183 (1972)

ROUREA (Connaraceae)

R. santaloides.

ALIPHATIC: hentricontane.

AMINO ACID: methionine sulfoximine.

ANTHOCYANIN: leucopelargonidin.

BENZOQUINONE: rapanone.

STEROID: β -sitosterol.

(Al, An, S) Ramiah *et al.*, *J. Inst. Chem. (India)*, **48**, 196 (1976); *Chem. Abstr.*, 86 68377j

(Am) Jeannoda *et al.*, *J. Ethnopharmacol.*, **14**, 11 (1985); *Chem. Abstr.*, 104 31778e

(B) Murthy *et al.*, *Tetrahedron*, **21**, 1445 (1965)

ROYLEA (Labiatae)

R. calycina (Roxb.) Briq.

DITERPENOIDS: calynone, calyone, epi-calyone, precalyone.

Prakesh *et al.*, *J. Chem. Soc., Perkin I*, 1305 (1979)

ROZITES

R. caperta.

AMINO ACID: S-2-aminoethyl-4-cysteine.

Matsumoto, *Chem. Abstr.*, 103 3724u

RUBIA (Rubiaceae)

R. cordifolia L.

ANTHRAQUINONES: 1-acetoxy-6-hydroxy-2-methylanthraquinone 3-O- α -rhamnosyl- α -glucoside, 1,4-dihydroxy-2-carboethoxyanthraquinone, 1-hydroxy-2-carboxy-3-methoxyanthraquinone, 1-hydroxy-2-methyl-6-methoxyanthraquinone, 1-hydroxy-2-methyl-7-methoxyanthraquinone.

COUMARIN: scopoletol.

PEPTIDES: hexapeptides I, II, III and IV.

STEROID: β -sitosterol.

TRITERPENOIDS: oleanolic acid acetate, rubiconmaric acid, rubifolic acid.

(An, C, S) Vidal-Tessier *et al.*, *Ann. Pharm. Fr.*, **44**, 117 (1986)

(P) Itokawa *et al.*, *Chem. Pharm. Bull.*, **34**, 3762 (1986)

(T) Talapatra *et al.*, *Phytochemistry*, **20**, 1923 (1981)

R. iberica.

PIGMENT: nordamnacanthal.

Brew *et al.*, *J. Chem. Soc., C*, 2001 (1971)

R. peregrina L.

IRIDOIDS: asperulosidic acid, 10-deacetylasperulosidic acid.

Bianco *et al.*, *Gazz. Chim. Ital.*, **108**, 13 (1978)

R. tinctorum L.

IRIDOIDS: asperulosidic acid, 10-deacetylasperulosidic acid.

PIGMENTS: digiferrol, galiosin.

(I) Bianco *et al.*, *Gazz. Chim. Ital.*, **108**, 13 (1978)

(P) Imre *et al.*, *Tetrahedron Lett.*, 4681 (1971)

RUBUS (Rosaceae)

R. arctica.

FURANONE: 2,5-dimethyl-4-methoxy-2,3-dihydro-3-furanone.

Honkanen *et al.*, *Kem. Kemi*, **3**, 180 (1976); *Chem. Abstr.*, 85 59551p

R. chingii.

DITERPENOID: rubusoside.

Tanaka *et al.*, *Agr. Biol. Chem.*, **45**, 2165 (1981)

R. crataegifolius.

STEROIDS: campesterol, cholestanol, β -sitosterol, stigmasterol.

TRITERPENOID: ursolic acid.

Moon *et al.*, *Yakhak Hoe Chi*, **20**, 37 (1976); *Chem. Abstr.*, 85 119629g

R. ellipticus.

ALIPHATICS: octacosanol, octacosanoic acid.

STEROIDS: β -sitosterol, β -sitosterol β -D-glucoside.

TRITERPENOIDS: rubitic acid, ursolic acid.

Bhakuni *et al.*, *Indian Drugs*, **24**, 272 (1987); *Chem. Abstr.*, 107 151197y

R. fruticosus agg.

TRITERPENOIDS: rubinic acid, rubitic acid.

Mukherjee *et al.*, *Phytochemistry*, **23**, 2581 (1984)

R. moluccanus.

TRITERPENOID: rubisic acid.

Bhattacharyya, Dutta, *J. Indian Chem. Soc.*, **46**, 381 (1969)

R. rosifolius.

SESQUITERPENOIDS: pregeigerene, rosifoliol.

Jones, Sutherland, *Aust. J. Chem.*, **21**, 2255 (1968)

R. suavissimus.

TRITERPENOID: suavissimoside R-1.

Gao *et al.*, *Chem. Pharm. Bull.*, **33**, 37 (1985)

RUDBECKIA (Compositae)

R. bicolor Nutt.

FLAVONE: tambulin.

Ahuja *et al.*, *Indian J. Chem.*, **13**, 1134 (1975)

R. laciniata L.

SESQUITERPENOIDS: bisabolen-1,4-endo-peroxide, rudbeckianone, rudbeckiolide.

Bohlmann *et al.*, *Phytochemistry*, **17**, 2034 (1978)

Jakupovic *et al.*, *Justus Liebigs Ann. Chem.*, 1474 (1986)

R. mollis.

FLAVONOID: eupatolitin 3-O-rhamnoside.

SESQUITERPENOID: rudmollin.

(F) Iyengar *et al.*, *Indian J. Chem.*, **14B**, 906 (1976)

(T) Herz *et al.*, *J. Org. Chem.*, **46**, 1356 (1981)

RUELLIA (Acanthaceae)

R. tuberosa L.

ALIPHATICS: henetriaccontane, nonacosane.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

Andiwal *et al.*, Indian Drugs, **23**, 48 (1985); Chem. Abstr., 104 3417t

RUILOPEZIA

R. marginata

Four diterpenoids.

Usubillaga *et al.*, Planta Med., **35**, 331 (1979)

RUMEX (Polygonaceae)

R. acetosa L.

FLAVONOIDS: chrysophanol, chrysophanol anthrone, emodin, physcion,

Tamamo *et al.*, Agr. Biol. Chem., **46**, 1913 (1982)

R. alpinus L.

NAPHTHALENES: chrysophanol, 3-methylnaphthalene-1,8-diol, nepodin.

Bauch *et al.*, J. Chem. Soc., Perkin I, 689 (1975)

R. denticulata

PIGMENT: denticulatol.

Chi *et al.*, J. Chin. Chem. Soc., **15**, 21 (1947); Chem. Abstr., 42 552g

R. nepalensis

ANTHRAQUINONES: emodin, physcion.

Suri *et al.*, J. Indian Chem. Soc., **53**, 1158 (1976)

R. obtusifolius L.

DITERPENOID: lapathinic acid.

Tschirch, Weil, Arch. Pharm., **250**, 30 (1912)

R. orientalis

NAPHTHOQUINONE: orientalone.

Sharma *et al.*, Indian J. Chem., **15B**, 544 (1977)

R. patientia L.

NAPHTHALENES: chrysaphanol, 3-methylnaphthalene-1,8-diol, nepodin.

Bauch *et al.*, J. Chem. Soc., Perkin I, 689 (1975)

R. pulcher.

ANTHRAQUINONES: emodin dianthrone diglucoside sulphate, emodin 8-glucoside sulphate.

Harborne *et al.*, Phytochemistry, **16**, 1314 (1977)

R. vesicarius.

AMINO ACIDS: cystine, glutamic acid, histidine, phenylalanine, proline.

Tiwari *et al.*, Chem. Abstr., 88 19010s

RUPUS

R. rosifolius.

SESQUITERPENOID:bicyclogermacra-1(10),4(5)-diene.

Southwell, Tetrahedron Lett, 873 (1977)

RUSCUS (Liliaceae/Ruscaceae)

R. aculeatus L.

BENZOFURAN: ruscodibenzofuran.

STEROIDS: deglycoruscoside, ruscoside, neoruscogenin, ruscogenin, rusconin.

(B) El-Sohly *et al.*, Tetrahedron, **33**, 1711 (1977)

(S) Bombardelli *et al.*, Fitoterapia, **43**, 3 (1972)

R. hypoglossum L.

FLAVANOLS: isorhamnetin, isovitexin C-glucoside, isovitexin O-glucoside, nicotiflorin.

El-alfy *et al.*, Plant Med. Phytother., **9**, 308 (1975)

R. ponticus.

SAPONINS: ruscoponticosides C, D and E.

Pkheidze *et al.*, Soobshch. Akad. Nauk Gruz SSR, **120**, 561 (1985); Chem. Abstr., 105 3499s

RUSPOLIA (Acanthaceae)

R. hypercrateriformis M.R.

PYRROLIZIDINE ALKALOIDS: norruspoline, norruspolinone, ruspoline, ruspolinone.

Roessler *et al.*, *Helv. Chim. Acta*, **61**, 1200 (1978)

RUSSULA (Russulaceae)

R. ochroleuca.

AMINO ACID: uncharacterised acid.

Welter *et al.*, *Phytochemistry*, **15**, 1984 (1976)

R. sardonia.

SESQUITERPENOIDS: furanether A, furosardonin A, sardonialactone A.

Andina *et al.*, *Phytochemistry*, **19**, 93 (1980)

RUTA (Rutaceae)

R. angustifolia.

AROMATICS: moskachans A, B, C and D.

COUMARIN: angustifolin.

(Ar) Borges del Castillo *et al.*, *Phytochemistry*, **25**, 2209 (1986)

(C) Borges del Castillo *et al.*, *ibid.*, **23**, 2095 (1984)

R. chalepensis L.

ACRIDONE ALKALOIDS: arborinine, ribinalidine, rutacridone.

FURANOQUINOLINE ALKALOIDS: dictamnine, kokusaginine, skimmianine.

QUINOLINE ALKALOID: graveolinine.

COUMARINS: bergapten, byakangelicin, chalepensin, chalepin, heliettin, isopimpinellin, psoralen, rutamarin, xanthotoxin, xanthyletin.

SESQUTERPENOID: isoimperiatorin.

(A, C) Gonzalez *et al.*, *An. Quim.*, **73**, 430 (1977)

(C) Reisch *et al.*, *Tetrahedron Lett.*, 4395 (1968)

(T) El-Tawil *et al.*, *Pharmazie*, **35**, 503 (1980)

R. graveolens L.

ACRIDONE ALKALOIDS: furacridone, gravacridonechlorine, gravacridonediol, gravacridonediol O- β -D-glucoside, gravacridonediol O-methyl ether, gravacridonetriol, rutacridone.

QUINOLINE ALKALOIDS: graveoline, graveolinine, methylenedioxypyphenyl-butyl-4-quinolone.

COUMARINS: gravelliferone, isorutarin, 8-methoxygravelliferone, rutacultin, rutaretin, suberenone.

(A) Reisch *et al.*, *Phytochemistry*, **11**, 2359 (1972)

(C) Garg *et al.*, *ibid.*, **17**, 2135 (1978)

R. oreojasme Weeb.

COUMARINS: fatagarin, oreojasmin, sabandinin.

Gonzalez *et al.*, *An. Quim.*, **71**, 842 (1975); *Chem. Abstr.*, 84 161766

R. pinnata.

COUMARINS:

6-(3'-ethoxy-2'-hydroxy-3'-methylbutyryl)-7-methoxycoumarin, furopinnarin, sabandinin, sabandinone, tamarin.

Gonzalez *et al.*, *Herba Hung.*, **10**, 95 (1971) *Chem Abstr.* 79 15854m

Gonzalez *et al.*, *Phytochemistry*, **16**, 2033 (1977)

RYANIA

R. speciosa Vahl.

DITERPENE ALKALOIDS: dehydroryanodine ryania diterpene esters A, C, C-1, C-2 and D, ryanodine.

Ruest *et al.*, *Can. J. Chem.*, **63**, 2840 (1985)

RYTIPHLEA (Rhodophyceae)

R. tinctoria.

HALOGENATED PHENOLICS: 5,6-dibromo-3,4-dimethoxybenzyl alcohol, 5,6-dibromo-3,4-dimethoxybenzyl alcohol ethyl ether, 2,4-dibromo-1,3,5-trimethoxybenzene, 3',5,5',6-tetrabromo-2',3,4,4',6'-pentamethoxydiphenylmethane.

Chevrolet-Magueur *et al.*, *Phytochemistry*, **15**, 767 (1976)

S

SABADILLA

S. minor.

UNCHARACTERIZED ALKALOID: hydroalkamine S.
Auterhoff, *Arch. Pharm.*, **288**, 549 (1955)

SABINA

S. officinalis.

MONOTERPENOID: sabinol.
Short, Read, *J. Chem. Soc.*, 1040 (1939)

SACCHARUM

S. officinarum L.

FLAVONOID: 5,7-dimethylapigenin 4'-O- β -D-glucopyranoside.
STEROIDS: ikshusterol, 7-epi-ikshusterol,
24-methylenelophenol, stigmastane,
 5α -stigmastane-3,5,6-triol.
TRITERPENOID: isosawamilletin.
(F) Misra *et al.*, *Curr. Sci.*, **47**, 152 (1978)
(S) Deshmane, Dev, *Tetrahedron*, **27**, 1109 (1971)
(T) Eglinton *et al.*, *Tetrahedron Lett.*, 2323 (1964)

SAELANIA

S. glaucescens.

DITERPENOID: 16 α -kauran-1-ol.

Nilsson, Mattensson, *Acta Chem. Scand.*, **25**, 1486 (1971)

SAFRAN

S. aquila.

MONOTERPENE GLUCOSIDE: picrocrocin. Kuhn, Winterstein, *Ber. Dtsch. Chem. Ges.*, **67**, 344 (1934)

S. naturalis.

CAROTENOIDS: crocetin-(β -D-gentiobiosyl)-(β -D-glucosyl) ester, crocetin di-(β -D-glucosyl) ester, crocin.

Pfander *et al.*, *Helv. Chim. Acta*, **58**, 1608 (1975)

SAGINA

S. japonica.

FLAVONOIDS: apigenin 6-C-arabinosyl-8-C-glucopyranoside, apigenin 6,8-di-glucoside, apigenin 8-glucoside, apigenin 6-O-rhamnosyl-C-glucoside.

Zhuang, *Zhongcaoyao*, **14**, 295 (1983) *Chem. Abstr.*, **100** 3466a

SAGOTIA

S. racemosa.

PHENANTHRENES: microndrol E, microndrol F.

De Alvarenga *et al.*, *Phytochemistry*, **15**, 844 (1976)

SALACIA

S. macrosperma.

STEROIDS: salacia quinonemethide, salaspermic acid.

Reddy *et al.*, Indian J. Chem., **20B**, 197 (1981)

S. madagascariensis.

STEROID: isoguesterin.

Sneden *et al.*, J. Nat. Prod., **44**, 503 (1981)

S. prenoides.

TRITERPENOIDS: 1,3-dioxofriedelen-24-al, 25,26-epoxyfriedelene-1,3-dione, 7,24-oxidafriedelane-1,3-dione, 25,26-oxidafriedelane-1,3-dione.

Tewari *et al.*, J. Chem. Soc., Perkin I, 146 (1974)

SALICORNIA (Chenopodiaceae)

S. europaea L.

CHROMONES: 6,7-dimethoxychromone, 6,7-methylenedioxychromone.

FLAVONOIDS: (malonyl-6"- β -D-glucoside)-3-quercetol, quercetol, + i.quercetol 3- β -D-glucoside, rutoside.

(Ch) Chiji *et al.*, Agr. Biol. Chem., **42**, 159 (1978) (F) Geslin *et al.*, J. Nat. Prod., **48**, 111 (1985)

S. herbacea.

UNCHARACTERIZED ALKALOIDS: salicornine, saliherbine.

Brokowski, Drost, Pharmazie, **20**, 390 (1965)

SALIX (Salicaceae)

S. songorica.

FLAVONOIDS: quercetin, rutin, salicin, triandrin.

Kompanysev *et al.*, Khim. Prir. Soedin., 813 (1976)

S. triandra L.

GLUCOSIDE: salidroside.

Bridel *et al.*, C.R. Acad. Sci., **183**, 231 (1926)

S. viminalis.

FLAVONOIDS: apigenin 7-O-glucoside, isoquercitrin, isorhamnetin 3-O-(6-acetylglucoside), isorhamnetin 3-O-glucoside.

Karl *et al.*, *Phytochemistry*, **16**, 1117 (1977)

SALMALIA (Bombacaceae)

S. malabarica (DC.) Schott et Endl. (Bombax ceiba).

SESQUITERPENOID: 1,6-dihydroxy-3-methyl-5-(methylethyl)-7-methoxy-8-naphthalene carboxylic acid.

Sood *et al.*, *Phytochemistry*, **21**, 2125 (1982)

SALMEA

S. scandens.

AMIDES: deca-2Z,8Z-dien-6-yn-1-oic acid phenylethylamide, 6-oxohexa-2E,4E-dien-1-oic acid N-phenylethylamide, nona-6,8-diyne-2,3-epoxy-1-oic acid phenylethylamide.

Bohlmann *et al.*, *Phytochemistry*, **24**, 595 (1985)

SALSOLA (Chenopodiaceae)

S. kali L.

FLAVONES: isorhamnetin 3-O-glucoside, isorhamnetin 3-O-rutinoside.

Tomas *et al.*, *Fitoterapia*, **56**, 365 (1985)

S. laricifolia.

COUMARINS: calycanthoside, fraxetin, fraxidin, fraxidin 8-O- β -D-glucopyranoside, isofraxidin, lariside, scopoletin 7-O- β -D-glucopyranoside.

Narantuyan *et al.*, *Khim. Prir. Soedin.*, **243**, 288 (1986)

S. micranthan.

SAPONINS: salsolides A, B, C, D and E.

Savona *et al.*, *Phytochemistry*, **21**, 2563 (1982)

S. richteri Karel

ISOQUINOLINE ALKALOIDS: (−)-salsolidine, (±)-salsolidine, (−)-salsoline, (±)-salsoline.

UNCHARACTERIZED ALKALOID: salsamine.

Orekhov *et al.*, *Bull. Soc. Chim. Fr.*, **4**, 1265 (1937)

S. subaphylla SAM. (Aellenia subaphylla SAM Aellen.)

AMINE: ferulylputrescine.

AMINE ALKALOID: subaphylline.

Ryabinin *et al.*, *Dokl. Akad. Nauk SSSR*, **67**, 513 (1949)

SALVADORA

S. persica.

UREA ALKALOID: N,N'-bis(3-methoxybenzyl)urea.

Ezmirly *et al.*, *Planta Med.*, **35**, 191 (1979)

SALVIA (Labiatae)

S. aethiopis.

ALIPHATIC: eicosane.

DITERPENOIDS: aethiopinone, salvipinone.

FLAVONES: 5-hydroxy-3',4',7-trimethoxyflavone, salvigenin.

STEROIDS: β-sitosterol, β-sitosterol 3-β-D-glucoside.

(Al, F, S) Ulubelen *et al.*, *Planta Med.*, **29**, 318 (1976)

(T) Boya *et al.*, *Phytochemistry*, **20**, 1367 (1981)

(T) Rodriguez *et al.*, *ibid.*, **23**, 1803 (1984)

S. argentea.

DITERPENOIDS: aethiopinone, arucadiol, ferruginol, 1R-hydroxymultirone, 1-ketoaethiopinone, salvipisone.

Michavila *et al.*, *Phytochemistry*, **25**, 1935 (1986)

S. ballotaeeflora.

DITERPENOIDS: conactyneone, icetexone, romulogarzone.

Dominguez *et al.*, *Planta Med.*, **30**, 237 (1976)

S. breviflora.

DITERPENOIDS: brevifloralactone, brevifloralactone acetate.

TRITERPENOIDS: oleanolic acid, ursolic acid.

Cuevas *et al.*, *Phytochemistry*, **26**, 2019 (1987)

S. broussonetii.

TRITERPENOID: anagadiol.

Gonzalez *et al.*, *J. Chem. Soc., Chem. Common.*, **567** (1971)

S. canariensis L.

STEROIDS: β -sitosterol, β -sitosterol β -D-glucoside.

DITERPENOIDS: arucatriol, caryophyllene, clovanediol, galdosol.

TETRATERPENOID: squalene.

TRITERPENOIDS: oleanolic acid, ursolic acid.

Fraga *et al.*, *An. Quim.*, **70**, 701 (1975)

Gonzalez *et al.*, *ibid.*, **71**, 705 (1976)

S. carnosa.

DITERPENOID: carnosol.

Brieskorn *et al.*, *J. Org. Chem.*, **29**, 2293 (1964)

S. coccinea.

DITERPENOID: salviacoccin.

Savona *et al.*, *Phytochemistry*, **21**, 2563 (1982)

S. digitaloides.

DITERPENE GLYCOSIDE: baiyunoside.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **31**, 780 (1983)

S. divinorum.

DITERPENOID: salvinorin.

Ortega *et al.*, *J. Chem. Soc., Perkin I*, 2505 (1982)

S. drobovii.

QUINONES: cryptotanshinone, miltirone.

Romanova *et al.*, *Khim. Prir. Soedin.*, 414 (1977)

S. farinacea.

NORDITERPENOIDS: salvifaricin, salvifararin.

Savona *et al.*, *Phytochemistry*, **22**, 784 (1983)

S. fulgens.

DITERPENOID: salvigenolide.

Esquivel *et al.*, *Tetrahedron*, **41**, 3213 (1985)

S. gesneraeefolia.

TERPENOIDS: gesnerifolin A, gesnerifolin B.

Jiminez *et al.*, *Rev. Latinoam. Quim.*, **10**, 165 (1979)

S. glutinosa.TRITERPENOID: olean-12-ene-3 β ,11 α -diol.Beynon *et al.*, *J. Chem. Soc.*, 1233 (1938)***S. hormminium.***TRITERPENOID: olean-13,18-ene-2 α ,3 β -diol, olean-13(18)-ene-2 β ,3 β -diol.Ulubelen *et al.*, *Phytochemistry*, **16**, 790 (1977)***S. hypoleuca.***

SESTERTERPENOIDS: salvialeucolide, salvialeucolide-2,3-lactone, salvialeucolide methyl ester.

Rustaiyan *et al.*, *Phytochemistry*, **21**, 1812 (1982)***S. karabachensis.***

QUINONES: cryptotanshinone, tanshinone I.

Romanova *et al.*, *Khim. Prir. Soedin.*, 414 (1977)***S. lanata.***

TRITERPENOID: 3-epi-ursolic acid.

Huneck *et al.*, *Phytochemistry*, **20**, 3279 (1981)***S. lanigera.***

ESTER: methylsarnosate.

Al-Hazimi *et al.*, *Phytochemistry*, **25**, 1238 (1986)***S. lavandulaefolia.***

DITERPENOID: 7-ethoxy-12-O-methyl royleanone, 7-ethoxyroyleanone.

Michavila *et al.*, *Phytochemistry*, **25**, 266 (1986)***S. leucantha.***

TRITERPENOID: 3-epi-erythrodiol.

Urbanek *et al.*, *Curr. Sci.*, **48**, 107 (1979)***S. melissodora.***

DITERPENOID: melissodoric acid.

Rodriguez-Hahn *et al.*, *Rev. Latinoam. Quim.*, **4**, 93 (1973)***S. moorcroftiana.***

DITERPENOID: deoxyfuerstione.

Bakshi *et al.*, *Plants Med.*, 408 (1986)Simoes *et al.*, *Phytochemistry*, **25**, 755 (1986)***S. multiorrhiza Bunge.***

PIGMENTS: cryptotanshinone, 6-hydroxytanshinone II, isocryptotanshinone, isotanshinone I, isotanshinone II, isotanshinone III, tanshinolactone, tanshinone I, tanshinone II, tanshinone IIIB, tanshinonic acid, tanshinolactone,

Diterpenoid salvioil.

TRINORDITERPENOID: danshenspiroketalactone.

(P) Kakisawa *et al.*, *J. Chem. Soc., Perkin* **1**, 1716 (1976)

(P) Luo *et al.*, *Chem. Pharm. Bull.*, **34**, 3166 (1986)

(T) Hayashi *et al.*, *J. Chem. Soc., Chem. Commun.*, 541 (1971)

(T) Kong *et al.*, *Yaoxue Xuebao*, **20**, 747 (1985); *Chem. Abstr.*, 104 85377s

S. nemorosa.

DITERPENOID: nemorone.

Romanova *et al.*, *Khim. Prir. Soedin.*, 199 (1971)

S. nicolsoniana.

STEROIDS: β -sitosterol, β -sitosterol 3-glucoside.

TRITERPENOIDS: betulinic acid, 3,24-dihydroxyolean-12-en-28,30-dioic acid, 3,24-dihydroxyolean-12-en-28-oic acid, oleanolic acid, ursolic acid, 3-epi-ursolic acid.

Pereda-Miranda *et al.*, *J. Nat. Prod.*, **49**, 225 (1986)

S. officinalis L.

DITERPENOIDS: picrosalvin, salvin.

FLAVONOIDS: apigenin 7-O-glucuronide, luteolin 7-O-glucuronide, salvigenin 7-O-glucuronide.

PHENOLICS: caffeic acid, chlorogenic acid.

(F, P) Prokopenko *et al.*, *Farm. Zh. (Kiev)*, 75 (1982); *Chem. Abstr.*, 97 141716c

(T) Linde, *Helv. Chim. Acta*, **47**, 1234 (1964)

(T) Brieskorn *et al.*, *J. Org. Chem.*, **29**, 2293 (1964)

S. oxyodon.

Three diterpenoids.

Escudero *et al.*, *Phytochemistry*, **22**, 585 (1983)

S. phlomoides.

DITERPENOIDS: demethylcryptojaponol, salviphlomone.

Rodriguez-Hahn *et al.*, *Phytochemistry*, **22**, 2011 (1983)

S. plebeia.

FLAVONE: salvitin.

DITERPENOID: epoxysalviacoccin.

(F) Gupta *et al.*, *Indian J. Chem.*, **13**, 215 (1975)

(T) Garcia-Alvarez *et al.*, *Phytochemistry*, **25**, 272 (1986)

S. przewalskii Maxim, var. mandarinorum (Diels) Stib.

DITERPENOIDS: przewaquinone C, przewaquinone D,

przewaquinone E, przewaquinone F.

Yang *et al.*, *Yaoxue Xuebao*, **19**, 274 (1984); *Chem. Abstr.*, 103 19811g

S. sapinae.

DITERPENOID: $7\beta,15$ -dihydroxyabietatriene.

Pereda-Miranda *et al.*, *Phytochemistry*, **25**, 1931 (1986)

S. sclarea L.

DITERPENOID: sclareol.

SESQUITERPENOIDS: (2R,5E)-epoxycaryophyll-5-en-12-al, (2S,5E)-(2S,5E)-epoxycaryophyll-5-en-12-al, (2R,5E)-epoxycaryophyll-5-ene, (1R,5R)-epoxysalvial-4(14)-en-1-one, isospathulenol, salvial-4(14)-en-1-one.

Maurer, Hauser, *Helv. Chim. Acta*, **66**, 2223 (1983)

S. splendens.

DITERPENOID: salviarin, splendidin.

Savona *et al.*, *J. Chem. Soc., Perkin I*, 533 (1979)

S. tomentosa.

DITERPENOID: 3-hydroxy-8,11,13,15-abietatetraen-18-oic acid.

Ulubelen *et al.*, *J. Nat. Prod.*, **44**, 119 (1981)

S. trautvetteri.

QUINONE: cryptotanshinone.

Romanova *et al.*, *Khim. Prir. Soedin.*, 414 (1977)

S. trijuga Diels.

QUINONE: hydroxymethylenetanshinquinone.

Yang *et al.*, *Yaoxue Xuebao*, **17**, 517 (1982); *Chem. Abstr.*, 97 195769r

S. triloba.

FLAVONOIDs: apigenin 7-glucuronide, apigenin 7-glucoside, chrysoeriol 7-glucuronide, 6,8-di-C-glucosylapigenin, 6-hydroxyluteolin 6,3'-dimethyl ether, luteolin 7-glucoside, luteolin 7-glucuronide, luteoline diglucoside, luteolin 7-glucuronide-3'-glucoside, 6-methoxyapigenin 7-glucoside, 6-methoxyapigenin 7-glucuronide, 6-methoxyluteolin 7-glucoside, 6-methoxyluteolin 7-glucuronide.

DITERPENOID: picrosalvin.

(F) Abdalla *et al.*, *Phytochemistry*, **22**, 2057 (1983)

(T) Brieskorn *et al.*, *J. Org. Chem.*, **29**, 2293 (1964)

S. virgata.

FLAVONES: 5-hydroxy-3',4',7-trimethoxyflavone, salvigenin, salvigenin 5-glucoside.

TRITERPENOID: virgatic acid.

(F) Ulubelen *et al.*, *Lloydia*, **38**, 446 (1975)

(T) Ulubelen, Agamoglu, *Phytochemistry*, **15**, 309 (1976)

SAMADERA

S. indica.

DITERPENOIDS: samaderins A, B, C, D and E, samaderoside B.

Wani *et al.*, *J. Chem. Soc., Chem. Commun.*, 295 (1977)

S. madagascariensis.

TRITERPENOIDS: melianodiol, melianodiol diacetate.

Ferrier, Polonsky, *J. Chem. Soc., Chem. Commun.*, 261 (1971)

SAMBUCUS (Caprifoliaceae)

S. canadensis.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

TRITERPENOIDS: α -amyrin palmitate, β -amyrin palmitate.

Inoue, Sato, *Phytochemistry*, **14**, 1871 (1975)

S. ebulus L.

IRIDOID: ebuloside.

STEROID: stigmast-4-ene-3,6-dione.

(I) Gross *et al.*, *Helv. Chim. Acta*, **69**, 156 (1986)

(S) Tunmann, Grimm., *Arch. Pharm.*, **307**, 891 (1974)

S. nigra.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

Inoue, Sato, *Phytochemistry*, **14**, 1871 (1975)

SAMUELA (Cactaceae)

S. carnosserana Trel.

STEROIDS: kammogenin, manogenin, mexogenin, samogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **69**, 2167 (1947)

Marker *et al.*, *ibid.*, **69**, 2401 (1947)

SANBARIA

S. stellipila.

FLAVONES: sorbarin, sorbifolin.

Arisawa *et al.*, *Chem. Pharm. Bull.*, **18**, 916 (1970)

SANDORICUM

S. indicum.

TRITERPENOIDS: bryonolic acid, bryononic acid.

Tunmann, Dadry, *Naturwissenschaften*, **26B**, 620 (1971)

SANGUINARIA (Papaveraceae).

S. canadensis L.

NAPHTHOISOQUINOLINE ALKALOIDS: dihydrosanguilutine, oxysanguinarine. sanguidimerine, sanguilutine, sanguinarine, sanguirubine.

OXOPROTOBERBERINE ALKALOID: α -allocryptopine.

Stermitz *et al.*, *Phytochemistry*, **14**, 834 (1975)

SANGUIS

S. draconis.

PIGMENT: deacorubin.

Brockmann *et al.*, *Ber. Dtsch. Chem. Ges.*, **77**, 279 (1944)

SANGUISORBA (Rosaceae)

S. officinalis L.

TANNIN: sanguin H-6.

TRITERPENOID: tomentosolic acid.

(Tan) Nonaka *et al.*, *Chem. Pharm. Bull.*, **30**, 2255 (1982)

(T) Barton *et al.*, *J. Chem. Soc.*, 5163 (1962)

SANSEVIERA (Liliaceae)

S. trifasciata.

STEROIDS: (25S)-ruscogenin, sansevierigenin.

Tada *et al.*, *Chem. Pharm. Bull.*, **21**, 308 (1973)

SANTALUM

S. album.

MONOTERPENOID: 2-methyl-3-methylenenorbornan-2-ol, exo-norbicycloekasantalal.

SESQUITERPENOIDS: α -santalol, β -santalol, santalone.

Demole *et al.*, *Helv. Chim. Acta*, **59**, 737 (1976)

S. lanceolatum.

SESQUITERPENOIDS: lanceol.

Birch, Murray., *J. Chem. Soc.*, 1888 (1951)

S. spicatum.

SESQUITERPENOIDS: 2,6,10-trimethyl-2,6,10-dodecatriene.

Birch *et al.*, *Aust. J. Chem.*, **23**, 2337 (1970)

SANTOLINA (Compositae)

S. chamaecyperissus.

FLAVONOIDS: apigenin, apigenin 7-glucoside, apigenin 7-glucuronide, apigenin 7-rhamnoglucoside, chrysoeriol 7-glucoside, luteolin, luteolin 7-glucuronide, luteolin 7-rhamnoglucoside.

MONOTERPENOID: atemisia ketone.

(F) Becchi *et al.*, *Plant Med. Phytother.*, **10**, 139 (1976)

(T) Zelkow *et al.*, *J. Org. Chem.*, **29**, 2786 (1964)

S. oblongifolia.

SESQUITERPENOID: cis-bejarol, α -trans-bejarol, β -trans-bejarol, oploopenone.
de Pascual Teresa *et al.*, *Phytochemistry*, **22**, 2235 (1983)

SAPINDUS (Sapindaceae)

S. mukorossi.

SAPONINS: mukuroziosides Ia, Ib, IIa, IIb, sapinosides A, B, C and D.
Chirva *et al.*, *Khim. Prir. Soedin.*, **316**, 374 (1970)
Kasai *et al.*, *Phytochemistry*, **25**, 871 (1986)

S. saponaria.

FLAVONOIDS: luteolin, 4'-methoxyflavone, rutin.
STEROID: β -sitosterol. Triterpenoids α -amyrin, β -amyrin.
Abdel Wahab, Selim, *Fitoterapia*, **56**, 167 (1985)

SAPIUM

S. baccatum.

TRITERPENOIDS: acetoxyaleuritolic acid, baccatin.
Saha *et al.*, *Tetrahedron Lett.*, 3095 (1977)

S. indicum.

TOXINS: sapintoxins A, B, C and D.
Taylor *et al.*, *Experientia*, **37**, 681 (1981)

S. klotzschianum.

UNCHARACTERIZED ALKALOID: sapinine.
Ribero, Mochado, *Bol. Inst. Quim. Agr.*, **27**, 13 (1952)

S. sebiferum.

TRITERPENOIDS: moretenol, 3-epi-moretenol, moretenone, sebiferenic acid.
Khastgir *et al.*, *J. Chem. Soc., Chem. Commun.*, 1217 (1967)
Pradhan *et al.*, *Phytochemistry*, **23**, 2593 (1984)

SAPONARIA (Caryophyllaceae)

S. officinalis L.

PYRAN GLUCOSIDE: sapopyroside.

SAPONINS: saponaria saponin, saponaroside, saponoside, saponosides A, B, C and D.

(G) Plouvier *et al.*, *Phytochemistry*, **25**, 546 (1986)

(Sap) Bukharov, Shcherbak, *Khim. Prir. Soedin.*, 389 (1969)

(Sap) Chirva *et al.*, *ibid.*, 188 (1969)

SAPRANTHUS (Annonaceae)

S. palanga.

ALKALOIDS: liriiodenine, 9S-sebiferine.

LACTONE: sapranthin.

Else, Waterman, *Phytochemistry*, **25**, 1903 (1986)

SAPROSPIRA

S. grandis.

CAROTENOIDS: carotenoid S-434, carotenoid S-460, carotenoid S-500.

Aasen, Liaaen-Jensen, *Acta Chem. Scand.*, **20**, 811 (1966)

SARCOCAPNOS

S. crassifolia.

ISOQUINOLINE ALKALOID: oxocompostelline.

SECOCULARINE ALKALOIDS: norsecocularidine, norsecosarcocapnidine, norsecosarcocapnine, secosarcocapnidine, secosarcocapnine.

Castedo *et al.*, *Heterocycles*, **26**, 591 (1987)

S. enneaphylla.

HOMOISOQUINOLINE ALKALOID: ribasidine.

Boente *et al.*, *Tetrahedron Lett.*, 4481 (1983)

SARACOCOCCA

S. pruniformis Lindl.

STEROIDAL ALKALOIDS: 3 α -(τ,τ -dimethylacrylyl)amino-20 α -dimethylamino-5 α -pregnane, 3 β -(τ,τ -dimethylacrylyl)amino-20 α -dimethylamino-5 α -pregnane, kurchessine, saracodine, saracosine, saracosinine.

UNCHARACTERIZED ALKALOID: saracosidinine.

Chatterjee, Mukherjee, *Chem. Ind.*, 769 (1966)

S. saligna.

STEROIDAL ALKALOID: salignine.

Kiamuddin, Haque, *Pakistan J. Sci. Ind. Res.*, **9**, 103 (1966)

SARCOLAEANA

S. multiflora.

ACIDS: caffeoic acid, p-coumaric acid, gallic acid, gentisic acid, p-hydroxybenzoic acid, vanillic acid.

FLAVONOIDS: kaempferol 3-rhamnoside, myricetol 3-rhamnoside, myricitrin, quercetin 3-rhamnoside.

Paris *et al.*, *Plant Med. Phytother.*, **9**, 230 (1975)

SARCOMELICOPE (Rutaceae)

S. dogniensis Hartley.

ACRIDONE ALKALOIDS: (-)-cis-1,2-dihydroxy-1,2-dihydro-N-demethylacronycine, (+)-1-hydroxy-1,2-dihydro-N-demethylacronycine, 1-methoxy-3-(2-methylpropanal-2-oxy)-acridin-9-one-4-carbaldehyde, 1-oxo-1,2-dihydro-N-demethylacronycine.

Mitaku *et al.*, *Heterocycles*, **26**, 2057 (1976)

SARGASSUM (Phaeophyceae/Sargassaceae)

S. crassifolium J.Asgardh.

ACID: palmitic acid.

MONOTERPENOIDS: (−)-loliolide, (−)-loliolide acetate, (+)-epi-loliolide.

Kuniyoshi *et al.*, Bull. Coll. Sci. Univ. Ryukyus, **40**, 41 (1975); Chem. Abstr., 105 75867h

S. kjellamanianum.

ALKALOID: sargassum lactam.

Nozaki *et al.*, Koen Yoshishu—Terupen Oyabi Seiyu Kagakuni Kansuru Toronkai, 23rd, 19 (1979)

S. ringgoldianum.

STEROIDS: sargasterol, saringosterol.

Tsuda *et al.*, J. Am. Chem. Soc., **80**, 921 (1958)

S. sagamianum var. yezoense.

PLASTOQUINONES: sargahydroquinone acid, yezoquinolide.

Segawa *et al.*, Chem. Lett., 1365 (1987)

S. serratifolium.

CHROMENE: sargachromenol.

QUINONES: sargaquinal, sargaquinoic acid.

Nozaki *et al.*, Koen Yoshishu—Terupen Oyabi Seiyu Kagakuni Kansuru Toronkai, 23rd, 19 (1979)

S. thunbergii.

STEROID: 24-vinyloxycholesta-5,23-dien-3 β -ol.

Kobayashi *et al.*, Chem. Pharm. Bull., **33**, 4012 (1985)

S. tortile.

SESQUITERPENE COUMARINS: sargaquinol, sargatetraol, sargatriol.

Ishitsuka *et al.*, Chem. Lett., 1269 (1979)

SARGENTIA

S. greggii.

FLAVONE: cerrosillin B.

Dominguez *et al.*, *Rev. Latinoam. Quim.*, 7, 41 (1976)

SARGENTODOXA

S. cuneata.

PHENOLICS: emodin, physcion.

STEROIDS: daucasterol, β -sitosterol.

Wang *et al.*, *Zhongcaoyao*, 13, 7 (1982); *Chem. Abstr.*, 97 107021n

SAROTHAMNUS (Leguminosae)

S. catalaunicus Webb.

LUPANE ALKALOIDS: catalaudesmine latalauverine, sarodesmine.

Faugeras, Paris, *Plant Med. Phytother.*, 5, 134 (1971)

S. patens. (Cytisus striatus).

LUPANE ALKALOIDS: isocinevanine, 13-isovanillyloyloxylupanine.

FLAVONE: chrysin 7- β -glucoside.

(A) Faugeras *et al.*, *Ann. Pharm. Fr.*, 30, 527 (1972)

(F) Brum-Bousquet *et al.*, *Planta Med.*, 30, 375 (1976)

S. scorpiarius.

SPARTEINE ALKALOID: sparteine.

FLAVONOIDS: 6-O-acetylscoparoside, genitoside, scoparoside.

(A) D'Aragona, *Boll. Chim. Farm.*, 87, 240 (1948)

(F) Brum-Bousquet *et al.*, *Lloydia*, 40, 591 (1977)

SARRACENIA (Sarraciaceae)

S. flava.

TRITERPENOID: betulinaldehyde.

Bhattacharyya *et al.*, *Phytochemistry*, 15, 431 (1976)

SASSAFRAS (Lauraceae)

S. albidum.

TERPENOID: apiol.

Sethi *et al.*, *Phytochemistry*, **15**, 1773 (1976)

S. officinalis L.

MONOTERPENOID: 4-allyl-1,2-(methylenedioxy)-benzene.

Perkin *et al.*, *J. Chem. Soc.*, 1663 (1927)

SATUREJA (Labiatae)

S. acinos.

FLAVONOID: naringenin 7-(6"-O- α -L-rhamnopyranosyl- β -D-glucopyranoside).

STEROID: β -sitosterol β -D-glucopyranoside.

TRITERPENOID: ursolic acid. Escudero *et al.*, *J. Nat. Prod.*, **48**, 128 (1985)

S. calamintha.

TRITERPENOIDS: calaminthadiol, isocalaminthadiol, ursolic acid, 3-epi-ursolic acid.

Giannetto *et al.*, *Phytochemistry*, **18**, 1203 (1979)

S. douglasii.

MONOTERPENOIDS: camphene, camphor, carvone, isomenthone, menthone, pulegone.

Lincoln *et al.*, *Biochem. Syst. Ecol.*, **4**, 237 (1976); *Chem. Abstr.*, 86 117614v

S. graeca.

TRITERPENOIDS: calaminthadiol, isocalaminthadiol.

Giannetto *et al.*, *Phytochemistry*, **18**, 1203 (1979)

S. montana.

TRITERPENOIDS: crataegolic acid, oleanolic acid.

Escudero *et al.*, *J. Nat. Prod.*, **48**, 128 (1985)

S. obovata.

TRITERPENOID: oleanolic acid.

Escudero *et al.*, *J. Nat. Prod.*, **48**, 128 (1985)

SAURURUS

S. cernuus.

LIGNOIDS: manassantin A, manassantin B, saucerneol, saucernetin.

Rao, Alvarez, *Tetrahedron Lett.*, 4947 (1983)

SAUSSUREA (Compositae)

S. affinis.

SESQUITERPENOID: saussureolide.

Kalsi *et al.*, *Phytochemistry*, **22**, 1993 (1983)

S. elegans (Ldb.) M.B.Spreng.

SESQUITERPENE ALKALOID: elegantine.

SESQUITERPENOID: saelin.

HALOGENATED SESQUITERPENOIDS: elegin, salegin.

(A) Sham'yanov *et al.*, *Khim. Prir. Soedin.*, 819 (1976)

(A) Sham'yanov *et al.*, *ibid.*, 865 (1976)

(T) Sham'yanov *et al.*, *ibid.*, 258 (1980)

S. frolowii.

UNCHARACTERIZED TERPENOID: sosyurol. Troshchenko, Kobrin, *Khim. Prir. Soedin.*, 256 (1965)

S. involucrata ar. et Kin.

FLAVONOIDS: quercetin, rutin, 5,7,4'-trihydroxy-6,3'-dimethoxyflavone, 5,7,4'-trihydroxy-6-methoxyflavone.

Jia *et al.*, *Gaodeng Xuexiao Huaxue Xuebao*, **4**, 581 (1983); *Chem. Abstr.*, 100 32225b

S. laniceps.

ACETOPHENONE: p-hydroxyacetophenone.

COUMARINS: physcion, scopoletin, umbelliferone.

STEROID: β -sitosterol.

Zhao *et al.*, *Zhongcaoyao*, **17**, 296 (1986); *Chem. Abstr.*, 105 168932r

S. lappa Clarke.

NORSESQUITERPENOID: (E)-9-isopropyl-6-methyldeca-5,9-dien-2-one.

SESQUITERPENOIDS: costic acid, α -costol, β -costol, (+)-costol, costunolide, isozaluzanin, isozaluzanin C, 12-methoxydihydrocostunolide, sausurrea lactone.

TRITERPENOIDS: α -amyrin stearate, β -amyrin stearate, lupeol.

Maurer *et al.*, *J. Chem. Soc., Chem. Commun.*, 353 (1977)

Kalsi *et al.*, *Phytochemistry*, **22**, 1993 (1983)

S. neopulchella.

SESQUITERPENOID: saupirine.

Chugunov *et al.*, *Khim. Prir. Soedin.*, 727 (1971)

S. pulchella.

SESQUITERPENOIDS: saupirine, saurine.

Chugunov *et al.*, *Khim. Prir. Soedin.*, 727 (1971)

SAUTELLARIA

S. orientalis.

FLAVONE: 5,7-dihydroxyflavone-7- β -D-glucoside.

Asakawa *et al.*, *Bull. Chem. Soc., Japan*, **44**, 2761 (1971)

SAXIFRAGA (Saxifragaceae)

S. aizoon Jacq.

ANTHOCYANINS: cyanidin 3-rhamnoside, cyanidin 3-xyloside.

FLAVONOIDS: kaempferol, quercetin, quercetin 3-rhamnoglucoside, quercetin 3-rhamnoside.

PHENOLICS: chlorogenic acid, ellagic acid.

Pawlowska, *Acta Soc. Bot. Pol.*, **45**, 383 (1976); *Chem. Abstr.*, 87 2369x

S. stolonifera Meerb.

ACIDS: capric acid, caprylic acid, isovaleric acid, linoleic acid, myristic acid, oleic acid, palmitic acid, stearic acid.

ALCOHOL: benzyl alcohol.

BENZOPYRAN: norbergenin.

MONOTERPENOIDS: citronellol, p-cresol, cumene, p-cymene, geraniol, geranyl acetate, linalool, α -pinene, α -terpineol, terpinolene.

(Ac, Al, T) Kameoka *et al.*, *Yukagaku*, **25**, 490 (1976); *Chem. Abstr.*, 85 119616a

(B) Tanayama *et al.*, *Phytochemistry*, **22**, 1053 (1983)

SCABIOSA (Dipsacaceae)

S. atropurpurea.

GLYCOSIDE: swertisin.

Zemtsova *et al.*, Khim. Prir. Soedin., 705 (1977)

S. comosa.

COUMARINS: bergapten, coumarin, umbelliprenin.

Dargaeva *et al.*, Khim. Prir. Soedin., 387 (1976)

S. japonica Miq.

IRIDOID: cantleyoside, loganin, sweroside.

Endo *et al.*, J. Pharm. Soc., Japan, **96**, 246 (1976)

S. ochroleuca.

ACIDS: caffeic acid, chlorogenic acid.

Zemtsova, Aktual Vopr. Farm., **2**, 82 (1974); Chem. Abstr., 84 147618a

S. soongorica.

COUMARIN: angenomalin.

SAPONINS: songoroside M, songoroside O.

STEROID: β -sitosterol.

TRITERPENOID: oleanolic acid.

(C, Sap) Akimaliev *et al.*, Khim. Prir. Soedin., 476 (1976)

(S, T) Akimaliev, *ibid.*, 711 (1977)

SCAPANIA (Muscি)

S. aequiloba.

SESQUITERPENE: annastreptene.

Andersen *et al.*, Tetrahedron, **33**, 617 (1977)

S. aspera.

SESQUITERPENENE: anastreptene.

Andersen *et al.*, Tetrahedron, **33**, 617 (1977)

S. nemorosa (L.) Dum.

SESQUITERPENE: anastreptene.

Andersen *et al.*, Tetrahedron, **33**, 617 (1977)

S. paludosa.

SESQUITERPENE: anastreptene.

Andersen *et al.*, *Tetrahedron*, **33**, 617 (1977)

S. undulata (L.) Dum.

SESQUITERPENOIDS: anastreptene, (+)-ent-epi-cubenol, (-)-longiborneol, (-)-longifolene, (-)-longipinanol, scapanin A, scapanin B.

Andersen *et al.*, *Tetrahedron*, **33**, 617 (1977)

Huneck *et al.*, *J. Hattori Bot. Lab.*, **54**, 125 (1983); *Chem. Abstr.*, 100 20398x

SCAVEOLA (Goodeniaceae)

S. lobelia (Th.) Murr.

COUMARINS: angenomalin, isoangenomalin.

SESQUITERPENOID: 19H,13(18)-dehydrogermanicol acetate.

(C) Bhan *et al.*, *Phytochemistry*, **12**, 3010 (1973)

(C, T) Bohlmann *et al.*, *Chem. Ber.*, **108**, 433 (1975)

SCELETIUM

S. joubertiae L.Bol.

SCELETIUM ALKALOIDS: dehydrojoubertiamine, dihydrojoubertiamine, joubertiamine, mesembrane, 3'-methoxy-4'-O-methyljoubertiamine.

Arndt, Kruger, *Tetrahedron Lett.*, 3727 (1970)

S. namaquense.

SCELETIUM ALKALOIDS: N-acetyltortuosamine, mesembrine, 3'-methoxy-4'-O-methyljoubertiamine, sceletium alkaloid A-4.

Jeffs *et al.*, *J. Org. Chem.*, **47**, 3611 (1982)

S. strictum.

INDOLE ALKALOIDS: O-acetylmesembrenol, channaine.

Abou-Doma *et al.*, *J. Chem. Soc., Chem. Commun.*, 1078 (1978)

S. subvelutinum. Bol.

SCELETIUM ALKALOID: O-methyldihydrojoubertiamine.

Neuwenhuis *et al.*, *J. Chem. Soc., Perkin I*, 284 (1981)

S. tortuosum.

QUINOLINE ALKALOID: tortuosamine.

Snyckers *et al.*, *J. Chem. Soc., Chem. Commun.*, 1467 (1971)

SCENEDESMUS (Chlorophyceae/Coelastraceae)

S. obliquus (Turpin) Kuetz.

CAROTENOID: loroxanthin.

STEROID: chondrillasterol.

(S) Bergmann, Feeny, *J. Org. Chem.*, **15**, 812 (1950)

(T) Aitzetmuller *et al.*, *Phytochemistry*, **8**, 1761 (1969)

SCEPTRIDIUM

S. ternatum var. ternatum.

BIBENZYL: ternatin.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **34**, 3727 (1986)

SCHEFFLERA

S. capitata Harms.

SAPONIN: scheffleroside.

STEROID: β -sitosterol β -D-glucoside.

TRITERPENOIDS: capitogenic acid, hederagenin

3-O- α -L-arabinopyranoside, oleanolic acid

3-O- α -L-arabinopyranoside.

Jain *et al.*, *Indian J. Chem.*, **21B**, 622 (1982)

S. octophylla.

TRITERPENOIDS: 3,11-dihydroxy-20(29)-lupene-23,28-dioic acid.

Lischewski *et al.*, *Phytochemistry*, **23**, 1695 (1984)

SCHELHAMMERA

S. multiflora.

HOMOERYTHRINA ALKALOID:

3-epi-20,21-seco-schelhammericine.

Sioumis, *Aust. J. Chem.*, **24**, 2737 (1971)

S. pedunculata. F.Muell.

HOMOERYTHRINA ALKALOIDS: schelhammericine, schelhammeridine, schelhammerine, 3-epi-20,21-secoschelhammericine.

Johns *et al.*, *Aust. J. Chem.*, **22**, 2219 (1969)

Sioumis, *ibid.*, **24**, 2737 (1971)

S. undulata.

HOMOERYTHRINA ALKALOID:

3-epi-20,21-secoschelhammericine.

Sioumis, *Aust. J. Chem.*, **24**, 2737 (1971)

SCHINUS (Anacardiaceae)

S. kanjaoensis.

TRITERPENOID: barrigenol A-1.

Cole *et al.*, *Chem. Ind. (London)*, 254 (1955)

S. mertensiana.

SAPONIN: desacetylboninsaponin A.

Kitagawa *et al.*, *Chem. Pharm. Bull.*, **24**, 1260 (1976)

S. molle.

SESQUITERPENOID: β -spathulene.

TRITERPENOIDS: isomasticadienonic acid, isomasticadienonalic acid, 3-epi-masticadienolalic acid.

Piozzo-Balbi *et al.*, *Phytochemistry*, **17**, 2107 (1978)

S. terebinthifolius.

TRITERPENOIDS: baurenone, masticadienonic acid, schinol, terebinthifolic acid.

De Paivo Campello, Marsaiol, *Phytochemistry*, **14**, 2300 (1975)

S. terebinthus.

MONOTERPENEOIDS: 3-carene, p-cymene, limonene, α -phellandrene, β -phellandrene, α -pinene, β -pinene, sabinene, terpinolene.

SESQUITERPENOIDS: carvotanacetone, caryophyllene, cis-sabinene.
 TRITERPENOIDS: α -amyrin, α -amyrinone, simiarenol, simiarenone.
 Lloyd *et al.*, *Phytochemistry*, **16**, 1301 (1977)

SCHISANDRA (Schizandra) (Schisandraceae)

S. chinensis Baill.

CYCLOOCTANES: wuweizihu B, wuweizisu A, wuweizisu B, wuweizisu C.
 LIGNANS: gomisin, gomisin A, gomisin B, gomisin C, pregomisin.
 SESQUITERPENOIDS: chamigrenal, ($-$)-chamigrene.
 DITERPENOIDS: gomisin R, pregomisin, schisandrin, sesquicarene.
 (Cy) Kochetkov *et al.*, *J. Gen. Chem., USSR.*, **31**, 3454 (1961)
 (L) Ikeya *et al.*, *Chem. Pharm. Bull.*, **26**, 682 (1978)
 (T) Ikeya *et al.*, *Chem. Pharm. Bull.*, **30**, 3207 (1982)

S. grandiflora.

TRITERPENOID: schizandroflorin.
 Talapatra *et al.*, *Indian J. Chem.*, **21B**, 76 (1982)

S. henryi.

LIGNAN: enshizhisu.
 DITERPENOID: enschicine.
 Liu *et al.*, *Phytochemistry*, **23**, 1143 (1984)

S. nigra.

SESQUITERPENOID: schizandronol.
 TRITERPENOIDS: schizandronic acid, schizanlactones A and B.
 Takahashi, Takana, *Chem. Pharm. Bull.*, **24**, 2000 (1976)

S. rubriflora Rehd. et Wils.

LIGNANS: deoxyschizandrin, meso-dihydroguaiaretic acid, gomisin O, ($-$)-rubschizandrin, rubschizantherin, pregomisin, schizanhenol, schizanhenol acetate, schizanhenol B, wuweizisu C.

Wang *et al.*, *Yaoxue Xuebao*, **20**, 832 (1985); *Chem. Abstr.*, 105 3521t

SCHISTOSTEPIUM

S. heptalobum.

SESQUITERPENOID: 1,3-dihydroxyarbusculin B.
Bohlmann *et al.*, *Phytochemistry*, **22**, 1623 (1983)

SCHIZANTHUS

S. hookeri.

TROPANE ALKALOIDS: (-)-6 β -angeloyloxytropan-3 α -ol, (-)-hygroline, (+)-pseudohygrine, 9-0-3 α -senecioyloxytropan-6 β -ol, (-)-6 β -tigloyloxytropan-3 α -ol, (3R,6R)-tropan-3 α ,6 β -diol.

Gambaro *et al.*, *Phytochemistry*, **22**, 1838 (1983)

SCHIZONEPETA

S. tenuifolia Briq.

FLAVONOIDS: apigenin 7-O-D-glucoside, luteolin 7-O- β -D-glucoside.
Monoterpeneoids schizanepetosides A, B and C.
Kubo *et al.*, *Chem. Pharm. Bull.*, **34**, 3097 (1986)

SCHIZOPELTE (Lichenes)

S. caffaeoides (Boj.) Baill.

CARBOLINE ALKALOIDS: caffaeoschizin, isoschizogaline, isoschizogamine, schizogamine, schizolutine, schizophylline, schizozygine, α -schizozygol, β -schizozygol, tabernoschizine.

Tenner, Karnweisz, *Experientia*, **19**, 244 (1963)

SCHIZOZYGIA

S. caffaeoidea.

CARBOLINE ALKALOIDS: schigamine, schizogaline, schizophylline, schizozygine.

Renner, Kernweisz, *Experientia*, **19**, 244 (1963)

SCHKUHRIA (Compositae)

S. multiflora.

DITERPENOID: schkuhrianol.

Bohlmann *et al.*, *Phytochemistry*, **19**, 881 (1980)

S. pinnata.

SESQUITERPENOIDS: schkuhrin I, schkuhrin II.

Boltmann *et al.*, *Phytochemistry*, **19**, 881 (1980)

S. schkuhrioides.

SESQUITERPENOIDS: 11,13-dehydroeriolin, elemanschkuhiolide, frutescin, schkuhrioidin, schkuhiolide.

Delgado *et al.*, *J. Org. Chem.*, **49**, 2994 (1984)

SCHLEICHERA

S. oleosa.

FLAVONOID: scopoletin.

STEROID: β -sitosterol, Triterpenoids betulin, betulinic acid, lupeol, lupeol acetate.

Dan *et al.*, *Fitoterapia*, **57**, 445 (1986)

S. trijuga Willd.

STEROIDS: brassicasterol, campesterol, cholesterol, β -sitosterol, stigmasterol.

Sharma *et al.*, *Collect. Czech. Chem. Commun.*, **42**, 3487 (1977)

SCHOENOCAULON

S. officinale A.Gray.

STEROIDAL ALKALOIDS: cevadine, sabadinine.

UNCHARACTERIZED ALKALOID: sabadine.

Hennig *et al.*, *J. Am. Pharm. Assoc.*, **40**, 168 (1951)

SCHOTIA

S. brachypetala.

PHENOLICS: (E)-1-(3,5-dihydroxyphenyl)-2-(3,4,5-trihydroxyphenyl)-ethylene, (Z)-1-(3,5-dihydroxyphenyl)-2-(3,4,5-trihydroxyphenyl)-ethylene.

STILBENES:(E)-3,3',4,5,5'-pentahydroxystilbene, (Z)-3,3',4,5,5'-pentahydroxystilbene.

King *et al.*, *J. Chem. Soc.*, 4477 (1956)

SCHUMMANIOPHYTON

S. problematicum.

ALKALOID: schummaniophytine.

Schittler, Spiteller, *Tetrahedron Lett.*, 2911 (1978)

SCIADOPITYS

S. verticillata.

FLAVONE: sciadopitysin.

SESQUITERPENE: 2,5-diepi-cedrene.

DITERPENOIDS: 15,16-epoxy-20-oxo-8(17),13(16),14-labdatrien-19-oic acid methyl ester, (-)-isophyllocladene, methyl trans-sciadopitysin, sciadin, sciadinone, verticillol.

(F) Beckmann *et al.*, *Phytochemistry*, **10**, 2465 (1971)

(T) Hasegawa *et al.*, *Chem. Lett.*, 1 (1983)

SCIADOTENIA

S. toxifera.

BISBENZYLISOQUINOLINE ALKALOIDS: sciadoferine, sciadoline.

Takahashi *et al.*, *Heterocycles*, **5**, 367 (1976)

SCIRPUS (Cyperaceae)

S. fluviatilis.

TERPENOIDS: scirpusins A and B.

Nakajima *et al.*, *Chem. Pharm. Bull.*, **26**, 3050 (1978)

SCLERODERMA (Basidiomycetae)

S. aurantia.

TRITERPENOID:lanost-8,24-diene-3,23-diol.

Entwhistle, Pratt, *Tetrahedron*, **24**, 3949 (1968)

SCLEROTINA

S. fruticola.

SESQUITERPENOID: sclerosporal.

TRITERPENOID: 10,11-epoxysqualene.

Katayama *et al.*, *Tetrahedron Lett.*, 1773 (1979)

SCOPARIA (Scrophulariaceae)

S. dulcis L.

ACID: dulcicoic acid.

DITERPENOIDS: scopadulcic acid A, scopadulcic acid B, scoparic acid A.

(Ac) Mahato *et al.*, *Phytochemistry*, **20**, 171 (1981)
 (T) Hayashi *et al.*, *Tetrahedron Lett.*, 3693 (1987)

SCOPOLIA (Solanaceae)

S. carnoilica Jacq.

TROPANE ALKALOIDS: atropine, (+)-hyoscyamine, hyoscine, scopolamine, 3-tigloyltropane, tropane.

Marion, Thomas, *Can. J. Chem.*, **33**, 1853 (1955)

Nikolic *et al.*, *Acta Pharm. Jugosl.*, **26**, 257 (1976); *Chem. Abstr.*, 86 13807u

S. japonica.

TROPANE ALKALOIDS: (-)-hyoscyamine, norhyoscyamine.

Marion, Spenser, *Can. J. Chem.*, **32**, 1116 (1954)

S. livida.

TROPANE ALKALOID: scopine.

Willstatter *et al.*, *Ber. Dtsch. Chem. Ges.*, **56**, 1079 (1923)

S. lurida.

TROPANE ALKALOID: (-)-hyoscyamine.

Marion, Thomas, *Can. J. Chem.*, **22**, 1853 (1955)

S. tangutica Maxim.

TROPANE ALKALOIDS: atropine, cuskygrine, (-)-hyoscyamine, scopolamine.

Gadamer, *Arch. Pharm.*, **239**, 294 (1901)

SCROPHULARIA (Scrophulariaceae)

S. lateriflora.

IRIDOID: laterioside.

Siatek *et al.*, *Pharm. Acta Helv.*, **56**, 37 (1981)

S. smithii.

One triterpenoid.

Breton, Gonzalez, *J. Chem. Soc.*, 1401 (1963)

S. vernalis.

IRIDOID: harpagide 8-acetate, harpagoside, 6-methylcatalpol.

PHENOLICS: caffeic acid, p-coumaric acid, ferulic acid, p-hydroxybenzoic acid, 1-hydroxyphenylacetic acid, neoferulic acid, vanillic acid.

Swiatek *et al.*, *Acta Pol. Pharm.*, **33**, 658 (1977); *Chem. Abstr.*, 87 180763d

SCUTELLARIA (Labiatae)

***S. altissima*.**

FLAVONOIDS: baicalein, altisin, oroxylin, oroxyloside, wogonin, wogonoside.

TERPENOID GLUCOSIDES: scutellarioside I, scutellarioside II.

(F) Beshko *et al.*, *Khim. Prir. Soedin.*, 514 (1975)

(T) Weinges *et al.*, *Justus Liebigs Ann. Chem.*, 2190 (1975)

S. araxensis Grossh.

AMINO ACIDS: alanine, arginine, asparagine, aspartic acid, glutamic acid, glycine, histidine, hydroxyproline, isoleucine, leucine, lysine, methionine, proline, serine, threonine.

Akhmed-Zade *et al.*, *Chem. Abstr.*, 86 103116x

***S. baicalensis*.**

FLAVONES: carthamidin, isocarthamidin, isowogonin, oroxylin A, wogonin.

Takido *et al.*, *J. Pharm. Soc., Japan*, **96**, 381 (1976)

***S. granulosa*.**

FLAVONOIDS: 2'-methoxychrysin, 2'-methoxychrysin 7- β -D-glucuronide.

Litvenenko *et al.*, *Khim. Prir. Soedin.*, 730 (1976)

***S. irzewalskii*.**

FLAVONE: hispidulin.

Doherty *et al.*, *J. Chem. Soc.*, 5577 (1963)

***S. karjagini*.**

FLAVONOIDS: apigenin, luteolin 7- β -glucuronide, scutellarin 7- β -glucuronide.

Glyzin *et al.*, *Khim. Prir. Soedin.*, 98 (1975)

***S. oreophila*.**

FLAVONOIDS: baicalein, baicalin, chrysin, cynaroside, luteolin.

Nasundan, *Khim. Prir. Soedin.*, 805 (1975)

***S. orientalis*.**

FLAVONOIDS: apigenin, chrysin, chrysin 7- β -D-glucoside, chrysin 7- β -glucuronide, scutellarin 7- β -glucuronide.

Glyzin *et al.*, *Khim. Prir. Soedin.*, 98 (1975)

***S. prilipkoana* Grossh.**

AMINO ACIDS: alanine, arginine, aspartic acid, glutamic acid, glycine, hydroxyproline, isoleucine, leucine, lysine, methionine, proline, serine, threonine.

Akhmed-Zade *et al.*, *Chem. Abstr.*, 86 103116x

***S. scordiifolia* Fisch.**

FLAVONOIDS: apigenin, apigenin glucuronide, baicalein, baicalein glucuronide, chrysin, chrysin 7- β -D-glucuronide, luteolin, luteolin glucuronide, oroxylin, oroxylin glucuronide, scutellarin, scutellarin glucuronide, wogonin, wogonin glucuronide.

Popova *et al.*, *Farm. Zh. (Kiev)*, 31, 89 (1976); *Chem. Abstr.*, 85 90145h

***S. smithii*.**

TRITERPENOIDS: oleana-11,13(18)-diene-3,22,28-triol, smithiandienol.

Breton, Gonzalez, *J. Chem. Soc.*, 1401 (1963)

SCUTIA

***S. buxifolia* Reiss.**

PEPTIDE ALKALOIDS: aralionine, hysodricanine A, mauritine H, scutianine, scutianines A, B, C, D, E, F, G and H.

Tschesche *et al.*, *Phytochemistry*, 16, 1025 (1977)

Tschesche *et al.*, *ibid.*, 16, 1817 (1977)

Morel *et al.*, *ibid.*, 18, 473 (1979)

SEASTIANA

***S. pavonia*.**

TRITERPENOID: epi- β -amyrin.

Reyes *et al.*, *Rev. Latinoam. Quim.*, 14, 67 (1983)

SECHIUM

***S. edule*.**

AMINO ACIDS: α -amino- τ -ureidobutyric acid, m-carboxyphenylalanine, citrulline.

Inatomi, Adachi, *Meiji Daigaku Nogakubu Kenkyu Hokoku*, 34, 1 (1975); *Chem. Abstr.*, 84 71478g

SECURIDACA

S. diversifolia.

Twelve kaempferol and quercetin glycosides.
Hamburger *et al.*, *Phytochemistry*, **24**, 2689 (1985)

SECURINEGA (Euphorbiaceae)

S. suffruticosa (Pall.) Rehd.

ALKALOIDS: securinegine, (-)-securinine, securinols A, B and C, securitinine, suffruticodine, suffruticonine.

Shabana *et al.*, *Arch. Pharm. Chem. Sci. Ed.*, **7**, 158 (1979)

S. virosa Pax. et Hoffm.

ALKALOIDS: virosecurianine, virosecurinine.
Nakano *et al.*, *Chem. Ind.*, 1651 (1962)

SEDUM (Crassulaceae)

S. acre L.

PIPERIDINE ALKALOIDS: sedacrine, sedacryptine, sedamine, sedinone, sedridine.
PYRIDINE ALKALOID: nicotine.
Colau, Hootele, *Can. J. Chem.*, **61**, 470 (1983)

S. caucasicum.

Twenty flavonoids and phenolics.
Zaitsev *et al.*, *Khim. Prir. Soedin.*, 527 (1983)

S. ewersii.

COUMARINS: 6,7-dioxycoumarin, umbelliferone.
FLAVONOIDS: kaempferol, kaempferol 4-O- β -D-glucopyranoside, kaempferol 7-O- α -L-rhamnopyranoside, quercetin, rutin.

Krasnov *et al.*, *Khim. Prir. Soedin.*, 389 (1976)

S. sarmentosum.

PIPERIDINE ALKALOID: (+)-methylallosedridine.

Bayerman *et al.*, *Recl. Trav. Chim. Pays-Bas* **91**, 1441 (1972)

SELINUM (Umbelliferae)

S. carvifolium (L.) L.

MONOTERPENOIDES:

5-(2-acetoxymethyl)-2-butenoyloxy-3,6,6-trimethyl-1,3-cyclohexadiene-1-carboxylic acid, 2-formyl-1,1,5-trimethylcyclohexa-2,4-dien-6-ol, 2-formyl-1,1,5-trimethylcyclohexa-2,5-dien-4-ol, 2-formyl-1,1,5-trimethylcyclohexa-2,4-dien-6-one, 2-formyl-1,1,5-trimethylcyclohexa-2,5-dien-4-one.

Bohlmann, Zdero, *Chem. Ber.*, **102**, 2211 (1969)

Lemmich *et al.*, *Acta Chem. Scand.*, **25**, 995 (1971)

S. vaginatum.

BENZOPYRANS: salinone, selinidin.

COUMARINS: vaginidin, vaginidiol, vaginol.

DITERPENOID: vaginatin.

Rajendran *et al.*, *Indian J. Chem.*, **16B**, 4 (1978)

SEMECARPUS (Anacardiaceae)

S. anacardium L.

FLAVONOIDES: galluflavanone, tetrahydroamentoflavone, tetrahydrorobustaflavone.

Murthy *et al.*, *Phytochemistry*, **22**, 2636 (1983)

S. kurzii.

ACID: isoricinoleic acid. FLAVONE: semecarpetin.

Alam *et al.*, *Chem. Ind. (London)*

S. vitiensis.

FLAVONOIDES: kaempferide, kaempferide 7-O- β -diglucoside, kaempferide 7-O- β -glucoside, kaempferol, kaempferol 7-O- β -diglucoside, kaempferol 7-O- β -glucoside, myricetin, myricetin 7-O- β -diglucoside, myricetin 7-O- β -glucoside, quercetin, quercetin 7-O- β -diglucoside, quercetin 7-O- β -glucoside.

PHENOLICS: gallic acid, 3-(n-pentadecenyl)phenol, 3-(n-pentadecenyl)-pyrocatechol, pyrocatechol.

Pramono *et al.*, *Plant Med. Phytother.*, **19**, 159 (1985)

SEMELE

S. androgyna L.

STEROIDS: androgenin A, androgenin B, 25S-dihydrodracogenin, 27-hydroxyruscogenin, isoandrogenin A, isoandrogenin B.

Gonzalez *et al.*, *Phytochemistry*, **14**, 2257 (1975)

SEMENOVIA (Pastinaceae)

S. rubtazovii.

COUMARINS: bergapten, imperatorin, isobergapten, isopimpinellin, pimpinellin, sphondin, umbelliferone.

Gusak *et al.*, *Chem. Abstr.*, 86 68378k

S. transiliensis.

COUMARINS: bergapten, imperatorin, isobergapten, isopimpinellin, pimpinellin, sphondin, umbelliferone.

Gusak *et al.*, *Chem. Abstr.*, 86 68378k

SEMPERVIVUM (Crassulaceae)

S. ruthenicum.

FLAVONOID: scutellarein 7-rutinoside.

Gumenyuk, *Khim. Prir. Soedin.*, 428 (1975)

SENECIO (Compositae)

S. abrotanifolius.

SESQUITERPENOIDS: abrotanifolone, 5,8-bis-(angeloyloxy)-2,3 10,11 -diepoxy - 2,3,10,11 -tetrahydro- α -bisabol-4-one.

Bohlmann *et al.*, *Chem. Ber.*, **109**, 2014 (1976)

S. adnatus DC.

PYRROLIZIDINE ALKALOID: platiphylline.

Orekhov *et al.*, *Ber. Dtsch. Chem. Ges.*, **68**, 653 (1935)

S. alpinus.

PYRROLIZIDINE ALKALOID: seneciphylline.

Konovalova *et al.*, *Bull. Soc. Chim. Fr.*, **4**, 2037 (1937)

S. amphibolus C.Koch.

PYRROLIZIDINE ALKALOID: macrophylline.

Danilov *et al.*, *J. Gen. Chem., USSR.*, **23**, 1417 (1953)

Danilov *et al.*, *ibid.*, **23**, 1597 (1953)

S. angulatus.

PYRROLIZIDINE ALKALOID: angulatine.

Porter, Geissman, *J. Org. Chem.*, **27**, 4132 (1962)

S. anteuphorbium.

SESQUITERPENOID:

5-acetoxy-2-angeloyloxy-8-hydroxypresilphiperfolane.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1331 (1982)

S. aquaticus Hill.

PYRROLIZIDINE ALKALOID: aquaticine.

Evans, Evans, *Nature*, **164**, 30 (1949)

S. argentino.

PYRROLIZIDINE ALKALOIDS: retrorsine, senecionine.

Pestchanker, Giordano, *J. Nat. Prod.*, **49**, 722 (1986)

S. aureus.

PYRROLIZIDINE ALKALOIDS: floridanine, florosenine, otosenine, senecionine.

Roeder *et al.*, *Planta Med.*, **49**, 57 (1983)

S. auricula.

PYRROLIZIDINE ALKALOID: neosenkirkine.

Martin Panizo, Rodriguez, *An. Quim.*, **70**, 1043 (1974)

S. borysthenicus Andr. (*S. paealthus* Bertol.).

PYRROLIZIDINE ALKALOID: seneciphylline.

Konovalova *et al.*, *Bull. Soc. Chim. Fr.*, **4**, 2037 (1937)*S. brasiliensis.*

PYRROLIZIDINE ALKALOID: brasilinecine.

De Camargo Fonseca, *An. Fac. Farm. Odontol. Univ. San Paulo*, **9**, 85 (1951)*S. campestris var. maritima.*

PYRROLIZIDINE ALKALOID: campestrine.

Blackie, *Pharm. J.*, **138**, 102 (1937)*S. cannabifolius.*

PYRROLIZIDINE ALKALOID: senecicannabine.

Asada *et al.*, *Tetrahedron Lett.*, 189 (1982)*S. carthamoides.*

PYRROLIZIDINE ALKALOID: carthamoidine.

Adams *et al.*, *J. Am. Chem. Soc.*, **64**, 571 (1942)*S. cathariensis.*SESQUITERPENOID: seneremophilondiol
seneremophilondiol diangelate.Bohlmann, Zdero, *Phytochemistry*, **17**, 1337 (1978)

3-angelate-9-senecionate,

S. cineraria DC.

PYRROLIZIDINE ALKALOIDS: jacobine, seneciphylline.

Konovalova, Orekhov, *Bull. Soc. Chim. Fr.*, **4**, 2037 (1937)*S. cissampelinum.*

PYRROLIZIDINE ALKALOIDS: senampelines A, B, C and D.

Bohlmann *et al.*, *Chem. Ber.*, **110**, 474 (1977)*S. clevelandii.*

FURANONE: cleviolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 2425 (1982)*S. crassissimum.*

SESQUITERPENOID: senecrassidiol.

Bohlmann *et al.*, *Phytochemistry*, **20**, 468 (1981)*S. crispus.*

SESQUITERPENOID: 3-acetoxy-14-(angelyloxy)-cacalohastin.

Bohlmann, Zdero, *Chem. Ber.*, **111**, 3140 (1978)*S. crucifolia.*

PYRROLIZIDINE ALKALOID: jacobine.

Geissman *et al.*, *Aust. J. Chem.*, **12**, 1247 (1959)

S. cymosus.

FLAVONOIDS: kaempferol 3-O-robinoside-7-O-rhamnoside, quercetin 3-O-galactoside.

Reyes *et al.*, *Rev. Latinoam. Quim.*, **8**, 134 (1977)

S. digitalifolius.

NORSESQUITERPENOIDS: senedigitalene, ar-senedigitalene

Bohlmann *et al.*, *Phytochemistry*, **17**, 759 (1978)

S. doronicum.

PYRROLIZIDINE ALKALOID: doronine.

Roder *et al.*, *Phytochemistry*, **19**, 1275 (1980)

S. elegans.

SESQUITERPENOIDS: 9-acetoxy-1,10-didehydrofukinone, 6β -isovaleryloxy-9-oxo- 10α H-furanoeremophilane, 6β -senecioyloxy-4,5-didehydro-5,6-secoeuryopsin.

Bohlmann, Zdero, *Chem. Ber.*, **107**, 2912 (1974)

S. erraticus Berthol.

PYRROLIZIDINE ALKALOIDS: erucifoline, floridanine, (+)-otosenine, senecionine.

Sedmera *et al.*, *Collect. Czech. Chem. Commun.*, **37**, 4112 (1972)

S. filaginoides.

PYRROLIZIDINE ALKALOID: retrorsine, senecionine.

SESQUITERPENOID: 6-acetoxy- 10α H-furanoeremophil-1-one.

(A) Pestchanker, Giordano, *J. Nat. Prod.*, **49**, 722 (1986)

(T) de Salmeron *et al.*, *Planta Med.*, **47**, 221 (1983)

S. fistulosus.

FLAVONOID: kaempferol 3-O-robinoside-7-O-rhamnoside.

SESQUITERPENOID: 4α -hydroxy- 6β -angeloyloxy- 10β -acetoxy-9-oxofuranoeremophilane.

(F) Reyes *et al.*, *Rev. Latinoam. Quim.*, **8**, 134 (1977)

(T) Villarro, Torres, *J. Nat. Prod.*, **48**, 841 (1985)

S. franchetii C.Winkl.

PYRROLIZIDINE ALKALOIDS: franchetine, sarracine N-oxide.

Akramov *et al.*, *Khim. Prir. Soedin.*, 351 (1967)

S. fuchsii.

PYRROLIZIDINE ALKALOID: fuchsisenecionine.

Muller, *Chem. Zentralbl.*, II, 1049 (1925)

S. fulgens (Hook.f.) Nicholson. (Kleinia fulgens Hook.f.)

MONOTERPENOID: 3,4-epoxy-7(14),10-bisaboladiene-1,2-diangelate 8-acetate.
 Bohlmann *et al.*, *Phytochemistry*, **20**, 469 (1981)

S. gerardii.

SESQUITERPENOIDS: seneremophilondiol 3-angelate-9-senecioate, seneremophilondiol diangelate, seneremophilondiol disenecionate, seneremophilondiol 3-tiglate-9-senecioate.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1337 (1978)

S. gillesianum.

PYRROLIZIDINE ALKALOIDS: retrorsine, senecionine.

NORSEQUITERPENOIDS: 1-hydroxyplatyphyllide, platyphyllide.

(A) Pestchanker, Giordano, *J. Nat. Prod.*, **49**, 722 (1986)

(T) Guidugli *et al.*, *Phytochemistry*, **25**, 1923 (1986)

S. glabellum.

PYRROLIZIDINE ALKALOIDS: integerrimine, integerrimine

N-oxide, senecionine, senecionine N-oxide.

Ray *et al.*, *Phytochemistry*, **26**, 2431 (1987)

S. glandulosum-pisulus.

SESQUITERPENOID: 1-hydroperoxy-4(15),5,10(14)-germacratriene.

Bohlmann *et al.*, *Phytochemistry*, **21**, 2595 (1982)

S. glandulosus.

PYRROLIZIDINE ALKALOIDS: retrorsine, senecionine.

Pestchanker, Giordano, *J. Nat. Prod.*, **49**, 722 (1986)

S. glastifolius.

PYRROLIZIDINE ALKALOID: graminifoline.

SESQUITERPENOIDS: 1,10-epoxyfuranoeremophilane, 9-oxo-6 β -senecioyloxy-1 β ,10-epoxyfuranoeremophilane.

(A) de Waal, *Onderstepoort J.*, **16**, 149 (1947)

(T) Bohlmann, Zdero, *Chem. Ber.*, **107**, 2912 (1974)

S. grandiflorus.

SESQUITERPENOID: 6 α -angeloyloxy-9,10-dehydrofuranoeremophil-1-one.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1161 (1978)

S. halminifolius.

SESQUITERPENOID: 6 α -angeloyloxy-9,10-dehydrofuranoeremophil-1-one.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1161 (1978)

S. hieracioides.

SESQUITERPENOIDS: 7(11),9-eremophiladien-12,8-olide, 8 α -hydroxy-7(11),9-eremophiladien-12,8-olide.

Bohlmann *et al.*, *J. Nat. Prod.*, **47**, 718 (1984)

S. hygrophylus Dyer et Sm.

PYRROLIZIDINE ALKALOIDS: hygrophylline, platyphylline.

Orekhov *et al.*, *Ber. Dtsch. Chem. Ges.*, **68**, 1886 (1935)

S. ilicifolius Thunb.

PYRROLIZIDINE ALKALOIDS: pterophine, senecionine. de Waal, *Onderstepoort J.*, **16**, 158 (1941)

S. illinitus.

PYRROLIZIDINE ALKALOIDS: acetylserinkine, senecionine, serinkine.

Gonzalez *et al.*, *Planta Med.*, 160 (1986)

S. inaequidens.

SESQUITERPENOIDS: 4-hydroxy-3-methoxy-1-oxomethyl-2,3-dehydrocacaolol, 14-hydroxy-3-methoxy-1-oxomethyl-2,3-dehydrocacaolol, 14-isovaleryloxy-6-methyl-1,2-dehydrocacaolol.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1161 (1978)

S. incanus.

PYRROLIZIDINE ALKALOID: seneciphylline.

Konovalova *et al.*, *Bull. Soc. Chim. Fr.*, **4**, 2037 (1937)

S. inortus.

SESQUITERPENOID: 14-acetoxyacacalol propionate.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1161 (1978)

S. integrerrimus Nutt.

PYRROLIZIDINE ALKALOIDS: integrerrimine, senecionine,

Manske, *Can. J. Res.*, **17B**, **1**, 8 (1939)

S. isatideus DC.

PYRROLIZIDINE ALKALOIDS: isatidine, retrorsine.

Blackie, *Pharm. J.*, **138**, 102 (1937)

S. jacobaea L.

PYRROLIZIDINE ALKALOIDS: Jacobine, jacoline, jaconine, jacozone, otosenine, renardine.

SESQUITERPENOID: 6-angeloyloxy-9,10-dehydrofuranoceremophil-1-one.

(A) Konovalova *et al.*, *Bull. Soc. Chim. Fr.*, **4**, 2037 (1937)

(T) Bohlmann, Zdero, *Phytochemistry*, **17**, 1161 (1978)

S. jacquinianus.

SESQUITERPENOID: 6-angeloyloxy-9,10-dehydrofuranoceremophil-1-one.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1161 (1978)

S. kirkii Hook.

PYRROLIZIDINE ALKALOIDS: acetylserkirkine, senkirkine.

Briggs *et al.*, *J. Chem. Soc.*, 1891 (1978)*S. kubensis* Grossh.

PYRROLIZIDINE ALKALOID: seneciphylline.

Konovalova, Orekhov, *Bull. Soc. Chim. Fr.*, **4**, 2037 (1937)*S. lanceus*.SESQUITERPENOID: 6 α -senecioyloxy-1,10-dehydrofuraneremophil-9-one.Bohlmann *et al.*, *Chem. Ber.*, **110**, 474 (1977)*S. latifolius*.

PYRROLIZIDINE ALKALOIDS: senecifolidine, senecifoline.

Watt, *J. Chem. Soc.*, **95**, 466 (1909)Watt, *ibid.*, **95**, 469 (1909)*S. leucostachys*.

PYRROLIZIDINE ALKALOIDS: retrorsine, senecionine.

Pestchanker, Giordano, *J. Nat. Prod.*, **49**, 722 (1986)*S. longibolus*.

PYRROLIZIDINE ALKALOIDS: integerrimine, integerrimine N-oxide, longiboline, retronecanol, retrorsine, retrorsine N-oxide, riddelline, senecionine, senecionine N-oxide, seneciphylline, seneciphylline N-oxide.

Manske, *Can. J. Res.*, **17B**, 8 (1939)Ray *et al.*, *Phytochemistry*, **26**, 2431 (1987)*S. lydenburgensis*.SESQUITERPENOIDS: 14-acetoxy-9-propanoyl-2 α ,14-dihydrocacalol, 3-acetoxy-9-propanoyl-14-angelyl-3 α ,14-dihydrocacalol, 2,14-diacetoxy-9-propanoyl-2 α ,14-dihydrocacalol, 2,14-diacetoxy-9-propanoyl-2 β ,14-dihydrocacalol, 2-(3-methylbutanoyl)-14-acetoxy-9-propanoyl-2 α ,14-dihydrocacalol, 14-(2-methylpropanoyl)-9-propanoyl-2 α ,14-dihydrocacalol.Bohlmann *et al.*, *Phytochemistry*, **21**, 681 (1982)*S. macrophyllus* MB.

PYRROLIZIDINE ALKALOID: macrophylline.

Danilova *et al.*, *J. Gen. Chem., USSR.*, **23**, 1417 (1953)Danilova *et al.*, *ibid.*, **23**, 1597 (1953)*S. macrospermus*.SESQUITERPENOIDS: 14-angeloyloxy-cacahastin-3 β -ol, 14-angeloyloxydehydrocacalohastin.Bohlmann, Zdero, *Chem. Ber.*, **111**, 3140 (1978)

S. macrotis.

Six sesquiterpenoids.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1155 (1981)

S. mauriei.

SEQUITERPENOID: 2,3-desoxohillardinol isobutyrate-12-methacrylate, hillardinol isobutyrate, hillardinol 2'-methacrylate, senmauricinol isobutyrate, senmauricinol 2'-methacrylate.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1333 (1978)

S. medley-woodii.

SEQUITERPENOID: 3 β -acetoxy-6 β -(2-methylbutyryloxy)-10 β H-furanoeremophilane, 3 β -acetoxy-6-(2-methylbutyryloxy)-10 β H-furanoeremophil-9-one.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1161 (1978)

S. microglossus.

SEQUITERPENOID: 4(15)-eudesmene-1,6-diol.

Bohlmann *et al.*, *Phytochemistry*, **22**, 1675 (1983)

S. mikanoides (Walp.) Otto.

PYRROLIZIDINE ALKALOID: mikanoidine.

Manske, *Can. J. Res.*, **14**, 8 (1936)

S. nemorensis.

ACIDS: chlorogenic acid, fumaric acid.

FLAVONOIDS: quercetin, rutin.

PHENOLIC: pyrogallol.

SEQUITERPENOID: nemosenins A, B, C and D, senemorin.
(A, F, P) Nguyen Thi Nhia, *Farmatsiya (Sofia)*, **25**, 39 (1975); *Chem. Abstr.*, 84 86738r
(T) Novotny *et al.*, *Collect. Czech. Chem. Commun.*, **38**, 739 (1973)

S. nemorensis var. bulgaricus.

SEQUITERPENOID: 3-oxo-8 α -eremophila-1,7-dien-8,12-olide, 3-oxo-8 α -ethoxyeremophila-1,7-dien-8,12-olide, 3-oxo-8 α -hydroxyeremophila-1,7-dien-8,12-olide, 3-oxo-8 α -methoxyeremophila-1,7-dien-8,12-olide.

Jizba *et al.*, *Collect. Czech. Chem. Commun.*, **43**, 1113 (1978)

S. nemorensis L. var. subdecurrens Griseb.

PYRROLIZIDINE ALKALOIDS: nemorensine, oxyinemorensine.

Jizba *et al.*, *Collect. Czech. Chem. Commun.*, **46**, 1048 (1981)

S. othonnae MB.

PYRROLIZIDINE ALKALOIDS: floridanine, onetine, otosenine, seneciphylline.

Danilova *et al.*, *J. Gen. Chem., USSR*, **32**, 647 (1962)

S. othonniformis.

PYRROLIZIDINE ALKALOIDS: bisline, isoline.

Concourakis *et al.*, *J. Chem. Soc., C.*, 2312 (1970)*S. otiles.*

FLAVONOIDS: kaempferol 7-O-glucoside, kaempferol 3-O-robinoside-7-O-rhamnoside, quercetin 3-O-galactoside.

Reyes *et al.*, *Rev. Latinoam. Quim.*, **8**, 134 (1977)*S. oxyodontus.*

SESQUITERPENOIDS: 3-O-angeloyl-2,5-dehydroseneciodontol, 8-angeloyloxy-3,4-dihydro-3,4-epoxy-bisabolen-5-one, 3-O-angeloyloxyse neciodontol, 3-O-methyl-2,5-seneciodontol, senoxyden.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1591 (1978)*S. oxyriifolius.*

One uncharacterized sesquiterpenoid.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1669 (1978)*S. palmatus Pall.*

PYRROLIZIDINE ALKALOID: seneciphylline.

Konovalova, Orekhov, *Bull. Soc. Chim. Fr.*, **4**, 2037 (1937)*S. paludaffinis.*

SESQUITERPENOIDS: senedigitalene, senedigitalen-1,4-endo-peroxide.

Bohlmann *et al.*, *Phytochemistry*, **17**, 2134 (1978)*S. panduriformis.*SESQUITERPENOIDS: 3-acetoxycacalohastin, 13-dehydromaturin, 4 β -isobutyryloxy-1 α -senecioyloxy-10 α H-furanoeremophil-9-one, isomaturinin, maturin acetate, 1-senecioyloxy-4-isobutyryloxy-10 β H-furanoeremophil-9-one.Bohlmann *et al.*, *Chem. Ber.*, **110**, 474 (1977)*S. paucicalyculatus.*

PYRROLIZIDINE ALKALOID: paucicaline.

Pretorius, *Onderstepoort J.*, **22**, 297 (1949)*S. petasis.*

PYRROLIZIDINE ALKALOID: bisline.

Cocourakis *et al.*, *J. Chem. Soc., C.*, 2312 (1970)*S. philippicus.*

PYRROLIZIDINE ALKALOIDS: retrorsine, seneciphylline.

Gonzalez *et al.*, *Planta Med.*, 160 (1986)*S. pinnatus.*

SESQUITERPENOID: 1a-hydroxy-6 β -angeloyloxy-10 α H-furanoeremophil-9-one. de Salmeron *et al.*, *Planta Med.*, **47**, 221 (1983)

S. platyphylloides Somm. et Lev.

PYRROLIZIDINE ALKALOIDS: neoplatyphylline, platyphylline, platyphylline N-oxide, sarracine, seneciphylline, seneciphylline N-oxide.

Orehov *et al.*, *Ber. Dtsch. Chem. Ges.*, **68**, 653 (1935)

Orehov *et al.*, *ibid.*, **68**, 1886 (1935)

Konovalova *et al.*, *Bull. Soc. Chim. Fr.*, **4**, 2037 (1937)

S. platyphyllus DC.

PYRROLIZIDINE ALKALOIDS: platyphylline, platyphylline N-oxide, seneciphylline. Keokemoer, Warren, *J. Chem. Soc.*, 63, (1955)

S. pojarkovae.

PYRROLIZIDINE ALKALOIDS: sarracine, seneciphylline.

Chernova *et al.*, *Aktual Vopr. Farm.*, **2**, 36 (1974); *Chem. Abstr.*, 84 102348w

S. polyanthemoides.

SESQUITERPENOID: 6 α -angeloyloxy-9,10-dehydrofuraneremophil-1-one.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1161 (1978)

S. praecox.

SESQUITERPENOID: precoxilin A.

Ortega *et al.*, *Rev. Latinoam. Quim.*, **6**, 136 (1975)

S. procerus var. procerus.

PYRROLIZIDINE ALKALOID: procerine.

Jovcera, *Collect. Czech. Chem. Commun.*, **43**, 2312 (1978)

S. propinquus Schischk.

PYRROLIZIDINE ALKALOID: seneciphylline.

Konovalova, Orehov, *Bull. Soc. Chim. Fr.*, **4**, 2037 (1937)

S. pseudoarnica.

PYRROLIZIDINE ALKALOID: senecionine.

Blackie, *Pharm. J.*, **138**, 102 (1937)

S. pterophorus DC.

PYRROLIZIDINE ALKALOID: pterophine.

SESQUITERPENOID: 10 α H-furaneremophil-6,9-dione.

(A) de Waal, *Onderstepoort J.*, **16**, 158 (1941)

(T) Bohlmann *et al.*, *Chem. Ber.*, **110**, 474 (1977)

S. ragonesi.

PYRROLIZIDINE ALKALOIDS: retrorsine, senecionine, uspallatine.

Pestchanker, Giordanos, *J. Nat. Prod.*, **49**, 722 (1986)

S. renardi C.Winkl.

PYRROLIZIDINE ALKALOIDS: renardine, seneciphylline, senkirkine.

Danilova, Konovalova, *J. Gen. Chem., USSR*, **20**, 1921 (1950)

Briggs *et al.*, *J. Chem. Soc.*, 2492 (1965)

S. retrorsus DC.

PYRROLIZIDINE ALKALOIDS: isatidine, retrorsine. de Waal, *Onderstepoort J.*, **146**, 777 (1940)

S. rhombifolius (Willd.) Sch. Bip.

PYRROLIZIDINE ALKALOIDS: neoplatyphylline, platyphylline, sarracine, sarracine N-oxide, seneciphylline.

Valilov *et al.*, *Khim. Prir. Soedin.*, 128 (1973)

S. rhomboideus.

SESQUITERPENOIDS: rhomboidol, rhomboidol acetate.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1337 (1978)

S. Riddellii.

PYRROLIZIDINE ALKALOID: riddelline.

Manske, *Can. J. Res.*, **17B**, 1 (1939)

S. rigidus.

SESQUITERPENOID: 1 α -acetoxy-6 β -angeloyloxy-9-oxo-10 α H-furanoeremophilane, 6 β -(2-methylacryloyloxy)-1 β ,10-epoxyfuranoeremophilane, 9-oxo-6 β -tigloyloxy-1 β ,10-epoxyfuranoeremophilane, 6 β -senecioyloxy-1 β ,10-epoxyfuranoeremophilane.

Bohlmann, Zdero, *Chem. Ber.*, **107**, 2912 (1975)

S. rivularis.

PYRROLIZIDINE ALKALOID: 3-angeloyloxyheliotrine.

Klasek *et al.*, *Collect. Czech. Chem. Commun.*, **32**, 2512 (1967)

S. rosmarinifolius L.

PYRROLIZIDINE ALKALOID: rosmarinine.

Richardson, Warren, *J. Chem. Soc.*, 452 (1943)

S. ruwenzoriensis.

PYRROLIZIDINE ALKALOIDS: ruwenine, ruzorine.

Sapiro, *J. Chem. Soc.*, 1942 (1953)

S. salignus.

SESQUITERPENOID: 1,10-epoxy-4 α -hydroxy-6 β -isobutyryloxyfuranoeremophil-9-one.

Bohlmann *et al.*, *Chem. Ber.*, **109**, 819 (1976)

S. sarracenicus L.

PYRROLIZIDINE ALKALOIDS: sarracine, sarracine N-oxide.

Danilova *et al.*, *Dokl. Akad. Nauk SSSR*, **89**, 865 (1953)***S. scaposus.***

SESQUITERPENOIDS: isoscaposone, isosenescaposone, senescaposone.

Bohlmann, Zdero, *Phytochemistry*, **17**, 1337 (1978)***S. scleratus.***PYRROLIZIDINE ALKALOIDS: isatidine, scleratine. de Waal, *Nature*, **146**, 777 (1940)***S. seratophiloides.***

PYRROLIZIDINE ALKALOID: senecivernine.

Pestchanker, Giordano, *J. Nat. Prod.*, **49**, 722 (1986)***S. silvaticus.***SESQUITERPENOIDS: 8,8 α -epoxyfuranoligularan, silvasenecine.Bohlmann *et al.*, *Chem. Ber.*, **107**, 2912 (1974)***S. smithii.***

SESQUITERPENOIDS: bisabolal, bisabol-1-ene 12-acetate, 1-oxo-12-bisabolal, senecioyleuryopsonol.

Bohlmann *et al.*, *Phytochemistry*, **20**, 2839 (1981)***S. spartoides.***

PYRROLIZIDINE ALKALOIDS: seneciphylline, spartoidine.

Manske, *Can. J. Res.*, **17**, 1 (1939)***S. squalidus L.***

PYRROLIZIDINE ALKALOIDS: senecionine, squalidine.

Blackie, *Pharm. J.*, **138**, 102 (1937)***S. stenocephalus Maxim.***

PYRROLIZIDINE ALKALOID: seneciphylline.

Konovalova *et al.*, *Bull. Soc. Chim. Fr.*, **4**, 2037 (1937)***S. subalpinus.***

PYRROLIZIDINE ALKALOID: seneciphylline.

Konovalova *et al.*, *Bull. Soc. Chim. Fr.*, **4**, 2037 (1937)***S. subrubiflorus.***

SESQUITERPENOID: 8-hydroxy-15-isopimaren-11-one.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1697 (1982)***S. subulatus.***

PYRROLIZIDINE ALKALOIDS: retrorsine, senecionine.

Pestchanker, Giordano, *J. Nat. Prod.*, **49**, 722 (1986)

***S. swaziensis* Compton.**

PYRROLIZIDINE ALKALOID: swazine.

Gordon-Gray *et al.*, *Tetrahedron Lett.*, 707 (1972)

***S. triangularis*.**

PYRROLIZIDINE ALKALOID: triangularine.

Roitman, *Aust. J. Chem.*, **36**, 1203 (1983)

***S. umbellatus*.**

SESQUITERPENOID: 1 α -acetoxy-6-isobutyryloxy-9-oxo-10 α H-furanoeremophilane, 6 β -isobutyryloxy-9-oxo-10 α H-furanoeremophilane, 6 β -isovaleryloxy-9-oxo-10 α H-furanoeremophilane.

Bohlmann, Zdero, *Chem. Ber.*, **107**, 2912 (1974)

***S. uspallatensis*.**

PYRROLIZIDINE ALKALOIDS: retrorsine, senecionine, uspallatine.

Pestchanker, Giordano, *J. Nat. Prod.*, **49**, 722 (1986)

***S. vernalis*.**

PYRROLIZIDINE ALKALOID: senecivernine.

Roeder *et al.*, *Planta Med.*, **37**, 131 (1979)

***S. vira-vira*.**

PYRROLIZIDINE ALKALOIDS: anacrotine, neoplatyphylline, uspallatine.

FLAVONOIDS: quercetin, rutin.

STEROIDS: campesterol, β -sitosterol, stigmasterol, stigmasta-3,5-dien-7-one, stigmasta-4,6-dien-3-one.

TRITERPENOIDS: α -amyrin, β -amyrin.

Jares *et al.*, *J. Nat. Prod.*, **50**, 514 (1987)

***S. viscosus* L.**

PYRROLIZIDINE ALKALOID: senecionine.

Blackie, *Pharm. J.*, **138**, 102 (1937)

***S. vulgaris* L.**

PYRROLIZIDINE ALKALOID: senecionine.

Blackie, *Pharm. J.*, **138**, 102 (1937)

***S. yegua*.**

FLAVONOIDS: kaempferol 7-O-glucoside, kaempferol 3-O-robinoside-7-O-rhamnoside, quercetin 3-O-galactoside, quercetin 3-O-rutinoside.

Reyes *et al.*, *Rev. Latinoam. Quim.*, **8**, 134 (1977)

SEPTORIA

S. nodorum.

PYRIDINE ALKALOID: septorine.

Devys *et al.*, *C.R. Acad. Sci.*, **286C**, 457 (1978)

SEQUOIA

S. sempervirens.

TERPENOIDS: sequierins A, B, C and D, polyalthic acid.

Ohto *et al.*, *Agr. Biol. Chem.*, **42**, 1957 (1978)

SEQUOIADENDRON

S. gigantea.

NORPIGNANS: securins A, B, C, D, E, F and G.

PHENOLIC: agatharesinol.

Henley-Smith *et al.*, *Phytochemistry*, **15**, 1285 (1976)

SERRATULA

S. wolfi Andrae.

ESTERS: methyl linoleate, methyl linolenate, methyl palmitate.

FLAVONOID: kaempferol 3-methyl ether.

SESQUITERPENOIDS: caryophyllene, caryophyllene epoxide, germacrene D.

Czerson *et al.*, *Chem. Ber.*, **109**, 2291 (1976)

SESAMUM (Pedaliaceae)

***S. angolense* Welw.**

ROTENONES: sesamolin, sesangolin.

Jones *et al.*, *J. Org. Chem.*, **27**, 3232 (1962)

***S. indicum*.**

FLAVONE: pedalin.

LIGNANS: sesaminol, sesanol.

(F) Morita *et al.*, *Chem. Pharm. Bull.*, **8**, 59 (1960)

(L) Osawa *et al.*, *Agr. Biol. Chem.*, **49**, 3351 (1985)

SESBANIA (Fabaceae)

***S. drummondii*.**

DIAZANAPHTHALENE ALKALOID: sesbanine.

DINORSESQUITERPENOIDS: drummondone A, drummondone B.

(A) Powell *et al.*, *J. Am. Chem. Soc.*, **101**, 2785 (1979)

(T) Powell *et al.*, *J. Org. Chem.*, **51**, 1074 (1986)

SESELI (Umbelliferae)

***S. bocconi* subsp. *bocconi*.**

COUMARIN: bocconin.

Bellino *et al.*, *Phytochemistry*, **25**, 1195 (1986)

***S. dichotomum*.**

COUMARINS: anomalin, bergapten,

Dikhovlinova *et al.*, *Khim. Prir. Soedin.*, 811 (1976)

***S. eriocephalum*.**

COUMARINS: anomalin, isoimperatorin, pterixin, sukadorfin.

Sokolova *et al.*, *Khim. Farm. Zh.*, **11**, 53 (1977)

***S. grandivittatum*.**

COUMARINS: grandivitin, grandivitinol.

Abyshev *et al.*, *Khim. Prir. Soedin.*, 640 (1977)

S. gummiferum.

COUMARINS: 4'-angeloyloxy-3'-(3,3-dimethylacryloyloxy)-3',4'-dihydroseselin, (+)-2'',3-dihydro-4'-angeloyloxy-3',4'-dihydro-3'-isovaleryloxyeselin.

SESQUITERPENOID: isosamidin.

(C) Nielsen *et al.*, *Acta Chem. Scand.*, **25**, 529 (1971)

(T) Lemmich *et al.*, *ibid.*, **20**, 2497 (1966)

S. indicum.

STEROIDS: indosterol, 9(11),22-stigmastadien-3-ol.

MONOTERPENOID: β -cyclolavandulal, β -cyclolavandulic acid.

(S) Gupta *et al.*, *Tetrahedron Lett.*, 1221 (1974)

(T) Dixit *et al.*, *Chem. Ind. (London)*, 1256 (1967)

S. libanotis (L.) Koch.

SESQUITERPENOID: isosamidin.

Nielsen *et al.*, *Acta Chem. Scand.*, **25**, 529 (1971)

S. montanum.

BENZOPYRAN: apterin.

Lemmich *et al.*, *Phytochemistry*, **17**, 139 (1978)

S. petraeum.

COUMARIN: anomalin.

Dikhovlinova *et al.*, *Khim. Prir. Soedin.*, 811 (1976)

S. ponticum.

COUMARINS: anomalin, bergapten, xanthogalin.

Dikhovlimova *et al.*, *Khim. Prir. Soedin.*, 811 (1976)

S. seseliflorum.

BENZOPYRAN: sechulin.

Aminov *et al.*, *Khim. Prir. Soedin.*, 152 (1974)

S. sibiricum.

BENZOPYRANS: sesebrin, sesebrinol, seseburicin.

COUMARINS: osthol, sibiricin, siribicol.

(B) Atal *et al.*, *Phytochemistry*, **17**, 2111 (1978)

(C) Austin *et al.*, *Tetrahedron*, **24**, 3247 (1968)

S. tortuosum LBS. Eur.

COUMARINS: agasyllin, bergapten, columbianetin, decursinol, dihydroxanthyletin, imperatorin, oroselol, pranferin, xanthotoxin.

PHENOLIC: 4-hydroxy-3,5-dimethoxybenzaldehyde.

STEROID: β -sitosterol.

Gonzalez *et al.*, *An. Quim.*, **78C**, 184 (1982)

S. webbii Coss.

COUMARINS: bergapten, byakangelicin, imperatorin, isoimperatorin, isooxypeucedanin, oxypeucedanin hydrate, umbelliferone, xanthotoxin.
Gonzalez et al., An. Quim., 78C, 274 (1982)

SEVERINA*S. buxifolia* (Poir.) Ten.

AMIDE ALKALOIDS: hexadecanoyleseverine, severine.
Dreyer et al., Tetrahedron, 26, 5745 (1970)

SHEPHERDIA*S. argentea*.

CARBOLINE ALKALOID: tetrahydroharmol.
Ayer, Browne, Can. J. Chem., 48, 1980 (1970)

S. canadensis.

CARBOLINE ALKALOID: shepherdine.
Ayer, Browne, Can. J. Chem., 48, 1980 (1970)

SHEPNOPAPPUS*S. pickelii*.

SESQUITERPENOID: 8-O-(2-methylpropenoyl)-stilpnotomentolide.
Bohlmann et al., Phytochemistry, 21, 1045 (1982)

S. tomentosus.

SESQUITERPENOID: 8-O-(2-methylpropenoyl)-stilpnotomentolide.
Bohlmann et al., Phytochemistry, 21, 1045 (1982)

SHOREA

S. acuminata.

TRITERPENOIDS: 2 α ,3 α -dihydroxyolean-12-en-28-oic acid, mangiferonic acid.

Cheung, Van, *Aust. J. Chem.*, **25**, 2003 (1972)

S. meristopteryx.

TRITERPENOID: shoreic acid.

Lantz, Wolff, *Bull. Soc. Chim. Fr.*, 2131 (1968)

S. tellura.

ANTHRAQUINONE: deoxyerythrolaccin.

Mehandale *et al.*, *Tetrahedron Lett.*, 2231 (1968)

SIDERITIS (Labiatae)

S. angustifolia.

DITERPENOIDS: isosideritol, jativatriol, lagascatriol, sideritol. von Carstenn-Lichterfeld *et al.*, *Aust. J. Chem.*, **27**, 517 (1974)

Ayer *et al.*, *Can. J. Chem.*, **52**, 2792 (1974)

S. arborescens subsp. paulii.

DITERPENOIDS: ent-6 α ,8 α -dihydroxylabda-13(16),14-diene, ent-13-epi-16,18-dihydroxymanool oxide, ent-16,18-dihydroxymanool oxide, ent-18-hydroxy-15(16)-peroxylabd-13-ene, ent-6 α ,16,18-trihydroxymanool oxide.

Garcia-Granados *et al.*, *Phytochemistry*, **24**, 517 (1985)

S. biflora.

DITERPENOIDS: 3 β -acetoxy-7 α ,11-dihydroxy-15 β ,16-epoxykaurene, epoxyisosidol.

Garcia-Alvarez, Rodriguez, *Phytochemistry*, **12**, 1113 (1973)

S. canariensis.

DITERPENOIDS: 7 α -acetoxy-18-hydroxytrachylobanol, ribenol, trachinodiol, trachinol, vierol.

NORDITERPENOID: tiganone.

Gonzalez *et al.*, *Phytochemistry*, **12**, 1113 (1973)

S. candicans.

DITERPENOIDS: candidiol, candol A, candol B.

Gonzalez *et al.*, *Phytochemistry*, **12**, 2721 (1973)

***S. candicans* var. *eriocephala*.**

DITERPENOID: candicandol.

Breton *et al.*, *Tetrahedron Lett.*, 599 (1969)***S. catillaris*.**

PHENOLICS: caffeic acid, chlorogenic acid, neochlorogenic acid.

Fefer *et al.*, *Farm. Zh. (Kiev)*, 92 (1977); *Chem. Abstr.*, 87 197310b***S. chamaedrifolia*.**

DITERPENOIDS: ent-kaur-15-ene-7,18-diol, ent-kaur-16-ene-3,7,18-triol.

NORDITERPENOIDS: villenatriol, villenatriolone, villenol, villenol 19-acetate, villenolone, villenolone 19-acetate.

Rodriguez *et al.*, *Phytochemistry*, 17, 281 (1978)***S. euboea*.**

DITERPENOIDS: eubol, eubotriol.

Venturella, Belling, *Experientia*, 33, 1270 (1977)***S. foetens*.**

DITERPENOIDS: 6-acetylandalusol, 6-acetylisoandalusol, 18-acetylisoandalusol.

Rodriguez *et al.*, *Phytochemistry*, 19, 2405 (1980)***S. funkiana* Willk.**

DITERPENOIDS: funkiol, isofunkiol, sidofunkiol.

Granados-Garcia, *An. Quim.*, 76, 178 (1980)***S. gomerae*.**

FLAVONE: eupatorin 3-methyl ether.

DITERPENOIDS: gomeraldehyde, 13-epi-gomeraldehyde, gomeric acid, 13-epi-gomeric acid.

(F) Kupchan *et al.*, *J. Pharm. Sci.*, 54, 929 (1965)(T) Gonzalez *et al.*, *Phytochemistry*, 14, 2655 (1975)***S. grandiflora*.**

DITERPENOID: tartessol.

Rabanal *et al.*, *Experientia*, 30, 977 (1974)***S. leucantha*.**

DITERPENOIDS: isofoliol, isoleucanthol, isolinearol, isosidol, leucanthol, linearol, sidol.

de Quesada *et al.*, *Tetrahedron Lett.*, 2187 (1972)***S. linearifolia*.**DITERPENOIDS: isofoliol, isolinearol, isosidol, sidol. de Quesada *et al.*, *Tetrahedron Lett.*, 2187 (1972)

S. linearis.

DITERPENOIDS: isolinearol, linearol.

de Quesada *et al.*, *Tetrahedron Lett.*, 2187 (1972)

S. luteola.

DITERPENOIDS: ent-18-acetoxy-16-kaurene-3,7-diol, ent-15-kaurene-7,18-diol, ent-16-kaurene-3,7,18-triol.

Rodriguez *et al.*, *Phytochemistry*, **14**, 1670 (1975)

S. montana L.

QUATERNARY ALKALOID: stachydriine.

Schultz, Trier, *Z. Physiol. Chem.*, **67**, 59 (1910)

S. mugronensis.

DITERPENOID: borjatriol.

Rodriguez, Valverde, *Tetrahedron*, **29**, 2837 (1973)

S. paulii.

DITERPENOIDS: epoxyisofoliol, ent-3 β ,7 α ,18-trihydroxy-15 β ,16-epoxykaurane.

Rodriguez, Valverde, *An. Quim.*, **72**, 189 (1976)

S. pusilla (Lag.) Pau.

DITERPENOIDS: isopusillatriol, isosideritol.

Granados-Garcia *et al.*, *Tetrahedron Lett.*, 3611 (1980)

S. reverchonii.

DITERPENOIDS: 12-acetyljativatriol, benuol, conchitriol, jativatriol, lagascatriol, lagascol, serradiol, sideritol, tobarrol.

Marquez *et al.*, *Phytochemistry*, **14**, 2713 (1975)

S. serrata.

DITERPENOIDS: 12-acetyljativatriol, 1,12-diacetyljativatriol, 1,17-diacetyljativatriol, lagascol, serradiol.

Escamilla, Rodriguez, *Phytochemistry*, **19**, 463 (1980)

S. sicula.

DITERPENOIDS: epoxysideritriol, epoxysiderol, sideridiol, sideripol, siderol, sideroxal.

Venturella *et al.*, *Phytochemistry*, **17**, 811 (1978)

S. syriaca.

DITERPENOIDS: ent-15,16-epoxy-7,18-kauranediol, siderone, ucriol.

Venturella *et al.*, *Phytochemistry*, **22**, 600 (1983)

S. theazans.

DITERPENOID: epoxyisolinearol.

Venturella *et al.*, *Phytochemistry*, **14**, 1451 (1975)

S. tragoriganum.

Five ent-kauranes.

Carrascal *et al.*, *An. Quim.*, **74**, 1547 (1978)***S. varoi subsp. oriensis.***

SESQUITERPENOIDS: andalusol, 6-deoxyandalusol, 6-deoxyandalusoic acid, 6-deoxyandalusol, 1 β ,4 α -dihydroxy-6 β -acetoxyeudesmane, 1 β ,4 β -dihydroxy-6 β -acetoxyeudesmane, 1 β -hydroxy-6 β -acetoxyeudesm-3-ene, 1 β -hydroxy-6 β -acetoxyeudesm-4-ene, 1 β -hydroxy-6 β -acetoxyeudesm-4(15)-ene, varodiol.

Granadas-Garcia *et al.*, *Phytochemistry*, **25**, 2171 (1986)**SIEGESBECKIA*****S. orientalis.***

SESQUITERPENOID: orientalide.

DITERPENOID: darutin.

Baruah *et al.*, *Phytochemistry*, **18**, 991 (1979)***S. pubescens.***DITERPENOID: kirenol, pimar-8(14)-ene-6 β ,15,16,18-tetraol.Murakami *et al.*, *Tetrahedron Lett.*, 4991 (1973)**SIGMOSCEPTRELLA*****S. laevis.***

SESQUITERPENOID: sigmosceptrellin A methyl ester.

Albericci *et al.*, *Tetrahedron Lett.*, 2687 (1979)**SILAUM (Umbelliferae/Apiaceae)*****S. silaus (L.) Schinz et Thell. (S. flavescens Bernh.).***

PHTHALIDES: Z-ligustilide, neocnidilide.

Gijbels *et al.*, *Sci. Pharm.*, **50**, 158 (1982)

SILENE (Caryophyllaceae/Dianthaceae)

S. armeria.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, Khim. Prir. Soedin., 114 (1977)

S. artemisetorum.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, Khim. Prir. Soedin., 114 (1977)

S. boissieri.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, Khim. Prir. Soedin., 114 (1977)

S. brahuica.

FLAVONOIDS: saparonetin, saparonetin diglycoside, saparonetin glycoside, vitexin, vitexin diglycoside, vitexin glycoside.

STEROIDS: sileneosides A, B and C.

(F) Darmograi *et al.*, Khim. Prir. Soedin., 114 (1977)

(S) Saatov *et al.*, ibid., 211 (1982)

S. bupleuroides.

FLAVONOIDS: adonivernite, homoadonivernite, isosaponarin.

Darmograi *et al.*, Khim. Prir. Soedin., 114 (1977)

S. chersonensis.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, Khim. Prir. Soedin., 114 (1977)

S. chlorantha.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, Khim. Prir. Soedin., 114 (1977)

S. chlorifolia.

FLAVONOIDS: adonivernite, homoadonivernite, isosaponarin.

Darmograi *et al.*, Khim. Prir. Soedin., 114 (1977)

S. compacta.

FLAVONOIDS: adonivernite, homoadonivernite, isosaponarin.

Darmograi *et al.*, Khim. Prir. Soedin., 114 (1977)

S. comutata.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, Khim. Prir. Soedin., 114 (1977)

S. cretica.

FLAVONOIDS: adonivernite, homoadonivernite, isosaponarin.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. cubanensis.

FLAVONOIDS: adonivernite, homoadonivernite, isosaponarin.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. cyri.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. dolichocarpa.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. foliosa.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. graminifolia.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. italicica.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. jenisseensis.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. macrostyla.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. multijida.

FLAVONOIDS: saparonetin, saparonetin diglycoside, saparonetin glycoside, vitexin, vitexin diglycoside, vitexin glycoside.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. nutans.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. polaris.

FLAVONOIDS: adonivernite, homoadonivernite, isosaponarin.
 Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. praemixta.

STEROID: silenosterone.

Saatov *et al.*, *Khim. Prir. Soedin.*, 793 (1979)

S. repens.

FLAVONOIDS: saparonetin, saparonetin diglycoside, saparonetin glycoside, vitexin, vitexin diglycoside, vitexin glycoside.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. scabrifolia.

STEROIDS: 2-deoxy- α -ecdysone, 2-deoxy- α -ecdysone-3-acetate, ecdysterone, ecdysterone-22-O-benzoate.

Saatov *et al.*, *Khim. Prir. Soedin.*, 77, 439 (1986)

S. schafra.

BENZOPYRAN: schaftoside.

Chopin *et al.*, *Phytochemistry*, 13, 2583 (1974)

S. supina.

FLAVONOIDS: saparonetin, saparonetin diglycoside, saparonetin glycoside, vitexin, vitexin diglycoside, vitexin glycoside.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. turgida.

FLAVONOIDS: saparonetin, saparonetin diglycoside, saparonetin glycoside, vitexin, vitexin diglycoside, vitexin glycoside.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

S. wolygensis.

FLAVONOIDS: vicenin, vicenin diglycoside, vicenin glycoside.

Darmograi *et al.*, *Khim. Prir. Soedin.*, 114 (1977)

SILPHIUM

S. perfoliatum.

SAPONINS: silphiosides A, B, C, D and E.

SESQUITERPENOIDS: precarabrene, precarabrenone, 7 α H-silphinene, 7 β H-silphinene, 6-silphiperfolene.

DITERPENOIDS: 16-acetoxycarterochaetol, 16-acetoxycarterochaetol-15-acetate, 16-acetoxy-8,12-epoxy-14-oxo-12-labden-16-ol, 15,16-dioxocarterochaetol, 13S, 14S-epoxycarterochaetol, 6-guaiene-4,10-diol, 6-guaien-4-ol, 16-hydroxycarterochaetol, 16-oxocarterochaetol.

(Sap) Davidyants *et al.*, *Khim. Prir. Soedin.*, 63 (1986)

(T) Bohlmann *et al.*, *Phytochemistry*, **19**, 259 (1980)

SILYBUM (Compositae)

S. marianum (L.) Gaertn.

ACIDS: arachidic acid, behenic acid, linoleic acid, linolenic acid, palmitic acid, stearic acid.

LIGNANS: 2,3-dehydrosilychristin, 2,3-dehydrosilymarin, silandrin, silybin, silychristin, silydianin, silymonin.

(A) Kaczmarek *et al.*, *Herba Pol.*, **21**, 213 (1975); *Chem. Abstr.*, 84 14685y

(L) Pelter *et al.*, *Chem. Ber.*, **108**, 790 (1975)

(L) Szilagyi *et al.*, *Chem. Abstr.*, 97 212666z

SIMABA

S. cuspidata.

CARBOLINE ALKALOIDS: 3-methoxycanthin-2,6-dione, 8-methoxycanthin-6-one.

Geibrecht *et al.*, *Phytochemistry*, **19**, 313 (1980)

S. multiflora.

CARBOLINE ALKALOIDS: 10-hydroxycanthin-6-one, 10-methoxycanthin-6-one.

QUASSINOIDS: 12-dehydro-6 α -senecioylloxychaparrin, 13,18-dehydro-6 α -senecioylloxychaparrin, karinolide.

(A) Arisawa *et al.*, *J. Nat. Prod.*, **46**, 222 (1983)

(Q) Moretti *et al.*, *ibid.*, **49**, 440 (1986)

S. cf. orinocensis.

STEROIDS: guanepolide, simarinolide.

Polonsky *et al.*, *Tetrahedron Lett.*, 2306 (1983)

SIMAROUBA (Simaroubaceae)

S. amara.

BITTER PRINCIPLE: simarolide.

QUASSINOID: 2'-acetylglaucarubin.

TRITERPENOIDS: tirucalla-7,24-diene-3,21-dione, tirucalla-7,24-dien-3-one.

(B) Polonsky *et al.*, *Bull. Soc. Chim. Fr.*, 1546 (1959)

(Q) Polonsky *et al.*, *Experientia*, **34**, 1122 (1978)

(T) Polonsky *et al.*, *Phytochemistry*, **15**, 337 (1976)

S. glauca.

QUASSINOID: 15-O- β -D-glucopyranosylglaucarubol, 15-O- β -D-glucopyranosylglaucorubolone.

Bhatnager *et al.*, *Tetrahedron Lett.*, 299 (1984)

S. versicolor.

QUASSINOID: amarolide 11-acetate, amarolide-11,12-diacetate.

Ghosh *et al.*, *Lloydia*, **40**, 364 (1977)

SIMMONDSIA

S. californica.

GLUCOSIDE: simmondsin.

Elliger *et al.*, *J. Chem. Soc., Perkin I*, 2209 (1973)

SIMSIA

S. dombeyana.

SESQUITERPENOID: simsiolide.

Bohlmann, Zdero, *Phytochemistry*, **16**, 776 (1977)

S. foetida.

ISOFLAVONOID: 7,4'-dimethyl-3'-hydroxygenistein.

Romo de Vivar *et al.*, *Rev. Latinoam. Quim.*, **13**, 18 (1982)

SINAPIS (Cruciferae)

S. alba L. (Brassica alba (L.) Rabenh.

AMINO ACID: 4-hydroxybenzoylcholine.

THIOCYANATE: sinalbin.

(Am) Clausen *et al.*, *Phytochemistry*, **21**, 917 (1982)

(Th) Ettlinger *et al.*, *J. Am. Chem. Soc.*, **78**, 4172 (1956)

SINDORA

S. wallichii.

SESQUITERPENE: copaene.

Buchi *et al.*, *Proc. Chem. Soc.*, 214 (1963)

SINOMENIUM

S. acutum Rehd. et Wils.

HALOGENATED ALKALOIDS: acutumidine, acutumine.

PHENANTHRENE ALKALOIDS: dehydrosinomenine, isosinomenine, sinactine, sinoacutine, sinomenine, tuduranine.

Pkamoto *et al.*, *Tetrahedron Lett.*, 1933 (1969)

SINTON

S. citrangequat (Citrus sinensis x Poncirus trifoliata x Fortunella marginata).

CAROTENOIDS: citraxanthin, 8',9'-dihydro-8'-hydroxycitraxanthin, hydroxycitraxanthin.

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Yokoyama, White, *J. Org. Chem.*, **31**, 3452 (1966)

SIPHONODON

S. australis.

TRITERPENOIDS: friedelane-3,x-dione, friedelane-3,y-dione, friedelane-3,x,y-trione.

Courtney, Gascoigne, *J. Chem. Soc.*, 2115 (1956)

SIPHULA (Usneaceae)

S. ceratites (Wahlenb.) Fr.

BENZOPYRONE: siphulin.

Bruun *et al.*, *Acta Chem. Scand.*, **19**, 1677 (1965)

SISYMBRIUM (Brassicaceae/Cruciferae)

S. altissimum L. (S. pannonicum Jacq.).

17 FATTY ACIDS:

Dolya *et al.*, *Rastit. Resur.*, **22**, 249 (1986); *Chem. Abstr.*, 105 39401t

SIUM (Umbelliferae/Apiaceae)

S. latifolium L.

SESQUITERPENOIDS: siolactone, siolacetate.

Casinovi *et al.*, *Collect. Czech. Chem. Commun.*, **48**, 2411 (1983)

SKIMMIA (Rutaceae)

S. japonica.

FURANOQUINOLINE ALKALOID: skimmianine.

QUATERNARY ALKALOID: (+)-platydesminium.

BENZOPYRAN: alatol.

TRITERPENOID: taraxerol.

- (A) Boyd, Grunson, *J. Chem. Soc., C*, 556 (1970)
- (B) Abyshev *et al.*, *Khim. Prir. Soedin.*, 722 (1973)
- (T) Takemoto *et al.*, *J. Pharm. Soc., Japan*, **74**, 1271 (1954)

S. laureola.

FURANOQUINOLINE ALKALOID: skimmianine.

- Asahina, Inubuse, *Ber. Dtsch. Chem. Ges.*, **63**, 2052 (1930)

S. repens.

FURANOQUINOLINE ALKALOID: dictamine.

- Asahina *et al.*, *Ber. Dtsch. Chem. Ges.*, **63**, 2045 (1930)

S. wallachii.

STEROIDS: β -sitosterol, skimmiallchin, taraxerol, 3-epi-taraxerol, taraxerone.

- Ray *et al.*, *Indian J. Chem.*, **14**, 1876 (1975)

SKYTANTHUS

S. acutus Meyen.

PIPERIDINE ALKALOIDS: hydroxyskytanthine I, hydroxyskytanthine II, α -skytanthine, β -skytanthine, δ -skytanthine, τ -skytanthine, β -skytanthine N-oxide.

- Adolphen *et al.*, *Tetrahedron*, **23**, 3147 (1967)

- Streeter *et al.*, *Chem. Ind. (London)*, **45**, 1631 (1969)

SMALLANTHUS

S. uvellaria.

DITERPENOIDS: 16,17-epoxy-3-hydroxy-19-kauranal, ent-12-hydroxy-18-(3-methylbutanoyl)-16-kauren-19-oic acid, ent-12-hydroxy-18-(3-methyl-2-butenoyl)-16-kauren-19-oic acid.

- Bohlmann *et al.*, *Phytochemistry*, **19**, 107 (1980)

SMILACENA (Liliaceae)

S. stellata.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

SMILAX (Smilacaceae)

S. aristolochaeifolia Mill.

SAPONINS: parillin, sarsaparilloside.

Tschesche *et al.*, *Tetrahedron Lett.*, 2785 (1967)

S. aspera L.

SAPONIN: pseudosarsasapogenin.

TRITERPENOID: 31-norcycloartanol.

(Sap) Ayengar *et al.*, *Curr. Sci.*, **36**, 653 (1967)

(T) Berti *et al.*, *Tetrahedron Lett.*, 125 (1967)

S. excelsa.

STEROIDAL GLYCOSIDE: diosgenin-3-O- α -L-rhamnopyranoside.

Iskendarov *et al.*, *Khim. Prir. Soedin.*, 805 (1975)

S. lanceolata.

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

S. ornata Hook.

STEROID: smilagenin.

Kintya *et al.*, *Khim. Prir. Soedin.*, 615 (1972)

S. rotundifolia.

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

S. sieboldi Miq.

STEROID: laxogenin.

Akahari *et al.*, *Chem. Pharm. Bull.*, **13**, 545 (1965)

SMIRNIOPSIS

S. aucheri.

BENZOPYRANONES: smirnioridin, smirniorin.

Nikonov *et al.*, *Khim. Prir. Soedin.*, 592 (1969)

SMIRNOVIA (Leguminosae)

S. turkestanica Bge.

ALKALOIDAL AMINES: smirnovidine, smirnovine, sphaerophysine.

Ryabinin *et al.*, *Dokl. Akad. Nauk SSSR*, **76**, 851 (1951)

SMYRNIUM (Umbelliferae)

S. connatum.

SESQUITERPENOID: istanbulin C.

Ulubelen *et al.*, *Phytochemistry*, **18**, 338 (1979)

S. cordifolium.

SESQUITERPENOID: 2-acetylfurodien.

Ulubelen *et al.*, *Phytochemistry*, **23**, 1793 (1984)

S. creticum.

SESQUITERPENOIDS: istanbulins D, E and F.

Ulubelen *et al.*, *Phytochemistry*, **21**, 2128 (1982)

S. olastrum L.

SESQUITERPENOIDS: 1,10-epoxygermacrone, furanoeremophil-1-one, istanbulins A and B.

Ulubelen *et al.*, *Tetrahedron Lett.*, 4455 (1971)

SOLANDRA (Solanaceae)

S. longiflora.

TROPANE ALKALOID: norhyoscyamine.

Petrie, *Proc. Linn. Soc., N.S.W.*, **41**, 815 (1917)

S. nitida.

PYRANONE: dehydracetic acid.

Rivera *et al.*, *Experientia*, **32**, 1490 (1976)

SOLANOSTOMA

S. triste.

DITERPENOID: ent-kaur-16-ene-11 α -acetoxy-15 α -ol.

Connolly, Thornton, *J. Chem. Soc., Perkin I*, 736 (1973)

SOLANUM (Solanaceae)

S. abutiloides.

STEROID: isonuatigenin.

Evans *et al.*, *Planta Med.*, **41**, 166 (1981)

S. acaule.

STEROIDAL ALKALOID: solacauleine.

Schreiber, *Chem. Ber.*, **87**, 1007 (1954)

S. acaule x S. ajanhuri (clones).

GLYCOALKALOIDS: commersonine, sisunine.

Osman *et al.*, *Phytochemistry*, **25**, 967 (1986)

S. aculeastrissimum.

STEROIDAL ALKALOID: solasodine.

Kadkade *et al.*, *Lloydia*, **40**, 224 (1977)

S. aculeatissimum.

SAPONINS: aculeatoside A, aculeatoside B.

Saijo *et al.*, *Phytochemistry*, **22**, 733 (1983)

S. aculeatum.

STEROIDAL ALKALOID: 3-desamino-3-hydroxysolacapsine.

Coll *et al.*, *Phytochemistry*, **22**, 2099 (1983)

S. adoense Hochst.

STEROIDAL ALKALOID: solasodine.

Ntahomvukiya *et al.*, *Plant Med. Phytother.*, **17**, 18 (1983)

S. affin-ecuadorensis.

STEROIDAL ALKALOIDS: deacetylsolaflidine, solaflidine.

Martinod *et al.*, *Politecnica*, **3**, 46 (1977)

S. angustifolium.

STEROIDAL ALKALOID: solangustine.

Tutin, Cleaver, *J. Chem. Soc.*, **105**, 164 (1914)

S. aurantiacobaccatum de Wild.

STEROID: diosgenin.

Carle *et al.*, *Planta Med.*, **32**, 195 (1977)

S. auriculatum.

STEROIDAL ALKALOID: solauricine.

Anderson, Briggs, *J. Chem. Soc.*, 1036 (1937)

S. aviculare.

STEROIDAL ALKALOIDS: purapurine, solanaviol, solasodine.

Kaneko *et al.*, *Phytochemistry*, **19**, 299 (1980)

S. bahamense.

STEROID: behamgenin.

Coll *et al.*, *Phytochemistry*, **22**, 787 (1983)

S. callium.

STEROIDAL ALKALOIDS: isosolafloridine, solacallinidine.

Bird *et al.*, *Tetrahedron Lett.*, 3653 (1976)

S. carolinense.

AMINE ALKALOID: solaurethine.

Evans, Somanabandhu, *Phytochemistry*, **16**, 1852 (1977)

S. chacoense Bitt.

STEROIDAL ALKALOIDS: dehydrocommersonine, leptine I.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

TRITERPENOIDS: cycloartanol, 24-methylenecycloartanol.

(A) Zacharias, Osman, *Plant Sci. Lett.*, **10**, 283 (1977)

(S, T) Mierzwa *et al.*, *Rocz. Chem.*, **51**, 391 (1977)

***S. congestiflorum* Dun. DC.**

STEROIDAL ALKALOIDS: 23-oxosolacongestidine, 24-oxosolacongestidine, solacongestidine, solafloridine.

Sato *et al.*, *J. Org. Chem.*, **34**, 1577 (1969)

S. crispum.

UNCHARACTERIZED ALKALOID: natrine.

Bianchi *et al.*, *Ann. Chim. (Rome)*, **43**, 208 (1953)

S. dasypyllum.

One glycosidic alkaloid.

Couve, Demole, *Planta Med.*, **28**, 168 (1975)

S. demissum.

STEROIDAL ALKALOIDS: demissidine, demissine.

SESQUITERPENOIDS: rishitin, rishitinol.

(A) Kuhn, Low, *Ber. Dtsch. Chem. Ges.*, **80**, 406 (1947)

(T) Tamiyama *et al.*, *Phytopathology*, **58**, 115 (1968)

S. dulcamara L.

STEROIDAL ALKALOIDS: 15α -hydroxysoladulcidine, 15α -hydroxytomatidine, solaceine, soladulcidine, α -soladulcine, β -soladulcine, α -solamarine, β -solamarine, δ -solamarine, $\tau(1)$ -solamarine, $\tau(2)$ -solamarine, tomatid-5-en-3 β -ol.

Tukalo *et al.*, *Khim. Prir. Soedin.*, 207 (1971)

S. dunalianum.

STEROIDAL ALKALOIDS: soladunalinidine, soladunalinidine.

Bird *et al.*, *Tetrahedron Lett.*, 159 (1978)

S. ecuadorensis.

STEROIDAL ALKALOID: deacetylsolaphyllidin.

Usubillaga *et al.*, *Politecnica*, **3**, 107 (1973)

***S. erianthum* G.Don.**

STEROIDAL ALKALOIDS: solamargine, solanidine, solanine, solasodine, solasonine.

Moreira *et al.*, *Cienc. Cult. (Sao Paulo)*, 114 (1981); *Chem. Abstr.*, 97 195831e

***S. giganteum* Jacq.**

STEROIDAL ALKALOIDS: solanogantamine, solanogantine.

Pakrashi *et al.*, *J. Indian Chem. Soc.*, **55**, 1109 (1978)

S. glaucophyllum.

STEROID: 1,25-dihydroxyvitamin D3.

Napoli *et al.*, *Chem. Abstr.*, 88 3055z

S. globiferum.

STEROIDAL ALKALOIDS: solasodiene, solasodine.

STEROIDS: 3-anhydronuatigenin, diosgenin, 3-isoanhydronuatigenin, isonuatigenin, nuatigenin.

Doepke *et al.*, *Pharmazie*, **31**, 133 (1976)

S. grandiflorum var. pulverulentum.

STEROIDAL ALKALOID: grandiflorine.

Friere, *C.R. Acad. Sci.*, **105**, 1074 (1887)

S. havanense.

STEROIDAL ALKALOIDS: etioline, tomatidenol.

Ripperger, *Pharmazie*, **32**, 537 (1977)

S. hispidum.

STEROIDAL ALKALOID: juripidine.

STEROIDS: hispidogenin, hispidin, hispigenin, neosolaspigenin, solaspigenin.

DITERPENOID: solanolide.

(A) Chakravarti *et al.*, *Phytochemistry*, **22**, 2843 (1983)

(S, T) Chakravarti *et al.*, *ibid.*, **19**, 1249 (1980)

S. hypomalacophyllum.

STEROIDAL ALKALOID: solaphyllidine.

STEROID: andesgenin.

(A) Usabillaga *et al.*, *J. Am. Chem. Soc.*, **92**, 700 (1970)

(S) Gonzalez *et al.*, *Phytochemistry*, **14**, 2483 (1975)

S.jamaicense.

STEROIDS: caelogenin, isocaelogenin.

Dopke *et al.*, *Z. Chem.*, **16**, 104 (1976)

S. khasianum var. chatterjeeum sengupta.

STEROIDAL ALKALOID: solamargine.

Sath, *J. Inst. Chem. (Calcutta)*, **43**, 116 (1971)

S. kieseritzkii SAM.

STEROIDAL ALKALOIDS: solamargine, tomatidine.

Briggs, Vining, *J. Chem. Soc.*, 2809 (1953)

S. laciniatum Ait.

STEROIDAL ALKALOIDS: solasodine, solaradixine.

STEROID: diosgenin.

(A) Schreiber *et al.*, *Tetrahedron*, **20**, 1939 (1964)

(S) Irismetov *et al.*, *Khim. Prir. Soedin.*, 668 (1976)

S. lainanense.

STEROIDAL ALKALOID: solasodenone.

Adam *et al.*, *Phytochemistry*, **17**, 1070 (1978)

S. lycopersicum L.

STEROIDAL ALKALOID: solanocapsine.

Breyer-Brandwyk, *Bull. Sci. Pharmacol.*, **36**, 541 (1929)

S. lyratum.

GLYCOSIDES: aspidistrin, methylprotoaspidistrin, glycoside SL-0.

Yahara *et al.*, *Phytochemistry*, **24**, 2748 (1985)

S. mammosum.

Two uncharacterized alkaloids.

Saelkoff, *Arch. Pharm.*, **301**, 111 (1968)

S. marginatum.

STEROIDAL ALKALOID: solamargine.

Briggs *et al.*, *J. Chem. Soc.*, 3587 (1952)

S. megacarpum Koidz.

STEROIDAL ALKALOIDS: megacarpidine, megacarpine.

Briggs *et al.*, *J. Chem. Soc.*, 3 (1942)

S. melongena.

SESQUITERPENOIDS: aubergenone, lubimin, 9-oxonerolidol.

Stoessl *et al.*, *Can. J. Chem.*, **53**, 3361 (1975)

S. melongena var. esculentum.

STEROIDAL ALKALOIDS: solamargine, solasodine, solasonine.

STEROID: β -sitosterol.

El-Khrisy *et al.*, *Fitoterapia*, **57**, 440 (1986)

S. nemorensis var. bulgarica.

SESQUITERPENOIDS: 3-oxo-8-epoxyeremophila-1,7-dien-8,12-olide, 3-oxo-8-eremophila-1,7-dien-8,12-olide.

Jizba *et al.*, *Collect. Czech. Chem. Commun.*, **43**, 1113 (1978)

S. nigrum L.

STEROIDAL ALKALOIDS: solamargine, α -solamargine, solasonine.

SAPONIN: uttronin A.

STEROIDS: uttroside A, uttroside B.

(A) Aslanov *et al.*, *Khim. Prir. Soedin.*, 674 (1971)

(Sap, S) Sharma *et al.*, *Phytochemistry*, **22**, 1241 (1983)

S. oleraceum.

STEROIDAL ALKALOIDS: solamargine, solasonine.

Bite, Shabana, *Egypt. J. Pharm. Sci.*, **16**, 85 (1975); *Chem. Abstr.*, 87 35893s

S. panduraeforme.

One uncharacterized steroidal alkaloid.

Velsman, Louw, *J.S. Afr. Chem. Inst.*, **2**, 119 (1949)

S. paniculatum L.

STEROIDAL ALKALOIDS: isojuribidine, isojuripidine, isopaniculidine, juribine, paniculidine.

STEROIDS: neochlorogenin, peniculogenin, tigogenin, epi-tigogenin.

(A) Schreiber, Ripperger, *Tetrahedron Lett.*, 5997 (1966)

(S) Ripperger *et al.*, *Chem. Ber.*, **100**, 1741 (1967)

S. persicum.

STEROIDAL ALKALOID: solapersine.

Novruzov *et al.*, *Khim. Prir. Soedin.*, 434 (1975)

S. platanifolium.

STEROIDAL ALKALOIDS: salatifoline, solamargine, solasonine.

Puri, Bhatnagar, *Phytochemistry*, **14**, 2096 (1975)

S. polyadenium Greenm.

STEROIDAL GLYCOALKALOID: polyamine.

Schreiber, *Annalen*, **674**, 168 (1964)

S. pseudocapsicum L.

STEROIDAL ALKALOIDS: isosolanocapine, solanocapine, epi-solanocapine, solanocapsidine, solanocapsine.

Chakravarti *et al.*, *J. Chem. Soc., Perkin I*, 467 (1984)

S. pseudoquina.

STEROIDAL ALKALOID: solaquidine.

Usubillaga *et al.*, *Phytochemistry*, **16**, 1961 (1976)

S. pubescens.

STEROIDAL ALKALOIDS: solanopubamides A and B.

Kumari *et al.*, *Phytochemistry*, **25**, 2003 (1986)

S. rostratum Dun.

STEROIDAL ALKALOIDS: solamargine, solasonine.

Nabiev, Shakirov, *Khim. Prir. Soedin.*, 116 (1974)

S. seaforthianum.

STEROIDAL ALKALOIDS: isosolaseaforthine, solanoforthine, solaseaforthine.

Ali *et al.*, *Tetrahedron Lett.*, 3871 (1978)

S. sisymbriifolium.

STEROIDS: isonuatigenin, nuatigenin.

Tschesche *et al.*, *Tetrahedron*, **20**, 287 (1954)

S. sodameum.

STEROIDAL ALKALOID: solasonine.

Briggs, Vining, *J. Chem. Soc.*, 2809 (1953)

S. surattense.

STEROIDAL ALKALOID: solasurine.

Seth, Chatterjee, *J. Inst. Chem. (Calcutta)*, **41**, 194 (1968)

S. tomatillo.

STEROIDAL ALKALOIDS: dihydrotomatillidine, tomatillidine.

Kusano *et al.*, *Chem. Pharm. Bull.*, **24**, 661 (1976)

S. tomentosa Decne.

STEROIDS: diosgenone, yamagenone.

Morales-Mendez *et al.*, *Rev. Fac. Farm. Univ. Los Andes*, **15**, 133 (1974)

S. torvum.

STEROIDAL ALKALOIDS: solasodeine, solasodine.

GENINS: chlorogenin, neochlorogenin, torvogenin.

SAPONIN: torvonin A.

(A, G) Doepke *et al.*, *Pharmazie*, **30**, 755 (1975)

(Sap) Mahmood *et al.*, *Phytochemistry*, **24**, 2456 (1985)

S. tovarensae.

STEROIDS: diosgenone, yamagenone.

Morales-Mendez *et al.*, *Rev. Fac. Farm. Univ. Los Andes*, **15**, 133 (1974)

S. transcaucasicum Pojark.

STEROIDAL ALKALOIDS: solamargine, α -solamargine, solasonine.

Aslanov, *Khim. Prir. Soedin.*, 132 (1972)

S. tripartitum Dunal.

SOLAMINE ALKALOIDS: solapalmtenine, solapalmitine,

Kupchan *et al.*, *J. Am. Chem. Soc.*, **89**, 5718 (1967)

S. tuberosum L.

STEROIDAL ALKALOIDS: solanidol, allo-solanidol, solanidine, solanidine-T, solanine, tolatid-5-en-3 β -ol.

FLAVONOIDS: cyanoside, isoquercitrin, rutin.

PHENOLIC: chlorogenic acid.

STEROIDS: barogenin, citrostadienol, 24-methylenelophenol, β -sitosterol.

SESQUITERPENOIDS: lubimin, epi-lubimin, rishitin, rishitinol, 1(10),3,11 -spirovetivatrien-2-one.

(A) Rosen, Rosen, *Chem. Ind.*, 1581 (1954)

- (F, P) Bondarenko *et al.*, *Khim. Prir. Soedin.*, 647 (1983)
 (S) Kaneko *et al.*, *Phytochemistry*, **16**, 791 (1977)
 (T) Coxon *et al.*, *Tetrahedron Lett.*, 2929 (1974)

S. verbascifolium.

STEROIDAL ALKALOIDS: solasonine, solaverbascine.

Adam *et al.*, *Phytochemistry*, **19**, 1002 (1980)

S. vespertilio.

STEROIDS: anosmagenin, bejamarin, 15-dehydro-14 β -anosmagenin, 20S-hydroxyvespertilin, vespertilin.

Gonzalez *et al.*, *An. Quim.*, **70**, 250 (1974)

S. villosum.

STEROIDAL ALKALOID: solavilline.

Bogner *et al.*, *Dtsch. Akad. Landsirtschatswiss, Berlin*, **27**, 87 (1961)

S. xanthocarpum.

STEROIDAL ALKALOIDS: solasodine, solasonine.

STEROIDS: carpesterol, 4 α -methyl-24-methylcholest-7-ene-3 β ,22-diol, 4 α -methyl-24-methylcholest-7-ene-3 α ,25-diol, norcarpesterol.

(A) Briggs, Vining, *J. Chem. Soc.*, 2809 (1953)

(S) Kusano *et al.*, *Phytochemistry*, **14**, 1679 (1975)

S. xylocarpum.

STEROIDAL ALKALOID: solasonine.

STEROID: 4 α -methyl-24-methylcholest-7-ene-3 β ,22-diol.

Briggs, Vining, *J. Chem. Soc.*, 2809 (1953)

SOLENANTHUS (Boraginaceae)

S. circinnatus Lbd.

PYRROLIZIDINE ALKALOID: echinatine.

Akramov *et al.*, *Dokl. Akad. Nauk SSSR*, **6**, 28 (1964)

S. coronatus Rgl.

PYRROLIZIDINE ALKALOID: echinatine.

Kiyamitdinova *et al.*, *Khim. Prir. Soedin.*, 911 (1967)

S. hirsutus Rgl.

PYRROLIZIDINE ALKALOID: echinatine.

Akramov *et al.*, *Dokl. Akad. Nauk SSSR*, **6**, 28 (1964)

S. karateginus Lipsky.

PYRROLIZIDINE ALKALOIDS: echinatine, turkestanine.

Akramov *et al.*, *Dokl. Akad. Nauk SSSR*, **6**, 28 (1964)*S. turkestanicus (Rgl. et Smirn.) Kuzn.*

PYRROLIZIDINE ALKALOIDS: rindlerine, turkestanine.

Akramov *et al.*, *Dokl. Akad. Nauk SSSR*, **10**, 29 (1970)**SOLENOSTEMON***S. monostachys.*

DITERPENOIDS: Mon-A, Mon-B, Mon-C.

Miyase *et al.*, *J. Chem. Soc., Chem. Commun.*, 859 (1977)*S. sylvaticus.*

DITERPENOIDS: 19-acetoxycoleon O, 17-acetoxycoleon P, 14-acetoxycoleon Q, 16-acetoxycoleon W, 16-acetoxycoleon X, coleon X, coleon Z, 12-deacetyl-7,14-diacetoxycoleon Q, 12-deacetyl-3,7,14-triacetoxycoleon Q, 6,14-diacetoxycoleon Q, syl-A, syl-B, syl-C, syl-D.

Miyase *et al.*, *Helv. Chim. Acta*, **62**, 2374 (1979)**SOLENOSTOMA (Musci)***S. triste (Nees) K.Mull.*DITERPENOIDS: (16R)-ent-11 α -hydroxykauran-15-one, ent-kaur-16-ene-11 α ,15-diol.Connolly, Thornton, *J. Chem. Soc., Perkin I*, 736 (1973)**SOLIDAGO (Compositae)***S. altissima L.*

ACETYLENICS: dehydromatricarin ester, dehydromatricarin lactone, methyl-10-(2-methyl-2-butenoyloxy)-cis-2-cis-8-decadiene-4,6-diynoate.

DITERPENOIDS: 6-angeloyloxykolavenic acid, solidagolactones I, II, III, IV, V, VI, VII and VIII, solidagonic acid, tricyclosolidagolactone.

Nishima *et al.*, *Tetrahedron Lett.*, 2809 (1984)

S. arguta.

DITERPENOIDS: 15,16-epoxy-cis-cleroda-3,13(16),14-triene, 15,16-epoxy-cis-cleroda-3,13(16),14-triene-19,6-olide.

McCrindle *et al.*, *J. Chem. Soc., Perkin I*, 1590 (1976)

S. canadensis.

DITERPENOIDS: solidagenone, solidago diterpene A.

Anthonsen *et al.*, *Tetrahedron*, **25**, 2233 (1969)

S. elongata.

DITERPENOIDS: elongatolides A, B, C, D, E and F.

Anthonsen *et al.*, *Acta Chem. Scand.*, **23**, 1068 (1969)

S. gigantea.

DITERPENOID: solidago diterpene A.

Gerlach, *Pharmazie*, **20**, 523 (1965)

S. gigantea var. serotina.

DITERPENOIDS: solidagoic acids A and B.

Anthonsen *et al.*, *Acta Chem. Scand.*, **22**, 351 (1968)

S. juncea.

DITERPENOIDS: epoxyjunceic acid, junceic acid, junceanols W, X and Y.

Henderson *et al.*, *Can. J. Chem.*, **51**, 1322 (1973)

S. missouriensis.

DITERPENOIDS: ent-7,13-abietadiene, ent-7,13-abietadien-2-ol acetate, ent-7,13-abietadien-3-ol, ent-7,13-abietadien-3-one, ent-8,13S-epoxy-14-labden-3-one, ent-13-epi-manoyl oxide, missourienols A, B and C.

Anthonsen, Bergland, *Acta Chem. Scand.*, **27**, 1073 (1973)

S. nemoralis.

DITERPENOIDS: ent-7,13-abietadien-18-oic acid, ent-7,13-abietadien-5-ol, rugosolide.

Bohlmann *et al.*, *Phytochemistry*, **19**, 2655 (1980)

S. sempervirens.

DITERPENOIDS: sempervirenic acid, solidagenone.

Purushothaman *et al.*, *Phytochemistry*, **22**, 1042 (1983)

S. serotina.

DITERPENOIDS: solidagoic acid A, solidagoic acid B.

Anthonsen *et al.*, *Can. J. Chem.*, **51**, 1332 (1973)

S. virgaurea L.

DITERPENOIDS: virgaureagenins A, B, C, D, E, F and G.

Hiller *et al.*, *Herba Hung.*, **19**, 91 (1980)

SOLORINA

S. crocea.

ANTHRAQUINONE PIGMENTS: averantin, averantin 6-methyl ether, 4,4'-disolarinic acid, norsolorinic acid, solorinic acid.

Steglich, Jedtke, Z. Naturforsch., **31C**, 97 (1976)

SONCHUS (Compositae)

S. arvensis L.

FLAVONOIDS: linarin, luteolin 7-glucoside.

Bondarenko *et al.*, Chem. Abstr., 88 186099j

S. jacquini.

SESQUITERPENOID: jacquinelin.

Barrera *et al.*, J. Chem. Soc., C, 1298 (1966)

S. macrocarpus.

SESQUITERPENOID: sonchucarpolide.

Mahmood *et al.*, Phytochemistry, **22**, 1290 (1983)

S. pinnatus.

SESQUITERPENOID: jacquinelin.

Barrera *et al.*, J. Chem. Soc., C, 1298 (1966)

S. radicatus.

SESQUITERPENOID: jacquinelin.

Barrera *et al.*, J. Chem. Soc., C, 1298 (1966)

S. tubifer.

SESQUITERPENOID: tubiferine.

Barrera *et al.*, Tetrahedron Lett., 3475 (1967)

SONNERATIA

S. apetala.

GIBBERELLIN: tetrahydrogibberellin A-3.

Gaskin *et al.*, *Chem. Ind.*, 424 (1972)

SOPHORA (Leguminosae)

S. alopecuroides L. (Goebelia alopeculoides (L.) Bge.).

MATRINE ALKALOIDS: 13,14-dehydrosophoridine, 3-hydroxysophoridine, matrine, neosophoramidine, sophocarpine, sophoridine, (-)-sophoridine, Sparteine alkaloid baptifoline.

Orekhov *et al.*, *Ber. Dtsch. Chem. Ges.*, **68**, 431 (1935)

Kusmuradov *et al.*, *Khim. Prir. Soedin.*, 231 (1978)

*S. angustifolia var. *flavescens* Sieb. et Zucc.*

MATRINE ALKALOIDS: matrine, oxymatrine,
Kondo *et al.*, *Arch. Pharm.*, **275**, 493 (1937)

S. chrysophylla.

QUINOLIZIDINE ALKALOIDS: cytisine, mamanine, mamanine N-oxide.
Kadooka *et al.*, *Tetrahedron*, **32**, 919 (1976)

*S. *flavescens* Ait.*

MATRINE ALKALOIDS: 7-dehydrosophoridine, (+)-kuraramine, matrine, sophocarpine, sophoranol.

FLAVONOIDS: kushenol E, kushenol F.

SAPONIN: sophoraflavoside I.

(A) Kondo *et al.*, *Chem. Pharm. Bull.*, **26**, 1832 (1978)

(F) Wu *et al.*, *J. Pharm. Soc., Japan*, **105**, 736 (1985)

(S) Yoshikawa *et al.*, *Chem. Pharm. Bull.*, **33**, 4267 (1985)

S. franchetiana.

QUINOLIZIDINE ALKALOIDS: tsukushinamines A, B and C.

Ohmiya *et al.*, *Phytochemistry*, **20**, 1997 (1981)

S. griffithii Stocks.

MATRINE ALKALOIDS: argentine, matrine, pachycarpine, sophoridine.

QUINOLIZIDINE ALKALOIDS: cytisine, N-methylcytisine.

Aslanov *et al.*, *Khim. Prir. Soedin.*, 398 (1972)

S. japonica L.

MATRINE ALKALOIDS: matrine, sophocarpine.

QUINOLIZIDINE ALKALOIDS: cytisine N-methylcytisine.

FLAVONOIDS: anhydropisatin, biochanin A 7- β -D-gentiobioside, biochanin A 7- β -D-xylosylglucoside, irisolidone, irisolidone 7-O-glucoside, rutin, sissotrin.

ISOFLAVAN: sophoraflavanoloside.

ISOFLAVONES: biochanin A, 5,7-dihydroxy-3',4'-methylenedioxyisoflavone, sopharol.

PHYTOALEXINS: (+)-maackiain, (+)-medicarpin.

STEROID: β -sitosterol.

(A) Abdusalamov *et al.*, *Khim. Prir. Soedin.*, 658 (1972)

(F) Takeda *et al.*, *Phytochemistry*, **16**, 619 (1977)

(I, S) Komatsu *et al.*, *J. Pharm. Soc., Japan*, **96**, 254 (1976)

(P) Van Etten *et al.*, *Phytochemistry*, **22**, 2291 (1983)

S. microphylla Ait.

MATRINE ALKALOID: matrine.

QUINOLIZIDINE ALKALOIDS: methylcytisine, cytisine.

Govindachari *et al.*, *J. Chem. Soc.*, 3839 (1957)

S. moorcroftiana Benth.

MATRINE ALKALOIDS: α -matrine, oxymatrine, sophocarpine.

Faugeras *et al.*, *Plant Med. Phytother.*, **10**, 85 (1976)

S. pachycarpa Schrenk. (*Goebelia pachycarpa* (Schrenk) Bge.).

MATRINE ALKALOIDS: goebeline, isosophocarpine, matrine, matrine N-oxide, sophoramine, sophocarpine N-oxide, sophoramine.

QUINOLIZIDINE ALKALOIDS: cytisine, (+)-sparteine.

FLAVONOID: genistein 7-O-xyloglucoside.

(A) Pakanaev, Sadykov, *J. Gen. Chem., USSR*, **33**, 1374 (1963)

(F) Sattikulov *et al.*, *Uzb. Khim. Zh.*, 11 (1983); *Chem. Abstr.*, 100 82724j

S. secundiflora.

QUINOLIZIDINE ALKALOIDS: 11-allylcytisine, cytisine, N-methylcytisine, sparteine.

ISOFLAVONE: unanisoflavone.

(A) Keller *et al.*, *Phytochemistry*, **14**, 2305 (1975)

(I) Minhaj *et al.*, *Tetrahedron Lett.*, 2391 (1976)

S. speciosa.

QUINOLIZIDINE ALKALOID: cytisine.

Govindachari *et al.*, *J. Chem. Soc.*, 3839 (1957)

S. subprostrata.

PHENOLICS: sophoradin, sophoradochromene, sophoranachromene, sophoranone.

Komatsu *et al.*, *Chem. Pharm. Bull.*, **18**, 602 (1970)

S. tetraptera J Miller.

MATRINE ALKALOID: matrine.

QUINOLIZIDINE ALKALOIDS: cytisine, methylcytisine.

Kondo *et al.*, *J. Pharm. Soc., Japan*, **266**, 1 (1928)

S. tomentosa.

QUINOLIZIDINE ALKALOIDS: cytisine, (-)-epi-lamprolobine, (+)-lamprolobine N-oxide, 5-(3'-methoxycarbonylbutyryl)-aminoethyl-transquinolizidine.

ISOFLAVONES: isosophoranone, isosophoronal.

PTEROCARPANS: sophoracarpan A, sophoracarpan B.

(A) Murakoshi *et al.*, *Phytochemistry*, **20**, 1725 (1981)

(I) Delle Monache *et al.*, *Gazz. Chim. Ital.*, **107**, 189 (1977)

(P) Kinoshita *et al.*, *Chem. Pharm. Bull.*, **34**, 3067 (1986)

SORBARIA (Rosaceae)

S. arborea.

GLYCOSIDE: cardiospermin-p-hydroxybenzoate.

Nahrstedt, *Z. Naturforsch.*, **31C**, 397 (1976)

SORBUS (Rosaceae)

S. aucaparia L.

UNCHARACTERIZED TERPENOIDS: sorbicortol I, sorbicortol II.

Danoff, Zellner, *Monatsh. Chem.*, **59**, 307 (1932)

S. commixta.

FLAVONOIDS: luteolin 7-glucoside, quercetin, quercetin 3-glucoside, quercetin 3-glucoxyloside.

PHENOLICS: amygdalin, prunasin.

(F) Bylka *et al.*, *Herba Pol.*, **23**, 105 (1977); *Chem. Abstr.*, 88 186090z

(P) Takaishi, Kuwajima, *Phytochemistry*, **15**, 1984 (1976)

SOULAMEA

S. amara Lam.

QUASSINOID: 15-O-benzoylbrucein D.

Bhatnager *et al.*, *Tetrahedron Lett.*, 1225 (1985)

S. fraxinifolia.

CARBOLINE ALKALOID: 1-(2'-hydroxyethyl)- β -carboline.

QUASSINOID: 6-acetoxypicrasin.

Charles *et al.*, *J. Nat. Prod.*, **49**, 303 (1986)

S. muelleri.

DITERPENOIDS: soulameanone, soulameanone-1,12-diacetate.

Polonsky *et al.*, *Tetrahedron*, **36**, 2983 (1980)

S. pancheri.

QUASSINOID: picrasin B.

Hikino *et al.*, *Phytochemistry*, **14**, 2473 (1975)

S. tomentosa.

QUASSINOID: isobrucein A, solarubinone, souleameolide.

Polonsky *et al.*, *J. Chem. Soc., Chem. Commun.*, 641 (1979)

SOYMIDA

S. febrifuga.

TRITERPENOID: febrifugin, febrinins A and B, febrinolide.

Mallavarapu *et al.*, *Phytochemistry*, **24**, 305 (1985)

SPARTIUM (Leguminosae/Papilionaceae)

S. junceum L.

SPARTEINE ALKALOID: sparteine.

COUMARINS: chrysin, chrysin 7-gentiobioside, chrysin 7- β -D-glucopyranoside.

(A) Bellavita *et al.*, *Farm. Sci. e Tec.*, **3**, 424 (1948)

(C) De Rosa *et al.*, *Phytochemistry*, **22**, 2323 (1983)

S. scoparium.

SPARTEINE ALKALOID: sparteine.

Bellavita *et al.*, *Farm. Sci. Tec.*, **3**, 424 (1948)

SPATHELIA

S. glabrescens.

CHROMENE: sorbifolin.

Chan *et al.*, *J. Chem. Soc.*, 2548 (1967)

S. sorbifolia.

CHROMENES: allopteroxylin, sorbifolin.

NORTRITERPENOID: spathelin.

(C) Taylor *et al.*, *J. Chem. Soc., Perkin I*, 397 (1977)

(T) Burke *et al.*, *Tetrahedron Lett.*, 5299 (1968)

S. wrightii.

DIPYRAN: 5-methoxy-2,2,8-trimethyl-10-senecioyl-2H,6H-benzo[1,2-b 5-4-b']dipyran-6-one.

Diaz *et al.*, *Phytochemistry*, **22**, 2090 (1983)

SPHAERANTHUS (Compositae)

S. indicus L.

UNCHARACTERIZED ALKALOID: sphaeranthine.

Basu, Lamsal, *J. Am. Pharm. Assoc.*, **35**, 174 (1946)

SPHAEROCARPOS

S. texanus.

FLAVONOID: luteolin 7,4'-di-O-glucuronide, luteolin 7-O-glucuronide.

Markham *et al.*, *Phytochemistry*, **15**, 151 (1976)

SPHAEROCOCCUS (Rhodophyceae)

S. coronipifolius L. (Goodenough et Woodward) C.A. Asgardh.

DITERPENOID: presphaerol.

HALOGENATED DITERPENOIDS: bromosphaerodiol, bromosphaerol,
 sphaerococcenol A.
 Cafieri *et al.*, *Tetrahedron Lett.*, 963 (1979)

SPHAEROPHORUS

S. scrobiculatus.

DEPSIDONE: 4-O-methylhypoprotocetraric acid.
 TRITERPENOIDS: 7 β -acetoxyhopan-22-ol, 15,22-dihydroxyhopane.
 Huneck, Tibell, *J. Hattori Bot. Lab.*, **58**, 203 (1985); *Chem. Abstr.*, 104 1766od

SPHAEROPHYSA (Leguminosae)

S. salsula (Pall.) DC.

ALKALOIDAL AMINE: sphaerophysine.
 Rubinshtein, Men'shikov, *J. Gen. Chem., USSR.*, **14**, 161 (1944)
 Rubinshtein, Men'shikov, *ibid.*, **14**, 172 (1944)

SPHAGNUM (Musci)

S. magellanicum Brid.

LIGNINS: none present. Phenanthrofuran sphagnorubin.
 (L) Nimz, Tutschek, *Holzforschung*, **31**, 101 (1977)
 (Ph) Rudolph *et al.*, *Z. Naturforsch.*, **24B**, 1211 (1969)

SPILANTHES

S. oleracea Jacq.

FLAVONOIDS: apigenin 7-glucoside, apigenin 7-neohesperidoside, quercetin 3-glucoside, rutin.
 Verykokidou-Vitsaropoulos *et al.*, *Arch. Pharm.*, **316**, 815 (1983)

SPINACEA

S. oleracea.

SAPONINS: spinasaponin A, spinasaponin B.

Tschesche *et al.*, *Justus Liebigs Ann. Chem.*, **726**, 125 (1969)

SPIRAEA (Rosaceae)

S. cantoneniensis.

TRITERPENOIDS: betulinic acid, 3-epi-betulinic acid.

Tanabe *et al.*, *J. Pharm. Soc., Japan*, **96**, 248 (1976)

S. hypericifolia.

CATECHINS: (+)-catechol 7- β -L-arabinofuranoside, (+)-catechol 7- α -L-rhamnofuranoside, catechol 7-xyloside.

FLAVONOIDS: apigenin, apigenin 5- β -D-glucopyranoside, luteolin, luteolin 5- β -D-glucopyranoside.

Chumbalov *et al.*, *Khim. Prir. Soedin.*, 103 (1976)

S. japonica L.

DITERPENE ALKALOIDS: spiradines A, B, C, D, E, F and G, spiredine, spireine.

Gorbunov *et al.*, *Khim. Prir. Soedin.*, 124 (1976)

S. koreana.

DITERPENE ALKALOIDS: spirajine, spireine.

Jin, *Chem. Abstr.*, 70 26539

S. thunbergii.

TRITERPENOIDS: glutinol, taraxerol.

Tanabe *et al.*, *J. Pharm. Soc., Japan*, **96**, 248 (1976)

S. tosaensis.

TRITERPENOIDS: glutinone, taraxerol.

Tanabe *et al.*, *J. Pharm. Soc., Japan*, **96**, 248 (1976)

SPIROSTACHYS

S. africana.

DITERPENOID: stachenone.

Baarschers *et al.*, *J. Chem. Soc.*, 4046 (1962)

SPONDIAS

S. mangifera.

AMINO ACIDS: alanine, cystine, glycine, leucine, serine.

Saxena *et al.*, *J. Inst. Chem., (India)*, **49**, 107 (1977); *Chem. Abstr.*, 87 65354j

SPORORMIA

S. affinis.

TERPENOID: terpenoid LL-N313 τ .

McGahren *et al.*, *J. Am. Chem. Soc.*, **96**, 1616 (1974)

SPREKELIA (Amaryllidaceae)

S. formosissima Herb.

ERYTHRINA ALKALOIDS: 3-epi-macronine, pretazettine.

ISOQUINOLINE ALKALOID: lycorine.

Wildman, Bailey, *J. Org. Chem.* **33**, 3749 (1968)

STACHYS (Labiatae)

S. annua (L.) L.

DITERPENOIDS: annuanone, stachylone, stachysolone.

Popa *et al.*, *Khim. Prir. Soedin.*, 324 (1974)

S. atherocalyx.

FLAVONOIDS: acetylspectabiflaside, acetylstachyflaside, spectabiflaside, stachyflaside.

IRIDOIDS: harpagide, harpagide acetate.

(F) Kostyuchenko *et al.*, *Khim. Prir. Soedin.*, **98**, 106 (1976)

(I) Komissarenko *et al.*, *ibid.*, 187 (1982)

S. balansae Boiss. et Kotschy.

QUATERNARY ALKALOID: stachydrine.

Pulatova, *Khim. Prir. Soedin.*, 62 (1969)

S. betoniciflora Rupr.

QUATERNARY ALKALOID: stachydrine.

Pulatova, *Khim. Prir. Soedin.*, 62 (1969)

S. grossheimii.

IRIDOIDS: harpagide, harpagide acetate.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 109 (1976)

S. hissarica Rgl.

QUATERNARY ALKALOID: stachydrine.

Pulatova, *Khim. Prir. Soedin.*, 62 (1969)

S. iberica.

IRIDOIDS: harpagide, harpagide acetate.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 109 (1976)

S. inflata.

FLAVONOID: stachyflaside.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 98 (1976)

S. lanata Jacq.

QUATERNARY ALKALOID: stachydrine.

Pulatova, *Khim. Prir. Soedin.*, 62 (1969)

S. lavandullillia.

IRIDOIDS: harpagide, harpagide acetate.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 109 (1976)

S. palustris.

FLAVAN GLYCOSIDE: acetyl-4',5,8-trihydroxyflavan-7- α -D-glucopyranoside- β -D-glucopyranoside.

Bishara *et al.*, *Ukr. Khim. Zh.*, **42**, 284 (1976); *Chem. Abstr.*, 85 2514z

S. spectabilis.

IRIDOIDS: harpagide, harpagide acetate.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 109 (1976)

S. sylvatica.

QUATERNARY ALKALOIDS: betonicine, turicine.

IRIDOID: harpagide, harpagide acetate.

DITERPENOID: stachysic acid.

(A) Paudler, Wagner, *Chem. Ind.*, 1693 (1962)

(I) Komissarenko *et al.*, *Khim. Prir. Soedin.*, 109 (1976)

(T) Popa *et al.*, *Khim. Prir. Soedin.*, 447 (1974)

S. tubifera Naudin.

QUATERNARY ALKALOID: stachydrine.

Henry, King, *J. Chem. Soc.*, 2866 (1950)

STACHYTARPHETA (Verbenaceae)

S. jamaicensis (L.) Vahl. (S. indica Vahl).

FLAVONOIDS: apigenol 7-glucuronide, 6-hydroxyluteolol 7-glucuronide, luteolol 7-glucuronide.

IRIDOID: tarphetalin.

PHENOLIC: chlorogenic acid.

(F, P) Duret *et al.*, *Plant Med. Phytother.*, **10**, 96 (1976)

(I) Jawad *et al.*, *Egypt. J. Pharm. Sci.*, **18**, 511 (1977)

S. mutabilis.

IRIDOID: 6-hydroxyipolamiide, ipolamiide.

de Luca *et al.*, *Phytochemistry*, **22**, 1185 (1983)

STACHYURUS (Stachyuraceae)

S. praecox Sieb. et Zucc.

ELLAGITANNINS: casuarictin, casuarinin, casuriin, pedunculagin, stachyurin, strictinin, tellimagrandin I.

STEROIDS: stachysterones A, B, C and D.

(E) Okuda *et al.*, *J. Chem. Soc., Perkin I*, 1265 (1983)

(S) Hikino *et al.*, *Chem. Pharm. Bull.*, **23**, 1458 (1975)

STAPHYLEA (Staphyleaceae)

S. pinnata L.

AMINO ACIDS: isoleucine, oxypinnatane, pinnatenine.

Grove *et al.*, *Tetrahedron*, **29**, 2715 (1973)

STAUNTONIA

S. hexaphylla.

ANTHOCYANINS: chrysanthemin, cyanidin 3-xylosylglucoside.

GLYCOSIDES: mubenins A, B and C.

(An) Ishikura *et al.*, *Phytochemistry*, **15**, 442 (1976)

(Gl) Takemoto, Kometani, *Ann. Chim.*, **685**, 237 (1965)

STEGANOTAENIA

S. araliacea Hochst.

LIGNANS: araliangin, steganacin, steganangin, steganol steganone.

Kupchan *et al.*, *J. Am. Chem. Soc.*, **95**, 1335 (1973)

STEIRACTINIA

S. mollis.

SESQUITERPENOIDS: steiractinolides A, B, C, D, E and F, 6-tiglylivangustin, 6-tiglylivangustin 1-acetate.

Bohlmann *et al.*, *Ann. Chim.*, 962 (1983)

STELLERA

S. chamaejasme L.

COUMARINS: daphnetin, daphnoretin, umbelliferone.
 FLAVANONES: chamaejasmine, isochemasmine.
 (C) Modonova *et al.*, *Khim. Prir. Soedin.*, 709 (1985)
 (F) Niwa *et al.*, *Chem. Pharm. Bull.*, **34**, 3249 (1986)

STEMMADENIA

S. belle.

TRITERPENOID: taraxasterol acetate.
 Talapatra *et al.*, *Indian J. Chem.*, **11**, 977 (1973)

S. donnell-smithii R.E.Woodson.

INDOLE ALKALOIDS: (+)-quebrachamine, tabernanthine.
 Bartlett *et al.*, *J. Am. Chem. Soc.*, **80**, 126 (1958)

STEMODIA (Scrophulariaceae)

S. maritima.

DITERPENOIDS: maritimol, stemarin, stemodin, stemodinol, stemodinone, stemolide.
 Hufford *et al.*, *J. Pharm. Sci.*, **65**, 778 (1976)

STEMONA

S. collinsae.

BENZOPYRONES: stemonal, stemonacetal.
 Shiengthong *et al.*, *Tetrahedron Lett.*, 2015 (1974)

S. japonica Miq.

ALKALOIDS: isostemonamine, protostemonine, protostephanine, stemmonamine, stemofoline, stemonidine.

Iuzuka *et al.*, *J. Chem. Soc., Chem. Commun.*, 125 (1973)

S. ovata Nakai.

ALKALOIDS: stemonidine, stemonine.

Suzuki, *J. Pharm. Soc., Japan*, **49**, 78 (1929)

S. sessilifolia Miq.

UNCHARACTERIZED ALKALOIDS: stenine, tuberostemonine, tuberostemonine A.

Furuya, *Chem. Zentralbl.*, 1823 (1913)

Edwards *et al.*, *Can. J. Chem.*, **40**, 455 (1962)

S. tuberosa.

ALKALOIDS: oxotuberostemonine, stemonine, stenine.

Uyeo *et al.*, *Chem. Pharm. Bull.*, **15**, 768 (1967)

STENACHAENIUM

S. macrocephalum.

ACID: 9,10-epoxy-3,12-octadecadienoic acid.

Kleinman *et al.*, *Lipids*, **6**, 617 (1971)

STENOCALYX

S. michelii.

NORSESQUITERPENOIDS: τ -elemene, furanoelemene, isofuranodiene.

SESQUITERPENOID: selina-4(14),7(11)-diene.

Ruecker *et al.*, *Planta Med.*, **31**, 322 (1977)

STENOCARPUS

S. salignus.

LAPACHONES: stenocarpinoquinone A, stenocarpinoquinone B, stenocarpinoquinone C.

Mock *et al.*, *Aust. J. Chem.*, **26**, 1121 (1973)

STENOSOLON

***S. heterophylla* (Vahl.) Mg.**

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: ervafolene, ervafolidine, 3-epi-ervafolidine, ervafoline, 19'-hydroxyervafolene, 19'-hydroxyervafoline.

Henriques *et al.*, *Acta Chem. Scand.*, **B 34**, 509 (1980)

STEPHANIA (Menispermaceae)

***S. abyssinica* (Dill, et Rich.) Walp.**

OXAOPORPHINE ALKALOID: oxoxylopinine.

PHENANTHRENE ALKALOIDS: 6-acetyl-6-dihydro-epi-stephamiersine, metaphanine, protostephabyssine, staphaboline, stephabyssine, stephavanine.

Tomita *et al.*, *Tetrahedron Lett.*, 3605 (1964)

Van Wyk *et al.*, *J. S. Afr. Chem. Inst.*, **28**, 284 (1975)

***S. capilin* Spreng.**

APORPHINE ALKALOID: stephanine.

Tomita, Shirai, *J. Pharm. Soc., Japan*, **62**, 381 (1942)

***S. capitata*.**

APORPHINE ALKALOID: crebanine.

Tomita, Shirai, *J. Pharm. Soc., Japan*, **62**, 381 (1942)

***S. cepharantha* Hayata.**

APORPHINE ALKALOIDS: cepharadiones A and B, dehydrostephanine.

BISBENZYLISOQUINOLINE ALKALOIDS: cepharanthine, cepharoline, cycleanine, isotetrandrine, phaeanthine.

NORAPORPHINE ALKALOIDS: cepharanone A, cepharanone B.

PHENANTHRENE ALKALOID: cepharamine.

Akasu *et al.*, *Tetrahedron Lett.*, 3609 (1974)

Kunimoto *et al.*, *J. Pharm. Soc., Japan*, **101**, 1951 (1981)

***S. delavayi* Diels.**

PHENANTHRENE ALKALOIDS: delavanine, 16-oxodelavanine.

Fedeeva *et al.*, *Khim. Prir. Soedin.*, 140 (1970)

***S. dinklagei*.**

APORPHINE ALKALOID: stephalegine.

Tackie *et al.*, *Lloydia*, **37**, 6 (1974)

S. elegans.

PHENANTHRENE ALKALOID: isoshioacutine.

Khosa *et al.*, *Chem. Ind. (London)*, 662 (1980)

S. epigeae H.S.Lo.

APORPHINE ALKALOID: (-)-cassythicine.

PHENANTHRENE ALKALOIDS: sinoacutine, sinomenine.

Ding *et al.*, *Chem. Abstr.*, 105 168903g

S. glabra (Roxb.) Miers.

BISBENZYLISOQUINOLINE ALKALOIDS: cycleanine, N-demethylcycleanine.

PROTOBERBERINE ALKALOIDS: stepharamine, (-)-stepholidine.

QUATERNARY ALKALOIDS: dehydrocorydalmine, stepharanine, (-)-tetrahydropalmatine.

SPIROAPORPHINE ALKALOIDS: pronuciferine, stepharine.

UNCHARACTERIZED ALKALOIDS: gindarine, gindaricine, gindarinine.

Tomita, Kunimoto, *J. Pharm. Soc., Japan*, **58**, 4613 (1962)

Bhakuni, Gupta, *J. Nat. Prod.*, **45**, 407 (1982)

S. hernandifolia (Walp.) Willd. (S. discolor Spreng.).

BISBENZYLISOQUINOLINE ALKALOID: fangchinoline.

PHENANTHRENE ALKALOIDS: aknadine, aknadinine, 4-demethylhasubonine, 3-O-demethylhernandifoline, hernandifoline, hernandine, hernandoline, hernandolinol, methylhernandine, stephisoferuline.

Fadeeva *et al.*, *Farmatsiya*, **19**, 28 (1970)

Fesenko *et al.*, *Khim. Prir. Soedin.*, 158 (1971)

S. japonica Miers.

APORPHINE ALKALOIDS: oxostephanine, (-)-stephanine.

BISBENZYLISOQUINOLINE ALKALOIDS: homostephanoline, stebisimine, (+)-epi-stephanine, stephanoline, stepinonine.

PHENANTHRENE ALKALOIDS: hasubonine, hypo-epi-stephanine, metaphanine, 16-oxohasubonine, 16-oxoprometaphanine, prometaphanine, protometaphanine, protostephanaberrine, stephabenine, stephamiersine, epi-stephamiersine, stephanaberrine, stephasunoline.

Kondo *et al.*, *Chem. Pharm. Bull.*, **31**, 2574 (1983)

Matsui *et al.*, *J. Nat. Prod.*, **49**, 588 (1986)

S. longa L.

PHENANTHRENE ALKALOID: longanone.

Lao *et al.*, *Yaoxue Xuebao*, **16**, 940 (1981)

S. rotunda Lour.

ISOQUINOLINE ALKALOID: rotundine.

PROTOBERBERINE ALKALOID: stepharotine.

Cava *et al.*, *J. Org. Chem.*, **33**, 2785 (1968)

S. sasaki Hayata.

APORPHINE ALKALOIDS: crebanine, oxocrebanine, phanostenine, (R)-roermeroline, steporphine, stesakine.

PHENANTHRENE ALKALOID: aknadilactam.

QUATERNARY ALKALOID: N-methylpapaveraldinium.

SPIROAPORPHINE ALKALOID: N-acetylstephamarine.

Kunimoto *et al.*, *J. Pharm. Soc., Japan*, **101**, 431 (1981)

S. tetrandra S.Moore.

BISBENZYLISOQUINOLINE ALKALOIDS: menisidine, menisine, tetrandrine.

UNCHARACTERIZED ALKALOIDS: hanfanchines A, B and C.

Hsu *et al.*, *J. Chin. Chem. Soc.*, **7**, 123 (1940)

S. venosa.

APORPHINE ALKALOIDS: ayuthianine, (+)-corydine, sukhodianine, thailandine, uthongine.

Guinaudeau *et al.*, *J. Nat. Prod.*, **45**, 355 (1982)

STEPHANOTIS

S. japonica Makino.

STEROIDAL ALKALOIDS: stephanthranilines A, B and C.

STEROID: dihydrogagamin.

DITERPENOID: stepanol.

(A, S) Terada *et al.*, *Chem. Pharm. Bull.*, **27**, 2304 (1979)

(T) Fukoka, Mitsuhashi, *ibid.*, **16**, 553 (1968)

STERCULIA (Sterculiaceae)

S. alata.

ACID: sterculynic acid.

Jevans *et al.*, *Tetrahedron Lett.*, 2167 (1968)

S. colorata.

FLAVONOIDS: 6-glucuronosyloxykluteolin, 5,7,3',4'-tetrahydroxy-6-O- β -D-flucuronylflavone.

Nair *et al.*, *Phytochemistry*, **15**, 839 (1976)

S. foetida.

ANTHOCYANIN: cyanidin 3-O-glucoside.

FLAVONOIDS: isoscutellarin, luteolin 6-O- β -D-glucopyranoside, procyanidin β -D-glucopyranoside.

Nair *et al.*, *Curr. Sci.*, **46**, 14 (1976)

S. pollens.

ACIDS: malvalic acid, sterculic acid.

Mustafa *et al.*, *J. Am. Oil Chem. Soc.*, **63**, 1191 (1986); *Chem. Abstr.*, 105 206282p

STEREOCAULON (Hepaticae)

S. colensoi.

DIOXEPIN: colensoic acid.

Fox *et al.*, *Phytochemistry*, **9**, 2567 (1970)

STEREOSPERMUM

S. kunthianum.

LIGNANS: (+)-cycloolivil, (-)-olivil.

Ghogomu-Tih *et al.*, *Planta Med.*, 464 (1985)

S. personatum.

IRIDOID: specioside.

De Silva *et al.*, *Indian J. Chem.*, **21B**, 703 (1982)

S. suaveolens DC.

STEROID: β -sitosterol.

SESQUITERPENOIDS: dehydro- α -lapachone, dehydrotectol, lapachol.

Purushothaman *et al.*, *J. Res. Indian Med.*, **9**, 107 (1974); *Chem. Abstr.*, 85 2558s

STEREUM (Stereaceae/Thelephoraceae)

S. hirsutum (Willd. ex Fr.) Fr.

AMINE: mycosporine.

Favre-Bonvin *et al.*, *Can. J. Chem.*, **54**, 1105 (1976)

S. purpureum.

SESQUITERPENOIDS: methylhydroxysterpurate, methylhydroxysterurate ethylidene acetate, stereopolide, sterpuric acid.

Ayer *et al.*, *Tetrahedron Suppl.*, 379 (1981)

STERNBERGIA (Amaryllidaceae)

S. fischeriana (Herb.) Roem.

ISOQUINOLINE ALKALOIDS: lycorine, sternine.

Proskurnina, Ismailov, *J. Gen. Chem., USSR.*, **23**, 2056 (1953)

S. lutea (L.) Ker.-Gawl.

ISOQUINOLINE ALKALOIDS: luteine, lutessine, lycorine, tazettine.

Evidente, *J. Nat. Prod.*, **49**, 90 (1986)

STEVIA

S. achalensis.

SESQUITERPENOIDS: achalensolide, achalensolone.

Oberti *et al.*, *J. Org. Chem.*, **48**, 4038 (1983)

S. amambayensis.

TWO BISABOLONES: Two melampolides Three sesquiterpenoids.

Zdero, Bohlmann, *Phytochemistry*, **25**, 1755 (1986)

S. baudiana.

SAPONIN: stevioside.

DITERPENOID: steviol.

Bridel, Lavialle, *J. Pharm. Chem.*, **14**, 99 (1931)

Bridel, Lavialle, *ibid.*, **14**, 154 (1931)

Bridel, Lavialle, *ibid.*, **14**, 321 (1931)

Bridel, Lavialle, *ibid.*, **14**, 369 (1931)

S. breviaristata.

DITERPENOID: breviarolide.

Oberti *et al.*, *Phytochemistry*, **25**, 1479 (1986)

S. jaliscensis.

SESQUITERPENOIDS: 7α -angeloyloxy- 9β -tigloyloxy-1-oxo-longipinene, 9β -angeloyloxy- 7α -tigloyloxo-1-oxo-longipinene.

Bohlmann *et al.*, *Chem. Ber.*, **109**, 3366 (1976)

S. japonica.

ALKALOID: stemospironine.

Sakata *et al.*, *Agr. Biol. Chem.*, **42**, 457 (1978)

S. lucida.

DITERPENOID: ent-15,16-epoxy-7,13(16),14-labdatrien-18-oic acid.

Salmon *et al.*, *Phytochemistry*, **22**, 1412 (1983)

S. monardaeifolia.

SESQUITERPENOIDS: 6-angeloyloxynidorellol, 11,13-dihydroeucannabinolide.

Gomez *et al.*, *Phytochemistry*, **22**, 197 (1983)

S. myriadenia.

SESQUITERPENOID: 8-hydroxy-1(10),3,11(13)-guaiatrien-12,6-olide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 2021 (1982)

S. paniculata.

DITERPENE GLUCOSIDES: paniculosides I, II, III and IV.

Yamasaki *et al.*, *Chem. Pharm. Bull.*, **25**, 2895 (1977)

S. polyccephala.

SESQUITERPENOID: stephalic acid.

Angeles *et al.*, *Phytochemistry*, **21**, 1804 (1982)

S. purpurea.

SESQUITERPENOIDS: bisabol-1-one,

2,3-epoxy-2,3-dihydrobisabol-1-one.

Bohlmann *et al.*, *Chem. Ber.*, **109**, 3366 (1976)

S. rebaudiana.

SAPONINS: dulcosides A and B, rebaudiosides A, B, C, D, E and F.

DITERPENOID: austroinulin.

(Sap) Kobayashi *et al.*, *Phytochemistry*, **16**, 1405 (1977)

(T) Sakamoto *et al.*, *Chem. Pharm. Bull.*, **25**, 3437 (1977)

S. rhombifolia.

SESQUITERPENOID: stevin.

Rios *et al.*, *Tetrahedron*, **23**, 4265 (1967)

S. salicifolia. Cav.

DITERPENOIDS: salicifoliol, stevinsol.

Ortega *et al.*, *Rev. Latinoam. Quim.*, **11**, 45 (1980)

S. serrata.

ALKALOID: carmeline.

SESQUITERPENOID: christianins I, II and III, raistevione.

(A) Salmon *et al.*, *Rev. Latinoam. Quim.*, **6**, 45 (1975)

(T) Salmon *et al.*, *ibid.*, **8**, 172 (1978)

(T) Roman *et al.*, *Tetrahedron*, **37**, 2769 (1981)

STICTA (Hepaticae)

S. aurata.

PIGMENT: calycin.

Letcher *et al.*, *Tetrahedron Lett.*, 3541 (1967)

S. billardieri.

TRITERPENOID: hopane-7 β ,22-diol-7-acetate, hopane-15,22-diol.

Corbett, Young, *J. Chem. Soc., C*, 1564 (1966)

S. colensoi.

TRITERPENOID: stictane-3 β ,22 α -diol, stictane-3 β ,22 α -diol diacetate, stictane-2 α ,3 β ,22 α -triol, stictane-2 α ,3 β ,22 α -triol 2-acetate, stictane-2 α ,3 β ,22 α -triol 3-acetate, stictane-2 α ,3 β ,2-triol 2,3-diacetate, stictane-2 α ,3 β ,22 α -triol triacetate.

Chin *et al.*, *J. Chem. Soc., Perkin I*, 1437 (1973)

S. coronata.

TRITERPENOID: stictane-3 β ,22 α -diol, stictane-3 β ,22 α -diol 3-acetate, stictane-3 β ,22 α -diol diacetate, stictane-2 α ,3 β ,22 α -triol, stictane-2 α ,3 β ,22 α -triol 2-acetate, stictane-2 α ,3 β ,2-triol 3-acetate, stictane-2 α ,3 β ,2-triol 2,3-diacetate, stictane-2 α ,3 β ,22 α -triol triacetate, stictan-22-ol 3 β -acetate.

Chin *et al.*, *J. Chem. Soc., Perkin I*, 1437 (1973)

S. flavicans.

TRITERPENOID: stictane-3 β ,22 α -diol, stictane-3 β ,22 α -diol diacetate, stictane-2 α ,3 β ,22 α -triol, stictane-2 α ,3 β ,22 α -triol 2-acetate, stictane-2 α ,3 β ,22 α -triol 3-acetate, stictane-2 α ,3 β ,22 α -triol 2,3-diacetate.

Chin *et al.*, *J. Chem. Soc., Perkin I*, 1437 (1973)

S. mougeotiana.

TRITERPENOID: 6 α -acetoxy-7 α ,22 α -hopane, 7 α -acetoxy-6 α ,22 α -hopane, hopane-11 α ,22-diol, hopane-6 α ,7 α ,22-triol.

Corbett, Gummeling, *J. Chem. Soc., C*, 955 (1971)

STILBE

S. ericoides.

IRIDOID: stilbericoside.

Rimpler, Pistor, *Z. Naturforsch.*, **29C**, 368 (1974)

STILLINGIA

S. sylvatica.

PHORBOL TERPENOIDS: stillingia factors S-1, S-2, S-3, S-4, S-5, S-6, S-7 and S-8.

Adolf, Hecker, *Tetrahedron Lett.*, 2887 (1980)

STILPNOPAPPUS

S. pickelii.

SESQUITERPENOIDS: 8-O-(2-methylpeopenoyl)-stilpnotomentolide, 8-O-(2-tiglyl)-stilpnotomentolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1045 (1982)

S. tomentosus.

SESQUITERPENOIDS: 8-O-(2-methylpropenoyl)-stilpnotomentolide, 8-O-(2-tiglyl)-stilpnotomentolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1045 (1982)

STILPNOPHYTUM (Compositae/Anthemideae)

S. linifolium (Thunb.) Less.

SESQUITERPENOID: 12-acetoxy-10,11-dehydrongaione.

Bohlmann, Zdero, *Chem. Ber.*, **107**, 1071 (1974)

STIZOLOBIUM

S. hassjoo.

PYRAZINE ALKALOID: stizolanine.

AMINO ACID: stizolobic acid.

Yoshida *et al.*, *Phytochemistry*, **15**, 1723 (1976)

STIZOLOPHUS

S. balsamita (Lam.) Cass. (Centaurea balsamita Lam.).

UNCHARACTERIZED ALKALOID: stizolophine.

SESQUITERPENOID: balsamin.

(A) Kuzuvkov *et al.*, *J. Gen. Chem. USSR*, **23**, 157 (1953)

(T) Rybalko *et al.*, *Khim. Prir. Soedin.*, 467 (1976)

S. coronopifolius.

SESQUITERPENOID: stizolicin.

Mukhametzhanov *et al.*, *Khim. Prir. Soedin.*, 505 (1970)

STOEBE

S. plumosa.

PHENOLIC: stoebenone.

Bohlmann *et al.*, *Chem. Ber.*, **105**, 2604 (1972)

STOECHOSPERMUM

S. marginatum.

DITERPENOIDS: 19-acetoxy-5R,15,16-trihydroxyspata-13,17Z-diene, 19-acetoxy-5R,15,18R-trihydroxyspata-13,16E-diene, 5R,16-dihydroxyspata-13,17-diene, 5R,17R-dihydroxyspata-13,16E-diene, 5R-hydroxyspata-13,17-diene, 5-oxo-15,18R,19-trihydroxyspata-13,16E-diene, 5-oxo-15,18S,19-trihydroxyspata-13,16E-diene, 5R,15S,18R,19-tetrahydroxyspata-13,16E-diene, stoechospermol.

Gerwick *et al.*, *J. Org. Chem.*, **46**, 2233 (1981)

STOKESIA (Compositae)

S. laevis (Hill) Greene.

SESQUITERPENOIDS: 8,10-diacetoxy-1-hydroxyhirsutinolide, 8,10-diacetoxy-1-hydroxyhirsutinolide 13-acetate, 8,10-diacetoxy-1-hydroxyhirsutinolide 13-acetate-1-methyl ether.

Bohlmann *et al.*, *Phytochemistry*, **18**, 987 (1979)

STOMANTHUS

S. africanus.

SESQUITERPENOID: 9-angeloyl-10,11-epoxydihydrofarnesol.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1155 (1982)

STREBLUS

S. asper Lour.

GLYCOSIDES: asperoside, vijaloside.

STEROIDS: glucokamaloside, glucostrebloside, kamaloside, strebloside, strophalloside, strophanalloside.

(Gly) Saxena *et al.*, *Planta Med.*, 343 (1985)

(S) Manzetti, Reichstein, *Helv. Chim. Acta*, **47**, 2303 (1964)

(S) Manzetti, Reichstein, *ibid.*, **47**, 2320 (1964)

STREMPELIOPSIS (Apocynaceae)

S. stempelioides K.Schum.

IMIDAZOLIDINOCARBAZOLE ALKALOID: fannine.

BISINDOLE ALKALOID: (+)-strempeliopsidine.

INDOLE ALKALOIDS: (-)-aspidospermine, (+)-eburnamonine, (+)-haplocidine, (-)-haplocidine, pleiocarpamine, (-)-strempeliopine, (+)-tubotaiwine, (+)-tubotaiwine N-oxide.

Laguna *et al.*, *Planta Med.*, **50**, 285 (1984)

STROPHANTHUS (Apocynaceae)

S. africanus.

SESQUITERPENOID: 9-angeloyloxy-10,11-epoxydihydrofarnesol.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1155 (1982)

S. amboensis (Schinz) Engl. et Pax.

STEROIDS: amboside, sarmentocymarin.

Rochter *et al.*, *Helv. Chim. Acta*, **37**, 76 (1954)

S. barteri.

STEROID: sarmentocymarin.

Jacobs, Heidelberger, *J. Biol. Chem.*, **81**, 365 (1928)

S. courmontii.

STEROIDS: courmontosides A, B and C sarmentocymarin.

Schindler, Reichstein, *Helv. Chim. Acta*, **34**, 1732 (1951)

S. divaricatus (Lour.) Hook et Arn.

SAPONINS: caudoside, divaricoside.

STEROIDS: caudogenin, divostroside, musaroside, panstroside, pseudocaudoside, sarmutoside.

Renkonen *et al.*, *Helv. Chim. Acta*, **42**, 182 (1959)

S. emeni.

STEROIDS: alloperiplogenin, emicymarin, isoemicymarin, isoperiplogenin.

Spenser *et al.*, *Experientia*, **3**, 323 (1947)

S. gerrardii.

STEROID: sarmutocymarin.

Reichstein *et al.*, *Helv. Chim. Acta*, **33**, 365 (1950)

S. grandiflorus.

STEROID: sarmentocymarin.

Reichstein *et al.*, *Helv. Chim. Acta*, **33**, 365 (1950)

S. intermedium Pax.

STEROID: inertoside.

TRITERPENOIDS: arriagoside, leptoside.

(S) Hegedus *et al.*, *Helv. Chim. Acta*, **36**, 357 (1953)(T) Hegedus, Reichstein, *ibid.*, **38**, 1133 (1955)***S. kombe.***

STEROIDS: erysimoside, erysimosol, glucocymarol, isoemicymarin, isoperiplocymarin, musaroside, panstroside, strophanthidin.

Nagata *et al.*, *Helv. Chim. Acta*, **40**, 41 (1957)Kaiser *et al.*, *Justus Liebigs Ann. Chem.*, **643**, 192 (1961)***S. nicholsonii.***

STEROIDS: ericymarin, periplocin, periplocymarin.

Katz, Reichstein, *Helv. Chim. Acta*, **28**, 478 (1945)***S. petersianus.***

STEROID: sarmentocymarin.

Reichstein *et al.*, *Helv. Chim. Acta*, **33**, 365 (1950)***S. preussii Engler et Pax.***

STEROID: sarmentocymarin.

Reichstein *et al.*, *Helv. Chim. Acta*, **33**, 365 (1950)***S. sarmentosus.***

STEROIDS: sarmentocymarin, sarmentogenin, sarmentosides A, B, C, D and E, sarmentoside A 11-acetate, sarnovide, sarverogenin, sarveroside.

Richter *et al.*, *Helv. Chim. Acta*, **37**, 76 (1954)

STRYCHNOS (Loganiaceae)

S. aculeata Solered.

STRYCHNOS ALKALOID: brucine.

Robinson, *Prog. Org. Chem.*, **1**, 1 (1952)***S. alviminiana.***

CARBAZOLE ALKALOIDS: alvimine, alviminine.

Marini-Bettolo *et al.*, *An. Assoc. Quim. Argent.*, **70**, 263 (1982)***S. amazonica.***

CARBAZOLE ALKALOID: nordihydrotoxiferine.

CARBOLINE ALKALOID: macusine B.

Marini-Bettolo *et al.*, *Gazz. Chim. Ital.*, **103**, 523 (1973)

S. angolensis.

CARBOLINE ALKALOID: 11-methoxymacusine A.

Verpoort *et al.*, *J. Nat. Prod.*, **46**, 578 (1983)

S. angustiflora Benth.

CARBOLINE ALKALOIDS: angusitidine, angustine, angustoline.

Au *et al.*, *J. Chem. Soc., Perkin I*, 13 (1973)

S. brachiata.

CARBAZOLE ALKALOID: 11-methoxydiaboline.

Galeffi *et al.*, *Ann. Chim. (Rome)*, **63**, 849 (1973)

S. brasiliensis Mart.

CARBAZOLE ALKALOIDS:

12-hydroxy-11-methoxy-spermostrychnine,

12-hydroxy-11-methoxytrychnobrasiline, strychnobrasiline, strychnosiline,

strychnosolidine.

Iwataki *et al.*, *Tetrahedron*, **27**, 2541 (1971)

S. campstoneura.

CARBOLINE ALKALOID: campstoneurine.

Koch, *Ann. Pharm. Fr.*, **30**, 299 (1972)

S. castelenaeana.

CARBAZOLE ALKALOID: 3-hydroxydiaboline.

Galeffi *et al.*, *Phytochemistry*, **21**, 2393 (1982)

S. cinnamomifolia Thw.

CARBAZOLE ALKALOID: strychnine.

Chakravarti, Robinson, *Nature*, **160**, 18 (1947)

S. columbrina L.

CARBAZOLE ALKALOID: strychnine.

Chakravarti, Robinson, *Nature*, **160**, 18 (1947)

S. dale.

BISCARBOLINE ALKALOIDS: 10,10'-dimethoxy-3S,17S-Z-N(4)-

methyltetrahydrosambarensine, 10,10'-dimethoxy-3S,17S-Z-tetrahydrosambarensine.

Verpoort *et al.*, *Tetrahedron Lett.*, 239 (1986)

S. decussata.

CARBOLINE ALKALOIDS: decussine, 3,14-dihydrodecussine, 10-hydroxy-3,14-dihydrodecussine, 10-hydroxy-17-O-methylkagerine, 10-hydroxy-21-O-methylkribine, 10-hydroxy-21-epi-O-methylkribine, malindine.

Rolfsen *et al.*, *J. Nat. Prod.*, **44**, 415 (1981)

***S. diaboli* Sandwith.**

CARBAZOLE ALKALOID: diaboline.

King, *J. Chem. Soc.*, 955 (1949)

***S. dinklagei* Gilg.**

CARBAZOLE ALKALOID: 17-oxoellipticine.

MONOTERPENE ALKALOIDS: dinklageine, strychnovoline.

Skaltsounig *et al.*, *Tetrahedron Lett.*, 2783 (1984)

Michel *et al.*, *J. Nat. Prod.*, **48**, 86 (1985)

***S. divaricans*.**

BISCARBAZOLE ALKALOID: calebassine.

Bernauer *et al.*, *Helv. Chim. Acta*, **41**, 673 (1958)

***S. dolichothyrsa*.**

STEROIDS: campesterol, β -sitosterol, stigmasterol.

TRITERPENOID: filican-3-one.

(S) Siwon *et al.*, *Planta Med.*, **31**, 57 (1977)

(T) Verpoorte *et al.*, *Phytochemistry*, **17**, 817 (1978)

***S. erichsonii*.**

INDOLE ALKALOID: erichsonine.

Forgacs *et al.*, *Phytochemistry*, **25**, 969 (1986)

***S. fendleri*.**

CARBAZOLE ALKALOIDS: N-acetylstrychnosplendine,

methoxystrychnofendlerine, strychnofendlerine.

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Galeffi *et al.*, *Gazz. Chim. Ital.*, **106**, 773 (1976)

Galeffi, Marini-Bettolo, *ibid.*, **110**, 81 (1980)

***S. froesii*.**

CARBAZOLE ALKALOID: nordihydrotoxiferine.

Marini-Bettolo, Delle Monache, *Gazz. Chim. Ital.*, **103**, 543 (1973)

***S. gossweileri* Excell.**

UNCHARACTERIZED ALKALOIDS: strychnochromine, strychnoxanthine,

Count, *Plant Med. Phytother.*, **12**, 106 (1978)

***S. helotii* var. *reticulata*.**

UNCHARACTERIZED ALKALOID: holstiine.

Janot, Goutarel, *C.R. Acad. Sci.*, **232**, 852 (1951)

***S. henningsii* Gilg.**

CARBAZOLE ALKALOIDS: 17-acetylhenningssoline, acetyl-11-methoxystrychnosplendine, O-acetylretuline, henningssamine, henninsoline, 11-methoxyhenningssamine, 10-methoxysilaniline, rindline, tsilanine.

Grossert *et al.*, *J. Chem. Soc.*, 2812 (1965)

Chapya *et al.*, *Gazz. Chim. Ital.*, **113**, 773 (1983)

S. hirsuta Spruce et Benth.

CARBOLINE ALKALOIDS: strychnohirsutine, tetrahydrostrychnohirsutine.

Galeffi, Marini-Bettolo, *Tetrahedron*, **37**, 3167 (1981)

S. holsti.

CARBAZOLE ALKALOID: condensamine.

Denoel *et al.*, *Arch. Int. Physiol.*, **59**, 341 (1951)

S. holsti var. reticulata.

UNCHARACTERIZED ALKALOID: holstiine.

Janot, Goutarel, *C.R. Acad. Sci.*, **232**, 852 (1951)

S. holsti var. reticulata f. condensata.

CARBAZOLE ALKALOIDS: reticuline, retuline.

Bosley, *J. Pharm. Belg.*, **6**, 150 (1951)

Bosley, *J. ibid.*, **6**, 243 (1951)

S. icaja Baill.

CARBAZOLE ALKALOIDS: 21,23-epoxy-N-methyl-sec-pseudobrucine, hydroxystrychnine, icajine, sungucine.

Jaminet, *J. Pharm. Belg.*, **8**, 449 (1953)

Lamotte *et al.*, *Tetrahedron Lett.*, 4227 (1979)

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S. ignatii Berg.

CARBAZOLE ALKALOID: strychnine.

Woodward, *Nature*, **162**, 155 (1948)

S. jobertiana.

CARBAZOLE ALKALOID: jobertine.

Delle Monache *et al.*, *Ann. Inst. Super-Sanita*, **3**, 564 (1967)

S. kasengaensis.

BISCARBAZOLE ALKALOID: matopensine.

Massiot *et al.*, *Heterocycles*, **20**, 2339 (1983)

S. lethalis Barb.

UNCHARACTERIZED ALKALOID: strychnolethaline.

Carneiro, *C.R. Acad. Sci.*, **206**, 1202 (1938)

S. ligustrina Blume.

CARBAZOLE ALKALOIDS: brucine, strychnine.
 Govindachari, Robinson, *Nature*, **160**, 18 (1947)

S. lucida.

CARBAZOLE ALKALOID: strychnine.
 Woodward, *Nature*, **162**, 155 (1948)

S. matopensis.

BISCARBAZOLE ALKALOID: matopensine.
 Massiot *et al.*, *Heterocycles*, **20**, 2339 (1983)

S. melioniana Baill.

CARBOLINE ALKALOIDS: flavopereirine, C-mavacurine, meliononines A, B, E, F, H and L.
 Bickel *et al.*, *Helv. Chim. Acta*, **38**, 649 (1955)

S. nedeola.

CARBOLINE ALKALOID: normacusine B.
 Patel *et al.*, *Phytochemistry*, **12**, 451 (1973)

S. ngouniense.

INDOLE ALKALOIDS: ngouniensine, epi-ngouniensine.
 Massiot *et al.*, *J. Chem. Soc., Chem. Commun.*, 368 (1982)

S. nigritana.

BISCARBOLINE ALKALOIDS: 18-dehydro-10-hydroxynigritanine, dehydronigritanine, nigritanine.
 Okuakwa *et al.*, *Gazz. Chim. Ital.*, **108**, 615 (1978)

S. nux-vomica L.

CARBAZOLE ALKALOIDS: brucine, α -colubrine, β -colubrine, 16-hydroxy- α -colubrine, 16-hydroxy- α -colubrine, 3-methoxyicajine, novaccine, pseudostrychnine, strychnine, vomicine.

UNCHARACTERIZED ALKALOIDS: struxine, strychnicine. IRIDOID: 4-deoxyloganin.

(A) Warnat, *Helv. Chim. Acta*, **14**, 997 (1931)

(A) Woodward, *J. Am. Chem. Soc.*, **70**, 2107 (1948)

(I) Bisset *et al.*, *Phytochemistry*, **13**, 265 (1974)

nux-vomica L. var. javanica.

CARBAZOLE ALKALOID: strychnine.
 van Boorsma, *Bull. Inst. Bot. Buitenz.*, **XIV**, 3 (1902)

S. potatorum.

STEROIDS: β -sitosterol, stigmasterol.

TRITERPENOIDS: 3β -acetoxyoleanolic acid, α -amyrin, β -amyrin, isomotiol, lupeol, oleanolic acid.

Singh *et al.*, *Phytochemistry*, **17**, 154 (1978)

S. psilosperma.

CARBAZOLE ALKALOIDS: deacetylstrychnospermine, spermostrychnine, strychnospermine.

Anet *et al.*, *Aust. J. Chem.*, **6**, 58 (1953)

S. rheedei Clarke.

CARBAZOLE ALKALOID: brucine.

Leuchs, *Ber. Dtsch. Chem. Ges.*, **65**, 1230 (1932)

S. romeubelenii.

CARBAZOLE ALKALOID: 11-methoxydiaboline.

Marini-Bettolo *et al.*, *Gazz. Chim. Ital.*, **101**, 971 (1971)

S. rubiginosa.

CARBOLINE ALKALOID: strychnorubigine.

Marini-Bettolo *et al.*, *Atti Acad. Naz. Lincei. Cl. Sci. Fis. Mat. Nat. Rend.*, **65**, 293 (1978)

S. spinosa Kam.

CARBOLINE ALKALOID: 10-hydroxyakagerine.

MONOTERPENOID: stryspinolactone.

(A) Oguakwa *et al.*, *Gazz. Chim. Ital.*, **110**, 37 (1980)

(T) Adesogan *et al.*, *Phytochemistry*, **20**, 2585 (1981)

S. splendens Gilg.

CARBAZOLE ALKALOIDS: N(a)-acetylstrychnosplendine, isosplendine, isosplendoline, isostrychnosplendine, splendoline, strychnosplendine.

Koch *et al.*, *Tetrahedron Lett.*, 2353 (1966)

Koch *et al.*, *Bull. Soc. Chim. Fr.*, 3250 (1968)

S. tabascana.

CARBOLINE ALKALOIDS: acetyltabascanine, tabascanine.

Galeffi *et al.*, *Farmaco Ed. Sci.*, **26**, 1100 (1971)

S. tchibangensis.

BISCARBOLINE ALKALOID: tchibangensine.

Richard *et al.*, *Phytochemistry*, **17**, 539 (1978)

S. tieute Lesch.

CARBAZOLE ALKALOID: strychnine.

Woodward, *Nature*, **162**, 155 (1948)

S. toxifera Schomb.

BISBENZYLISOQUINOLINE ALKALOID: (+)-curine.

BISCARBAZOLE ALKALOIDS: C-alkaloids A, B, C, D, E, F and G, alloferine, calebassine, calebassines A, F and I, calebassinine, caracurines II, V, VI and VIII, C-isotoxiferine I, toxiferine I.

CARBAZOLE ALKALOIDS: caracurine VII, C-curarine I, C-curarine II, C-curarine III, hemitoxiferine I, strychnolethaline, C-xanthocurine.

CARBOLINE ALKALOIDS: C-alkaloid Y, lochnerine, macusines A, B and C.

UNCHARACTERIZED ALKALOIDS: C-alkaloids I, J, L, M, O, P, Q, R, S, X and UB, cryptourine, fedamazine, C-guaianine, C-isodihydrotoxiferine I, lochneram, toxiferines II and IIB.

Meyer *et al.*, *Helv. Chim. Acta*, **39**, 1214 (1956)

Karrer *et al.*, *Angew. Chem.*, **70**, 644 (1958)

Battersby, Yeowell, *J. Chem. Soc.*, 4419 (1964)

S. usambarensis.

BISCARBOLINE ALKALOIDS: 6,7-dihydroflavopereirine, dihydrousambarensine, N-methylusambarensine, strychnobaridine, strychnopentamine, strychnophylline, usambarenine, usambaridine Br, usambaridine Vi, usambarine.

CARBOLINE ALKALOIDS: isomalindine, malindine, O-methylmacusine B, strychnofoline.

Dupont *et al.*, *Acta Cryst.*, **33B**, 3801 (1977)

Angenot *et al.*, *J. Pharm. Belg.*, **33**, 11 (1978)

Caprasse *et al.*, *Planta Med.*, **50**, 27 (1984)

S. vacaoua Baill.

GLUCOALKALOID: bacancosine.

Bourquelot, Herissey, *C.R. Acad. Sci.*, **144**, 575 (1907)

S. variabilis.

BISCARBAZOLE ALKALOID: 12'-hydroxyisostrychnobiline.

CARBAZOLE ALKALOIDS: rosibiline, strychnopivotine.

Tits *et al.*, *Phytochemistry*, **19**, 1531 (1980)

S. wallichiana Stend.

CARBAZOLE ALKALOIDS: brucine N-oxide, 14-hydroxy-N-methyl-sec-pseudostrychnine, 14-hydroxynovaccine, icajine N-oxide.

UNCHARACTERIZED ALKALOID: pseudobrucine.

Bisset, Chaudhury, *Phytochemistry*, **13**, 259 (1974)

STUARTIA (Theaceae)

S. monadelpha.

TRITERPENOID: camelliagenin A 16-cinnamate.

Ogino *et al.*, *Chem. Pharm. Bull.*, **16**, 1866 (1968)

STYLOPHORUM

S. diphyllum Nutt.

NAPHTHOISOQUINOLINE ALKALOID: chelidonine.

Chen, MacLean, *Can. J. Chem.*, **45**, 3001 (1967)

STYLOTRICHUM

S. rotundifolium.

Six sesquiterpenoids.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1887 (1981)

STYPANDRA(Liliaceae/Stypandraceae)

S. grandis C.T.White.

CHROMONE: 5,7-dihydroxy-6-methyl-2-nonacosylchromone.

NAPHTHOQUINONE: stypandrone.

(C) Cooke *et al.*, *Tetrahedron Lett.*, 1039 (1970)

(N) Cooke *et al.*, *Aust. J. Chem.*, **18**, 218 (1965)

S. imbricata.

BINAPHTHALENE: stypandrine.

Colegate *et al.*, *Aust. J. Chem.*, **38**, 1233 (1985)

STYPHNODENDRON

S. coriaceum.

TRITERPENOIDS: 2-hydroxymachaerinic acid lactone, sapogenin K.

Tursch *et al.*, *Bull. Soc. Chim. Belg.*, **75**, 127 (1966)**STYPOPODIUM (Phaeophyceae)***S. zonale.*

ICHTHYOTOXINS: stypoldione, stypotriol.

Gerwick, Fenical, *J. Org. Chem.*, **46**, 22 (1981)**STYRAX (Styracaceae)***S. japonica.*

TRITERPENOIDS: desacetyljegosaponin, jegosapogenol A, jegosapogenol B, jegosaponin.

Sugiyama *et al.*, *Nippon Kagaku Zasshi*, **88**, 194 (1967)Sugitama *et al.*, *ibid.*, **88**, 1316 (1967)**SUAEDA***S. nudiflora Willd.*

AMINO ACIDS: alanine, aspartic acid, glutamic acid, glycine, leucine, proline.

COUMARIN: 6,7-dimethoxycoumarin.

Kapadia *et al.*, *Chem. Abstr.*, 107 151208c**SUBTRIBUS***S. espeletiinae.*DITERPENOID: ent-8,13-epoxy-14-labden-3 β -ol.Bohlmann *et al.*, *Phytochemistry*, **19**, 267 (1980)

SUILLUS (Agaricaceae)

S. bovinus.

PIGMENT: amitenone.

Minami *et al.*, *Tetrahedron Lett.*, 5067 (1968)

S. collinus.

PIGMENTS: variegatic acid, variegatorubin, xerocomic acid.

Edwards *et al.*, *J. Chem. Soc.*, 2582 (1971)

S. grevillei.

BISBENZOFURAN: theleporic acid.

FLAVANONE: 3',4,4'-trihydroxypulvinone.

PIGMENT: 3-(3,4-dihydroxyphenyl)-2,7,8-trihydroxy-1,4-dibenzofurandione.

(B) Sullivan *et al.*, *J. Pharm. Sci.*, **60**, 1727 (1971)

(F) Edwards *et al.*, *J. Chem. Soc., Perkin I*, 1921 (1973)

(P) Edwards *et al.*, *ibid.*, 351 (1975)

S. leptoopus.

PIGMENT: grevillin D.

Besl *et al.*, *Chem. Abstr.*, 88 117773n

S. tridentinus.

PIGMENT: tridentoquinone.

Besl *et al.*, *Chem. Ber.*, **108**, 3675 (1975)

SURIANA

S. maritima L.

STEROID: surianol.

Mitchell, Geissman, *Phytochemistry*, **10**, 1559 (1971)

SWAINSONIA (Leguminosae)

S. canescens.

ALKALOID: swainsonine.

Colegate *et al.*, *Aust. J. Chem.*, **32**, 2257 (1979)

SWARTZIA

S. madagascariensis.

BENZOPYRANS: demethylpterocarpin, 3,4,9-trimethoxypterocarpin.

Harper *et al.*, *J. Chem. Soc., Chem. Commun.*, 309 (1965)

SWEETIA

S. elegans.

LUPANE ALKALOID: sweetininine.

Balandrin *et al.*, *J. Nat. Prod.*, **44**, 619 (1984)

SWERTIA (Gentianaceae)

S. carolinensis.

IRIDOID: loganic acid.

Coscia, Huarneccia, *J. Chem. Soc., Chem. Commun.*, 138 (1968)

S. graciliflora Gontsch.

PYRIDINE ALKALOIDS: gentianamine, gentianine, gentioflavine.

Rulko, Nadler, *Diss. Pharm. Pharmacol.*, **22**, 329 (1972)

S. japonica.

BENZOPYRANS: swertiajaponin, swertisin.

GLUCOSIDE: swertiamarin.

MONOTERPENE GLYCOSIDES: amarogentin, amaroswerin, swertiaaside.

SAPONIN: swericinactoside.

- (B) Komatsu *et al.*, *Tetrahedron Lett.*, 1611 (1966)
 (G) Inouye *et al.*, *Chem. Pharm. Bull.*, **18**, 1856 (1970)
 (Sap) Shang, Mao, *Yaoxue Xuebao*, **19**, 819 (1984)
 (T) Ikeshiro *et al.*, *Planta Med.*, **50**, 485 (1984)

***S. marginata* Schrenk.**

PYRIDINE ALKALOIDS: gentiananamine, gentianine, gentioflavine.
 Rakhmatullaev *et al.*, *Khim. Prir. Soedin.*, 64 (1969)

***S. perennis*.**

XANTHONE: 1,3,7,8-tetrahydroxyxanthone-1,3-diglucoside.
 Chaudhuri *et al.*, *Phytochemistry*, **10**, 2425 (1971)

***S. petiolata* Royle.**

STEROID: β -sitosterol.
 TRITERPENOID: ursolic acid.
 XANTHONES: 1,7-dihydroxy-3,8-dimethoxyxanthone, 1,7-dihydroxy-3-methoxyxanthone-8-O-glucoside.
 Bhan *et al.*, *Chem. Abstr.*, 100 64973k

***S. purpurascens*.**

BENZOPYRAN: swertisin.
 Kamatsu *et al.*, *Tetrahedron Lett.*, 1611 (1966)

***S. randaiensis*.**

PYRIDINE ALKALOID: gentianine.
 TRITERPENOID: oleanolic acid.
 Wu *et al.*, *J. Chin. Chem. Soc.*, **23**, 53 (1976); *Chem. Abstr.*, 85 2572s

SWIETENIA

***S. macrophylla*.**

TERPENOIDS: 8,30-epoxyswietenine acetate, swietenine, swietenolide, swietenolide diacetate.

Taylor *et al.*, *Phytochemistry*, **22**, 2870 (1983)

***S. mahogani*.**

TRITERPENOIDS: cycloartenol, cyclomahogenol, cycloswietenol, hederagenin, lupeol benzoate, mahogenol, 31-norcycloswietenol.

Anjaneyulu *et al.*, *Indian J. Chem.*, **17B**, 423 (1979)

SWINGLEA

***S. glutinosa* Merr.**

AMINE ALKALOID: 4-(4-acetoxy-3,7-dimethylocta-2,6-dienoyloxy)-N-benzoylphenethylamine.

Dreyer, *Tetrahedron*, **26**, 5745 (1970)

SYMPHONIA (Guttiferae/Clusiaceae)

***S. globifera* L.**

XANTHONES: 1,7-dihydroxyxanthone, mesuxanthones A and B, symphoxanthone, 1,3,5,6-tetrahydroxyxanthone, 1,3,6,7-tetrahydroxyxanthone, 1,3,7-trihydroxy-4-(3-methylbut-2-enyl)xanthone, ugaxanthone.

Jackson *et al.*, *Tetrahedron*, **25**, 1603 (1969)

Bandaranayake *et al.*, *Phytochemistry*, **14**, 265, 1878 (1975)

SYMPHOPAPPUS (Compositae)

***S. compressus*.**

ONE GUAIANOLIDE:

Bohlmann *et al.*, *Planta Med.*, **50**, 276 (1984)

***S. itatiayensis*.**

DITERPENOID: ent-cis-clerodene-15,16,19,6-diolide.

Vichnewski *et al.*, *Phytochemistry*, **18**, 129 (1979)

***S. polystachyus*.**

FLAVANOID: genkwanin.

Mesquita *et al.*, *Phytochemistry*, **25**, 1255 (1986)

SYMPHORICARPUS

***S. racemosus* (Michaux.)**

FLAVANOIDS: luteolin 7- β -glucoside, luteolin 7-rhamnoglucoside, quercetin 3-glucoside.

Chavant *et al.*, *Plant Med. Phytother.*, **9**, 267 (1975)

SYMPHYTUM (Boraginaceae)

***S. asperum* Lepech.**

PYRROLIZIDINE ALKALOIDS: asperumine, echinatine, heliosupine N-oxide.

Man'ko, *Kotovskii, J. Gen. Chem. USSR*, **40**, 2519 (1970)

***S. caucasicum* M.Bieb.**

PYRROLIZIDINE ALKALOIDS: echinatine, heliosupine N-oxide, lasiocarpine, symphytine, viridiflorine.

Man'ko *et al.*, *Rastit. Resur.*, **5**, 508 (1969)

***S. officinalis* L.**

PYRROLIZIDINE ALKALOIDS: echinatine, heliosupine N-oxide, lasiocarpine, symphytine, viridiflorine.

Man'ko *et al.*, *Rastit. Resur.*, **6**, 409 (1970)

***S. orientale* L.**

PYRROLIZIDINE ALKALOID: anadoline.

Ulubelen, Doganca, *Tetrahedron Lett.*, 2583 (1970)

***S. tuberosum*.**

ALIPHATICS: heneicosane, tricosane.

PYRROLIZIDINE ALKALOIDS: anadoline, echimidine.

STEROID: β -sitosterol.

Ulubelen *et al.*, *Phytochemistry*, **16**, 499 (1977)

***S. x uplandicum* Nyman. (*S. asperum* x *S. officinale*).**

PYRROLIZIDINE ALKALOIDS: 7-acetylintermedine, 7-acetyllycopsamine, uplandicine.

Culvenor *et al.*, *Aust. J. Chem.*, **33**, 1105 (1980)

SYMPLOCOS (Symplocaceae)

***S. celastrinea* Mart.**

APORPHINE ALKALOID: caaverine.

Tschesche *et al.*, *Tetrahedron*, **20**, 1435 (1954)

***S. confusa*.**

CHALCONE: confusoside.

Tanoka *et al.*, *Chem. Pharm. Bull.*, **30**, 2421 (1982)

***S. glauca*.**

PHENOLIC: verbenalin.

Tanoka *et al.*, *Chem. Pharm. Bull.*, **30**, 2421 (1982)

***S. spicata*.**

FLAVONOID: rhamnetin 3-O- β -D-galactosyl-4-O- β -D-galactopyranoside. Triterpenoids 19 α -hydroxyarjunolic acid 3,28-bis- β -D-glucopyranoside, 19 α -hydroxyasiatic acid 3,28-bis- β -D-glucopyranoside.

(F) Tiwari *et al.*, *Phytochemistry*, **15**, 833 (1976)

(T) Higuchi *et al.*, *ibid.*, **21**, 907 (1982)

SYNCARPIA

***S. laurifolia*.**

ACID, syncarpic acid.

Hodgson *et al.*, *Aust. J. Chem.*, **13**, 385 (1960)

SYNEILENSIS

***S. aconitifolia*.**

MONOTERPENE GLUCOSIDE: D-linalool

β -D-glucoside-3,4-diangelate.

Bohlmann, Zdero, *Phytochemistry*, **16**, 1057 (1977)

***S. palmata*.**

PYRROLIZIDINE ALKALOID: syneilesine.

SESQUITERPENOID: 3-angeloyloxy-6-(3-methylbutanoyloxy)-furanoceremophilane-14-oic acid.

(A) Kikuchi, Furuya, *Tetrahedron Lett.*, 3657 (1974)

(T) Kuroda *et al.*, *Chem. Lett.*, 1313 (1978)

SYNTHERISMA

S. sanguinalis.

TRITERPENOID: miliacin.

Sugiyama, Abe, *Nippon Kagaku Zasshi*, **83**, 1051 (1961)

SYRENLIA

S. sessiliflora.

FLAVONOID: isorhamnetin 3- β -glucopyranosyl-7- α -L-rhamnopyranoside.

STEROIDS: corchoroside A, erysimotoxin, strophanthidin.

Komissarenko *et al.*, *Khim. Prir. Soedin.*, 671 (1976)

SYRINGA (Oleaceae)

S. vulgaris L.

PYRIDINE ALKALOIDS: jasmidine, jasminidine, jasminine.

FLAVONOID: rutin.

IRIDOID: deoxysyringoxide, hydroxynuezhiside, ligustroside, nuezhiside, oleuropein, syringopicroside, syringoxide.

PYRAN: syringenone.

(A) Ripperger *et al.*, *Phytochemistry*, **17**, 1069 (1978)

(F, P) Marekov *et al.*, *Khim. Ind. (Sofia)*, **58**, 132 (1986); *Chem. Abstr.*, 105 168854s

(I) Asaka *et al.*, *Tetrahedron*, **26**, 2365 (1970)

SYZYGIUM

S. aromaticum.

STEROIDS: campesterol, β -sitosterol glucoside, stigmasterol glucoside.

TRITERPENOID: 2 α -hydroxyoleanolic acid methyl ester.

Brieskorn *et al.*, *Phytochemistry*, **14**, 2308 (1975)

S. cumina.

FLAVONOIDS: 1-galloylglucose, 3-galloylglucose, 3,6-hydroxyphenoylglucose, 4,6-hydroxyphenoylglucose.

Bhatia *et al.*, *Planta Med.*, **28**, 346 (1975)

T**TABEBUIA (Bignoniaceae)*****T. avellaneda* Lorentz ex Griseb.**

ANTHRAACENE: tabebuin.

SESQUITERPENOID: lapachenole.

Burnett, Thomson, *J. Chem. Soc., C*, 2100 (1967)***T. chrysanthia*.**

SESQUITERPENOIDS: dehydrotectol, dihydrolapachenole, nordihydrolapachenole.

Burnett, Thomson, *J. Chem. Soc., C*, 850 (1968)***T. guayacan* Hemsl.**

BENXANTHONES: guayacanin, guayin.

NAPHTHAQUINONE: 2,3-bis(3-methyl-2-butenoyl)-1,4-naphthoquinone.

SESQUITERPENOIDS: dehydro- α -lapachone, lapachol, α -lapachone, β -lapachone.Manners *et al.*, *Tetrahedron*, **32**, 543 (1976)Manners *et al.*, *Phytochemistry*, **15**, 225 (1976)***T. rosea*.**

SESQUITERPENOID: dehydrotectol.

Joshi *et al.*, *Phytochemistry*, **12**, 952 (1973)**TABERNAEMONTANA (Apocynaceae)*****T. accedens*.**

BISCARBOLINE ALKALOIDS: accedinine, accedinisine.

CARBOLINE ALKALOIDS: accedine, N-demethyl-epi-accedine, N-demethyl-epi-affinine.

HOMOCARBOLINE ALKALOID: N-demethylvoacamidine.

INDOLE ALKALOID: N-methyl-16-epi-affinine.

Achenbach, Schaller, *Chem. Ber.*, **109**, 3627 (1976)

***T. albiflora* (Miq.) Pull.**

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: 18-hydroxy-20-epi-ibophyllidine, 19-hydroxyibophyllidine, 19R-hydroxy-20-epi-ibophyllidine, 19S-hydroxy-20-epi-ibophyllidine.

Christiane *et al.*, *Tetrahedron Lett.*, 3363 (1980)

***T. amblyocarpa* Urb.**

INDOLE ALKALOIDS: (-)-ibogamine, (-)-iboxygaine, (-)-kreyneanine, (-)-19-oxovoacangine, (-)-tabersonine.

Perez *et al.*, *Rev. Latinoam. Quim.*, **16**, 73 (1985)

***T. amygdalifolia*.**

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: demethoxycylindrocarpidine, O-demethylpalosine, 10-oxocylindrocarpidine.

Achenbach, *Tetrahedron Lett.*, 1793 (1967)

***T. apoda* Wr. ex Sauv.**

IMIDAZOLIDINOCARBAZOLE ALKALOID: apodinine.

Inglesias, *Rev. CENIC Cienc. Fis.*, **10**, 357 (1979)

***T. armenica*.**

IMIDAZOLIDINOCARBAZOLE ALKALOID: apodine.

Inglesias, Diatta, *Rev. CENIC Cienc. Fis.*, **6**, 141 (1975)

***T. brachyacantha*.**

CARBOLINE ALKALOID: anhydrovobasinediol, normacusine B.

Patel *et al.*, *Phytochemistry*, **12**, 451 (1973)

***T. brachyphylla*.**

CARBOLINE ALKALOID: normacusine B.

Patel *et al.*, *Phytochemistry*, **12**, 451 (1973)

***T. chippii*.**

BISINDOLE ALKALOID: vobparicine.

Van Beek *et al.*, *Tetrahedron Lett.*, 2057 (1984)

***T. citrifolia*.**

HOMOCARBOLINE ALKALOID: 14-dehydrotetrastachyne.

Abaul *et al.*, *C.R. Acad. Sci.*, **29B**, 627 (1984)

***T. coronaria* Br. (*Ervatamia coronaria*).**

HOMOCARBOLINE ALKALOID: coronaridine.

INDOLE ALKALOID: tabernaemontanine.

UNCHARACTERIZED ALKALOID: coronarine.

Gorman *et al.*, *J. Am. Chem. Soc.*, **82**, 1142 (1960)

Cava *et al.*, *Tetrahedron Lett.*, 53 (1963)

T. crassa.

INDOLONE ALKALOID: crassanine.

Cava *et al.*, *J. Org. Chem.*, **33**, 3350 (1968)

T. cummingsii.

INDOLE ALKALOID: 2-ethyl-3-(2-ethylpiperidinoethyl)-indole.

Crooks *et al.*, *J. Chem. Soc., Chem. Commun.*, 1210 (1968)

T. dichotoma.

IMIDAZOLIDINOCARBAZOLE ALKALOID: dichomine.

INDOLE ALKALOIDS: (-)-apparicine, 19-epi-iboxygaine, isomethuenine, 12-methoxyvoaphylline, perivine, 19-epi-voacristine, vobasine.

Perera *et al.*, *Planta Med.*, **49**, 232 (1983)

T. divaricata.

Three indole alkaloids.

Rastogi *et al.*, *Phytochemistry*, **19**, 1209 (1980)

T. eglandulosa.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: dichomine, tecamine.

Perera *et al.*, *Planta Med.*, **49**, 232 (1983)

T. elegans Stapf.

INDOLE ALKALOIDS: apparicine, dregamine, dregaminol, dregaminol methyl ether, (3R)-hydroxyconodurine, (3S)-hydroxyconodurine, 16S-hydroxy-16,22-dihydroapparicine, 3-hydroxytabernaegantine B, isovoacangine, 3-methoxytabernaegantine B, tabernaegantines A, B, C and D, tabernaegantinidine, tabernaemontanine, tabernaemontaninol, tubotaiwine, vobasine, tabernaegantinines A and B.

Van der Heijden *et al.*, *Planta Med.*, 144 (1986)

T. fuchsiaeifolia.

CARBOLINE ALKALOID: affinishie.

Cava *et al.*, *Chem. Ind.*, 1193 (1964)

T. genenho.

HOMOCARBOLINE ALKALOIDS: 19-hydroxycoronaridine, 20-hydroxycoronaridine.

Agwada *et al.*, *Helv. Chim. Acta*, **58**, 1001 (1975)

T. glandulosa.

CARBOLINE ALKALOIDS: 12-demethoxytabernulosine, tabernulosine.

HOMOCARBOLINE ALKALOID: 19-ethoxycoronaridine.

Achenbach *et al.*, *Justus Liebigs Ann. Chem.*, 830 (1982)

T. heyneana Wall.

INDOLONE ALKALOID: tabernoxidine.

Joshi *et al.*, Indian J. Chem., **23B**, 101 (1984)

T. johnstonii.

BISINDOLE ALKALOIDS: gubunamine, tabernamine.

Kingston *et al.*, J. Pharm. Sci., **67**, 249 (1978)

T. laurifolia.

HOMOCARBOLINE ALKALOID: isovoacristine.

Cava *et al.*, Chem. Ind., 2064 (1965)

T. oliveracea.

CARBAZOLE ALKALOID: condylocarpine N-oxide.

Achenbach, Rafflesberger, Z. Naturforsch., **35B**, 885 (1980)

T. oppositifolia.

HOMOCARBOLINE ALKALOID: coronaridine.

Gorman *et al.*, J. Am. Chem. Soc., **82**, 1142 (1960)

T. pachysiphon Stapf.

INDOLONE ALKALOID: conopharyngine pseudoindoxyl.

Crooks, Robinson, J. Pharm. Pharmacol., **25**, 820 (193) (193)

T. penduliflora.

INDOLE ALKALOID: coronaridine.

Anbujam *et al.*, Planta Med., 463 (1985)

T. psychotrifolia H.B.K.

INDOLE ALKALOIDS: olivacine, taberpsychine.

TERPENOID: 16-epi-vobasinic acid.

Burnell, Medina, Can. J. Chem., **49**, 307 (1971)

T. quadrangularis.

HOMOCARBOLINE ALKALOID: (20R)-20-hydroxyibogamine.

Achenbach, Rafflesberger, Z. Naturforsch., **35B**, 219 (1980)

T. recurva Rox.

INDOLE ALKALOID: tabernaemontanine.

Khan *et al.*, J. Bangladesh Acad. Sci., **9**, 143 (1985); Chem. Abstr., 105 3519y

T. riedelii.

CARBOLINE ALKALOID: (+)-apovincamine.

Cava *et al.*, J. Org. Chem., **33**, 1055 (1968)

T. rigida.

CARBOLINE ALKALOIDS: (+)-apovincamine, (\pm)-vincamine.

Cava *et al.*, J. Org. Chem., **33**, 1055 (1968)

***T. rupicola* Benth.**

INDOLONE ALKALOIDS: montanine, rupicoline.
 Niemann, Kessel, *J. Org. Chem.*, **31**, 2265 (1966)

***T. undulata*.**

CARBOLINE ALKALOID: quebrachidine.
 Gorman *et al.*, *Tetrahedron Lett.*, 39 (1963)

TABERNANTHE

***T. iboga* Baill**

DIMERIC ALKALOID: gabonine.
 HOMOCARBOLINE ALKALOIDS: epi-ibogamine, ibogaine, iboxygaine,
 tabernanthine.
 IMIDAZOLIDINOCARBAZOLE ALKALOIDS: ibophyllidine, iboxyphylline.
 INDOLONE ALKALOID: iboluteine.
 Khuong-Huu *et al.*, *Tetrahedron*, **32**, 2539 (1976)

***T. pubescens*.**

HOMOCARBOLINE ALKALOIDS: 3,6-oxidoibogaine, 3,6-oxidoiboxygaine.
 Mulamba *et al.*, *Lloydia*, **44**, 184 (1981)

***T. subsessilis*.**

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: ibophyllidine, iboxyphylline.
 Khuong-Huu *et al.*, *Tetrahedron*, **32**, 2539 (1976)

TACCA

***T. plantaginea* Hance.**

BITTER PRINCIPLES: taccalin, taccalonolide A, taccanolide B.
 Chen *et al.*, *Tetrahedron Lett.*, 1673 (1987)

TAGETES

T. florida.

COUMARINS: 7-hydroxycoumarin dimethylallyl ether, 7-methoxycoumarin, 6,7,8-trimethoxycoumarin.

Rios *et al.*, *Rev. Latinoam. Quim.*, **7**, 33 (1976)

T. glandulifera.

MONOTERPENOIDS: 5-isobutyl-3-methyl-2-furancarbaldehyde, cis-tagetone, trans-tagetone.

Jones, Smith, *J. Chem. Soc.*, **127**, 2530 (1925)

T. gracilis.

DITERPENOID: bis-trans-ocimenone.

Bohlmann *et al.*, *Phytochemistry*, **18**, 341 (1979)

T. minuta L.

THIOPHEN: 5-(but-3-en-1-ynyl)-2,2'-bithienyl.

Atkinson *et al.*, *J. Chem. Soc.*, 7109 (1965)

TAIWANIA

T. cryptomerioides.

FLAVONE: taiwaniaflavone.

FURANONES: taiwanins A, B and D.

LACTONES: taiwanin C, taiwanin E.

DITERPENOID: 6 β -acetoxy-7 α -hydroxyroyleanone.

SEQUITERPENOIDS: angustifolene, cadinane-3 β ,9 α -diol, cadinane-3 β ,9 β -diol, cadinan-3-en-9-ol-2-one, cadin-2-ene-4 α ,9 α -diol, T-cadinol, muurol-3-ene-2 α ,9 β -diol, muurol-3-ene-2 β ,9 β -diol, muurol-3-en-9 β -ol-2-one, τ -muurolol.

(F, Fu, L) Kamil *et al.*, *Chem. Ind. (London)*, 160 (1977)

(T) Kuo *et al.*, *J. Chin. Chem. Soc.*, **26**, 71 (1979)

TALASSA

T. transilensis.

SESQUITERPENOIDS: talasin A, talasin B.
 UNCHARACTERIZED TERPENOID: talassin.
 Konovalova *et al.*, *Khim. Prir. Soedin.*, 690 (1975)

TALAUMA

T. hodgsoni.

LIGNAN: (+)-sesamin.
 Krajniak *et al.*, *Aust. J. Chem.*, **26**, 687 (1973)

***T. mexicana* Don.**

BISBENZYLISOQUINOLINE ALKALOID: aztequine.
 OXONORAPORPHINE ALKALOID: liriodenine.
 Pallares, Garza, *Arch. Biochem.*, **16**, 275 (1948)
 Kametani *et al.*, *Phytochemistry*, **14**, 1884 (1975)

TAMARIX (Tamaricaceae)

T. aphylla.

FLAVONOIDS: kaempferol 4',7-dimethyl ether, kaempferol 4',7-dimethyl ether-3-sulphate, quercetin, quercetin 3-O-isoferulyl- β -glucuronate, rhamnocitrin, rhamnocitrin 3-glucoside, rhamnocitrin 3'-glucuronide-3,5,4'-trisulphate, rhamnocitrin 3-rhamnoside.
 Nawwar *et al.*, *Experientia*, **31**, 1118 (1975)
 El Ansari *et al.*, *Phytochemistry*, **15**, 231 (1976)

TAMUS (Dioscoreaceae)

***T. communis* L.**

CAROTENOID: lycoxanthin.
 ISOFLAVONE: 2,3,4-trimethoxy-7,8-methylenedioxyisoflavone.

PHENANTHRENES: 4,7-dihydroxy-2,6-dimethoxy-9,10-dihydrophenanthrene, 2-hydroxy-1,7-dimethoxy-5,6-methylenedioxyphenanthrene, 4-hydroxy-2,6,7-trimethoxy-9,10-dihydrophenanthrene.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

(C) Winterstein *et al.*, *Angew. Chem.*, **32**, 902 (1960)

(I, P) Reisch *et al.*, *Tetrahedron Lett.*, 67 (1969)

(P) Aquino *et al.*, *J. Nat. Prod.*, **48**, 811 (1985)

(S) Capasso *et al.*, *J. Ethnopharmacol.*, **8**, 327 (1983); *Chem. Abstr.*, 100 48585e

***T. edulis* Moew.**

STEROIDS: afurigenin, eduligenin, 25S-hydroxytamusgenin, lowegenin, 7-oxodiosgenin, 7-oxotamusgenin, tamusgenin.

Barreira *et al.*, *Phytochemistry*, **9**, 1641 (1970)

Gonzalez *et al.*, *ibid.*, **10**, 1339 (1971)

TANACETOPSIS

***T. mucronata*.**

SESQUITERPENOID: micurin.

Abduazimov *et al.*, *Khim. Prir. Soedin.*, 398 (1981)

TANACETUM (Compositae)

***T. balsamita* subsp. *balsamitoides*.**

SESQUITERPENOID: balsamitone.

Bohlmann *et al.*, *Chem. Ber.*, **108**, 1369 (1975)

***T. macrophyllum* Willd.**

SESQUITERPENOID: chrysartemin A.

Ristic *et al.*, *Glas. Hem. Drus. Beograd.*, **47**, 319 (1982); *Chem. Abstr.*, 97 178746p

***T. odessanum*.**

Two homosquiterpenoids.

Bohlmann, Knoll, *Phytochemistry*, **17**, 319 (1978)

***T. parthenium* L.**

SESQUITERPENOIDS: chrysanthemolide, chrysanthemonin, 10-epi-canin, 1 β -hydroxyarbusculin, 8 β -hydroxyreynosin, mangoliolide, partholide, reynosin, santamarin, tanaparthin, tanaparthin-1 α ,4 α -epoxide, tanaparthin-1 β ,4 β -epoxide.

Johnson *et al.*, *Eur. Pat. Appl.*, **98** 041 (1984)

Stefanovic *et al.*, *J. Serb. Chem. Soc.*, **50**, 435 (1985); *Chem. Abstr.*, 105 75914w

T. *pseudoachillea*.

SESQUITERPENOIDS: tanacin, tanadin, tanakhin, tanaspin.

Yunusov *et al.*, *Khim. Prir. Soedin.*, **170**, 309 (1976)

Yunusov, Sidyakin, *ibid.*, 411 (1979)

T. *santalinoïdes* (DC.) Feinbr. et Fertig.

SESQUITERPENOIDS: dihydroridentin, 4-Z-1-epi-dihydroridentin, erivanin.

El-Sebakhy *et al.*, *Pharmazie*, **41**, 298, (1986)

El-Sebakhy *et al.*, *ibid.*, **41**, 525 (1986)

T. *serotinum*.

SESQUITERPENOIDS: beogradolides A and B.

Stefanovic *et al.*, *Glas. Ham. Drus. Beograd.*, **47**, 13 (1982)

T. *tanacetioïdes*.

SESQUITERPENOID: 1-oxo- α -longipinene.

Bohlmann *et al.*, *Chem. Ber.*, **110**, 3572 (1977)

T. *vulgare* L.

MONOTERPENOIDS: chrysanthemyl acetate, thuj-4-en-2-yl acetate.

SESQUITERPENOIDS: longipinane-2,7-dione, reynosin, tabulin, tanacetals A and B.

Dembitskii, Sulaeva, *Khim. Prir. Soedin.*, 527 (1984)

T. *vulgare* L. var. *crispum*.

SESQUITERPENOID: crispolide.

Appendino *et al.*, *Phytochemistry*, **21**, 1099 (1982)

TANGHINIA

T. *madagascariensis*.

STEROID: tanghinin.

Sigg *et al.*, *Helv. Chim. Acta*, **38**, 166 (1955)

T. *venenifera*.

STEROIDS: tanghiferin, tanghin, tanghinigenin, tanghinigenin 3-O-(2-O-acetyl-6-deoxy-3-O-methyl- α -L-glycopyranoside, veneniferin.

Abe *et al.*, *Chem. Pharm. Bull.*, **25**, 2744 (1977)

TAONIA (Phaeophyceae)

***T. atomaria* J.G.Asgardh.**

PYRAN: tondiol.

TERPENOIDS: atomaric acid, taondiol, taondiol dimer.

(P) Gonzalez *et al.*, *Tetrahedron Lett.*, 2729 (1971)

(T) Gonzalez *et al.*, *Tetrahedron Lett.*, 3951 (1974)

***T. australasica*.**

DITERPENOID: taonianone.

Murphy *et al.*, *Tetrahedron Lett.*, 1555 (1981)

TARAXACUM (Compositae)

***T. dens leonis*.**

STEROID: 31-nordihydrolanosterol.

Atallah, Nicholas, *Steroids*, **17**, 611 (1971)

***T. japonicum*.**

TRITERPENOIDS: taralupenol, taralupenol acetate.

Ageta *et al.*, *Tetrahedron Lett.*, 2289 (1981)

***T. kok-saghyz*.**

TRITERPENOID: taraxasterol.

Bauer, Brunner, *Arch. Pharm.*, **276**, 605 (1938)

***T. officinale* (L.) Weber.**

CAROTENOID: flavoxanthin.

SESQUITERPENOIDS: 11,13-dihydrotaraxin acid- β -D-glucopyranosyl ester, taraxin acid, taraxin acid- β -D-glucopyranosyl ester.

TRITERPENOIDS: pseudotaraxasterol, taraxasterol, 14-taraxeren-3 β -ol, taraxerol, taraxol.

(C) Kuhn, Brockmann, *Z. Physiol. Chem.*, **213**, 191 (1932)

(T) Hansel *et al.*, *Phytochemistry*, **19**, 857 (1980)

TARENNA

T. bipindensis.

CARBOLINE ALKALOID: dihydroelaecarpidine.

Boissier *et al.*, *Experientia*, **27**, 677 (1971)

T. kotoensis var. gyokushenko.

IRIDOID: tarrenoside.

Takeda *et al.*, *Chem. Pharm. Bull.*, **24**, 1216 (1976)

TAXILLUS

T. kaempferi.

FLAVONOID: isoglucodistylin.

Sakurai *et al.*, *Bull. Chem. Soc., Japan*, **55**, 3051 (1982)

TAXODIUM (Taxodiaceae)

T. distichum.

QUINONE: taxoquinone.

DITERPENOID: 5-dehydrosugiol, taxodione, taxodone.

(Q) Kupchan *et al.*, *J. Am. Chem. Soc.*, **90**, 6923 (1968)

(T) Kupchan *et al.*, *J. Org. Chem.*, **34**, 3912 (1969)

T. lanceolata.

STEROID: β -sitosterol.

TRITERPENOID: ellagic acid, oleanolic acid.

Ahmad *et al.*, *J. Indian Chem. Soc.*, **53**, 1165 (1976)

T. mucronatum.

FLAVONOIDS: cryptomerin A, cryptomerin B, hinokiflavone, isocryptomerin, podocarpusflavone, sciadopitysin.

DITERPENOID: 8-hydroxypimar-15-en-19-oic acid.

(F) Pelter *et al.*, *Tetrahedron*, **27**, 1627 (1971)

(F) Ahmad *et al.*, *J. Indian Chem. Soc.*, **53**, 1165 (1976)

(T) Ramos *et al.*, *Phytochemistry*, **23**, 1329 (1984)

TAXUS (Taxaceae)

T. baccata L.

TAXINE ALKALOIDS: taxine I, taxine B.

ESTER:: myo-inositol-p-coumaric ester. Fu

(A) de Marcano, Halsall, *J. Chem. Soc., Chem. Commun.*, 365 (1975)

(E) Dittrich *et al.*, *Plant Physiol.*, **59**, 279 (1977); *Chem. Abstr.*, 86 136344y

(F) Majumdar *et al.*, *Indian J. Chem.*, **10**, 677 (1972)

(P) Khan *et al.*, *Planta Med.*, **30**, 82 (1976)

(T) Chauviere *et al.*, *C. R. Acad. Sci.*, **293**, 501 (1981)

T. baccata subsp. cuspidata.

DITERPENOID: taxinin.

Kurono *et al.*, *Tetrahedron Lett.*, 2153 (1963)

T. brevifolia.

TAXINE ALKALOID: taxol.

Wani *et al.*, *J. Am. Chem. Soc.*, **93**, 2325 (1971)

T. canadensis.

TAXINE ALKALOID, taxinine.

Bourbeau, *Laval Med.*, **19**, 511, (1954)

Bourbeau, *ibid.*, **19**, 637 (1954)

T. chinensis.

ALKALOIDS: taxinine, taxinine A.

STEROID: β -sitosterol.

Chiang, *Chem. Abstr.*, 84 118448q

T. cuspidata.

STEROID: taxisterone.

DITERPENOIDS: 4(20),11-taxadiene-2 α ,5 α ,7 β ,9 α ,10 β ,13 α -hexaol, 4(20),11-taxadiene-2 α ,5 α ,7 β ,9 α ,10 β ,13 α -hexaol-5 α -cinnamoyl-2 α ,7 β ,9 α ,10 β ,13 α -pentaacetate, 4(20),11-taxadiene-2 α ,5 α ,7 β ,9 α ,10 β ,13 α -hexaol-5-cinnamoyl-2 α ,7 β ,9 α ,10 β -tetraacetate-13-one, taxinine, taxinines A, B, C, D, E, F, G, H, K and L, taxusin.

(S) Nakano *et al.*, *Phytochemistry*, **21**, 2749 (1982)

(T) de Marcano *et al.*, *J. Chem. Soc., Chem. Commun.*, 1282 (1969)

TECLEA (Rutaceae)

T. boviniana.

ACRIDONE ALKALOIDS: 2-methoxytecleanthine, 1,3,4-trimethoxy-N-methylacridone.

Vaquette *et al.*, *Plant Med. Phytother.*, **8**, 57 (1974)

T. grandifolia Engl.

SESTERTERPENOIDS: 7-deacetylazadirone, 7-deacetylproceranone, tecleanin, tecleanone.

Ayafor *et al.*, *J. Chem. Soc., Perkin I*, 1750 (1981)

T. natalensis (Sond.) Engl.

ACRIDONE ALKALOIDS: arborinine, tecleanthine.

UNCHARACTERIZED ALKALOID: tecleanine.

Pegel, Weight, *J. Chem. Soc., C*, 2327 (1969)

T. simplicifolia.

AMINE ALKALOID: O-methylhordenine.

Kirkwood, Marion, *J. Am. Chem. Soc.*, **72**, 2522 (1950)

T. sudanica.

FURANOQUINOLINE ALKALOIDS: flindersiamine, maculine, skimmianin.

QUATERNARY ALKALOID: candicine.

TRITERPENOID: lupeol.

Fish *et al.*, *Fitoterapia*, **48**, 170 (1977)

T. verdoorniana.

ACRIDONE ALKALOID: tecleanone.

FURANOQUINOLINE ALKALOIDS: tecleaverdine, tecleaverdoornine, tecleine.

Ayafor, Okogun, *J. Chem. Soc., Perkin I*, 909 (1982)

TECOMA (Bignoniaceae)

T. capensis.

IRIDOID: 7-O-(p-hydroxybenzoyl)-tecoside, 7-O-(p-hydroxy)-trans-cinnamoyltecoside, 7-O-trans-cinnamoyltecoside, 7-O-(p-methoxy)-trans-cinnamoyltecoside, tecomoside.

Bianco *et al.*, *J. Nat. Prod.*, **46**, 314 (1983)

T. chrysanthia.

IRIDOID: arameloside.

Bianco *et al.*, *Planta Med.*, **46**, 33 (1982)

T. fulva.

IRIDOID: plantarenaloside, stansioside.

Gambarino *et al.*, *J. Nat. Prod.*, **48**, 992 (1985)

T. heptaphylla.

IRIDOID: 6-O-(p-hydroxybenzoyl)-6-epi-monomelittoside, 6-O-(p-methoxybenzoyl)-6-epi-monomelittoside, 6-epi-monomelittoside.

Bianco *et al.*, *Gazz. Chim. Ital.*, **113**, 465 (1983)

T. stans (Stenolobium stans).

PIPERIDINE ALKALOIDS: 5-dehydroskytanthine, 4-hydroxyskytanthine, 7(a)-hydroxyskytanthine, tecomanine, tecostanine, tecostidine.

IRIDOID: amareloside, plantarenaloside, stansioside.

(A) Gross *et al.*, *Phytochemistry*, **12**, 201 (1973)

(T) Bianco *et al.*, *Gazz. Chim. Ital.*, **112**, 199 (1982)

TECOMELLA

T. undulata (G.Don.) Seem.

ESTERS: octacosonylacetylferulate, octacosonyl ferulate.

IRIDOID: tecoside, 6-O-veratrylcatalposide P.

PHENOLIC: veratric acid.

TERPENOIDS: dehydro- α -lapachone, dehydretectol, lapachol, tectol, tectoquinone.

(I) Joshi *et al.*, *Phytochemistry*, **14**, 1441 (1975)

(EP) Joshi *et al.*, *Curr. Sci.*, **46**, 145 (1977)

(T) Joshi *et al.*, *Planta Med.*, **71** (1986)

TECTONA (Rubiaceae)

T. grandis L.

PIGMENT: tectoleafquinone.

DITERPENOID: tectograndinol.

(P) Agarwal *et al.*, *Tetrahedron Lett.*, 2623 (1965)

(T) Rimpler, Christiansen, *Z. Naturforsch.*, **32C**, 724 (1977)

TEDANIA

T. digitata.

CAROTENOID: tedanin.

Okukado *et al.*, *Bull. Chem. Soc., Japan.*, **48**, 1061 (1975)

TELEKIA (Compositae)

T. speciosa (Schreb.) Baumg.

UNCHARACTERIZED ALKALOID: telekine.

SESQUITERPENOIDS: 2,3-dihydroaromaticin, isotelekin, telekin.

(A) Brutko, Massagetov, *Khim. Prir. Soedin.*, 57 (1968)

(T) Bohlmann *et al.*, *Phytochemistry*, **18**, 887 (1979)

TELETOXICUM

T. peruvianum.

ISOQUINOLINE ALKALOIDS: peruvianine, teletoxine.

NORAPOPHINE ALKALOID: telezoline.

Menachery, Cava, *J. Nat. Prod.*, **44**, 320 (1981)

TELLIMA (Saxifragaceae)

T. grandiflora.

PHENOLICS: 2,3-digallyl-4,6-hexahydrophenoyl- β -D-glucopyranose, 1,2,3-trigallyl-4,6-hexahydrophenoyl- β -D-glucopyranose.

Wilkins *et al.*, *Phytochemistry*, **15**, 211 (1976)

TELOSCHISTES (Teloschistaceae)

T. flavigans (Swartz) Norman.

ANTHROQUINONE: fallacinal.

DIOXEPIN: vicanicin.

(An) Nakano *et al.*, *Phytochemistry*, **11**, 3505 (1972)

(D) Neelakabntan *et al.*, *Tetrahedron*, **18**, 597 (1962)

TEMPLETONIA (Leguminosae)

T. retusa (Vent.) R.Br.

QUINOLIZIDINE ALKALOID: templetine.

Cannon *et al.*, *Tetrahedron Lett.*, 1683 (1974)

TEPHROSIA (Papilionaceae)

T. apollinea.

FLAVONES: pseudosemiglabrinol, semiglabrinol.

Ahmed, *Phytochemistry*, **25**, 955 (1986)

T. candida.

FLAVANONES: candidone, dehydrorotenone, 6-hydroxykaempferol 4'-methylether, ovalichalcone.

ISOCOUMARIN: candidin.

(F) Roy *et al.*, *Phytochemistry*, **25**, 961 (1986)

(I) Chibber *et al.*, *ibid.*, **20**, 1460 (1981)

T. elongate.

BENZOPYRAN: elongatin.

Smalberger *et al.*, *Tetrahedron*, **31**, 2297 (1975)

T. fulvinervis.

FLAVONOIDS: fulvinervin A, fulvinervin B.

Rao *et al.*, *Phytochemistry*, **24**, 2427 (1985)

T. hamiltonii Drumm.

FLAVONOID: rutin.

PHENOLICS: caffeic acid, p-hydroxybenzoic acid, protocatechuic acid.
 Basu *et al.*, *Chem. Abstr.*, 88 71492q

T. hildebrandtii Vatke.

FLAVONOIDS: hildgardtene, hildgardtol A, hildgardtol B, methylhildgardtol A, methylhildgardtol B.

PTEROCARPANS: hildecarpidin, hildecarpin.

(F) Delle Monache *et al.*, *Phytochemistry*, **25**, 1711 (1986)

(P) Lwande *et al.*, *Insect Sci. Appl.*, **7**, 501 (1986); *Chem. Abstr.*, 106 15746d

Lwande *et al.*, *Phytochemistry*, **26**, 2425 (1987)

T. lupinifolia.

BENZOPYRANS: lupinifolin, lupinifolinol.

Smalberger *et al.*, *Tetrahedron*, **30**, 3927 (1974)

T. madrensis.

FLAVAN: 5,7-dimethoxy-8-prenylflavan.

Gomez *et al.*, *Phytochemistry*, **22**, 1305 (1983)

T. maxima.

ISOFLAVONES: maximaisoflavone B, maximaisoflavone J.

T. multijuga.

TERPENOIDS: multijugin, multijunginol.

Vleggaar *et al.*, *Tetrahedron*, **31**, 2571 (1975)

Murthy *et al.*, *J. Nat. Prod.*, **48**, 967 (1985)

T. nubica.

FLAVONOIDS: apollinine, lanceolatin, pseudosemiglabrin, semiglabrin.

Ammar, Jarvis, *J. Nat. Prod.*, **49**, 719 (1986)

T. polystachyoides.

DIPYRAN: tephrodin.

FLAVONES: tachrosin, tephrostachin.

Vleggaar *et al.*, *Tetrahedron Lett.*, 703 (1972)

T. purpurea. One uncharacterized alkaloid.

STEROID: β -sitosterol.

TRITERPENOID: lupeol.

Basu *et al.*, *Indian J. Chem.*, **15B**, 971 (1977)

T. semiglabrata.

BENZOPYRANS: semiglabrin, semiglabrinol.

Smalberger *et al.*, *Tetrahedron*, **29**, 3099 (1973)

T. villosa (Linn.).

ROTENOID: villinol, villosin, villosinol, villosol, villosone.
Sarma et al., Indian J. Chem., 14B, 152 (1976)

T. woodii.

CHALCONE: oaxacacin.
 FLAVONOID: mixtecacin.
Dominguez et al., Phytochemistry, 22, 2047 (1983)

TERMINALIA (Combretaceae)

T. arjuna.

TRITERPENOIDS: arjungenin, arjunic acid, arjunolic acid, terminolic acid.
 TRITERPENE GLYCOSIDES: arjunetin, arjunglucosides I, II and III.
Tsuyuki et al., Bull. Chem. Soc., Japan, 52, 3127 (1979)

T. chebula.

TANNINS: chebulagic acid, chebulic acid, chebulinic acid, neochebulagic acid, neochebulic acid.
Haslam et al., J. Chem. Soc., C, 2381 (1967)

T. conferta.

TRITERPENOID: arjunolic acid.
King et al., J. Chem. Soc., 3995 (1955)

T. ivorensis.

TRITERPENOID: terminolic acid.
King et al., J. Chem. Soc., 1333 (1955)

T. officinalis L.

TRITERPENE GLUCOSIDE: sericoside.
Bombardelli et al., Phytochemistry, 13, 2559 (1974)

T. paniculata.

BENZOPYRAN: 3,3',4-tri-O-methylflavellagic acid.
Ramachandra et al., Tetrahedron, 23, 879 (1967)

T. sericea.

TRITERPENOIDS: sericic acid, sericoside.
Bombardelli et al., Phytochemistry, 13, 2559 (1974)

T. tomentosa.

TRITERPENOID: tomentosic acid.

Rao, Rao, *Tetrahedron Lett.*, **27**, 12 (1960)

TERNSTROEMIA (Ternstroemiaceae)

T. cherryi.

TRITERPENOIDS: betulinic acid, betulinic acid.

Courtney *et al.*, *Aust. J. Chem.*, **18**, 591 (1965)

T. japonica.

CAROTENOID: ternstroemiaxanthin.

Kikuchi, Yamaguchi, *Bull. Chem. Soc., Japan*, **47**, 885 (1974)

T. merrilliana.

TRITERPENOIDS: betulinic acid, betulinic acid.

Courtney *et al.*, *Aust. J. Chem.*, **18**, 591 (1965)

TESSARIA

T. absinthioides.

SESQUITERPENOID: 12-acetoxyeremophilene, 1(10)-eremophiladien-13-oic acid, eremophil-12-oic acid, methyleremophil-12-oic acid, methyleremophil-12-oic acid methyl ester, tessaric acid.

Bohlmann *et al.*, *Phytochemistry*, **16**, 1302 (1977)

T. dodoneifolia (Hook et Arn.) Cabr.

FLAVONOID: dihydroquercetin 3-acetate, eriodictyol, luteolin, naringenin 7,4'-dimethyl ether, quercetin 3,6-diethyl ether, quercetin 3-ethyl ether.

SESQUITERPENOID: tedonodiol.

(F) Kavak *et al.*, *An. Quim.*, **73**, 305 (1977)

(T) Guerreiro *et al.*, *An. Asoc. Quim. Argent.*, **67**, 119 (1979)

TESTULEA

T. gabonensis Pellegr.

AMINE ALKALOID: N-methyltyramine.

CARBOLINE ALKALOID: N-methyltetrahydro- β -carboline.

TRITERPENOID: epi-friedelinol.

Leboeuf *et al.*, *Plant Med. Phytother.*, **11**, 230 (1977)

TETRACHYRON

T. orizabaensis.

DITERPENOID: tetrachysin.

Ohno *et al.*, *Phytochemistry*, **18**, 1687 (1979)

TETRACLINUS

T. articulata. (Totara articulata).

DITERPENOIDS: 12-acetylsandaracopimamic acid, hinokiol, hinokione, sandaracopimamic acid, torulosic acid, torulosol, torulosol 18-acetate, totarolenone, totarolone.

Edwards *et al.*, *Can. J. Chem.*, **38**, 663 (1960)

Gough *et al.*, *Chem. Ind. (London)*, 2059 (1964)

TETRADENIA

T. riparia.

DITERPENOIDS: 8(14),15-sandaracopimaradiene-2 α ,18-diol, 8(14), 15 - sandaracopimaradiene-7,18-diol.

van Puyvelde *et al.*, *J. Ethnopharmacol.*, **17**, 269 (1986); *Chem. Abstr.*, 106 29950c

van Puyvelde *et al.*, *Phytochemistry*, **26**, 493 (1987)

TETRADYMYIA

T. glabrata.

SESQUITERPENOIDS: $6\beta,10\beta$ -dihydroxyfuranoeremophilane, 10β -hydroxy- 6β -isobutyrylfuranoeremophilane, 6-isobutyryl-10-hydroxyfuranoeremophilane, tetradymol.
Jennings et al., J. Org. Chem., 41, 4078 (1976)

TETRAGONIA

T. tetragonoides.

NORDITERPENOIDS: (2E)-3,7,11,15-tetramethylhexadecanal, 6,10,14-trimethyl-2-methylenepentadecanal.
Aoki et al., Phytochemistry, 21, 1361 (1982)

TETRAGONOTHAEA

T. ludoviciana.

SESQUITERPENOIDS: tetraludins A, B, C, D, E, F, G, H, I, J, K, L and M.
Quijano et al., Phytochemistry, 19, 1485 (1980)

T. repanda.

SESQUITERPENOIDS: repandins A, B, C and D.
Saman et al., J. Org. Chem., 44, 3400 (1979)

TETRAPANAX

T. papyriferum.

SAPONINS: papyriosides L-IIa, L-IIb, L-IIc and L-IId.
 TRITERPENOIDS: papyriogenins A, B, C, D, E, F and G.
Asada et al., J. Chem. Soc., Perkin 1, 325 (1980)

TETRAPATHAEA (Passifloraceae)

T. tetrandra.

CYCLOPENTANOIDs: deidaclin, tetraphyllin A, tetraphyllin B, epi-tetraphyllin B.

Spencer *et al.*, *Phytochemistry*, **22**, 1815 (1983)

TETRATAENIUM (Pastinaceae)

T. olgae.

COUMARINS: bergapten, imperatorin, isobergapten, isopimpinellin, pimpinellin, sphondin, umbelliiferone.

Gusak *et al.*, *Chem. Abstr.*, 86 68378k

TEUCRIUM (Labiatae)

T. africanum.

HALOGENATED DITERPENOIDS: tafricanin A, tafricanin B.

Hanson *et al.*, *J. Chem. Soc., Perkin I*, 1005 (1982)

T. amarum.

MONOTERPENOID: teucrein.

Bellebia *et al.*, *J. Chem. Res. Synop.*, 328 (1983)

T. arduini.

IRIDOIDs: teucardoside, teuhircoside.

Ruhdorfer *et al.*, *Z. Naturforsch.*, **36**, 697 (1981)

T. boreale.

MONOTERPENOID: chrysanthemyl acetate.

Dembitskii, Suleeva, *Khim. Prir. Soedin.*, 527 (1984).

T. botrys L.

DITERPENOIDS: 19-deacetylteuscorodol, 6-hydroxy-teuscordin, montanin D, teubotrin, teuchamaedrin, teucvidin.

De La Torre *et al.*, *Phytochemistry*, **25**, 2385 (1986)

T. capitatum.

DITERPENOID: lolin.

Marquez *et al.*, *Tetrahedron Lett.*, 2823 (1981)

T. carolipaui.

SESQUITERPENOID: 11-hydroxyvalenc-1(10)-en-2-one.

Savona *et al.*, *Phytochemistry*, **26**, 571 (1987)

T. chamaedrys L.

DITERPENOIDS: teuchamaedryins A, B and C, 6-epi-teucrin A, teucroxide, teugin.

Malakov *et al.*, *Phytochemistry*, **24**, 301 (1985)

T. eriocephalum.

DITERPENOID: eriocephalin.

Fayos *et al.*, *J. Org. Chem.*, **44**, 4992 (1979)

T. flavum.

DITERPENOID: teuflin.

Savona *et al.*, *J. Chem. Soc., Perkin I*, 1915 (1979)

T. fragile.

DITERPENOID: teugin.

Bruno *et al.*, *Phytochemistry*, **20**, 2259 (1981)

T. fruticans L.

DITERPENOIDS: fruticolone, isofruticolone.

Savona *et al.*, *J. Chem. Soc., Perkin I*, 356 (1978)

T. gnaphalodes.

DITERPENOIDS: 19-acetylgnaphalin, gnaphilidin, gnaphalin.

Savona *et al.*, *Tetrahedron Lett.*, 379 (1979)

T. hyrcanicum.

DITERPENOIDS: teucrins H-1,H-2, H-3 and H-4.

IRIDOID: teuhircoside.

Ruhdorfer *et al.*, *Z. Naturforsch.*, **36C**, 697 (1981)

T. japonicum.

DITERPENOIDS: teucjaponins A and B.

Miyase *et al.*, *Chem. Pharm. Bull.*, **29**, 3561 (1981)

T. marum.

DITERPENOIDS: allodolicholactone, dolicholactone.

Pagnoni *et al.*, *Aust. J. Chem.*, **29**, 1375 (1976)

T. montanum.

DITERPENOIDS: montanins A, B, C and D.

Malakov *et al.*, *Z. Naturforsch.*, **33**, 1142 (1978)

***T. montanum* subsp. *skorpilii*.**

DITERPENOID: montanin D.

Papanov, Malakov, *Phytochemistry*, **22**, 2787 (1983)

***T. polium*.**

DITERPENOIDS: 6-acetylpicropoline, teupolins I, II, III, IV and V.

Malakov, Papanov, *Phytochemistry*, **22**, 2791 (1983)

***T. polium* var. *alba*.**

FLAVANOIDs: cirsidiol, salvigenin.

IRIDOID: teucardoside.

Rizk *et al.*, *Planta Med.*, **87** (1986)

***T. polium* subsp. *aureum* (*Schreber*) *Archangeli*.**

CLERODANES: 19-acetylgnaphalin, aurofolin, gnaphilidin, teucrin P-1.

Aguren *et al.*, *J. Chem. Soc.*, 3364 (1981)

***T. polium* subsp. *pilosum*.**

FLAVONOIDs: cirsidiol, salvigenin.

IRIDOID: teucardoside.

DITERPENOID: 19-acetylteupolin U.

Rizk *et al.*, *Planta Med.*, **87** (1986)

De La Torre *et al.*, *Phytochemistry*, **25**, 2239 (1986)

***T. pyrenaicum*.**

DITERPENOIDS: teupyreinidin, teupyreinin, teupyrenone, teupyrin A, teupyrin B.

Fernandes *et al.*, *Phytochemistry*, **25**, 1405 (1986)

***T. ramosissimum* Desf.**

FLAVONOID: apigenin 6,8-diglucoside.

Reynaud *et al.*, *Plant Med. Phytother.*, **10**, 199 (1976)

***T. scordium* L.**

DITERPENOIDS: 2-keto-19-hydroxyteuscordin, teuscordinone.

Papanov *et al.*, *Phytochemistry*, **24**, 297 (1985)

***T. scorodonia* L.**

DITERPENOIDS: teuscoridin, teuscorodal, teuscorodol, teuscorodonin, teuscorolide.

Marco *et al.*, *Phytochemistry*, **22**, 727 (1983)

***T. spinosum*.**

DITERPENOIDS: 19-acetylteuspinin, teuspinin.

Savona *et al.*, *Heterocycles*, **14**, 193 (1980)

T. subspinosum.

DITERPENOIDS: 6 α -hydroxyteuscordin, teucrin H-2, teucvin, teuflin.
 Fernandez *et al.*, *Phytochemistry*, **25**, 1405 (1986)

T. viscidum var. Miquelianum.

DITERPENOIDS: teuflin, teucvin.
 Node *et al.*, *J. Chem. Res. Synop.*, (2), 32 (1981)

TEVENOTICA

T. persica DC.

TRITERPENOIDS: α -amyrin, lupeol.
 Rustaiyan *et al.*, *Fitoterapia*, **48**, 173 (1977)

THALICTRUM (Ranunculaceae)

T. alpinum L.

BISBENZYLISOQUINOLINE ALKALOIDS: N-desmethylthalirugosidine, N-desmethylthalirugisine, hernandezine, thalpindione.
 Wu *et al.*, *Lloydia*, **43**, 372 (1980)

T. aquilegifolium.

GLUCOSIDE: thalictoside.
 TRITERPENOID: aquilegifolin.
 Ina *et al.*, *Chem. Pharm. Bull.*, **34**, 726 (1986)

T. baicalense.

BISBENZYLISOQUINOLINE ALKALOID: N-demethylthalistyline.
 Lu, *Zhongcaoyao*, **15**, 195 (1984)

T. cultratum.

APORPHINE-BENZYLISOQUINOLINE ALKALOIDS: (+)-thalibulamine, (+)-thalifaramine, (+)-thalifaretine, (+)-thalifaricine, (+)-thalifaroline, (+)-thalifaronine.
 BISBENZYLISOQUINOLINE ALKALOIDS: (-)-5-hydroxythalidasine, (-)-5-hydroxythalmine, (+)-thalmiculatimine, (-)-thalmiculimine, (-)-thalmiculine.
 Hussain *et al.*, *J. Nat. Prod.*, **49**, 488, (1986)
 Hussain *et al.*, *ibid.*, **49**, 494 (1986)

T. dasycarpum Fisch. et Lall.

BISBENZYLISOQUINOLINE ALKALOIDS: dehydrothalicarpine, thalicarpine, thalidasine.

Kupchan *et al.*, *J. Am. Chem. Soc.*, **89**, 3075 (1967)

T. dioicum.

BISBENZYLISOQUINOLINE ALKALOIDS: thalidicne, thalidine, thalidoxine.

Shamma *et al.*, *Lloydia*, **39**, 395 (1976)

T. faberi.

BISBENZYLISOQUINOLINE ALKALOIDS: huangshanine, (+)-thalifaberine, (+)-thalifabine.

Linet *et al.*, *Planta Med.*, **49**, 55 (1983)

T. fauriei.

BISBENZYLISOQUINOLINE ALKALOID: thalifaureine.

Chen *et al.*, *J. Pharm. Sci.*, **69**, 1061 (1980)

T. fendleri Engelm.

APORPHINE ALKALOIDS: preocoteine, veronamine.

BISBENZYLISOQUINOLINE ALKALOIDS: tetrahydrothalifendine, thalidaldine, thalidastine, thalidezine, thalifendine, thalifendlerine.

ISOQUINOLINE ALKALOIDS: N-methylcorydaline, N-methylthalidaldine.

Shamma, Podczasy, *Tetrahedron*, **27**, 727 (1971)

T. flavum L.

AMINE ALKALOIDS: thalicsine, thalflavidine.

APORPHINE ALKALOID: magnoflorine.

BISBENZYLISOQUINOLINE ALKALOIDS: thalicarpine, thaliflavine.

ISOQUINOLONE ALKALOID: thaliflavine.

PROTOBERBERINE ALKALOIDS: berberine, cryptopine.

Umarov *et al.*, *Khim. Prir. Soedin.*, 683 (1973)

T. foetidum L.

APORPHINE ALKALOID: magnoflorine.

BISBENZYLISOQUINOLINE ALKALOIDS: fetidine, thalfine, thalfinine, thalfoetidine.

SAPONINS: cyclofoetoside A, foetosides A, B and C.

(A) Mollov, Georgiev, *Chem. Ind.*, 1178 (1966)

(Sap) Ganenko *et al.*, *Khim. Prir. Soedin.*, 66 (1986)

T. foliosum.

APORPHINE ALKALOID: N,O,O-trimethylsparsiflorine.

PROTOBERBERINE ALKALOIDS: berberine, thalictrine.

Bhakuni, Singh, *J. Nat. Prod.*, **45**, 252 (1982)

T. hernandezii.

BISBENZYLISOQUINOLINE ALKALOID: hernandezine.

Padilla, Herran, *Tetrahedron*, **18**, 427 (1962)

T. isopyroides SAM.

APORPHINE ALKALOIDS: cabudine, dehydrothalicamine, magnoflorine, thalicanine, thalicaminine.

BISBENZYLISOQUINOLINE ALKALOIDS: thalisopidine, thalisopine, thalisorpine.

PROTOBERBERINE ALKALOID: protopine.

Pulatova *et al.*, *Khim. Prir. Soedin.*, 609 (1969)

Kurbanov *et al.*, *Dokl. Akad. Nauk Tadzh. SSR*, **18**, 20 (1980)

T. longipedunculatum E.Nik.

AMINE ALKALOID: thalicsine.

APORPHINE ALKALOID: magnoflorine.

BISBENZYLISOQUINOLINE ALKALOIDS: thalidezine, thalifetidine.

PROTOBERBERINE ALKALOID: berberine.

Khodzhaev *et al.*, *Khim. Prir. Soedin.*, 441 (1973)

T. longistylum DC.

BISBENZYLISOQUINOLINE ALKALOIDS: N-desmethylthalistyline, thalistyline, thalistyline methioide.

Wu *et al.*, *Tetrahedron Lett.*, 3687 (1976)

T. minus L.

AMINE ALKALOID: thaliglucinone.

APORPHINE ALKALOIDS: (+)-glaucine, magnoflorine, preocoteine, thalicmidine, thalicmidine N-oxide, thalicmine, thalicminine.

APORPHINE-BENZYLISOQUINOLINE ALKALOIDS: (+)-iznikine, thalmelatidine.

BISBENZYLISOQUINOLINE ALKALOIDS: istambulamine, O-methylthalicberine, takatonine, thaissivasin, thaliadanine, thalmelatine, thalmetine, thalmine, thalmineline.

UNCHARACTERIZED ALKALOIDS: talminelline, thaliglucinone, thalirabine, thaliracebine, thalmidine, thalrugosamine.

Gromova *et al.*, *Khim. Prir. Soedin.*, 670 (1985)

Baser, Kirmer, *Planta Med.*, 448 (1985)

T. minus Race B.

APORPHINE-BENZYLISOQUINOLINE ALKALOID: (+)-bursanine.

BISBENZYLISOQUINOLINE ALKALOIDS: O-methylthalibrunine, thalistine, thalmirabine.

Guinaudeau *et al.*, *Tetrahedron Lett.*, 2523 (1982)

T. minus L. var. adiantifolium.

APORPHINE ALKALOID: adiantifoline.

ISOQUINOLINE ALKALOID: noroxyhydrastinine.

Doskotch *et al.*, *Tetrahedron Lett.*, 4999 (1968)

Doskotch *et al.*, *Tetrahedron*, **25**, 469 (1969)

T. minus L. var. elatum Koch.

APORPHINE-BENZYLISOQUINOLINE ALKALOID: thalmelatine.

BISBENZYLISOQUINOLINE ALKALOIDS: dehydrothalicarpine, elatrine, thaliblastine, thalmineline.

Kupchan *et al.*, *J. Org. Chem.*, **33**, 1052 (1968)

T. minus L. var. microphyllum.

BISBENZYLISOQUINOLINE ALKALOID: uskudaramine.

Guinaudeau *et al.*, *J. Org. Chem.*, **47**, 5406 (1982)

T. minus L. var. minus.

BISBENZYLISOQUINOLINE ALKALOIDS: thaivaisine, thalvarmine.

Baser, Kirmer, *Planta Med.*, 448 (1985)

T. podocarpum Hunb.

BISBENZYLISOQUINOLINE ALKALOIDS: N-desmethylthalistyline, thalistyline, thalistyline methiodide.

Wu *et al.*, *Tetrahedron Lett.*, 3687 (1976)

T. polygamum.

APORPHINE ALKALOIDS: N-methylpalaudinium chloride, thalphenine.

APORPHINE-BENZYLISOQUINOLINE ALKALOIDS: pennsylvanamine, pennsylvanine, thalictrogamine, thalictropine.

BISBENZYLISOQUINOLINE ALKALOIDS: thalignine, thalpine.

Shamma, Moniot, *Tetrahedron Lett.*, 775 (1973)

Shamma *et al.*, *Heterocycles*, **43**, 270 (1980)

T. revolutum DC.

BISBENZYLISOQUINOLINE ALKALOIDS: neothalibrine, revolutopine, thalilutidine, thalpine.

ISOQUINOLINE ALKALOID: revolutinone.

Wu *et al.*, *Lloydia*, **43**, 270 (1980)

T. rochebrunianum.

BISBENZYLISOQUINOLINE ALKALOIDS: dihydrothalictrinine, N'-northernandezine, N'-northalibrinine, oxothalibrunimine, oxothalibrinine, thalibrinine, thalictrinine.

Wu *et al.*, *J. Org. Chem.*, **45**, 213 (1980)

T. rugosum Ait.

AMINE ALKALOIDS: thaliglucine, thaliglucinone.

BISBENZYLISOQUINOLINE ALKALOIDS: thaligosidine, thaligosine, thaligosinine, thalilutine, thalirugidin, thalirugine, thaliruginine, thalirugosamine, thalirugosidine, thalirugosine, thalirugosinone.

Wu *et al.*, *J. Org. Chem.*, **43**, 580 (1978)

Wu *et al.*, *Lloydia*, **43**, 143 (1980)

T. simplex L.

AMINE ALKALOID: thalicsine.

APORPHINE ALKALOIDS: magnoflorine, thalicsimidine.

BISBENZYLISOQUINOLINE ALKALOIDS: hernandezine, thalfetidine, thalsimidine, thalsimine, thalsinine.

OXOPROTOBERBERINE ALKALOID: thalictrisine.

PROTOBERBERINE ALKALOIDS: α -allocryptopine, berberine.

UNCHARACTERIZED ALKALOIDS: thalictricine, thalictrinine.

Umarov *et al.*, *Khim. Prir. Soedin.*, 329 (1968)

T. strictum.

PAVINANE ALKALOID: 2,3,7-trimethoxy-N-methyl-8,9-methylenedioxypavinane.

Yunusov *et al.*, *Khim. Prir. Soedin.*, 116 (1976)

T. sultabadense.

BISBENZYLISOQUINOLINE ALKALOIDS: hernandezine N-oxide, thalbadenzine.

Abizabbarova *et al.*, *Khim. Prir. Soedin.*, 139 (1978)

T. thunbergii DC.

APORPHINE ALKALOIDS: thalicmine, thalictruberine.

BISBENZYLISOQUINOLINE ALKALOIDS: methylthalicberine, thalicberberine, thalicberine, thalictrine.

Tomita, Kitamura, *J. Pharm. Soc., Japan*, **79**, 1092 (1959)

T. urbaini Hayata.

APORPHINE ALKALOIDS: -(+)-isocorydine, S-(+)-oconovine.

Wu *et al.*, *Chem. Abstr.*, 88 34563t

THAMNOLIA (Usneaceae)

T. subrosmicularis.

TERPENOID: baeomycesic acid.

Koller *et al.*, *Monatsh. Chem.*, **66**, 57 (1935)

T. subuniformis.

STEROID: ergosterol peroxide.

Strigina *et al.*, *Khim. Prir. Soedin.*, 551 (1976)

T. vermicularis Ach. ex Schaer.

PHENOLIC: thamnolic acid.

Wachmeister *et al.*, *Acta Chem. Scand.*, **9**, 1395 (1955)

THAMNOSMA

T. montana.

QUINOLINE ALKALOID: robustine.

COUMARINS: thamnosin, thamnosmin, thamnosmonin, thamontanin, umbelliprenin.
Chang *et al.*, *Lloydia*, **39**, 134 (1976)

THAPSIA (Umbelliferae)

T. garganica L.

COUMARIN: 6-methoxy-7-geranyloxycoumarin.

SESQUITERPENOIDS: thapsigargin, thapsigargin.

(C) Carsen, Sandberg, *Acta Chem. Scand.*, **24**, 1113 (1978)

(T) Christensen *et al.*, *Tetrahedron Lett.*, 3829 (1980)

T. villosa var. minor.

SESQUITERPENOIDS: 15-acetoxythapsan-14-al, (1S,6R)-1-senecioyloxy-6,14-epoxythapsan-15-ol, (1S,3R)-1-senecioyloxy-6,14-epoxythapsan-15-ol 5-acetate, (1S)-1-senecioyloxy-6(14)-thapsen-15-ol.

de Pascual Teresa *et al.*, *Phytochemistry*, **25**, 1171 (1986)

THEA (Theaceae)

T. sinensis.

TRITERPENOIDS: barringtonenin C, camelliagenin D, theasapogenol A, theasapogenol E, 5-tirucalla-7,24-dien-3 β -ol.

Nakano *et al.*, *Tetrahedron Lett.*, 1675 (1967)

Itoh *et al.*, *Lipids*, **11**, 434 (1976)

THELEPHORA (Lichenes)

T. palmata.

BISBENZOFURAN: thelephoric acid.

Gripenberg, *Tetrahedron*, **10**, 135 (1960)

THELEPOGON (Gramineae/Poaceae)

T. elegans.

PYRROLIZIDINE ALKALOID: thelepogine.

UNCHARACTERIZED ALKALOID: thelepogidine.

Crow, *Aust. J. Chem.*, **15**, 159 (1962)

THELEPUS

T. setosus.

HALOGENATED NORIESQUITERPENOIDS: thelepin.

Higa, Scheuer, *J. Am. Chem. Soc.*, **96**, 1146 (1974)

THELESPERMA

T. megapotamicum.

FLAVONOIDS: luteolin, luteolin 7-O- β -D-glucoside, marein.

Ateya *et al.*, *Planta Med.*, **45**, 247 (1982)

THELONOTA

T. ananas.

TRITERPENOIDS: 23-acetoxyholosta-8,25-dien-3 β -ol, 23-acetoxyholosta-9(11),25-dien-3 β -ol, 23-acetoxyholost-9(11)-ene-3 β ,25-diol, 23-acetoxyholost-8-en-3 β -ol, 23-acetoxyholost-9(11)-en-3 β -ol, holosta-9(11),25-diene-3 β ,23-diol, thelothurins A and B.

Kelecom *et al.*, *Tetrahedron*, **32**, 2313, 2353 (1976)

THEOBROMA (Sterculiaceae)

T. cacao L.

PURINE ALKALOIDS: theobromine, theophylline.

FLAVONOIDS: apigenin 7-O-glucoside, chrysoeriol 7-O-glucoside, isovitexin, luteolin, luteolin 7-O-glucoside, quercetin 3-O-galactoside, quercetin 3-O-glucoside, vitexin.

(A) Biltz, Max., *Justus Liebigs Ann. Chem.*, **423**, 320 (1921)

(F) Jalal *et al.*, *Phytochemistry*, **16**, 1377 (1977)

THEONELLA

T. swinhoei.

STEROID: theonellasterol.

Kho *et al.*, *J. Org. Chem.*, **46**, 1836 (1981)

THERMOPSIS (Leguminosae)

T. alpina (Pall.) Ldb.

SPARTEINE ALKALOIDS: alpine, argentine, cytisine, N-methylcytisine, pachycarpine, thermopsine.

Iskandarov *et al.*, *Avtoref. Dokl. Diss. Tashkent*, (1973)

T. alterniflora Rgl. et Schmalh.

SPARTEINE ALKALOIDS: alteramine, anagyrine, argentamine, argentine, cytisine, dimetamine, N-methylcytisine, pachycarpine, thermopsine.

Iskandarov *et al.*, *Khim. Prir. Soedin.*, 218 (1972)

T. dolichocarpa V.Nikit.

SPARTEINE ALKALOIDS: cytisine, pachycarpine, thermopsine.

Normatov *et al.*, *J. Gen. Chem., USSR.*, **3**, 45 (1962)

T. fabacea (Pall.) DC.

SPARTEINE ALKALOIDS: cytisine, N-methylcytisine, pachycarpine, thermopsine.

Ryabinin *et al.*, *J. Prakt. Chem.*, **28**, 663 (1955)

T. lanceolata R.Br. (Sophora lupinoides Link.).

SPARTEINE ALKALOIDS: anagyrine, argentine, cytisine, dithermanine, homothermopsine, N-methylcytisine, pachycarpine, rhombifoline, thermopsamine, thermopsine.

Cockburn, Marion, *Can. J. Chem.* **30**, 92 (1952)

Vinogradova *et al.*, *Khim. Prir. Soedin.*, 87 (1972)

T. rhombifolia (Watt.) Richards.

SPARTEINE ALKALOIDS: cytisine, 5,6-dehydrolupanine, methylcytisine, rhombifoline, rhombinine.

Cho, Martin, *Can. J. Chem.*, **49**, 265 (1971)

THESIUM (Santalaceae)

T. minkwitzianum B.Fedtsch.

DIPYRROLIZIDINE ALKALOID: thesine.

Arendaruk *et al.*, *J. Gen. Chem. USSR.*, **30**, 670 (1960)

THESPESIA (Malvaceae)

T. populnea (L.) Soland. ex Correa.

FLAVONOIDS: calycopterin, quercetin.

NAPHTHALENE: (+)-gossypol.

(F) Kasim *et al.*, *Curr. Sci.*, **44**, 888 (1975)

(N) Bhakuni *et al.*, *Experientia*, **24**, 109 (1968)

THEVETIA

T. ahouia A.DC.

IRIDOID: 3'-O-methylevomonoside.

Jolad *et al.*, *J. Org. Chem.*, **46**, 1946 (1981)

T. neriifolia Juss.

STEROID: thevetin A.

Bloch *et al.*, *Helv. Chim. Acta*, **43**, 652 (1960)

T. peruviana (Pers.) K.Schum.

FLAVONOIDS: hesperitin 7-glucoside, kaempferol, epi-peruviol acetate, quercetin.

IRIDOID: theveside, theviridoside.

STEROIDS: peruvoside, β -sitosterol, thevefoline.

TRITERPENOIDS: α -amyrin, β -amyrin, betulin, lupeol, lupenyl acetate.

(F, T) Rao *et al.*, *Indian J. Pharm.*, **37**, 124 (1975)

(I) Sticher, *Tetrahedron Lett.*, 3195 (1970)

(S) Frerejacque, Durgeat, *C.R. Acad. Sci.*, **272B**, 2620 (1971)

THLASPI (Brassicaceae/Cruciferae)

T. arvense L.

20 fatty acids.

Dolya *et al.*, *Rastit. Resur.*, **22**, 249 (1986); *Chem. Abstr.*, 105 39401

THRYPOTOMENE

T. kochii.

SESQUITERPENOID: globulol.

Dolejs *et al.*, *Collect. Czech. Chem. Commun.*, **25**, 1487 (1960)

THUJA (Cupressaceae)

T. orientalis.

DITERPENOIDS: neothujic acid III.

SESQUITERPENOIDS: α -cuparenone, β -cuparenone, occidenol, occidentalol, occidol.

Parker *et al.*, *J. Chem. Soc.*, 1558 (1962)

Balansard *et al.*, *Trav. Soc. Pharm., Montpellier*, **36**, 307 (1976)

T. plicata.

NAPHTHALENES: plicatic acid plicatinanaphthalene, plicatananaphthol.

PHENOLIC: τ -thujaplicatene.

DITERPENOIDS: isopimarol, 19-norisopimara-8(14),15-dien-4 α -ol, 19-norisopimara-8(14),15-dien-4 β -ol, 19-norisopimara-8(14),15-dien-3-one, (+)-sugiol.

MONOTERPENOIDS: α -thujaplicin, β -thujaplicin, τ -thujaplicin, thujic acid, α -thujone, β -thujone.

TOXIN: α -apoplicatitoxin.

(N) Gardner *et al.*, *Can. J. Chem.*, **37**, 1703 (1959)

(P) MacDonald, Barton, *ibid.*, **48**, 3144 (1970)

(T) Senter *et al.*, *Phytochemistry*, **14**, 2233 (1975)

(Tox) MacDonald *et al.*, *ibid.*, **51**, 482 (1973)

T. standishii.

DITERPENOID: nezukol.

MONOTERPENOID: nezukone.

Kitadani, *J. Pharm. Soc., Japan*, **91**, 664 (1970)

THUJOPSIS

T. dolabrata.

DITERPENOIDS: ar-abietatriene, 8,11,13-abietatrien-12,16-oxide, costal, α -costal, deoxypodophyllic acid, 16-hydroxyferruginol.

SESQUITERPENOIDS: α -pseudowiddrene, thujopsene, thujyl alcohol, (+)- δ -thujyl alcohol.

Hasegawa *et al.*, *Phytochemistry*, **22**, 643 (1983)

THYMBRA

T. spicata.

FLAVONOID: 6-hydroxyluteolin 7,3'-dimethyl ether, 6-hydroxyluteolin 7,3',4'-trimethyl ether.

Miski *et al.*, *Phytochemistry*, **22**, 2093 (1983)

THYMELAEA

T. hirsuta.

FLAVONOID: vicenin-2.

Nawwar *et al.*, *Phytochemistry*, **16**, 1319 (1977)

THYMUS (Labiatae)

T. loscosii Willk.

FLAVONOID: 6-hydroxyluteolin 7-glucoside, luteolin 7-glucoside.

Adzet *et al.*, *Trav. Soc. Pharm. Montpellier*, **41**, 193 (1981); *Chem. Abstr.*, 97 141778z

T. satureoides.

FLAVONE: 5,6,4'-trihydroxy-7,3'-dimethoxyflavone.

Voirin *et al.*, *Planta Med.*, 523 (1985)

THYRSANOSPERMUM

T. diffusion Champ.

STEROID: β -sitosterol.

TRITERPENOID: thyrsanolactone.

(S) Chen *et al.*, *Chem. Abstr.*, 84 102341p

(T) Aimi *et al.*, *Tetrahedron*, **37**, 983 (1981)

T. diffusum Champ. var. longitubum Ohwi.

TRITERPENOID: thyrsanolactone.
Aimi et al., Tetrahedron, 37, 983 (1981)

TILIA (Sapindaceae/Tiliaceae)

T. argentea.

BENZOPYRAN: tiliroside.
Lin, J. Chin. Chem. Soc., 22, 383 (1975); Chem. Abstr., 84 147653

T. cordata Mill.

ACIDS: eicosanoic acid, eicosenoic acid, linoleic acid, linolenic acid, myristic acid, oleic acid, palmitic acid, palmitoleic acid.

TRITERPENOID: taraxerol.

(Ac) Mruk-Luczkiewicz, *Chem. Abstr.*, 86 103052y

(T) Beaton *et al.*, *J. Chem. Soc.*, 2131 (1955)

T. x europaea L. (T. vulgaris Hayne).

SESQUITERPENOID: (-)-7-hydroxycalamene.
*Burden *et al.*, Phytochemistry, 22, 1039 (1983)*

TILIACORA (Menispermaceae)

T. dinklagei.

APORPHINE ALKALOID: oblongine.
 BISBENZYLISOQUINOLINE ALKALOIDS: dinklacorine, nortiliacorine A, nortiliacorinine A.
*Dwuma-Badu *et al.*, J. Nat. Prod., 46, 742 (1983)*

T. funifera.

BISBENZYLISOQUINOLINE ALKALOID: funiferine.
Tackie, Thomas, Ghana J. Sci., 5, 11 (1965)

T. racemosa.

BISBENZYLISOQUINOLINE ALKALOIDS: N-acetyltiliacorine A, misine, nortiliacorine A, nortiliacorinine A, tiliacoridine, tiliacorine, tiliarine.
*Guha *et al.*, Tetrahedron Lett., 4241 (1976)*

T. triandra Diels.

BISBENZYLISOQUINOLINE ALKALOIDS: nortiliacorinine A, tiliacorine, tiliacorine N-oxide, tiliacorinine, tiliandrine, yanangcorinine, yanangine.

Pachaly, Tan, *Arch. Pharm.*, **319**, 126 (1986)

Pachaly, Tan, *ibid.*, **319**, 841 (1986)

TILLANDSIA (Bromeliaceae)

T. usneoides L.

FLAVONE: 4',5,7-trihydroxy-3,3',5',6-tetramethoxyflavone.

TRITERPENOIDS:cycloart-23-en-3 β ,25-diol, cycloart-23-en-3,25-diol methyl ether, cycloart-25-ene-3,24-diol.

(F) Lewis *et al.*, *Phytochemistry*, **16**, 1114 (1977)

(T) McCrindle, Djerassi, *J. Chem. Soc.*, 4034 (1962)

T. utriculata L.

FLAVONOIDs: cirsilineol, 6-hydroxykaempferol 3,6,7,4'-tetramethyl ether, jaceosidin.

Ulubelen *et al.*, *Rev. Latinoam. Quim.*, **13**, 35 (1982)

TIMONIUS

T. kaniensis.

QUINOLINE ALKALOID: dihydrocupreine.

Johns, Lamberton, *Aust. J. Chem.*, **23**, 211 (1970)

TINOMISCIUM (Menispermaceae)

T. petiolare.

PROTOBERBERINE ALKALOID: (-)-isocorypalmine.

Tomita, Furukawa, *J. Pharm. Soc., Japan*, **87**, 881 (1967)

T. philippinense.

DITERPENOID: tinophyllone.

Gombolvej *et al.*, *J. Philipp. Pharm. Assoc.*, **45**, 303 (1958)

TINOSPORA

T. dentata.

BERBERINE ALKALOIDS: jetrorrhizine, palmatine.

DITERPENOID: columbin.

Chen, *J. Chin. Chem. Soc.*, **22**, 271 (1975); *Chem. Abstr.*, 84 28054d

T. tuberculata Beumee.

DITERPENOIDS: boropetol B, boropetoside B.

Fukuda *et al.*, *Chem. Pharm. Bull.*, **34**, 2868 (1986)

TITHONIA (Compositae)

T. diversifolia.

SESQUITERPENOIDS: diversifolin, tagitins A, B, C, D, E and F.

Pal *et al.*, *Indian J. Chem.*, **14B**, 259 (1976)

Ciccio *et al.*, *Rev. Latinoam. Quim.*, **10**, 134 (1979)

T. fruticosa.

SESQUITERPENOIDS: deoxyfruticin, tifruticin.

Herz, Shamma, *J. Org. Chem.*, **40**, 3118 (1975)

T. rotundifolia (Mill) Blake.

SESQUITERPENOIDS: 8-angelyl-14-hydroxytithifolin, 8-angelyl-14-hydroxytithifolin 14-acetate, 19-methylspaerocephalin, rotundin, tirotundin, tithifolin.

Bohlmann *et al.*, *Phytochemistry*, **20**, 267 (1981)

Romo de Vivar *et al.*, *ibid.*, **21**, 375 (1982)

T. tagitiflora.

SESQUITERPENOIDS: tagitinins A, B, C, D, E and F.

Rastogi *et al.*, *J. Pharm. Sci.*, **65**, 918 (1976)

TODDALIA (Rutaceae)

T. aculeata Pers.

PROTOBERBERINE ALKALOIDS: berberine, chelerythrine.

UNCHARACTERIZED ALKALOIDS: toddaline, toddalinine, Coumarins aculeatin, norbraylin, toddaculin, toddalolactone, 5,7,8-trimethoxycoumarin.

- (A) Awe, *Arch. Pharm.*, **284**, 152 (1951)
- (A) Silva *et al.*, *Phytochemistry*, **10**, 3255 (1971)
- (C) Desmukh *et al.*, *ibid.*, **15**, 1419 (1976)

T. asiatica.

ALKALOIDS: arnuttinamide, 8-hydroxydihydrochelerythrine, toddalidimerine.

COUMARIN: toddalenone.

- (A) Sharma *et al.*, *Phytochemistry*, **21**, 252 (1982)
- (C) Ishii *et al.*, *Chem. Pharm. Bull.*, **31**, 3330 (1983)

TONDUZA

T. longifolia.

CARBOLINE ALKALOID: deserpidine.

Neuss *et v J. Am. Chem. Soc.*, **77**, 4087 (1955)

TOONA

T. alata var. australis.

TERPENOID: toonafolin.

Kraus *et al.*, *Ann. Chim.*, 1838 (1981)

T. ciliata.

TERPENOIDS: 6-acetoxytoonacilin, toonacilin.

Kraus *et al.*, *Angew. Chem.*, **90**, 476 (1978)

T. sureni.

TERPENOID: surenlactone.

TRITERPENOID: surenin.

Kraus *et al.*, *Ann. Chem.*, 87 (1982)

TORILIS (Umbelliferae)

T. japonica (Houtt.) DC.

SESQUITERPENOIDS: 6,8-cyclo-4(14)-eudesmen-1-ol, 6-methoxy-4(14)-eudesmen-1-ol, torilin.

Itokawa *et al.*, *Chem. Lett.*, 1253 (1983)

T. scabra DC.

SESQUITERPENOIDS: 1-acetoxy-6,7-epoxy-2Z-humulene, 6,7-epoxy-2Z-humulen-1-ol.

Itokawa *et al.*, *Chem. Lett.*, 1581 (1983)

TORREYA (Taxaceae)

T. nucifera.

DITERPENOID: kayadiol.

FURAN: dendrolasin.

SESQUITERPENOIDS: nuciferal, nuciferol, torreyal.

(F) Bernardi *et al.*, *Tetrahedron Lett.*, 3893 (1967)

(T) Sayama *et al.*, *Agr. Biol. Chem.*, **35**, 1069 (1971)

TOURNEFORTIA (Boraginaceae)

T. sibirica L.

UNCHARACTERIZED ALKALOIDS: tourneforcidine, tourneforcine.

Men'shikov *et al.*, *J. Gen. Chem., USSR*, **22**, 1465 (1952)

TOVARIA

T. pendula Ruiz. et Pav.

GLUCOSIDES: N-acetyl-3-indolylmethylglucosinolate, 4-hydroxyglucobrassicin, glucobrassicin, 4-methoxyglucobrassicin, neoglucoibrassicin.

Schraudolf *et al.*, *Z. Naturforsch.*, **41C**, 526 (1986)

TOVOMITA (Guttiferae/Clusiaceae)

***T. choisyana* Planch et Triana.**

XANTHONES: tovopyrifolin A, tovoxanthone.

Gabriel *et al.*, *Phytochemistry*, **11**, 3035 (1972)

***T. macrophylla* (Planch et Triana) Walp.**

XANTHONES: tovophyllin A, tovophyllin B.

Goncales de Oliveira *et al.*, *Phytochemistry*, **11**, 3323 (1972)

***T. pyrifolium* Planch et Triana.**

XANTHONES: stovophyllin A, tovophyllin B, tovopyrifolins A, B and C.

Mesquita *et al.*, *Phytochemistry*, **14**, 803 (1975)

TOXICODENDRON

***T. capense*.**

DITERPENOIDS: capencin, pretoxin.

SESQUITERPENOID: isodihydroheynanchin.

Corbella *et al.*, *Tetrahedron*, **25**, 4835 (1969)

***T. diversilobum*.**

CATECHOL: urushiol.

Corbett, *J. Pharm. Sci.*, **64**, 1715 (1975)

TOXYLON (Moraceae)

***T. pomiferum* Rafin.**

FLAVONOID: 5,7,2',4'-tetraacetoxyflavone.

PHENOLIC: oxyresveratrol.

XANTHONES: 8-deoxygartanin, 6-deoxyjacareubin, toxylxanthones A, B, C and D.

(F, P) Gerber, *Phytochemistry*, **25**, 1697 (1986)

(X) Deshpande *et al.*, *Indian J. Chem.*, **11**, 518 (1973)

TRACHELANTHUS (Boraginaceae)

T. hisoricus Lipsky.

PYRROLIZIDINE ALKALOIDS: trachelantamine, trachelantamine N-oxide, viridiflorine, viridiflorine N-oxide.

Akramov *et al.*, Dokl. Akad. Nauk Uzb. SSR, **6**, 35 (1961)

T. korolkovii. (Lipsky). Fedtsch.

PYRROLIZIDINE ALKALOIDS: trachelantamine, trachelantamine N-oxide, trachelantine.

Akramov *et al.*, Khim. Prir. Soedin., 351 (1967)

TRACHELIUM (Campanulaceae)

T. caeruleum L.

PYRANS: trans-8,9-epoxy-9-(tetrahydropyran-2-yl)-non-2-ene-4,6-diynal, trans-8,9-epoxy-9-(tetrahydropyran-2-yl)-non-trans-2-ene-4,6-diyn-1-ol, 9-(tetrahydropyran-2-yl)-non-2-ene-4,6-diyn-1,8,9-triol.

Bentley *et al.*, J. Chem. Soc., Perkin I, 1987 (1974)

TRACHELOSPERMUM

T. asiaticum.

STEROIDS: steikaside A, teikaside B

Abe, Yamauchi, Chem. Pharm. Bull., **29**, 416 (1981)

T. asiaticum var. intermedium.

GLYCOSIDE: arctigenic acid-4'- β -gentiobioside.

Nishibe *et al.*, Experientia, **29**, 17 (1973)

TRACHYCALYMNA

***T. fimbriatum* Hook.**

STEROID: 3,8,14-trihydroxy-5,8,17-pregnan-20-one.

Elber *et al.*, *Helv. Chim. Acta*, **52**, 2583 (1969)

TRACHYLOBIUM

***T. verrucosum* (Gaertn.) Oliv.**

BENZOFURANS: 2-benzyl-2-hydroxybenzo-[b]-furan-3(2H)-one, 2-benzyl-2,3',4',6'-tetrahydroxybenzo-[b]-furan-3(2H)-one.

CHALCONES: (+)-mopanol, (+)-mopanol B, (+)-peltogynol, (+)-peltogynol B, 2',3,4,4'-pentahydroxychalcone.

FLAVANONES: (\pm)-3-O-methyl-2,3-cis-fustin, (\pm)-3-O-methyl-2,3-trans-fustin.

DITERPENOIDS: enantio-18-acetoxy-8(20),13-labdadien-15-oic acid, enantio-labd-8(20)-ene-15,18-dioic acid, enantio-labd-8(20)-ene-15,18-diol, enantio-labd-8(20)-en-15-oic acid, enantio-pinifolic acid, trachylobanic acid, kaurenic acid.

(B, C, F) Ferreira *et al.*, *J. Chem. Soc., Perkin* **1**, 1492 (1974)

(T) Hugel *et al.*, *Tetrahedron, 8th Suppl.*, 203 (1966)

TRACHYSPERMUM

***T. roxburghianum*.**

MONOTERPENOIDS: carvacrol, linalool, α -phellandrene, β -phellandrene, α -pinene, β -pinene, sabinene, terpinene, α -terpineol.

Saito, *Planta Med.*, **30**, 349 (1976)

TRAMETES

***T. cinnabarina*.**

PIGMENTS: cinnabarin, tramesanguin.

Gripenberg *et al.*, *Acta Chem. Scand.*, **17**, 703 (1963)

T. dickensii.

TRITERPENOID: carboxyacetylquercinic acid.

Adam *et al.*, *Tetrahedron Lett.*, 1461 (1967)

T. feeii.

TRITERPENOID: 6-hydroxypolyporenic acid.

Simes *et al.*, *J. Chem. Soc., Chem. Commun.*, 1150 (1969)

T. lilacino.

TRITERPENOID: dehydrotumulosic acid.

Pinhey *et al.*, *Aust. J. Chem.*, **23**, 2141 (1970)

T. odorata.

TRITERPENOID: 3 β -hydroxylanosta-8,24-dien-21-oic acid.

Halsall, Rogers, *J. Chem. Soc.*, 2036 (1959)

T. stowardii.

TRITERPENOIDS: carboxyacetylstowardolic acid, stowardolic acid.

Cheung *et al.*, *Aust. J. Chem.*, **26**, 609 (1973)

TRAVERSIA (Asteraceae/Senecionae)

T. baccharoides Hook f.

ESTERS: butyl caffeate, dibutyl traversate.

FLAVANONES: quercetin 3-isobutyrate, quercetin 3'-isobutyrate, quercetin 4-isobutyrate, 5,3',4'-trihydroxy-7-methoxyflavanone.

DITERPENOIDS: labd-13-ene-5,18-diol, 13-epi-ent-manoyl oxide.

Kulanthaival, Benn, *Can. J. Chem.*, **64**, 514 (1986)

TREMIA

T. micrantha.

UNCHARACTERIZED ALKALOIDS: tremidine, tremine.

Ribiero, Machado, *Bol. Inst. Quim. Agr.*, **27**, 7 (1952)

T. orientalis.

TRITERPENOID: trematol.

Ogunkota *et al.*, *Phytochemistry*, **16**, 1606 (1977)

TRENTEPOHLIA (Chlorophyceae/Trentepohliaceae)

T. iolithus.

CAROTENOIDS: β,ϵ -carotene, β,β -carotene-2,2'-diol, β,β -caroten-2-ol, β,ϵ -caroten-2-ol, β,β -caroten-2-ol epoxide.

Kjosen *et al.*, *Acta Chem. Scand.*, **26**, 3053 (1972)

Buchecker *et al.*, *ibid.* **28B**, 449 (1974)

TREVOA

T. trinervis.

TRITERPENOIDs: trevogenins A, B and C.

Betancor *et al.*, *Tetrahedron Lett.*, 1125 (1982)

TREWIA (Euphorbiaceae)

T. nudiflora.

MAYTANSOID ALKALOIDS: dehydrotrewiasine, N-methyltrenudone, teflorine, trenudine, trewiasine.

PYRIDONE ALKALOID: nudiflorine.

Powell *et al.*, *J. Am. Chem. Soc.*, **104**, 4829 (1982)

TRIANTHEMA

T. monogyna L.

One uncharacterized alkaloid.

Basu, Sharma, *Quart. J. Pharm.*, **20**, 39 (1947)

TRIBONEMA (Xanthophyceae/Tribonemataceae)

T. aequale.

CAROTENOID: heteroxanthin.

Kleinig, Egger, *Z. Naturforsch.*, **22B**, 868 (1967)

TRIBULUS (Zygophyllaceae)

T. terrestris L.

SAPONIN: saponoside C.

STEROIDS: hecogenin, neohecogenin glucoside, tribulosin.
 (Sap) Tomova, Gyulematova, *Planta Med.*, **34**, 188 (1978)
 (S) Mahato *et al.*, *J. Chem. Soc., Perkin I*, 2405 (1981)

TRICACHNA

T. vestita.

UNCHARACTERIZED ALKALOID: tricachnine.

Ribiero, Machado, *Eigenharia Quim.*, **4**, 26 (1952)

TRICHADENIA

T. zeylandica.

TRITERPENOIDS: acetoxytrichadenic acid, trichadenal, trichadenic acid, trichadenic acid A, trichadenic acid B, trichadonic acid.

Gunasekera, Sultanbawa, *Tetrahedron Lett.*, 2837 (1973)

Gunasekera, Sultanbawa, *J. Chem. Soc., Perkin I*, 483 (1977)

TRICHILIA (Meliaceae)

T. dregeana.

SESTERTERPENOIDS: dregeana-1, dregeana-2, dregeana-3, dregeana-4.

Mulholland *et al.*, *Phytochemistry*, **19**, 2421 (1980)

T. havanensis.

LIMONOIDS: havanensin, neohavanensin, trichilenone acetate.

Chan *et al.*, *J. Chem. Soc., Chem. Commun.*, 720 (1967)

T. heudelettii.

LIMONOIDS: heudebolin, heudelottins A, B, C, D, E and F.

Okorie, Taylor, *J. Chem. Soc., C*, 1828 (1968)

T. hirta.

LIMONOID: deacetyl hirtin, hirtin.

Chan, Taylor, *J. Chem. Soc., Chem. Commun.*, 206 (1966)

T. hispida Penning.

TRITERPENOID: bourjotinolone A, hispidols A and B, hispidone.

Jolad *et al.*, *J. Org. Chem.*, **46**, 4085 (1981)

T. prieruiana.

LIMONOID: prieruianine.

Bevan *et al.*, *Nature*, **206**, 1323 (1965)

T. roka.

LIMONOID: 7-acetyltrichilin, sendanin, trichilin.

Nakatani *et al.*, *Phytochemistry*, **24**, 195 (1985)

TRICHOCEREUS (Cactaceae)

T. candicans.

AMINE ALKALOIDS: N-methyltyramine, tyramine.

QUATERNARY ALKALOID: candicine.

Luduena, *C. R. Soc. Biol.*, **121**, 368 (1936)

Mata *et al.*, *Lloydia*, **39**, 461 (1976)

T. spachianus.

AMINE ALKALOIDS: N-methyltyramine, tyramine.

Mata *et al.*, *Lloydia*, **39**, 461 (1976)

T. terscheki.

AMINE ALKALOID: trichocereine.

Luduena, *C. R. Soc. Biol.*, **121**, 368 (1974)**THICHOCLINE*****T. incana.***

COUMARIN: trichoclin.

Miyakado *et al.*, *Phytochemistry*, **17**, 143 (1978)**TRICHOCOLEA (MUSCI)*****T. tomentella (Ehrh.) Dum.***

ESTERS: isotomentellin, tomentellin, trichocolein.

Asakawa *et al.*, *Experientia*, **34**, 155 (1978)**TRICHOCOLEOPSIS*****T. sacculata.***

DITERPENOIDS: isosaccumatal, saccumatal.

Asakawa *et al.*, *Tetrahedron Lett.*, 1407 (1977)**TRICHODERMA*****T. viride.***PYRONE: 6-(pent-1-enyl)- α -pyrone.Moss *et al.*, *Phytochemistry*, **14**, 2706 (1975)

TRICHODESMA (Boraginaceae)

T. incanum (Bge.) DC.

PYRROLIZIDINE ALKALOIDS: incanine, incanine N-oxide, trichodesmine, trichodesmine N-oxide.

Men'shikov, Rubinshtein, *Ber. Dtsch. Chem. Ges.*, **68**, 2039 (1935)

TRICHOGONIA

T. gardneri.

SESQUITERPENOID: (5R,6R,7S,8R,9R)-14-acetoxy-3-chloro-9-hydroxy-2-oxo-8-tigloyloxyguaia-1(10),3-dien-6,12-olide.

Vichnewski *et al.*, *Phytochemistry*, **24**, 291 (1985)

T. grazielae.

SESQUITERPENOID: α -muurolen-15-oic acid.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1323 (1981)

TRICHOLOMA

T. portentosum (Fr.) Qu.

STEROID: portensterol.

TRITERPENOID: tricholidic acid.

Nozoe *et al.*, *Chem. Lett.*, 1679 (1982)

TRICHOLOMOPSIS

T. rutilans.

ACETYLENICS: L-2-aminohex-4-yneic acid, L-2-amino-3-hydroxyhex-4-yneic acid.

AMINO ACIDS: L-3-(3-carboxy-4-furyl)-alanine, τ -glutamyl-L-2-amino hex-4-yneic acid, τ -L-glutamyl-L-erythro-2-amino-3-hydroxyhex-4-yneic acid.

Niimura *et al.*, *Phytochemistry*, **16**, 1435 (1977)

TRICHOSANTHES (Cucurbitoideae)

T. kirilowii.

STEROIDS: campesterol, 7-campesterol, 24-ethylcholesta-5,25-dien-3 β -ol, 24-ethylcholesta-7,24(25)-dien-3 β -ol, 24-ethylcholesta-7,25-dien-3 β -ol, β -sitosterol, stigmasta-7,22-dien-3 β -ol, stigmasterol, 7-stigmasterol.

Homberg *et al.*, *Phytochemistry*, **16**, 288 (1977)

T. palmata.

SAPONIN: trichonin.

TRITERPENOID: cycloecalenol.

Bhander, Rastogi, *Indian J. Chem.*, **22B**, 252 (1983)

TRICHOSTEMA

T. lanceolatum.

MONOTERPENOID: caryophyllene, p-cymene, β -phellandrene, α -pinene, α -terpinene, τ -terpinene, α -terpineol, terpin-4-ol, terpinolene.

Schultz *et al.*, *J. Agric. Food Chem.*, **24**, 862 (1976); *Chem. Abstr.*, 85 43684y

TRICLISIA

T. dictyophylla.

PHENANTHRENE ALKALOID: tridictyophylline.

Spiff *et al.*, *Lloydia*, **44**, 160 (1981)

T. gilletii.

BISBENZYLISOQUINOLINE ALKALOIDS: efirine, tricordatine, trigelletine.

OXOAPORPHINE ALKALOID: O-methylmoschatoline.

UNCHARACTERIZED ALKALOIDS: triclisine, triclisine.

Huls, Detry, *Bull. Soc. R. Sci. Liege*, **42**, 73 (1973)

T. patens.

BISBENZYLISOQUINOLINE ALKALOIDS: aromoline, homoschatoline, tetrandrine.

Dwuma-Badu *et al.*, *Phytochemistry*, **14**, 2423 (1975)

T. subcordata.

BISBENZYLISOQUINOLINE ALKALOIDS: aromoline, homoschatoline, tetrandrine.
 Dwuma-Badu *et al.*, *Phytochemistry*, **14**, 2423 (1975)

TRIDACHIA

T. crispata.

PYRONES: crispatene, crispolone.
 Ireland *et al.*, *Tetrahedron, Suppl. No. 1*, 233 (1980)

TRIFOLIUM (Papilionaceae)

T. alpestre.

PHENOLICS: chlorogenic acid, p-coumaric acid, 3-p-coumaroylquinine.
 Kazakov *et al.*, *Khim. Prir. Soedin.*, 258 (1976)

T. arvense.

AMINO ACIDS: α -alanine, L-asparagine, L-cysteine, L-glutamic acid, L-histidine, leucine, L-lysine, methionine, serine, threonine, tryptophan.

Peterson *et al.*, *Nauka Prakt. Farm.*, 106 (1976); *Chem. Abstr.*, 86 40158q

T. medium.

PHENOLICS: chlorogenic acid, p-coumaric acid, 3-p-coumaroylquinine.
 Kazakov *et al.*, *Khim. Prir. Soedin.*, 258 (1976)

T. montanum.

FLAVONOIDS: hyperoside, ononin, populin, quercetin.
 Kazakov *et al.*, *Khim. Prir. Soedin.*, 415 (1977)

T. pratense L.

AMINO ACIDS: α -alanine, L-asparagine, cis-clovamide, trans-clovamide, L-cysteine, L-glutamic acid, L-histidine, leucine, L-lysine, methionine, serine, tryptophan.

FLAVONES: isorhamnetin, pratensein.

PHENOLICS: chlorogenic acid, p-coumaric acid, 3-p-coumaroylquinine.

PTEROCARPIN: demethylpterocarpin.

(Ac) Yoshihara *et al.*, *Agr. Biol. Chem.*, **41**, 1679 (1977)

(F) Wong, *Chem. Ind. (London)*, 1963 (1961)

(P) Harper *et al.*, *J. Chem. Soc., Chem. Commun.*, 310 (1965)

(Ph) Kazakov *et al.*, *Khim. Prir. Soedin.*, 258 (1976)

T. repens L.

AMINO ACIDS: α -alanine, L-asparagine, L-cysteine, L-glutamic acid, L-histidine, leucine, L-lysine, methionine, serine, tryptophan.

MONOTERPENOIDS: camphene, β -caryophyllene, p-cymene, limonene, linalool, cis-linalool oxide, trans-linalool oxide, linalyl acetate, 1-p-menthene, α -pinene, β -pinene, β -sesquiphellandrene, α -terpinene, α -terpineol, α -terpinyl acetate.

TRITERPENOIDS: soyasapogenols A, B, C, D and E, soyasaponins I, II and III.

(Ac) Peterson *et al.*, Nauka Prakt. Farm., 106 (1976); Chem. Abstr., 86 40158q

(T) Kitagawa *et al.*, Chem. Pharm. Bull., 24, 121 (1976)

(T) Kameoka *et al.*, Agr. Biol. Chem., 41, 1785 (1977)

F. repens L. cv Louisiana Nolin.

LECTIN: trifolin.

Truchet *et al.*, Physiol. Plant, 66, 575 (1986); Chem. Abstr., 105 39367m

TRIGONELLA (Leguminosae)

T. coerulea.

SAPONIN: protodioscin 22-methyl ether.

STEROIDS: diosgenin, gitogenin, neogitogenin, spirostadiene.

(Sap) Bogacheva *et al.*, Khim. Prir. Soedin., 421 (1977)

(S) Bogacheva *et v* Khim.-Farm. Zh., 10, 78 (1976); Chem. Abstr., 86 52662m

T. foenum-graecum.

PYRIDINE ALKALOID: trigonelline.

FLAVONOIDS: kaempferol, quercetin.

SAPONINS: trigofoenosides A, B, C and D, trigonellosides A, B and C, yamogenin-3,26-bisglycoside, yamogenin tetrosides A, B and C.

STEROIDS: fenugreekine, β -sitosterol.

(A) Johns *et al.*, Ber., 18, 2518 (1885)

(F) Sood *et al.*, Indian J. Pharm., 37, 100 (1975)

(Sap) Gupta *et al.*, Phytochemistry, 24, 2399 (1985)

(S) Ghosal *et al.*, ibid., 13, 2247 (1974)

T. occulata.

FLAVONOID: quercetin.

STEROID: β -sitosterol.

Jain, Indian J. Pharm., 38, 25 (1976)

TRILLIUM (Liliaceae)

T. erectum L.

SAPONINS: nolonin, trillarin, trillin.

STEROIDS: bethogenin, fesogenin, kryptogenin, nologenin, nolonin, trillenogenin, trillogenin.

(Sap) Grove *et al.*, *J. Am. Pharm. Assoc.*, **27**, 457 (1938)

(S) Marker *et al.*, *J. Am. Chem. Soc.*, **69**, 2167, (1947)

(S) Marker *et al.*, *ibid.*, **69**, 2386 (1947)

T. grandiflorum (Michx) Salisb.

SAPONIN: trilloside.

Mockle, *Can. J. Pharm.*, **90**, 162 (1957)

T. kamtschaticum.

SAPONINS: 18-norspirostanol oligoglycoside, trillenoside A.

STEROIDS: bethogenin, 26-chloro-26-deoxycryptogenin, pennogenin, trillenogenin.

(Sap) Nohara *et al.*, *Tetrahedron Lett.*, 4381 (1975)

(S) Nohara *et al.*, *Chem. Pharm. Bull.*, 1772 (1974)

T. sessile subsp. californicum.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

T. stylosum.

STEROID: diosgenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

T. tschonoskii.

Two uncharacterized saponins.

Nakano *et al.*, *Phytochemistry*, **22**, 1047 (1983)

TRIPETALIA (Ericaceae)

T. paniculata.

STEROID: β -sitosterol.

TRITERPENOIDS: α -amyrin, betulinic acid, lupeol, oleanolic acid, taraxerol, ursolic acid.

Kawai *et al.*, *Chem. Abstr.*, 88 24499b

TRIPHASIA

T. trifolia.

CAROTENOID: triphasaxanthin.

Yokoyama *et al.*, *J. Org. Chem.*, **35**, 2080 (1970)

TRIPHYOPHYLLUM

T. peltatum.

ISOQUINOLINE ALKALOIDS, isotriphyophylline, 8-methyltetrahydrotriphyophylline, N-methyltriphyophylline, triphyopeltine, triphyophylline.

Lavault, Bruneton, *C.R. Acad. Sci.*, **287C**, 129 (1978)

TRIPTEROSPERMUM

T. taiwanense.

TRITERPENOIDS: norathyriol, oleanolic acid.

XANTHONE: tripteroside.

Lin *et al.*, *Phytochemistry*, **21**, 948 (1982)

TRIPTYRGium

T. hypoglucum.

DITERPENOID: hypolide.

Wu *et al.*, *Yunnan Chih We Yen Chiu*, **1**, 29 (1979)

T. regelii.

DITERPENOID: tripterolide.

Wu *et al.*, *Yunnan Chih We Yen Chiu*, **1**, 29 (1979)

***T. wilfordii* Hook.**

MACROCYCLIC ALKALOIDS: celabenzine, cefafurine, wilfordine, wilforgine, wilforine, wilfortrine, wilforzine.

DITERPENOIDS: celastrol, neotriptophenolide, tripdiolide, triptolide, triptolidenol, triptonide, triptonolide, triptonoterpene, triptonoterpene methyl ether, triptophenolide, triptophenolide methyl ether, wilforlides A and B.

LIGNAN: (-)-lirioresinol.

(A) Kupchan *et al.*, *J. Org. Chem.*, **42**, 3660 (1977)

(L) Briggs *et al.*, *J. Chem. Soc., C*, 3042 (1968)

(T) Deng *et al.*, *Zhiwu Xuebao*, **27**, 516 (1985); *Chem. Abstr.*, 104 31722g

TRISTANIA

***T. conferta*.**

TRITERPENOIDS: 24-methylenecycloartenol, 2,3,23-trihydroxy-12-oleanen-28-oic acid.

Bowden *et al.*, *Aust. J. Chem.*, **28**, 91 (1975)

TRITICUM (Gramineae)

***T. aestivum*.**

GIBBERELLINS: gibberellin A-60, gibberellin A-61, gibberellin A-62.

Kirkwood *et al.*, *J. Chem. Soc., Perkin I*, 689 (1982)

TRIUMFETTA

***T. rhomboidea*.**

FLAVONOIDS: scutellarein 7-O- α -L-rhamnoside, triumboidin.

Srinavasan *et al.*, *Fitoterapia*, **52**, 285 (1982)

TRIXIS

T. inula.

SESQUITERPENOIDS: 9-acetoxytrixikingolide 2'-methylbutyrate, 9 α -isovaleryloxytrixikingolide-2'-methylbutyrate, 9 α -senecioyloxy-12-desoxotrixikingolide-2'-methylbutyrate, 9-valeryloxytrixikingolide 2'-methylbutyrate.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1649 (1981)

T. paradoxa Cass.

SESQUITERPENOID: triol.

Gonzalez *et al.*, *An. Quim.*, **80C**, 319 (1984).

T. vantheri.

SESQUITERPENOID: methylmethoxytrixate.

Bohlmann, Zdero, *Chem. Ber.*, **112**, 435 (1979)

T. wrightii.

SESQUITERPENOIDS: 9 α -senecioyloxytrixikingolide-2'-methylbutyrate, trixikingolide 2'-isovalerate, trixikingolide 2'-methylbutyrate.

Bohlmann, Zdero, *Chem. Ber.*, **112**, 435 (1979)

TROCHODENDRON

T. aralioides.

TRITERPENOIDS: betulin palmitate, trochoic acid, trochol.

Davy *et al.*, *J. Chem. Soc.*, 2702 (1951)

TROCHOLEJEUNEA

T. sandwicensis.

SESQUITERPENOIDS: dehydropinguisanin, dehydropinguisenol, dehydropinsuisenol, pinguisenal, pinsuisenol.

Asakawa *et al.*, *Phytochemistry*, **19**, 2651 (1980)

TRYPTODENDRON

T. lineatum.

MONOTERPENOID: lineatin.

Mori *et al.*, *Tetrahedron*, **36**, 2197 (1980)

TSUGA

T. canadensis.

SESQUITERPENE: canadene.

Kritchevsky, Anderson, *J. Am. Pharm. Assoc.*, **44**, 535 (1955)

T. chinensis Pritz var. formosana Hay.

ACID: p-hydroxybenzoic acid.

ESTER: (3,5-dihydroxy-2-methyl)-phenyl-4'-hydroxybenzoate.

FLAVONES: epi-afzelechin, epi-catechin, kaempferol.

STEROIDS: campesterol, β -sitosterol.

MONOTERPENOID: dihydroconiferyl alcohol.

DITERPENOIDS: larixol, 13-epi-manool.

Fang *et al.*, *J. Chin. Chem. Soc.*, **32**, 477 (1985); *Chem. Abstr.*, 105 75891m

T. sieboldii.

NAPHTHOFURAN: tsugaresinol.

Haworth *et al.*, *J. Chem. Soc.*, 636 (1935)

TULIPA (Liliaceae)

***T. clusiana* cv. 'Cynthia'.**

SAPONINS: tuliposide A, tuliposide B.

Slob *et al.*, *Chem. Abstr.*, 87 98805k

T. gesneriana.

ACID: 3,4-dihydroxy-2-methylenebutanoic acid.

GLUCOSIDES: 1-tuliposide A, 1-tuliposide B, 6-tuliposide A.

(Ac) Tschesche *et al.*, *Tetrahedron Lett.*, 701 (1968)

(G) Tschesche *et al.*, *Chem. Ber.*, **102**, 2057 (1969)

TUPISTRA

T. aurantiaca.

STEROIDS: 3-epi-neoruscogenin, 3-epi-ruscogenin, 25,27-pentrogenin, rammogenin A, rammogenin B, rammogenin C, rammogenin D,

Yang *et al.*, *Yunnan Zhiwu Yanjiu*, **9**, 217 (1987); *Chem. Abstr.*, 107 194913w

TURBINA

T. corymbosa.

DITERPENOIDS: corymbol, corymbosin, turbicoryn.

Garcia-Jiminez *et al.*, *Tetrahedron*, **23**, 2557 (1967)

TURNEFORCIS

T. sibirica.

UNCHARACTERIZED ALKALOIDS: turneforcidine, turneforcine.

Men'shikov *et al.*, *J. Gen. Chem. USSR*, **22**, 1465 (1952)

TURNERA

T. diffusa.

FLAVONE: 5-hydroxy-7,3',4'-trimethoxyflavone.

Dominguez *et al.*, *Planta Med.*, **30**, 68 (1976)

TURPINIA

T. arguta.

TRITERPENOIDS: 2,3-dihydroxyurs-12-en-18-oic acid, 2,19-dihydroxyursolic acid.

Fang *et al.*, *Zhongcaoyao*, **16**, 53 (1985)

TURREANTHUS

T. africanus.

TRITERPENOID: turreanthin.

Bevan *et al.*, *J. Chem. Soc., Chem. Commun.*, 636 (1965)

TUSSILAGO (Compositae)

T. farfara L.

TRITERPENOIDS: arnidenediol, faradiol.

Santer, Stevenson, *J. Org. Chem.*, **27**, 3204 (1962)

TYDEMANIA

T. expeditionitis.

Three triterpenoids.

Paul *et al.*, *Tetrahedron Lett.*, 3459 (1982)

TYLECODON (Crassulaceae)

T. grandiflorus (Burm.F.) Toelken.

TOXINS: tyledosides A, B, C, D, E, F and G..

Steyn *et al.*, *J. Chem. Soc., Perkin I*, 429 (1986)

T. wallichii.

SAPONIN: cotyledoside.

Steyn *et al.*, *J. Chem. Soc., Perkin I*, 965 (1984)

TYLOPHORA

***T. asthmatica* Wight et Arn.**

PHENANTHROINDOLIZIDINE ALKALOIDS: (+)-isotylocrebine, tylopherine, tylophorinicine, tylophorinidine, tylophorinine.

Mulchandani *et al.*, *Phytochemistry*, **23**, 1206 (1984)

***T. crebiflora* S.T.Blake.**

PHENANTHROINDOLIZIDINE ALKALOID: (-)-tylocrebine.

Gellert *et al.*, *J. Chem. Soc.*, 1008 (1962)

***T. dalzellii*.**

One uncharacterized alkaloid.

Rao *et al.*, *J. Pharm. Sci.*, **60**, 1725 (1971)

***T. indica*.**

Two uncharacterized alkaloids.

Rao *et al.*, *J. Pharm. Sci.*, **60**, 1725 (1962)

***T. kerrii* Craib.**

TRITERPENOIDS: tylolupenol A, tylolupenol B.

Xu *et al.*, *Zhongcaoyao*, **14**, 49 (1983)

TYPHA (Typhaceae)

***T. angustata* L.**

ACIDS: trans-p-hydroxycinnamic acid, trans-propenoic acid 3-hydroxyphenyl-2,3-dihydroxypropyl ester, protocatechuic acid, succinic acid, vanillic acid.

Xu *et al.*, *Zhiwu Xuebao*, **28**, 523 (1986); *Chem. Abstr.*, 106 30035q

***T. latifolia* L.**

STEROID: typhasterol.

Schneider *et al.*, *Tetrahedron Lett.*, 3859 (1983)

U**UDOTEA (Chlorophyceae/Udotaceae)*****U. argentea.***

LACTONE: udoteal epoxylactone.

Paul, Fenical, *Phytochemistry*, **24**, 2239 (1985)***U. petiolata (Turr.) Bergesen.***

DITERPENOID: petiodial.

Fattorusso *et al.*, *Experientia*, **30**, 1275 (1983)**ULEX (Leguminosae)*****U. europaeus L.***

Two uncharacterized alkaloids.

Ribas, Besanta, *Analos Real Soc. Esp. Fis. Quim.*, **48B**, 161 (1952)**ULMUS (Ulmaceae)*****U. campestris.***

TRITERPENOID: friedelin.

Walther *et al.*, *Pharmazie*, **31**, 578 (1976)***U. glabra Huds.***

SESQUITERPENOIDS: 7-hydroxycalamenol, 7-hydroxycalamenene.

Rowe, Toda, *Chem. Ind. (London)*, 922 (1969)***U. laciniata.***

COUMARINS: lacinilenes A, B, C and D.

Nishikawa *et al.*, *Mokuzai Gakkaishi*, **18**, 623 (1972)

U. rubra Muhl.

STEROID: α -sitosterol.

SESQUITERPENOIDS: 7-hydroxycalamenal, 7-hydroxycalamenene.

(S) Bates *et al.*, *Tetrahedron Lett.*, 6163 (1968)

(T) Rowe, Toda, *Chem. Ind. (London)*, 922 (1969)

U. sieboldiana.

FLAVONE: chrysin.

Marsh, *Biochem. J.*, **59**, 58 (1955)

U. thomasii.

SESQUITERPENOID: 7-hydroxycalamenene.

Rowe, Toda, *Chem. Ind. (London)*, 922 (1969)

ULUGBEKIA

U. tschimganica.

PYRROLIZIDINE ALKALOID: uluganine.

PHENOLICS: ulugbekic acid, ulugbinic acid.

(A) Khasanova *et al.*, *Khim. Prir. Soedin.*, 809 (1974)

(P) Khasanova *et al.*, *ibid.*, 601 (1976)

ULVA (Chlorophyceae/Ulvaceae)

U. rigida.

CAROTENOID: loroxanthin.

Aitzetmuller *et al.*, *Phytochemistry*, **8**, 1761 (1969)

ULVARIA (Chlorophyceae/Monostromataceae)

U. chamae L.

COUMARIN: chamaernen.

FLAVANONES: isouvaretin, uvaretin.

(C) Lasswell *et al.*, *Phytochemistry*, **16**, 1439 (1977)

(F) Hufford *et al.*, *J. Org. Chem.*, **41**, 1297 (1976)

UMBELLULARIA (Lauraceae)

U. californica.

MONOTERPENOID: umbellulone.

Power, Lees, *J. Chem. Soc.*, **85**, 636 (1904)

UMBILICARIA (Umbilicariaceae)

U. pustulata.

POLYSACCHARIDES: pustulan, umbilicin.

Lindberg *et al.*, *Acta Chem. Scand.*, **8**, 985 (1954)

UNCARIA (Rubiaceae)

U. attenuate.

PROTOBERBERINE ALKALOID: 3-iso-19-epi-ajmalicine.

Phillipson, Hemingway, *Phytochemistry*, **14**, 1855 (1975)

U. bernaysii.

SPIROINDOLE ALKALOIDS: uncarines A, B, C, D, E and F.

uncarine C N-oxide, uncarine D N-oxide, uncarine E N-oxide, uncarine F N-oxide.

Hemingway, Phillipson, *J. Pharm. Pharmacol.*, **24**, 169P (1972)

U. calophylla.

CARBOLINE ALKALOIDS: dihydrocorynantheine, gambirine, pseudoyohimbine.
 Goh *et al.*, *Phytochemistry*, **24**, 880 (1985)

U. elliptica.

ALKALOID: roxburghine X.

Herath *et al.*, *Phytochemistry*, **18**, 1385 (1979)

U. ferrea DC.

SPIROINDOLE ALKALOIDS: uncarine C, uncarine D, uncarine E.

Hart *et al.*, *J. Chem. Soc., Chem. Commun.*, 87 (1967)

U. gambir (Hunter) Roxb.

ALKALOIDS: roxburghines A, B, C, D and E.

QUATERNARY ALKALOID: ouropantine.

SPIROINDOLE ALKALOIDS: gambirdine, gambirine, gambirtannine, isogambirdine, oxogambirtannine.

LIMONOID: 7-acetoxy-dihydronomilin.

(A) Chan *et al.*, *Tetrahedron Lett.*, 3403 (1968)

(T) Ahmed *et al.*, *Can. J. Chem.*, **56**, 1020 (1978)

U. guianensis.

SPIROINDOLONE ALKALOIDS: isorhyncophylline N-oxide, rhyncophylline N-oxide.

Hemingway, Phillipson, *J. Pharm. Pharmacol.*, **26**, 113P (1974)

U. kawakamii.

SPIROINDOLE ALKALOIDS: uncarine A, uncarine B.

Raymond-Hamet, *C.R. Acad. Sci.*, **203**, 1383 (1936)

U. orientalis Guill.

OXINDOLE ALKALOIDS: isomitraphylline, isorhyncophylline, (-)-mitraphylline, rhyncophylline, uncarine.

Croquelet *et al.*, *Ann. Pharm. Fr.*, **35**, 417 (1977)

U. pteropoda.

SPIROINDOLE ALKALOIDS: isopteropodine, pteropodine.

Yeoh *et al.*, *Tetrahedron Lett.*, 931 (1966)

U. rhyncophylla.

CARBOLINE ALKALOID: dihydroxycorynantheine.

Haginawa *et al.*, *J. Pharm. Soc., Japan*, **93**, 448 (1973)

U. thwaitesii.

TRITERPENOIDS: acetyluncaric acid, ketounscaric acid, uncaric acid.

Herath *et al.*, *Phytochemistry*, **17**, 1979 (1978)

U. tomentosa.

CARBOLINE ALKALOID: hirsutine N-oxide.

SPIROINDOLE ALKALOIDS: isomitraphylline, isomitraphylline N-oxide, rhyncophylline N-oxide.

Hemingway, Phillipson, *J. Pharm. Pharmacol.*, **26**, 113P (1974)

UNGERNIA (Amaryllidaceae)

***U. ferganica* Vved.**

ALKALOIDS: galantamine, hippeastrine, hordenine, lycorine, pancratine, tazettine.

Israilov *et al.*, *J. Gen. Chem., USSR*, **3**, 18 (1965)

***U. minor* Vved.**

ALKALOIDS: lycorine, tazettine, ungeramine, ungminoridine, ungminorine.

Abduasimov *et al.*, *J. Gen. Chem., USSR*, **5**, 31 (1967)

***U. sewerzowii* (Rgl.) B.Fedtsch.**

ALKALOIDS: galantamine, hippeastrine, lycorine, (+)-narvedine, (\pm)-narvedine, (-)-narvedine, tazettine, ungeridine, ungerine, unsevine.

Sadykov, Shakirov, *Khim. Prir. Soedin.*, 134 (1972)

***U. spiralis*.**

ALKALOIDS: hippeastrine, galantamine, tazettine, ungeramine.

Allayarov *et al.*, *Khim. Prir. Soedin.*, 143 (1970)

***U. tadshikorum* Vved.**

ALKALOIDS: galantamine, hippeastrine, lycorine, pancratine, tazettine.

Abdusamatov *et al.*, *J. Gen. Chem., USSR*, **1**, 18 (1963)

***U. trisphaera* Bge.**

ALKALOIDS: galantamine, hippeastrine, lycorine, pancratine, tazettine, trisphaeridine, trisphaerine, ungerine.

MANNAN: ungeromannan.

(A) Yagudaev, Yunusov, *Khim. Prir. Soedin.*, 505 (1972)

(M) Malikov, Rakhimov, *ibid.*, 21 (1986)

***U. victoris* Vved.**

ALKALOIDS: galantamine, hippeastrine, hordenine, lycorine, (\pm)-narvedine, tazettine.

Abdusamatov *et al.*, *J. Gen. Chem., USSR*, **2**, 45 (1962)

***U. vvedensky*.**

ALKALOID: ungvidine.

Kadirov *et al.*, *Khim. Prir. Soedin.*, 585 (1979)

UNONA

U. lawii.

FLAVONES: unonal, unonal 7-methyl ether.

Joshi *et al.*, Indian J. Chem., **14B**, 9 (1976)

URCEOLARIA

U. cretacea.

TRITERPENOID: zeorin.

Barton *et al.*, J. Chem. Soc., 2239 (1958)

URECHTITES (Apocynaceae)

***U. karwinskii* Muell.**

NECINE ALKALOID: loroquine.

Del Castillo *et al.*, Tetrahedron Lett., 1219 (1970)

URGINEA (Amaryllidaceae)

U. altissima.

ISOQUINOLINE ALKALOIDS: acetylcaranine, caranine, lycorine.

Miyakado *et al.*, Phytochemistry, **14**, 2717 (1975)

U. indica (Roxb.) Kunth.

BUFADIENOLIDES: scillarenin, scillarenin 3-O- α -L-rhamnoside, scillarenin 3-O- α -L-rhamnoside- β -D-glucoside, scilliglaucoside, scilliglaucoside 3-O- β -D-glucoside, scilliphaoisidin, scilliphaoisidin 3-O- α -L-rhamnoside.

Kopp, Danner, Sci. Pharm., **51**, 227 (1983); Chem. Abstr., 100 32202s

U. maritima.

FLAVONOIDs: kaempferol 7-glucoside-3-diglucoside, kaempferol 7-glucoside-3-rhamnoglucoside, kaempferol 7-glucoside-3-triglucoside, kaempferol 7-hamnoside-3-rhamnoglucoside, Steroid scillirosidin.

(F) Fernandez *et al.*, *Sci. Pharm.*, **44**, 307 (1976); *Chem. Abstr.*, 86 103073f

(S) Wartburg *et al.*, *Helv. Chim. Acta*, **42**, 1620 (1959)

UROSPERMUM (Compositae)

U. dolechampi.

SESQUITERPENOID: urospermal.

Bentley *et al.*, *J. Chem. Soc., Chem. Commun.*, 475 (1970)

URSINIA (Compositae)

U. alpina.

SESQUITERPENOID: (2E,6E)-12-hydroxynerolidol.

Bohlmann *et al.*, *Phytochemistry*, **19**, 587 (1980)

U. anthemoides.

DITERPENOIDs: ursialpinolide, ursinolides A, B and C.

SESQUITERPENOIDs: 1-angeloyloxy-12-hydroxynerolidol, (2E,6E)-12-hydroxynerolidol.

Bohlmann *et al.*, *Phytochemistry*, **19**, 587 (1980)

U. anthemoides (L.) Poiret.

DITERPENOIDs: ursinolides A, B and C.

Grabarczyk *et al.*, *Pol. J. Pharmacol. Pharm.*, **25**, 469 (1973)

U. nana.

SESQUITERPENOIDs: 2-angeloyloxy-8-hydroxy-5-presilphiperfolone, athamanolide, 9-desacetoxyanhydroathamantholide, 9-desacetoxy-5-hydroxyathamantholide, ursinanolide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1309, (1982)

Bohlmann *et al.*, *ibid.*, **21**, 1331 (1982)

U. saxatilis.

SESQUITERPENOIDs: desacetoxymatricin, 5-hydroxyachillin.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1357 (1982)

USNEA (Usneaceae)

U. aciculifera.

ACID: constictic acid.

Yoshioka *et al.*, *Chem. Pharm. Bull.*, **18**, 2364 (1970)

U. aliphatica.

ALIPHATIC: α -(15-hydroxyhexadecyl)-itaconic acid.

Keogh *et al.*, *Phytochemistry*, **16**, 134 (1977)

U. annulata.

STEROIDS: 5 α ,8 α -epidioxy-5 α -ergosta-6,22-dien-3 β -ol, usnic acid.

Strigina, Sviridov, *Phytochemistry*, **17**, 327 (1978)

U. barbata.

NAPHTHOPYRAN: barbalolin.

Duntze *et al.*, *Ann. Chem.*, **491**, 220 (1931)

U. canariensis.

NAPHTHOPYRAN: canarione.

Huneck *et al.*, *Phytochemistry*, **16**, 121 (1977)

U. dentriticola.

BENZODIOXEPIN: salazinic acid.

Malik *et al.*, *Indian J. Chem.*, **10**, 1040 (1972)

U. undulata.

DIOXEPIN: galbinic acid.

Mendiondo *et al.*, *Phytochemistry*, **11**, 424 (1972)

USTILAGO

U. maydis.

UNCHARACTERIZED ALKALOIDS: ustilaginine, ustilagotoxine.

Mas, Bol. Soc. Quim., *Peru*, **4**, 3 (1938)

UVARIA (Annoniaceae)

***U. afzelii* Scot Elliot.**

BENZOPYRANS: 2-hydroxy-7,8-dehydrograndiflorone, uvafzelic acid, uvafzelin, vafzelin.

FLAVONE: emorgdone.

ISOCOUMARINS: demethoxymatteucinol, 2'-hydroxy-2-methoxymatteucinol.

MONOTERPENOID: syncarpic acid.

Hufford, Oguntiemein, *J. Org. Chem.*, **46**, 3073 (1981)

U. angolensis.

FLAVONOIDS: anguvetin, (\pm)-chamanetin 5-methyl ether, (+)-6,8-dimethylpinocembrin 5-methyl ether, flavokawin B.

Hufford *et al.*, *J. Nat. Prod.*, **45**, 337 (1982)

U. catocarpa.

ESTERS: seneol, senepoxide.

Hollands *et al.*, *Tetrahedron*, **24**, 1633 (1968)

U. chamae.

CHALCONES: chamuvarin, chamuvaritin, diuvaretin, isouvaretin, uvaretin.

ESTERS: chamauvarin, chamauvaritin.

FLAVONOIDS: chamanetin, dichamanetin, isochamanetin, pinocembrin, pinostrobin.

MONOTERPENOID: chamanen.

(C, F) Lasswell *et al.*, *J. Org. Chem.*, **42**, 1285 (1977)

(E) Okorie *et al.*, *Phytochemistry*, **16**, 1591 (1977)

U. elliotiana.

INDOLE ALKALOID: 3,6-bis(3-methyl-2-propenyl) indole.

Achenbach *et al.*, *Tetrahedron Lett.*, 2571 (1979)

U. ferrugina.

ESTERS: senepoxide, tingitanoxide.

Kodpinid *et al.*, *Tetrahedron Lett.*, 2019 (1983)

U. kirkii.

XANTHONES: 1,2,3,4,6,7-hexamethoxyxanthone, uvaretin.

Tammami *et al.*, *Phytochemistry*, **16**, 2040 (1977)

U. ovata.

BISBENZYLISOQUINOLINE ALKALOID: chondrofoline.

PHENOLIC: 2,3,6-trimethoxybenzoate.

(A) Panichpol *et al.*, *Phytochemistry*, **16**, 621 (1977)

(P) Panichpol *et al.*, *J. Pharm. Pharmacol.*, **28**, 71P (1976)

U. pandensis Verde.

SESQUITERPENOIDS: farnesol, 3-farnesylindole.

TRITERPENOID: α -tocopherol.

Nkunya *et al.*, *Phytochemistry*, **26**, 2402 (1987)

U. rufas.

PHENOLIC: 3,7-bisbenzoyloxyhept-4-ene-1,2,6-triol.

Chayunkiat *et al.*, *J. Sci. Soc. Thailand*, **10**, 239 (1984); *Chem. Abstr.*, 103 3676f

UVARIODENDRON

U. connivens.

PHENOLICS: elemicin, 3',4',5'-trimethoxycinnamaldehyde, 3',4',5-trimethoxycinnamyl alcohol.

Mohammed *et al.*, *J. Nat. Prod.*, **48**, 328 (1985)

UVARIOPSIS

U. guineense Keay.

PHENANTHRENE ALKALOIDS: 8-methoxyuvariopsine, noruvariopsamine, uvariopsamine, uvariopsamine N-oxide.

Leboeuf, Cave, *Phytochemistry*, **11**, 2833 (1972)

U. solheidii Robyns et Ghesq.

PHENANTHRENE ALKALOID: uvariopsine.

Bouquet *et al.*, *C.R. Acad. Sci.*, **271C**, 1100 (1970)

UVULARIA (Liliaceae)

U. cirrhosa Thunb.

UNCHARACTERIZED ALKALOID: peimunine.

Li, *J. Chin. Pharm. Assoc.*, **2**, 235 (1940)

V

VACCARIA (Caryophyllaceae)

V. segetalis.

SAPONINS: vaccagosides A, B and C.

Baeva *et al.*, Khim. Prir. Soedin., 658 (1975)

VACCINIUM (Ericaceae)

V. arboreum Marsh.

ANTHOCYANINS: cyanidin 3-O-arabinoside, cyanidin 3-O-galactoside, delphinidin 3-O-arabinoside, delphinidin 3-O-galactoside, delphinidin 3-O-glucoside, malvidin 3-O-arabinoside, malvidin 3-O-galactoside, paeonidin 3-O-arabinoside, paeonidin 3-O-galactoside, paeonidin 3-O-glucoside, petunidin 3-O-arabinoside, petunidin 3-O-galactoside, petunidin 3-O-glucoside.

Ballinger *et al.*, Can. J. Plant Sci., **62**, 683 (1982); Chem. Abstr., 97 195820a

V. bracteatum.

IRIDOID: vaccinoside.

Sakakibara *et al.*, Chem. Pharm. Bull., **19**, 1979 (1971)

V. myrtillus L.

QUINOLIZIDONE ALKALOIDS: myrtine, epi-myrtine.

Slosse, Hootele, Tetrahedron, **37**, 4287 (1982)

V. oxycoccus L. (*Oxycoccus palustris* Pers.).

CARBOLINE ALKALOID: cannagunine.

Jankowski *et al.*, Experientia, **27**, 1141 (1971)

V. vitisi-daea L.

COUMARIN: 2-O-caffeoarylbutin.

Haslam *et al.*, J. Chem. Soc., 5649 (1964)

VALERIANA (Valerianaceae)

V. alliariifolia.

VALEPOTRIATE: 1-acetylvaltratum.

Hoelze, Kock, *Planta Med.*, **50**, 458 (1984)

V. chionophila.

FLAVONOIDS: acacetin, diosnetin, diosnetin 7-O- β -D-glucoside, luteolin, luteolin 7-O- β -D-glucoside, quercetin.

Trzhetsinskii *et al.*, *Khim. Prir. Soedin.*, 255 (1982)

V. condamoana.

VALEPOTRIATES: didrovaltrate, homodidrovaltrate, homovaltrate, isovaleryloxyhydroxydidrovaltrate, isovaltrate, valtrate.

Chavadej *et al.*, *Pharm. Weekbl.*, **7**, 167 (1985); *Chem. Abstr.*, 104 17640x

V. fauriei.

SESQUITERPENOID: cyclokessyl acetate.

Oshima *et al.*, *Tetrahedron Lett.*, 1839 (1986)

V. fedtschenkoi.

FLAVONOIDS: acacetin, diosnetin, diosnetin 7-O- β -D-glucoside, luteolin, luteolin 7-O- β -D-glucoside, quercetin.

Trzhetsinskii *et al.*, *Khim. Prir. Soedin.*, 255 (1982)

V. ficariifolia.

FLAVONOID: luteolin 7-O- β -D-glucoside.

Chavadej *et al.*, *Pharm. Weekbl.*, **7**, 167 (1985); *Chem. Abstr.*, 104 17640x

V. japonica.

SESQUITERPENOID: cryptofauranol.

Hikino *et al.*, *Chem. Pharm. Bull.*, **13**, 631 (1965)

V. microptera.

VALEPOTRIATES: didrovaltrate, homodidrovaltrate, homovaltrate, isovaleroxyhydroxydidovaltrate, isovaltrate, valtrate.

Chavadej *et al.*, *Pharm. Weekbl.*, **7**, 167 (1985); *Chem. Abstr.*, 104 17640x

V. officinalis L.

PYRIDINE ALKALOID: valerenine.

PYRROLE ALKALOIDS: 2-acetylpyrrole, chatinine.

UNCHARACTERIZED ALKALOID: valerine.

IRIDOID: kanokosides A, B, C and D.

SESQUITERPENOIDS: faurinone, kessane, kessene, 8-epi-kessanol, α -kessyl alcohol, kessyl glycol, kongol, maaliol, (+)-maalioxide, valerenone, valerenal, valerenic acid, valerenol, valerenolic acid, valerianol.

VALEPOTRIATES: valepotriate, valtrate, valerosidatum.

(A) Franck *et al.*, *Angew. Chem.*, **82**, 875 (1970)

(T) Holzl *et al.*, *Tetrahedron Lett.*, 1171 (1976)

(T) Endo *et al.*, *Chem. Pharm. Bull.*, **25**, 2140 (1977)

V. priophylla.

VALEPOTRIATES: didrovalrate, homodidrovalrate, homovalrate, isovaleryloxyhydroxydidrovalrate, isovaltrate, valtrate.

Chavadej *et al.*, *Pharm. Weekbl.*, **7**, 167 (1985); *Chem. Abstr.*, 104 17640x

V. pulchella.

VALEPOTRIATES: didrovalrate, homodidrovalrate, homovalrate, isovaleroxyhydroxydidrovalrate, isovaltrate, valtrate.

Chavadej *et al.*, *Pharm. Weekbl.*, **7**, 167 (1985); *Chem. Abstr.*, 104 17640x

V. tilaefolia.

PYRONE ESTERS: valtrathydrines B1, B2 and B3.

Holzl *et al.*, *Tetrahedron Lett.*, 1171 (1976)

V. vaginata.

VALEPOTRIATE: isodihydrovaltrate.

Kucaba *et al.*, *Phytochemistry*, **19**, 575 (1980)

V. wallichii.

SESQUITERPENOIDS: acetylkanokonol, trans-bergamotene, kanokonol, sesquifenchene.

VALEPOTRIATES: acevaltrate, dihydrovaltrate, valtrate, IV HD-valtrate.

(T) Nozoe *et al.*, *Tetrahedron Lett.*, 4625 (1976)

(V) Funke *et al.*, *Planta Med.*, **28**, 215 (1978)

VALLARIS

V. solanacea.

STEROIDS: solanoside, valleroside.

Kaufmann, *Helv. Chim. Acta*, **48**, 83 (1965)

VALLESIA

V. antillana.

INDOLE ALKALOID: (-)-apparicine.

Cuellar *et al.*, *Rev. Cubana Farm.*, **10**, 217 (1976); *Chem. Abstr.*, 88 19009y

V. dichotoma Ruiz. et Pav.

CARBOLINE ALKALOID: vallesamidine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: 1-acetylaspidoalbine, 1-acetyl-17-hydroxyaslidoalbine, aspidospermine, deformylvallesine, dichotamine, dichotine, 11-methoxydichotamine, vallesine. Brown *et al.*, *Tetrahedron Lett.*, 1731 (1963)

Lins, Djerassi, *J. Am. Chem. Soc.*, **82**, 6019 (1970)

V. glabra.

CARBOLINE ALKALOID: vallesamidine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: aspidospermine, vallesine. Conroy *et al.*, *J. Am. Chem. Soc.*, 79, 1763 (1957)

VANDA (Orchidaceae)

V. cristata.

PYRROLIZIDINE ALKALOID: acetyllabuniine.

Lindstrom, Luning, *Acta Chem. Scand.*, **23**, 3352 (1969)

VANDOPSIS

V. longicaulis.

PIPERIDINE ALKALOIDS: N-methylpiperidine N-oxide, N-methylpiperidinium iodide.

Brandage, Luning, *Acta Chem. Scand.*, **24**, 353 (1970)

VANGUERIA

V. tomentosa.

TRITERPENOIDS: tomentosolic acid, vanguerin, vangerolic acid.

Barton *et al.*, *J. Chem. Soc.*, 5163 (1962)

VANILLOSMOPSIS

V. erythropappa.

SESQUITERPENOIDS: 15-deoxygoyazansolide, eremanthin, vanillosmin.

Vichnewski *et al.*, *Phytochemistry*, **15**, 1775 (1976)

VASCANELLA

V. hastata.

MACROCYCLIC ALKALOID: carpaine.

Govindachari, Narasimhan, *J. Chem. Soc.*, 2635 (1953)

VELLOZIA (Velloziaceae)

V. bicolor.

DITERPENOID: 13S-hydroxy-15,16-bisnorpimarane-20,8-olide.

Pinto *et al.*, *J. Chem. Soc., Chem. Commun.*, 464 (1983)

V. candida.

DITERPENOID: epoxycorcovadin, epoxyvellozin.

Pinto *et al.*, *Tetrahedron Lett.*, 5043 (1983)

V. caput-ardae.

DITERPENOID: 11,12-dehydrovelloziolone, velloziolone.

Pinto *et al.*, *Quim. Nova.*, **6**, 71 (1983)

V. compacta.

DITERPENOIDS: compactone, seven diterpenoids.
 Rodriguez *et al.*, *Phytochemistry*, **22**, 2005 (1983)

V. *flavicans*.

DITERPENOIDS: veadeiroic acid, veadeirol.
 Pinchin *et al.*, *Phytochemistry*, **17**, 1671 (1978)

V. *glabra*.

TRITERPENOID: (E)-masticadienonic acid.
 Pinto *et al.*, *An. Acad. Brasil Cienc.*, **53**, 69 (1981)

V. *piresiana*.

DITERPENOID: 1,8,11,13-cleistanthetetraene-3,7-dione.
 Pinto *et al.*, *Phytochemistry*, **23**, 1293 (1984)

V. *pusilla*.

One diterpenoid.
 Pinto *et al.*, *J. Chem. Res. Synop.*, 104 (1983)

V. *stipitata*.

DITERPENOID: 7,16-epoxy-20-nor-5(10),6,8,11,13-cleistanthapentaene-3-one.
 Pinto *et al.*, *Tetrahedron Lett.*, 405 (1979)

VENTILAGO

V. *calyculata*.

ANTHRAQUINONE: calyculatone.
 GLYCOSIDES: emodin-1-O- α -L-rhamnoside, emotin-8O- β -D-glucoside.
 ISOCHROMANES: ventilein A, ventilein B.
 ISOCHROMAQUINONES: ventilactone A, ventilactone B.
 (A) Misra *et al.*, *Indian J. Chem.*, **20B**, 721 (1981)
 (G) Rao *et al.*, *J. Nat. Prod.*, **49**, 343 (1986)
 (I) Rao *et al.*, *Phytochemistry*, **24**, 2669 (1985)

V. *madraspatana*.

ANTHRACENE: physcihydrene.
 CHROMAQUINONES: ventiloquinones A, B, C, D, E, F, G and H.
 (An) Perkin, *J. Chem. Soc.*, **65**, 937 (1984)
 (C) Marshall *et al.*, *Phytochemistry*, **24**, 2373 (1985)

VEPRIS

V. ambody H.Perr.

QUINOLONE ALKALOIDS: 2-(hydroxynonyl)-4-quinolone, 2-(nona-3,6-dienyl)-4-quinolone, 2-(oxoundecyl)-4-quinolone.

Kan-Fan *et al.*, *Phytochemistry*, **9**, 1283 (1970)

V. bilocularis.

FURANOQUINOLINE ALKALOID: flindersamine.

TERPENOID: veprisone.

(A) Brown *et al.*, *Aust. J. Chem.*, **7**, 181 (1954)

(T) Govindachari *et al.*, *Tetrahedron*, **20**, 2985 (1964)

V. louisii.

BISQUINOLINE ALKALOIDS: vepridimerine A, vepridimerine B.

QUINOLONE ALKALOID: N-methylpreskimmianine.

QUINOLONE: veprisilone.

(A) Ayafor *et al.*, *Tetrahedron Lett.*, 3293 (1980)

(A) Ngadju *et al.*, *ibid.*, 2041 (1982)

(Q) Ayafor *et al.*, *Phytochemistry*, **21**, 955 (1982)

VERATRUM (Liliaceae)

V. album L.

STEROIDAL ALKALOIDS: angeloylzygadenine, deacetylgermitetrine, deacetylneoprotoveratrine, deacetylprotoveratrine, germerine, germine, germitetidine A, germitetidine B, isogermine, protoveratrine A, protoveratrine B, pseudojervine, rubijervine, veracintine, veralbidine, veratrobasine, veratroylzygadenine.

Kutney *et al.*, *Intersci. Chem. Rep.*, **4**, 265 (1970)

V. album L. var. grandiflorum Maxim.

STEROIDAL ALKALOID: 11-deoxyjervine.

Masamune *et al.*, *Tetrahedron Lett.*, 913 (1964)

V. album L. subsp. lobelianum (Bernh.) Suessenguth.

GLYCOALKALOID: rhamnoveracintine.

STEROIDAL ALKALOIDS: glucoveracintine, 20-(2-methyl-1-pyrrolin-5-oyl)-4-pregnene-3-one, veralinine, veralobine, veralosidine, veralosine, veralosinine, veramarine, veramerine, veramine, verazine.

STEROID: 20-(2-methyl-1-pyrrolin-5-yl)-4-pregnene-3-one.

(A) Bondarenko *et al.*, *Khim. Prir. Soedin.*, 132 (1973)

(A) Grancaj *et al.*, *Chem. Pap.*, **40**, 835 (1986); *Chem. Abstr.*, 107 194870e
 (S) Vassova *et al.*, *Collect. Czech. Chem. Commun.*, **40**, 895 (1975)

V. californicum (Durand).

STEROIDAL ALKALOIDS: cyclopamine, cycloposine, muldamine. Keeler, Steroids, 18, 741 (1974)

V. dahuricum.

STEROIDAL ALKALOID: verdine. Nakhatov *et al.*, *Khim. Prir. Soedin.*, 131 (1980)

V. escholtzii.

STEROIDAL ALKALOIDS: escholerine, isorubijervine, isorubijervosine.
 Klohs *et al.*, *J. Am. Chem. Soc.*, **75**, 2133 (1953)

V. fimbriatum.

STEROIDAL ALKALOIDS: germanitrine, germinitrine.
 Klohs *et al.*, *J. Am. Chem. Soc.*, **74**, 4473 (1952)

V. grandiflorum.

STEROIDAL ALKALOIDS: baikeideine, baikeine, etioline, hosukinidine, epirubijervine, shinonomenine, teinemine, veraflorizine, veratramine.

STEROIDS: cholesterol, dormantinol.

(A) Ito *et al.*, *Tetrahedron Lett.*, 2961 (1972)

(A) Kaneko *et al.*, *Chem. Pharm. Bull.*, **27**, 2534 (1979)

(S) Tanaka *et al.*, *Phytochemistry*, **16**, 1247 (1977)

V. lobelianum Bernh.

STEROIDAL ALKALOIDS: deacetylveratrine A, dideacetylprotoveratrine A, germerine, germidine, germinaline, isorubijervine, loveraine, jervine, protoverine, rubijervine, veralinine, veralkamine, veralodine, veralodinine, veralodisine, veraloidine, veralosidinine, veramarine, veratroylzygadenine, verazine.

UNCHARACTERIZED ALKALOID: veralazine.

Bondarenko *et al.*, *Khim. Prir. Soedin.*, 854 (1971)

Bondarenko, *ibid.*, 132 (1973)

V. maackii.

STEROIDAL ALKALOIDS: angeloylzygadenine, verazine.
 Ikawa *et al.*, *J. Biol. Chem.*, **159**, 517 (1945)

V. sabadilla.

STEROIDAL ALKALOID: cerine.

Ikawa *et al.*, *J. Biol. Chem.*, **159**, 517 (1945)

V. stamineum.

STEROIDAL ALKALOID: 3-(1-2-methylbutyryl)-zygadenine.

Yagi, Kawasaki, *J. Pharm. Soc., Japan*, **82**, 210 (1968)

***V. viride* Ait.**

STEROIDAL ALKALOIDS: cevadine, cevagenine, deacetylprotoveratrine, germbudine, germidine, germine, germitrine, neogermbudine, pseudojervine, rubijervine, veratramine, veratridine, veratrine, veratrosine.

Vejdelek *et al.*, *Chem. Listy*, **49**, 1538 (1955)

Kupchan *et al.*, *J. Am. Chem. Soc.*, **81**, 1921 (1959)

V. viriole.

STEROIDAL ALKALOID: isogermbudine.

Myers *et al.*, *J. Am. Chem. Soc.*, **74**, 3198 (1952)

VERBASCUM (Scrophulariaceae)

V. georgicum.

IRIDOID: verbascoside A, verbascoside B.

Agababyan *et al.*, *Khim. Prir. Soedin.*, 446 (1982)

V. lychnitis.

CAROTENOID: crocetin.

FLAVONOIDS: apigenin, luteolin 5-glucoside, 3',4',5-trihydroxy-7-methoxyflavone.

IRIDOID: aucuboside.

Serdyuk *et al.*, *Khim. Prir. Soedin.*, 545 (1976)

V. nigrum L.

IRIDOID: nigroside 1, nigroside 2.

Siefert *et al.*, *Helv. Chim. Acta*, **65**, 1678 (1982)

***V. nobile* Vel.**

PYRIDINE ALKALOID: pediculinine.

UNCHARACTERIZED ALKALOIDS: verbascine, verbasine.

Ninova *et al.*, *Khim. Prir. Soedin.*, 540 (1971)

V. phlomoides.

SAPONIN: verbascosaponin.

Tschesche *et al.*, *Chem. Ber.*, **113**, 1754 (1980)

V. pseudonobile.

MACROCYCLIC ALKALOID: verbaskine.

Koblikova *et al.*, *Tetrahedron Lett.*, 4831 (1983)

V. sinuatum.

IRIDOID: sinuatol.

Bianco *et al.*, *Planta Med.*, **41**, 75 (1981)

V. songoricum Schrenk.

PYRIDINE ALKALOIDS: anabasine, plantagonine.

Abdusamatov, Yunusov, *Khim. Prir. Soedin.*, 334 (1969)

V. thapsiforme.

POLYSACCHARIDE: ajugose.

Herissey *et al.*, *C.R. Acad. Sci.*, **259**, 824 (1954)

VERBENA (Verbenaceae)

V. hastata.

IRIDOID: hastatoside.

Rimpler, Scheuer, *Z. Naturforsch.*, **34C**, 311 (1979)

V. officinalis L.

FLAVONE: 5-hydroxy-3,6,7,3',4'-pentamethoxyflavone.

IRIDOID: aucubin, hastatoside, verbenalin, (+)-verbenone.

STEROID: α -sitosterol.

TRITERPENOIDS: lupeol, ursolic acid.

Makboul, *Fitoterapia*, **57**, 50 (1986)

V. pulchella.

IRIDOID: pulchellosides I and II.

Milz, Rimpler, *Tetrahedron Lett.*, 895 (1978)

V. rupestris.

SESQUITERPENOIDS: 10-epi-camphenenol, rupestrinol, rupestrol.

Box, Chen, *Phytochemistry*, **16**, 987 (1977)

VERBESINA

V. aff. coahuilensis.

SESQUITERPENOIDS: verafinin A, verafinin B.

Guererro, Diaz, *Rev. Latinoam. Quim.*, **14**, 70 (1983)

V. coahuilensis.

SESQUITERPENOIDS: verafinin A, verafinin B, veratinin.

Guerrero *et al.*, *Rev. Latinoam. Quim.*, **6**, 53, 119 (1975)

V. eggersii.

SESQUITERPENOIDS: 6β -cinnamoyloxy- 1α -acetoxyeudesman-14-oic acid, 6β -cinnamoyloxy-3,4-didehydroeudesman-14-al, 6β -cinnamoyloxy-3,4-didehydroeudesmane, 6β -cinnamoyloxyeudesman-14-al, 6β -cinnamoyloxy- $1\beta,4\alpha$ -dihydroxyeudesmane, 6β -cinnamoyloxy- 3α -hydroxyeudesman-14-al, 6β -cinnamoyloxy- 3β -hydroxyeudesman-14 β -al, 6β -cinnamoyloxy- 14α -hydroxyeudesmane, 6β -cinnamoyloxy- 1α -hydroxyeudesman-14-oic acid, 6β -cinnamoyloxy-hydroxyeudesman-14-oic acid.

Bohlmann, Lonitz, *Chem. Ber.*, **111**, 254 (1978)

V. occidentalis.

SESQUITERPENOID: 8β -acetoxy- 9β -hydroxyverbococcidentene.

Bohlmann, Lonitz, *Phytochemistry*, **17**, 453 (1978)

V. rupestris.

SESQUITERPENOID: chaenocephalol, iso-epi-camphenol, rupestrinol, rupestrol, rupestrol cinnamate, rupestrol orthocinnamate.

Box *et al.*, *Phytochemistry*, **16**, 987 (1977)

V. virgata.

Two sesquiterpenoids.

Martinez *et al.*, *Phytochemistry*, **22**, 979 (1983)

V. virginica.

SESQUITERPENOID: verbasindiol, α -verbesinol coumarate, β -verbesinol coumarate.

Herz, Kumar, *Phytochemistry*, **20**, 247 (1981)

VERNONIA (Compositae)

V. adoensis.

Two glaucolide sesquiterpenoids.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1795 (1984)

V. amygdalina.

SESQUITERPENOID: 11,13-dihydrovernoldalin, vernoldalin, vernomygin.

Ganjian *et al.*, *Phytochemistry*, **22**, 2525 (1983)

V. angusticeps.

SESQUITERPENOID: 3-hydroxygrandolide, 3-oxograndolide.

Perez Souto, *Rev. Cubana Farm.*, **17**, 17 (1983); *Chem. Abstr.*, 100 20448p

V. anthelmintica.

ACID: vernolic acid.

STEROID: vernosterol.

SESQUITERPENOID: vernodalol.

(A) Hopkins *et al.*, *J. Amer. Oil Chem. Soc.*, **37**, 682 (1960)

(S) Fioriti *et al.*, *Tetrahedron Lett.*, 2971 (1970)

(T) Asaka *et al.*, *Phytochemistry*, **16**, 1838 (1977)

V. arkansana.

SESQUITERPENOIDS: 4,7-epoxy-1,5-dihydro-11(13)-bourbonen-12,6-olide, 4,7-epoxy-1,5-dihydro-8-methylpropenyl-11(13)-bourbonen-12,6-olide, 4,7-epoxy-1,5-dihydro-8-tiglyl-11(13)-bourbonen-12,6-olide.

Bohlmann, *Phytochemistry*, **20**, 473 (1981)

V. baldwinii.

SESQUITERPENOID: glaucolide B.

Padolina, *Ph.D. Thesis Univ. Texas & Austin*, (1973)

V. colorata.

SESQUITERPENOID: vernalide.

Toubiana, Gadamer, *Tetrahedron Lett.*, 1333 (1967)

V. compactiflora. SESQUITERPENOIDS:

compactifloride, 8-hexanoylcompactifloride.

Bohlmann *et al.*, *Phytochemistry*, **21**, 695 (1982)

V. conerea.

TRITERPENOID: 24-hydroxytaraxer-14-ene.

Misra *et al.*, *J. Nat. Prod.*, **47**, 865 (1984)

V. conferta.

SESQUITERPENOID: confertolide.

Toubiana *et al.*, *C.R. Acad. Sci.*, **270C**, 1033 (1970)

V. cotoneaster.

SESQUITERPENOIDS: 2,8,13-triacetoxy-1(10),4,7(11)-germacratrien-12,6-olide, vernalallenoid.

Bohlmann *et al.*, *Phytochemistry*, **21**, 695 (1982)

V. echitifolia.

Four sesquiterpenoids.

Bohlmann *et al.*, *Phytochemistry*, **20**, 2233 (1981)

V. erdverbengii.

SESQUITERPENOIDS: 8-desacetylglaucolide A, 8-desacetylglaucolide A tiglate, glaucolide A, three hirsutinolides. Triterpenoids lupeol, lupeyl acetate.

Dominguez *et al.*, *J. Nat. Prod.*, **49**, 704 (1986)

V. fasciculata.

FLAVONE: fasciculatin.

Narain *et al.*, *J. Chem. Soc., Perkin I*, 1018 (1977)

V. flexuosa.

SESQUITERPENOIDS: vernoflexin, vernoflexuoside.

Kiesel, *Pol. J. Pharmacol. Pharm.*, **27**, 461 (1975)

V. glauca.

SESQUITERPENOID: glaucolide A.

Padolina *et al.*, *Ph.D. Thesis, Univ. Texas & Austin*, (1973)

V. guineensis.

SESQUITERPENOIDS: vernodalin, vernolepin.

Kupchan *et al.*, *J. Org. Chem.*, **34**, 3908 (1969)

V. hymenolepis.

SESQUITERPENOIDS: vernolepin, vernomerin.

Kupchan *et al.*, *J. Am. Chem. Soc.*, **90**, 3596 (1968)

V. jaciculata.

SESQUITERPENOID: marginatin.

Padolina *et al.*, *Phytochemistry*, **13**, 225 (1974)

V. marginata.

SESQUITERPENOID: marginatin, four glaucolides, two jalcaguaianolides, one pseudoelephantopide and four vernomargalides.

Jakupovic *et al.*, *Phytochemistry*, **25**, 1179 (1986)

V. molissima.

SESQUITERPENOIDS: 8-acetyl-13-ethoxypiptocarphol, diacetylpiptocarphol, loliolide, piptocarphin A.

Catalan *et al.*, *J. Nat. Prod.*, **49**, 351 (1986)

V. monocephala.

SESQUITERPENOID: 8-hexanoylcompactifloride.

Bohlmann *et al.*, *Phytochemistry*, **21**, 695 (1982)

V. nudiflora.

SESQUITERPENOIDS: 8 α -senecioyloxydehydrocostus lactone, vernudiflorin.

Bohlmann, Zdero, *Phytochemistry*, **16**, 778 (1977)

V. officinalis L.

IRIDOID: vadroside, veproside.

Afifi-Yazar *et al.*, *Helv. Chim. Acta*, **64**, 16 (1981)

V. oligocephala.

Two glaucolide sesquiterpenoids.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1795 (1984)

V. pectoralis.

SESQUITERPENOIDS: pectorolide, vernopectolide A, vernopectolide B.

Monpon, Toubiana, *Tetrahedron*, **32**, 2545 (1976)

V. polyanthes.

SESQUITERPENOIDS: vernopolianthofuran, vernopolianthone.

Bohlmann *et al.*, *Phytochemistry*, **20**, 473 (1981)

V. saltensis.

SESQUITERPENOIDS: hirsutinolide-8,13-diacetate, hirsutinolide-1,8,13-triacetate.

Bohlmann *et al.*, *Phytochemistry*, **18**, 289 (1979)

V. scorpioides.

SESQUITERPENOIDS: hirsutinolide-1,13-diacetate, hirsutinolide-8-propionate, scorpilolide.

Bohlmann *et al.*, *Phytochemistry*, **18**, 289 (1979)

Warning *et al.*, *Ann. Chim.*, 467 (1987)

V. squamulosa.

SESQUITERPENOIDS: glaucolides A, B, C, D, E, F and G, piptocarphin E.

Cayalan *et al.*, *J. Nat. Prod.*, **49**, 351 (1986)

V. stachenoides.

SESQUITERPENOIDS: 3-hydroxystilpnotomentolide 8-O-4-acetoxy-3-methyl-2-butenoate, 3-hydroxystilpnotomentolide 8-O-5-acetoxysemenecionate.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1445 (1982)

V. sublutea Scott Elliot.

SESQUITERPENOID: subluteolide.

Mompon, Toubiana, *Tetrahedron*, **23**, 2199 (1977)

V. sutherlandii.

Two glaucolide sesquiterpenoids.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1795 (1984)

V. uniflora.

SESQUITERPENOIDS: glaucolide D, glaucolide E.

Betkouski *et al.*, *Rev. Latinoam. Quim.*, **6**, 191 (1975)

VERONICA (Scrophulariaceae)

V. anthelmintica.

STEROIDS: 7,24(28)-stigmastadien-3-ol, 8,14,24(28)-stigmastatrien-3-ol.

Lin *et al.*, *Phytochemistry*, **11**, 2319 (1972)

V. bellidioides.

PHENYLPROPANOID: ehrenoside.

Lahloub *et al.*, *Planta Med.*, **32**, 325 (1986)

V. officinalis L.

FLAVONOID: 6-hydroxyluteolin-7-monoglycoside.

IRIDOIDS: minecoside, verminoside, veronicoside, verproside.

(F) Kojcik, *Acta Pol. Pharm.*, **34**, 295 (1977); *Chem. Abstr.*, 88 86009m

(I) Sticher *et al.*, *Helv. Chim. Acta*, **62**, 530 (1979)

(I) Afifi-Yazar *et al.*, *ibid.*, **63**, 905 (1980)

V. peregrina L.

FLAVONOID: luteolin.

PHENOLICS: protocatechuic acid, vanillic acid.

Jin *et al.*, *Zhongcaoyao*, **13**, 10 (1982); *Chem. Abstr.*, 97 17871g

V. spicata.

FLAVONOIDS: apigenin, apigenin 7- β -D-glucuronide, cymaroside, luteolin.

Kusev *et al.*, *Khim. Prir. Soedin.*, 704 (1977)

VERTICILLIUM

V. agaricum.

CAROTENOID: apo-4,4'-carotenic acid methyl ester.

Valadon, Mummery, *Phytochemistry*, **16**, 613 (1977)

V. dahliae.

NAPHTHALENONE: 4-hydroxyscytalone.

SESQUITERPENOID: dehydrohemigossypol.

Iwasaki *et al.*, *Tetrahedron Lett.*, **13** (1972)

V. lecani.

STEROID: 2 β -hydroxy-4,4,14-trimethyl-5 α -pregna-2,9(11)-diene-20S-carboxylic acid.

TRITERPENOID: 23,24,25,26,27-pentanorlanost-8-en-3,22-diol.

Gore, *Phytochemistry*, **23**, 1721 (1984)

VESTIA

V. lycioides.

CARBOLINE ALKALOIDS: 1-acetyl-3-carbomethoxy- β -carboline, 1-acetyl-8-carbomethoxy- β -carboline.

Fain *et al.*, *Phytochemistry*, **17**, 338 (1978)

VETIVERIA

V. zizanioides.

NORSESQUITERPENOID: norkhusinol oxide.

SESQUITERPENOIDS: allokhusinol, bicyclodecenone, (-)-cadinane, cyclocopacamphepane, cyclocopacamphorenic acid, epi-cyclocopacamphorenic acid, isobisabolene, isokhusenic acid, isokhusinol, isokhusinol oxide, isovalencenic acid, isovalencenol, isovetiselinol, khusenol, khusilal, khusimene, khusimone, khusinol, epi-khusinol, khusinoloxide, khusiol, khusol, (+)-khusitene, khusitone, khusol, selina-4(14),7(11)-diene, tricyclovetivenol, veticadinol, vetiselinene, vetiselineno, α -vetispirene, β -vetispirene, α -vetivenine, β -vetivenine, α -vetivone, β -vetivone, zizanal, 7-epi-zizanal, zizanoic acid, 5-epi-zizanoic acid, zizanol.

Jain *et al.*, *Tetrahedron Lett.*, 4639 (1982)

Kalsi *et al.*, *Tetrahedron*, **41**, 3387 (1985)

VIBURNUM (Caprifoliaceae)

V. awabuki K.Koch.

COUMARINS: scopolitin, scopolitin glucoside.

Kuroyanagi *et al.*, *Chem. Pharm. Bull.*, **34**, 4012 (1986)

V. betulifolium.

IRIDOIDS: decapetaloside, viburnalloside.

Jensen *et al.*, *Phytochemistry*, **24**, 487 (1985)

V. davidii.

CHALCONES: davidigenin, davidioside, davidioside-2'-O- β -glucoside, 4'-O-methyldavidigenin.

Jensen *et al.*, *Phytochemistry*, **16**, 2536 (1977)

V. dilatatum.

GLUCOSIDE: dilaspriolactone.

Iwagawa *et al.*, *Phytochemistry*, **23**, 2299 (1984)***V. japonicum.***

IRIDOID: acetylalloside, adenoxide, 2',3'-O-diacetylfurcoside, furcoside A.

Iwagawa *et al.*, *Phytochemistry*, **25**, 1227 (1986)***V. lantana L.***

ANTHOCYANIN: cyanidin 3-glucoside.

FLAVONOID: kaempferol 3-diglucoside.

TRITERPENOID: ursolic acid.

(An, F) Guichard *et al.*, *Plant Med. Phytother.*, **10**, 105 (1976)(T) Cucu *et al.*, *Pharmazie*, **32**, 542 (1977)***V. lantanoides.***

CHALCONES: davidioside, davidioside 4'-O-methyl ether.

Jensen *et al.*, *Phytochemistry*, **16**, 2036 (1977)***V. odoratissimum.***

DITERPENOIDS: vibsanthins A, B, C, D, E and F.

Kawazu *et al.*, *Agr. Biol. Chem.*, **44**, 1367 (1980)***V. opulus L.***

IRIDOID: opulus iridoids I, II, III and IV.

Bock *et al.*, *Phytochemistry*, **17**, 753 (1978)***V. phlebotrichum.***

MONOTERPENE GLYCOSIDE: phlebotricoside.

Hase *et al.*, *Phytochemistry*, **21**, 1435 (1982)***V. suspensum.***

IRIDOID: suspensolide A.

Hase *et al.*, *Chem. Lett.*, 13 (1982)***V. urceolatum.***

IRIDOID: iridoids VU-A, VU-B, VU-C and VU-D, urceolide.

Hase *et al.*, *Phytochemistry*, **22**, 255, 1977 (1983)Hase *et al.*, *ibid.*, **22**, 1977 (1983)

VICIA (Leguminosae/Fumariaceae)

V. angustifolia.

STEROIDS: β -sitosterol, β -sitosterol β -D-glucoside, stigmasterol.

Kameoka *et al.*, *Chem. Abstr.*, 104 17659k

V. faba L.

ACIDS: (+)-7-isojasmonic acid, (-)-jasmonic acid.

GIBBERELLIN: gibberellin A-53.

PHYTOALEXIN: medicarpin.

SESQUITERPENOID: wyerone epoxide.

URACIL: convicine.

(Acid) Miersch *et al.*, *J. Plant Growth Regul.*, 5, 91 (1986); *Chem. Abstr.*, 105 222748a

(G, T) Hargreaves *et al.*, *Phytochemistry*, 15, 1119 (1976)

(Ph) Hargreaves *et al.*, *Nature*, 262, 318 (1976)

(U) Brown *et al.*, *ibid.*, 11, 3203 (1972)

V. pseudoorobus.

AMINO ACID: α -(hydroxymethyl)serine.

Saito *et al.*, *Phytochemistry*, 24, 853 (1985)

V. saliva.

AMINO ACIDS: τ -glutamyl- τ -aminobutyric acid, τ -glutamyl- β -cyanoalanine.

URACIL: convicine.

(Am) Larsen *et al.*, *Acta Chem. Scand.*, 19, 1071 (1965)

(U) Brown *et al.*, *Phytochemistry*, 11, 3203 (1972)

VICOA

V. indica DC.

FLAVONE: 3',5,6-trihydroxy-4',7-dimethoxyflavone.

SESQUITERPENOIDS: viscolides A, B, C and D.

(F) Purushothaman *et al.*, *Indian Drugs*, 23, 480 (1986); *Chem. Abstr.*, 105 75921w

(T) Purushothaman *et al.*, *Indian J. Chem.*, 25B, 417 (1986)

V. vestita.

SESQUITERPENOID: vestolide.

Sachdev, Kulshreshtha, *Phytochemistry*, 23, 2379 (1984)

VIGNA (Papilionaceae)

V. angularis.

SAPOGENIN: azukisapogenol.

Kitagawa *et al.*, *Chem. Pharm. Bull.*, **31**, 664 (1983)

V. marginata.

FLAVONOID: robinin.

Morita *et al.*, *Chem. Abstr.*, 88 14894b

V. unguiculata (L.) Walp.

AMINO ACIDS: arginine, glutamic acid, glycine, methionine.

BENZOFURAN: vignafuran.

(Am) Otoul, *Bull. Rech. Agron. Gembloux*, **9**, 247 (1974); *Chem. Abstr.*, 84 176694c

(B) Preston *et al.*, *Phytochemistry*, **14**, 1843 (1975)

VIGUIERA

V. angustifolia.

SESQUITERPENOIDS: budlein A, budlein B.

Romo de Vivar *et al.*, *Phytochemistry*, **15**, 525 (1976)

V. bishopii.

DITERPENOIDS: ent-9(11)-beyeradien-19-oic acid, ent-9(11)-trachyloben-19-oic acid.

Bohlmann *et al.*, *Phytochemistry*, **20**, 113 (1981)

V. buddleiaeformis.

SESQUITERPENOIDS: budlein A, budlein B.

Romo de Vivar *et al.*, *Phytochemistry*, **15**, 525 (1976)

V. dentata.

Three cycloartenone triterpenoids.

Gao *et al.*, *Phytochemistry*, **25**, 1489 (1986)

V. eriophora.

SESQUITERPENOID: 17,18-dehydrovinguiepinin.

Delgado *et al.*, *Phytochemistry*, **21**, 1305 (1982)

V. insignis.

DITERPENOID: ent-15-beyerene-3,12-diol.

Delgado *et al.*, *Phytochemistry*, **22**, 1227 (1983)

V. linearis.

SESQUITERPENOIDS: 15-hydroxyacetylerioflorin, viguilenin.

Delgado *et al.*, *Phytochemistry*, **24**, 2736 (1985)

V. macrophylla. One

germacranolide and two heliangolides. Gershenzon *et al.*, *Phytochemistry*, **23**, 1281 (1984)

V. maculata.

DITERPENOID: 15-oxozoapatlin.

Delgado *et al.*, *Phytochemistry*, **23**, 2674 (1984)

V. oblongifolia.

SESQUITERPENOIDS: 4,11-amorphadiene.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1183 (1984)

V. pinnatilobata.

SESQUITERPENOIDS: vinguipinin.

Romo de Vivar *et al.*, *Rev. Latinoam. Quim.*, **9**, 171 (1978)

V. sphaerocephala.

SESQUITERPENOIDS: sphaerocephalin.

Ortega *et al.*, *Phytochemistry*, **19**, 1545 (1980)

V. stenoloba.

DITERPENOID: stenolobin.

SESQUITERPENOIDS: deacetylvinguistenin, viguostenin.

Romo de Vivar *et al.*, *Rev. Latinoam. Quim.*, **9**, 171 (1978)

VILEX

V. rotundifolia.

DITERPENOID: dehydroabietane.

MONOTERPENOIDS: bornyl acetate, camphene, 1,8-cineole, limonene, linalool, β -myrcene, β -pinene, terpinen-4-ol, α -terpinyl acetate, τ -terpinyl acetate.

SESQUITERPENOIDS: δ -cadinene, α -cadinol, α -copaene, δ -elemene, β -guaiene, α -muurolene.

Iwamura *et al.*, *Nippon Nogei Kogaku Kaishi*, **52**, 45 (1978); *Chem. Abstr.*, **88** 186084a

VILLANOVA

V. titicaensis.

DITERPENOID: 1,10-epoxycannabinolide.

Gomez *et al.*, *Phytochemistry*, **22**, 197 (1983)

VINCA (Apocynaceae)

V. difformis.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: difformine, normacusine B, (+)-vincadifformine, (\pm)-vincadifformine, vincamedine.

Garnier *et al.*, *Planta Med.*, **66** (1986)

V. elegantissima Hort.

SPIROINDOLONE ALKALOIDS: elegantine, elegantissine, isolegantissine.

Bhattacharyya, Pakrashi, *Tetrahedron Lett.*, **159** (1972)

V. erecta Rgl. et Schmalh.

CARBAZOLE ALKALOIDS: N-acetylvinervine, akuammicine, akuammamine, 10-methoxyvinoridine, O-methylakuammamine, norfluorocurarine, vincandidine, vincanicine, vincanidine, vincanine, vinervidine, vinervidine N-oxide, vinervine, vinervinine.

CARBOLINE ALKALOIDS: apovincamine, eburnamine, eburaamonine, ervincine, ervine, 11-hydroxypleiocarpamine, isoreserpiline, picrinine, tombozine, vincamine, vincaricine, vincaridine, vincarine, vincarinine, vincarpine, vincine.

FURANOQUINOLINE ALKALOID: skimmianine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: epoxykopsinine, epoxykopsinone, ervamycine, ervinadine, ervinadinine, ervinceine, ervincinine, kopsanone, kopsanone lactam, kopsinilam, kopsinilamine, kopsinine, pseudokopsinine.

SPIROINDOLONE ALKALOIDS: ervinidine, erycinine, vineridine, vineridine N-oxide, vinerine.

Kuchenkova *et al.*, *Izv. Akad. Nauk SSSR*, **12**, 2152 (1965)

Rakhimov *et al.*, *Khim. Prir. Soedin.*, **461**, 521 (1969)

Il'yasova *et al.*, *ibid.*, **164** (1971)

V. herbacea Waldst. et Kit.

CARBAZOLE ALKALOIDS: akuammicine, akuammamine, vincanine.

CARBOLINE ALKALOIDS: herbaccine, herbadine, herbamine, norflurocurarine, reserpinine, vincamine, vincarine.

FURANOQUINOLINE ALKALOID: skimmianine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: 16-methoxy-($-$)-tabersonine, N-methyl-6,7-dehydroaspidospermidine, tabersonine.

SPIROINDOLONE ALKALOIDS: herbaline, herbavine, herbozine.

SPIROQUINOLONE ALKALOID: isomajdine.

UNCHARACTERIZED ALKALOIDS: herbavinine, vincaherbine, vincaherbinine, vincaline I, vincaline II.

Zabolstnaya *et al.*, *J. Gen. Chem., USSR*, **33**, 3780 (1963)

Aynilian *et al.*, *J. Pharm. Sci.*, **64**, 341 (1975)

Chkhivadze *et al.*, *Khim. Prir. Soedin.*, 227 (1976)

V. libanotica.

CARBOLINE ALKALOID: herbadine.

Aynilian *et al.*, *J. Pharm. Sci.*, **64**, 341 (1975)

V. major L.

CARBAZOLE ALKALOID: akuammicine.

CARBOLINE ALKALOIDS: lochniverine, majoridine, majorinine, majvinine, 10-methoxyvellosimine, reserpine, vincamajine, vincamajinine.

SPIROINDOLONE ALKALOIDS: isomajdine, majdine, majdinine.

UNCHARACTERIZED ALKALOIDS: vincamajoreine, vinine.

Janot, LeMen, *Ann. Pharm. Fr.*, **13**, 325 (1953)

Yagudaev *et al.*, *Khim. Prir. Soedin.*, 197 (1968)

Zhukovich, Vachnadze, *ibid.*, 720 (1985)

V. major L. var. elegantissima Hort.

CARBOLINE ALKALOIDS: dehydrovincarpine, reserpine, vincarpine.

Ali *et al.*, *Tetrahedron Lett.*, 4887 (1976)

V. major L. var. major.

CARBOLINE ALKALOID: majvinine.

Banerji, Chakravarti, *Phytochemistry*, **16**, 1124 (1977)

V. minor L.

CARBOLINE ALKALOIDS: 10-methoxydeacetylakuammiline, isovincamine, 10-methoxyeburnamonine, epi-pleiocarpamine N(4)-oxide, strictamine, vincamedine, 14-epi-vincamine, vincaminine, vincanorine, vincinine.

DIMERIC ALKALOIDS: vincamidine, vincristine.

INDOLE ALKALOIDS: (+)-vincadine, vincaminoreine, vincaminoridine, vincaminorine, vincatine.

IMIDAZOLIDINOCARBAZOLE ALKALOIDS: 16-methoxyminovincine, 16-methoxyminovincinine, 16-methoxyvincadiformine, 11-methoxyvincamine, (+)-N-methylaspidospermidine, N-methylquebrachamine, minovincine, (-)-minovincinine, minovine, vincatine.

QUATERNARY ALKALOID: N(1)-methyl-2 β ,16 β -dihydroakuammicine N(4)-methochloride.

UNCHARACTERIZED ALKALOIDS: minovinceine, vincareine, vincoridine, vincorine, vinomine, vinoxine.

Schlittler, Furlmeier, *Helv. Chim. Acta*, **36**, 2017 (1953)

Mokry *et al.*, *Tetrahedron Lett.*, 1185 (1962)
 Dopke *et al.*, *Tetrahedron Lett.*, 6065 (1968)

***V. pubescens* Urv.**

CARBOLINE ALKALOID: reserpine.

UNCHARACTERIZED ALKALOIDS: pubescine, vinine.

Orekhov *et al.*, *Arch. Pharm.*, **272**, 70 (1934)

***V. pusilla*.**

CARBOLINE ALKALOID: vincapusine.

Mitra *et al.*, *Phytochemistry*, **20**, 865 (1981)

***V. rosea* L.**

CARBAZOLE ALKALOIDS: lochneridine, preakuammicine.

CARBOLINE ALKALOIDS: isositsirikine, lochnerine, lochnervine, pericyclivine,
 (A) Svoboda *et al.*, *J. Pharm. Sci.*, **50**, 409 (1961)

(A) Abdurakhimova *et al.*, *Khim. Prir. Soedin.*, 224 (1965)

(A) Neuss *et al.*, *Helv. Chim. Acta*, **56**, 2660 (1973)

(A) Tafue *et al.*, *J. Pharm. Sci.*, **64**, 1953 (1975)

(Cy) Chen *et al.*, *Phytochemistry*, **15**, 1565 (1976)

(G) Bhakuni *et al.*, *Phytochemistry*, **13**, 2541 (1974)

(I) Guaraeccia *et al.*, *J. Am. Chem. Soc.*, **96**, 7079 (1974)

VINCETOXICUM (Asclepiadaceae)

***V. funebre* (Boiss. et Kotschy) Pobel.**

PHENANTHROINDOLIZIDINE ALKALOID: antofine.

Platonova *et al.*, *J. Gen. Chem., USSR.*, **28**, 3131 (1958)

***V. hirundinaria*.**

STEROID: hirundoside A.

Stockel *et al.*, *Helv. Chim. Acta*, **52**, 338 (1969)

***V. officinale* Monsch.**

STEROIDS: anhydrohirundigenin, hirundigenin.

Kennard *et al.*, *Tetrahedron Lett.*, 3799 (1968)

VIOLA (Violaceae)

V. cornuta L.

SACCHARIDE: violutin.

Robertson *et al.*, *J. Chem. Soc.*, 2770 (1932)

V. tricolor L.

CAROTENOIDS: auroxanthin, violaxanthin.

GLYCOSIDE: violanthin.

Horhammer *et al.*, *Tetrahedron Lett.*, 1707 (1965)

VIRGILIA

V. capensis.

LUPANE ALKALOIDS: virgilidine, virgiline.

White, *N.Z. J. Sci. Tech.*, **27B**, 474 (1946)

V. divaricata.

LUPANE ALKALOID: virgiboldine.

Van Eijk, Radema, *Planta Med.*, **44**, 224 (1982)

V. oroboides (Berg.) Salter.

LUPANE ALKALOIDS: O-(2-pyrrolcarbonyl)-virgiline, virgiboldine, virgiline.

Van Eijk, Radema, *Planta Med.*, **44**, 224 (1982)

VIROLA (Myristicaceae)

V. caducifolia.

ISOFLAVONES: biochanin A, dehydroferreirin, 5,7-dihydroxy-2',4'-dimethoxyisoflavone, 5,7,2'-trihydroxy-4'-methoxyisoflavone.

Braz *et al.*, *Phytochemistry*, **15**, 1029 (1976)

V. carinata.

FLAVONE: 7,4'-dimethoxyflavone.

NAPHTHALENE: galcatin.

NEOLIGNANS: carinatidin, carinatidiol, carinatin, (-)-carinatone, dehydroeugenol B, dihydrocarinatidin, (-)-galcatin, (+)-guaiacin, (-)-isootobaphenol.

(Na) Kawanishi *et al.*, *Phytochemistry*, **22**, 2277 (1983)
 (F, N) Gottlieb *et al.*, *Phytochemistry*, **15**, 773 (1976)

V. cuspidata.

CARBOLINE ALKALOIDS: 6-methoxyharmalan, 6-methoxyharman.
 Cassady *et al.*, *Lloydia*, **34**, 161 (1971)

V. elongata.

PHENOLICS: virolanols A, B and C.
 Kijjoa *et al.*, *Phytochemistry*, **20**, 1385 (1981)

V. multinervia.

PROPANOID: 1-(4'-hydroxy-2'-methoxyphenyl)-3-(3"-hydroxy-4"-methoxyphenyl)-propane.
 Braz Filho *et al.*, *Phytochemistry*, **15**, 567 (1976)

V. rufula.

CARBOLINE ALKALOID: 1,2,3,4-tetrahydro-6-methoxy-2-methyl- β -carboline.
 Ghosal, Mukherjee, *J. Org. Chem.*, **31**, 2284 (1986)

V. surinamensis.

LIGNINS: galbacin, veraguensin.
 Barata, Baker, *An. Acad. Bras. Cienc.*, **49**, 387 (1977); *Chem. Abstr.*, 88 148966g

V. theiodora Warb.

CARBOLINE ALKALOID: 1,2,3,4-tetrahydro-6-methoxy-2-methyl- β -carboline.
 Ghosal, Mukherjee, *J. Org. Chem.*, **31**, 2284 (1986)

VISCARIA

V. viscosa.

FLAVONOIDS: homoorientin, isosaponarin, orientin, saponaretin, saponaretin 6"-O-galactoside, vitexin.

Darmograi *et al.*, *Sb. Nauch. Tr. Ryazan. Med. Inst.*, **50**, 22 (1975); *Chem. Abstr.*, 84 56522y

VISCUM (Loranthaceae)

***V. album L.* One uncharacterized alkaloid.**

LIGNANS: eleutheroside E, syringaresinol mono-O-glucoside, syringenin-4'-apiosylglucoside, syringenin-4'-O-glucoside, syringin.

(A) LePrince, *C.R. Acad. Sci.*, **145**, 940 (1907)

(L) Rao *et al.*, *Lloydia*, **41**, 56 (1978)

(L) Wagner *et al.*, *Planta Med.*, 102 (1986)

V. liquidambaricola.

STEROID: β -sitosterol.

TRITERPENOID: β -amyrin.

Chen *et al.*, *Chem. Abstr.*, 84 102342q

V. multinerve Hayata.

COUMARINS: homoeriodictyol, naringenin, rhamnazin 3-glucoside.

STEROIDS: campesterol, β -sitosterol, stigmasterol.

TRITERPENOIDS: β -amyrenone, β -amyrin, β -amyrin acetate, betulinic acid, lupenone, lupeol, lupenyl acetate, oleanolic acid.

Lin, *Chem. Abstr.*, 100 82780z

VISMIA

V. guarimirangae.

LIGNAN: 5,5'-dimethoxysesamin.

Camele *et al.*, *Phytochemistry*, **21**, 417 (1982)

V. guineensis.

XANTHONES: bianthrone A-1, geranyloxyemodin, geranyloxyemodin anthrone, madagascin anthrone, vismione H.

Botta *et al.*, *Phytochemistry*, **25**, 1217 (1986)

VITEX (Verbenaceae)

V. cannabinifolia.

DITERPENOID: vitexilactone.

Taguchi, *Chem. Pharm. Bull.*, **24**, 1602 (1976)

V. littoralis.

FLAVANONE: vitexin.

Evans *et al.*, *J. Chem. Soc.*, 3510 (1957)

V. megapotamica.

STEROIDS: 5 β ,20R-dihydroxyecdysone, inokosterone, pterosterone, viticosterone E.
 Rimpler, *Arch. Pharm.*, **305**, 746 (1972)

V. negundo.

UNCHARACTERIZED ALKALOID: nishindine.

IRIDOID: 6'-p-hydroxybenzoylmussaenosidic acid, negundoside, nishindaside.

MONOTERPENOIDS: camphene, citral, α -pinene.

SESQUITERPENOID: caryophyllene.

(A) Basu, Singh, *Quart. J. Pharm. Pharmacol.*, **20**, 136 (1947)

(I) Dutta *et al.*, *Tetrahedron*, **39**, 3067 (1985)

(T) Manalo, *Philipp. J. Sci.*, **111**, 79 (1982); *Chem. Abstr.*, 100 48569c

V. rotundifolia.

DITERPENOIDS: prerotundifuran, rotundifuran.

Asaka *et al.*, *Chem. Lett.*, 937 (1973)

V. trifolia.

STEROIDS: β -sitosterol, β -sitosterol- β -D-glucoside.

TRITERPENOID: friedelin.

Vedantham *et al.*, *Indian J. Pharm.*, **38**, 13 (1976)

V. vinifera.

PHENOLICS: α -viniferin, β -viniferin.

Langcake *et al.*, *Experientia*, **33**, 151 (1977)

VITIS (Vitaceae)

V. vinifera.

ACIDS: linoleic acid, linolenic acid, oleic acid, palmitic acid, stearic acid.

Cherrad *et al.*, *Connaiss. Vigne Vin.*, **8**, 233 (1974); *Chem. Abstr.*, 86 722f

V. vinifera var. 'Trebbiano'.

ANTHOCYANINS: procyanidin B-1, procyanidin B-2, procyanidin B-3, procyanidin B-4.

FLAVONOIDS: kaempferol 3-glucoside, quercetin 3-glucoside.

PHENOLICS: (+)-catechin, (-)-epi-catechin, (+)-allocatechin.

Piretti *et al.*, *Ann. Chim. (Rome)*, **66**, 429 (1976)

VOACANGA (Apocynaceae)

***V. africana* Staph.**

DIMERIC ALKALOIDS: deoxyvobtusine, deoxyvobtusine lactone, folicangine, isovoafoline, voacamidine, voacamine, voacamine N-oxide, voacorine, voafolidine, voafoline, vobtusine, vobtusine lactone.

HOMOCARBOLINE ALKALOIDS: voacangine, voacangine hydroxyindolenine, voacangine pseudoindoxyl, voacristine, voacristine hydroxyindolenine, voacryptine.

INDOLE ALKALOIDS: voacamidine, voacamine N-oxide, voaphylline, iboaphylline hydroxyindolenine, vobasine.

UNCHARACTERIZED ALKALOIDS: voacafricine, voacafrine, voacamidine, voacamidine.

Kunesch, Poisson, *Tetrahedron Lett.*, 1745 (1968)

Stock *et al.*, *Helv. Chim. Acta*, **66**, 2525 (1983)

***V. chalotiana* Pierre et Staph.**

CARBOLINE ALKALOIDS: 17-O-acetyl-19,20-dihydrovoachalotine, dehydrovoachalotine, voacarpine, voachalotine, voacoline.

UNCHARACTERIZED ALKALOID: voamomine.

Bombardelli *et al.*, *Phytochemistry*, **15**, 2021 (1976)

Daniel *et al.*, *Heterocycles*, **14**, 201 (1980)

***V. dichotoma*.**

HOMOCARBOLINE ALKALOID: voacryptine.

Renner, Prins, *Experientia*, **17**, 106 (1961)

***V. dregei* E.M.**

HOMOCARBOLINE ALKALOID: voacangine.

INDOLE ALKALOID: dregamine.

Cava *et al.*, *Tetrahedron Lett.*, 53 (1963)

***V. howarsii* var. *obtusa*.**

INDOLE ALKALOIDS: 18-decarbomethoxyvoacamine, voaluteine.

Goldblatt *et al.*, *Phytochemistry*, **9**, 1293 (1970)

***V. obtusa*.**

DIMERIC ALKALOID: vobtusine.

Stauffacher, Seebeck, *Helv. Chim. Acta*, **41**, 169 (1958)

***V. papuana* (F.Muell.) K.Schum.**

INDOLE ALKALOIDS: voacamidine, voacamine.

Stock *et al.*, *Helv. Chim. Acta*, **66**, 2625 (1983)

VOCHYSIA

V. guaiianensis.

FLAVANOID: vochysine.

Baudouin *et al.*, *J. Nat. Prod.*, **46**, 681 (1983)

VOUACAPOUA

V. americana.

DITERPENOID: vouacapenic acid.

King, Goodson, *J. Chem. Soc.*, 1117 (1955)

V. macropetala.

PHENOLIC: (E)-1-(3,5-dihydroxyphenyl)-2-(3,4,5-trihydroxyphenyl)-ethylene.

STILBENES: astringenin, (E)-3,3',4,5,5'-pentahydroxystilbene.

TRITERPENOIDS: acetylvoouacaprenol, vouacapenol.

(P) King *et al.*, *J. Chem. Soc.*, 4477 (1956)

(St) Grassman *et al.*, *Chem. Ber.*, **89**, 2523 (1956)

(T) King *et al.*, *J. Chem. Soc.*, 1117 (1955)

W

WALPURGIA

W. stuhlmannii.

SESQUITERPENOID: mukaadial.

Kubo *et al.*, *Chem. Lett.*, 979 (1983)

WALSURA

W. piscidia.

TRITERPENOIDS: piscidinols A, B, C, D and E, piscidofuran.

Purushothaman *et al.*, *Phytochemistry*, **24**, 2349 (1985)

W. tabulate.

TRITERPENOID: walsurenol.

Chatterjee *et al.*, *J. Chem. Soc., Chem. Commun.*, 418 (1968)

WALTHERIA (Sterculiaceae)

W. americana.

PEPTIDE ALKALOIDS: adouetin X, adouetin Y, adouetin Y', adouetin Z.

Pais *et al.*, *Bull. Soc. Chim. Fr.*, 1145 (1968)

WARBURGHIA

W. ugandensis.

SESQUITERPENOID: muzigadial, ugandensidial, ugandensolide.

Nakanishi, Kubo, *Isr. J. Chem.*, **16**, 28 (1977)

WEDELIA (Compositae)

W. asperrima.

DITERPENOID: wedeloside.

Oelrichs *et al.*, *J. Nat. Prod.*, **43**, 414 (1980)

W. calendulaceae.

BENZOFURAN: norwedelic acid.

Govindachari *et al.*, *Phytochem.*, **24**, 3068 (1985)

W. grandiflora.

SESQUITERPENOIDS: 6-methylpropenoylwedelifloride,
methylpropenoylwedelefloride 4-acetate.

6-

Bohlmann *et al.*, *Phytochemistry*, **19**, 2047 (1980)

W. regis.

DITERPENOIDS: wederegiolides A, B and C.

Bohlmann *et al.*, *Phytochemistry*, **23**, 1673 (1984)

W. rugosa Greenm.

TRITERPENOIDS: β -amyrin, β -amyrin acetate, β -amyrin oleate, β -amyrin palmitate.

Alemane *et al.*, *Rev. Cubana Farm.*, **11**, 47 (1977); *Chem. Abstr.*, 88 3076g

W. scaberrima.

TRITERPENE GLYCOSIDE: wedelin.

Maros *et al.*, *J. Nat. Prod.*, **46**, 836 (1983)

W. trilobata.

DITERPENOIDS: 3a-angeloyloxykaur-16-en-19-oic acid methyl ester, 15-angeloyloxykaur-16-en-19-oic acid methyl ester, 3a-cinnamoyloxykaur-16-en-19-oic acid methyl ester, 3a-tigloyloxykaur-16-en-19-oic acid methyl ester, simsiolide, wedeliasecoaurenolide.

SESQUITERPENOIDS: 6-angeloyloxytrilobolide, 6-methyl propanoyltrilobolide.

Bohlmann *et al.*, *Phytochemistry*, **20**, 751 (1981)

WELWITSCHIA

W. mirabilis.

PHENOLICS: gnetin F, gnetin G, gnetin H, gnetin I.

Lins *et al.*, *Bull. Soc. Chim. Belg.*, **95**, 737 (1986)

WIDDINGTONIA (Cupressaceae)

W. dracomontana.

SESQUITERPENOIDS: cryptomeridiol, cryptomerione, cryptonetone.

Nagahama *et al.*, *Bull. Chem. Soc., Japan*, **37**, 1029 (1964)

Ito *et al.*, *Tetrahedron Lett.*, 3185 (1969)

W. juniperoides.

SESQUITERPENOIDS: cuparene, cuparenic acid.

Parker *et al.*, *J. Chem. Soc.*, 1558 (1962)

W. schwartzii.

SESQUITERPENOIDS: cuparene, cuparenic acid.

Parker *et al.*, *J. Chem. Soc.*, 1558 (1962)

W. whytei.

SESQUITERPENOIDS: cuparene, cuparenic acid.

Parker *et al.*, *J. Chem. Soc.*, 1558 (1962)

WIESNERELLA

W. denudata.

SESQUITERPENOID: dehydrotulipinolide.

Asakawa *et al.*, *Phytochemistry*, **19**, 567 (1980)

WIGANDIA

W. kunthii.

HOMOSESQUITERPENOID: wigandol.

QUINONE: farnesylhydroquinone.

Gomez *et al.*, *Phytochemistry*, **19**, 2202 (1980)

WIKSTROEMIA

W. elliptica.

COUMARINS: daphnoretin, umbelliferone.

LIGNANS: (\pm)-lariciresinol, (\pm)-5'-methoxylariciresinol, syringaresinol.

Duh *et al.*, *J. Nat. Prod.*, **49**, 706 (1986)

W. monticola.

TOXINS: wikkstrotxins A, B, C and D.

Jolad *et al.*, *J. Nat. Prod.*, **46**, 675 (1983)

W. shikokiana.

BIFLAVANONES: shikokianins A and B.

Niwa *et al.*, *Chem. Pharm. Bull.*, **34**, 3631 (1986)

W. viridiflora.

COUMARINS: daphnoretin, wikkstrosin.

FURANONE: arctigenin.

LIGNAN: wikkstromol.

(C, F) Imagaki *et al.*, *Chem. Pharm. Bull.*, **20**, 2710 (1972)

(F) Tandon *et al.*, *Phytochemistry*, **16**, 1991 (1977)

(L) Tandon *et al.*, *Phytochemistry*, **15**, 1789 (1976)

WILCOXIA

W. viperiana.

STEROIDS: 3 β -hydroxycholest-7-en-6-one, viperidinone, viperidone.

Djerassi *et al.*, *Ber. Dtsch. Chem. Ges.*, **97**, 3118 (1964)

WITHANIA (Solanaceae)

W. coagulans.

STEROIDS: 6,7-epoxy-5,20-dihydroxy-1-oxo-2,24-withadienolide, 6,7-epoxy-5,27-dihydroxy-1-oxo-2,24-withadienolide, 5,25-ergostadiene-3,24-diol, withaferin A.

Velde *et al.*, *Phytochemistry*, **22**, 2253 (1983)

W. frutescens.

STEROIDS: 2,3-dihydro-4,17,27-trihydroxy-1-oxo-22R-witha-2,5,24-trienolide, 4,5,27-trihydroxy-6-chloro-22R-witha-2,24-dienolide, 4,5,27-trihydroxy-1-oxo-6-chloro-22R-witha-2,5,24-trienolide, 4,17,27-trihydroxy-1-oxo-22R-witha-2,5,24-trienolide.

Gonzalez *et al.*, *An. Quim.*, **70**, 69 (1974)

W. somnifera L.

UNCHARACTERIZED ALKALOIDS: pseudowithanine, somniferianine, somniferine, somniferinine, somnine, withananine, withanine, withananinine.

STEROIDS: 5,6-epoxy-4,17-dihydrox-1-oxo-2,24-withadienolide, 6,7-epoxy-5,27-dihydroxy-1-oxo-2,24-withadienolide, 5,6-epoxy-4,20-dihydroxy-1-oxo-2-withenolide, 5,6-epoxy-4,20-dihydroxy-1-oxo-24-withenolide, 5,6-epoxy-20-hydroxy-1,4-dioxo-2,24-withadienolide, 5,6-epoxy-20-hydroxy-1,4-dioxo-2-withenolide, 14-hydroxywithanolide D, 17-hydroxywithanolide D, 27-hydroxywithanolide D, 24-methylcholesta-5,24-dien-3 β -ol, 5,24-stigmastadien-3-ol, 14,20R,27-trihydroxy-1-oxo-3,5,24-withatrienolide, 1,3,20-trihydroxy-5,24-withadienolide, withaferin A, withananine, α -withananine, withanine, withanolides A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U and WS-1.

(A) Majumder *et al.*, *Indian J. Pharm.*, **17**, 158 (1955)

(S) Glotter *et al.*, *J. Chem. Soc., Perkin I*, 341 (1979)

(S) Velde *et al.*, *Phytochemistry*, **20**, 1359 (1981)

W. somnifera Dunal.

PIPERIDINE ALKALOIDS: anaferine, anahygrine.

Leary *et al.*, *Chem. Ind. (London)*, 283 (1964)

WITHERINGIA

W. coccoboides.

STEROID: 25,26-dihydrophysalin C.

Antoun *et al.*, *Lloydia*, **44**, 579 (1981)

WOODFORDIA (Lythraceae)

W. floribunda Salisb.

GLUCOSIDE: bergenin.

St. Pyrek *et al.*, Rocz. Chem., **51**, 1679 (1977)

W. fruticosa.

BENZOPYRAN: norbergenin.

Tanayama *et al.*, Phytochemistry, **22**, 1053 (1983)

WOODWARDIA

W. orientalis.

TRITERPENOID: woodwardinic acid.

Murakami, Chen, Chem. Pharm. Bull., **19**, 25 (1971)

WRIGHTIA

W. tomentosa.

STEROIDAL ALKALOIDS: conessidine, conessine, concurchine, holarrhimine, kurchine.

Jayaswal, Indian J. Pharm., **39**, 37 (1977)

WUNDERLICHIA

W. mirabilis.

SESQUITERPENOID: wunderolide.

Bohlmann *et al.*, Phytochemistry, **20**, 1631 (1981)

WURMBEA (Liliaceae)

W. capensis Thunb.

COLCHICINE ALKALOID: 3-demethylcolchicine.

Pijewska et al., *Collect Czech. Chem. Commun.*, **32**, 158 (1967)***W. dioica F. Muell.***COLCHICINE ALKALOIDS: colchicine, 2-demethylcolchicine, 3-demethylcolchicine, N-formyl-N-deacetylcolchicine, β -lumicolchicine, τ -lumicolchicine.

FLAVONOID: luteolin.

Pijewska et al., *Collect. Czech. Chem. Commun.*, **32**, 158 (1967)***W. purpurea Banks.***

COLCHICINE ALKALOIDS: colchicine, 2-demethylcolchicine.

Pijewska et v *Collect. Czech. Chem. Commun.*, **32**, 158 (1967)***W. spicata.***

Uncharacterized alkaloid.

Pijewska et v *Collect. Czech. Chem. Commun.*, **32**, 158 (1967)

WYETHIA

W. arizonica.

One sesquiterpenoid.

Bohlmann et al., *Planta Med.*, **50**, 195 (1985)***W. mollis.***

TRITERPENOID: 22,25-epoxylanosta-7,9(11)-dien-3-one.

Waddell et al., *Phytochemistry*, **21**, 1631 (1982)

X

XANTHIUM (Compositae)

***X. canadense* Mill.**

SESQUITERPENOIDS: isoalantolactone, xanthanene, xanthanodiene, xantholide A, xantholide B.

TRITERPENOIDS: taraxerol, taraxerol acetate.

Tanaka *et al.*, *Chem. Pharm. Bull.*, **24**, 1419 (1976)

Tahora *et al.*, *Tetrahedron Lett.*, 1861 (1980)

***X. indicum*.**

SESQUITERPENOIDS: xanthumin, 2-epi-xanthumin, 8-epi-xanthumin-5-epoxide.

Bohlmann *et al.*, *Phytochemistry*, **21**, 1441 (1982)

***X. mongolicum*.**

SAPONIN: atractyloside.

Wang *et al.*, *Zhongcaoyao*, **14**, 529 (1983)

***X. orientale*.**

SESQUITERPENOIDS: xanthanol, 2-epi-xanthanol.

Bohlmann *et al.*, *Phytochemistry*, **20**, 2429 (1981)

***X. strumarium*.**

SAPONIN: carboxyatractyloside.

SESQUITERPENOIDS: isoxanthanol, xanthanol.

STEROID: campesterol, β -sitosterol, stigmasterol.

(Sap, T) Cole *et al.*, *J. Agric. Food Chem.*, **28**, 1330 (1980)

(S) Chawla *et al.*, *Chem. Abstr.*, 87 197348v

XANTHOCEPHALUM

***X. linearifolium*.**

DITERPENOID: daniellool.

Bohlmann *et al.*, *Phytochemistry*, b **18**, 2040 (1979)

XANTHOCERAS

X. sorbifolium.

CATECHINS: 2 β ,3 β -epi-catechin, 2 β ,3 β -epi-gallocatechin.

FLAVONOIDS: 2 α ,3 β -dihydromyricetin, 2 α ,3 β -dihydroquercetin.

Huang, Feng, *Zhongcaoyao*, **18**, 199 (1987); *Chem. Abstr.*, 107 194890m

X. zambesiaca.

ISOFLAVONES: 7,3'-dihydroxy-8,4'-dimethoxyisoflavone, 3',4'-dimethoxy-6,7-methylenedioxyisoflavone, 7-hydroxy-8,4'-dimethoxyisoflavone, 7-hydroxy-8,3',4'-trimethoxyisoflavone, 3',4',8-trimethoxy-6,7-methylenedioxyisoflavone.

Harper *et al.*, *Phytochemistry*, **15**, 1019 (1976)

XANTHOGALUM

X. purpurascens.

COUMARIN: tomazin.

Sokolova *et al.*, *Khim. Prir. Soedin.*, 359 (1969)

XANTHORIA (Teloschistaceae)

X. elegans.

CAROTENOID: mutatoxanthin.

Czeczuga, *Biochem. Syst. Ecol.*, **11**, 329 (1983)

X. fallax.

ANTHRAQUINONE: fallacinal.

Murakami *et al.*, *Chem. Pharm. Bull.*, **4**, 298 (1956)

X. parietina (L.) Beltram.

ACID: parietinic acid.

ANTHRAQUINONE: parietin.

STEROIDS: ergosta-5,7,22-trien-3 β -ol, ergosta-5,8,22-trien-3 β -ol, lichesterol.

(Ac) Sargent *et al.*, *J. Chem. Soc., C*, 307 (1970)

(S) Lenton *et al.*, *Phytochemistry*, **12**, 1135 (1973)

X. resendei.

ANTHRAQUINONE: fallacinal.

TRITERPENOIDS: 12 α -acetoxy-3 β -hydroxyfern-9(11)-ene, 9(11)-fernene-3,12-diol.

(An) Murakami, *Chem. Pharm. Bull.*, **4**, 298 (1956)

(T) Gonzalez *et al.*, *Phytochemistry*, **13**, 1547 (1974)

XANTHORRHOEA **(Xanthorrhoeaceae/Liliaceae)**

X. hastile.

PHENOLIC: cinnamyl p-coumarate.

Birch *et al.*, *Tetrahedron Lett.*, 2211 (1964)

X. preissi.

FLAVAN: 4',5,7-trimethoxyflavan.

NAPHTHALENE: xanthorrhoein.

(F) Birch *et al.*, *Tetrahedron Lett.*, 2211 (1964)

(N) Birch *et al.*, *ibid.*, 1623 (1964)

X. reflexa.

NAPHTHALENE: xanthorrhoein.

Birch *et al.*, *Tetrahedron Lett.*, 1623 (1964)

X. resinosa.

NAPHTHALENES: xanthorrhoeol, xanthorrhone.

Birch *et al.*, *Tetrahedron Lett.*, 481 (1967)

XANTHOXYLUM

X. arnottianum Maxim.

ALKALOIDS: arnottianamide, chelerythrine chloride, decarine, N-desmethylchelerythrine, iwamide, oxychelerythrine, skimmianine.

COUMARINS: columbianetin, marmesin, xanthoarnol.

LIGNANS: (-)-asarinin, (-)-sesamin.

TRITERPENOID: β -amyrin.

Ishii *et al.*, *J. Pharm. Soc., Japan*, **97**, 890 (1977)

X. belicense.

QUINOLINE ALKALOID: platydesmine.

Rideau *et al.*, *Phytochemistry*, **18**, 155 (1979)

X. brachyacanthum.

APORPHINE ALKALOID: isocorydine.

Kuck, Frydman, *J. Org. Chem.*, **26**, 5253 (1961)

X. cuspidatum Champ. (Fagara cuspidata Engl.)

FURANOQUINOLINE ALKALOIDS: dictamine, τ -fagarine, haplopine, robustine, skimmianine.

NAPHTHALENE ALKALOIDS: arnottianamide, isoarnottianamide.

QUATERNARY ALKALOIDS: de-N-methylavicine, nitidine chloride.

PHENYLPROPANOID: cuspidiol.

STEROID: β -sitosterol.

Ishii *et al.*, *J. Pharm. Soc., Japan*, **96**, 1458 (1976)

X. integrifoliolum (Merr.) Merr.

QUINOLONE ALKALOID: integriquinolone.

Ishii *et al.*, *Chem. Pharm. Bull.*, **30**, 1992 (1982)

X. macrophyllum.

AMIDE ALKALOID: fagaramide.

Thoms *et al.*, *Ber. Dtsch. Chem. Ges.*, **44**, 3717 (1911)

X. piperitum.

FURAN: sanshodiol.

LIGNAN: xanthoxylol.

(F) Abe *et al.*, *Chem. Pharm. Bull.*, **22**, 2650 (1974)

(L) Abe *et al.*, *ibid.*, **21**, 1617 (1973)

X. senegalense.

LIGNAN: fagarol.

Abe *et al.*, *Chem. Pharm. Bull.*, **22**, 2650 (1974)

X. tingoassuiba.

LIGNAN: (-)-sesamin.

Abe *et al.*, *Chem. Pharm. Bull.*, **22**, 2650 (1974)

XERANTHEMUM (Compositae/Cynareae)

X. cylindraceum Sibth. et Smith.

SESQUITERPENOID: xerantholide.

Samek *et al.*, Collect. Czech. Chem. Commun., **42**, 2441 (1977)

XEROCOMUS

X. chrysetenteron.

PHENOLIC: xercomic acid.

Edwards *et al.*, J. Chem. Soc., 2582 (1971)

XEROMPHIS

X. spinosa.

TRITERPENOID: 3-O-(β -D-xylopyranosyloxy)-olean-12-en-28-oic acid.

Salieja *et al.*, Planta Med., **72** (1986)

XYLIA

X. dolabriformis.

PROANTHOCYANIDIN: dolabriproanthocyanidin.

DITERPENOIDS: 3-oxomanoyl oxide, 8(14), 15-sandaracopimaradiene, 8(14),15-sandaracopimaradiene-3,18-diol, 8(14), 15-sandaracopimaradien-3-ol, 8(14),15-sandaracopimaradien-3-one. (P) Kumar *et al.*, Indian J. Chem., **14B**, 654 (1976)

(T) Laidlaw, Morgan, J. Chem. Soc., 644 (1963)

XYLOCARPUS (Meliaceae)

X. granatus Koenig. (*Carapa granata*).

LIMONOIDS: 7-acetoxydihydronomilin, 3-acetoxy-1-oxomeliac-8,30-enoate, gedunin, methyl β -acetoxy-1-oxomeliac-8,30-enoate, xylocarpin.

Okorie, Taylor, *J. Chem. Soc., C*, 211 (1970)

Ahmed *et al.*, *Can. J. Chem.*, **56**, 1020 (1978)

X. molluscensis.

LIMONOIDS: xyloccensins A, B, C, D, E, F, G and H.

MONOTERPENOID: xylomollin.

Connolly *et al.*, *J. Chem. Soc., Perkin* **1**, 1993 (1976)

XYLOPIA

X. aethiopica.

DITERPENOIDS: ent-7-oxo-16-kauren-19-oic acid, xylopic acid.

Hasan *et al.*, *Phytochemistry*, **b 21**, 1365 (1982)

X. brasiliensis.

NORAPORPHINE ALKALOID: 9-methoxyliriodenine.

Casagrande, Marotte, *Farmaco Ed. Sci.*, **25**, 799 (1970)

X. discrete.

APORPHINE ALKALOID: xylopine.

Schmutz *et al.*, *Helv. Chim. Acta*, **42**, 335 (1959)

X. papuana Diels.

ISOQUINOLINE ALKALOID: coclaurine.

Kidd *et al.*, *Chem. Ind.*, 748 (1955)

X. quintasii.

DITERPENOID: ent-7-acetoxy-18-trachylobanic acid.

Hasan *et al.*, *Phytochemistry*, **21**, 177 (1982)

XYLOSMA (Flacourtiaceae)

X. velutina.

PHENOLIC: xylosmacin.

TRITERPENOID: velutinic acid.

(P) Cordell *et al.*, *Lloydia*, **40**, 340 (1977)

(T) Chang *et al.*, *Phytochemistry*, **16**, 1443 (1977)

XYRIS (Xyridaceae)

X. semifuscata.

ANTHRAQUINONES: 3-methoxychrysazin, 1,3,8-trihydroxyanthraquinone.

Bercht *et al.*, *Phytochemistry*, **14**, 2099 (1975)

XYSMALOBIUM

X. undulatum R.Br.

SAPONIN: uzarin.

STEROID: ascleposide.

(Sap) Tschesche, Brathge, *Chem. Ber.*, **85**, 1042 (1952)

(S) Huber *et al.*, *Helv. Chim. Acta*, **34**, 46 (1951)

Y**YOUNGIA*****Y. denticulata* (Houtt.) Kitan.**

SESQUITERPENOID GLYCOSIDES: youngiasides A, B, C and D.
Adegawa *et al.*, *Chem. Pharm. Bull.*, **34**, 3769 (1986)

YUCCA (Agavaceae)***Y. aloifolia* Naudin.**

STEROID: smilagenin.
Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. angustissinma*.**

STEROID: sarsasapogenin.
Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. arizonica* McKel.**

STEROID: sarsasapogenin.
Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. arkansana* Trel.**

STEROID: smilagenin.
Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. australis* Engelm.**

STEROID: smilagenin.
Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. baccata* Torr.**

STEROID: sarsasapogenin.
Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. baleyi* Wood-Standl.**

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***Y. brevifolia* Engelm.**

STEROIDS: kammogenin, sarsasapogenin, smilagenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***Y. confinis* McKel.**

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***Y. decipiens* Trel.**

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***Y. elata* Engelm.**

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***Y. elephantipes* Regel.**

STEROID: smilagenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***Y. filifera* Chabard.**

STEROIDS: filiferin A, filiferin B, sarsasapogenin, smilagenin, tigogenin, willagenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)Lemieuze *et al.*, *Carbohydr. Res.*, **55**, 113 (1977)Rivera *et al.*, *Q.J. Crude Drug Res.*, **15**, 139 (1977); *Chem. Abstr.*, 88 148964e***Y. flaccida* Haw.**

STEROIDS: furcogenin, smilagenin, yuccogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***Y. glauca* Nutt.**

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)***Y. gloriosa* L.**

STEROIDS: gloriogenin, 12-hydroxysmilagenin, smilagenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)Gonzalez *et al.*, *An. Quim.*, **68**, 309 (1972)***Y. harrimannii* Trel.**

STEROIDS: kammogenin, sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **69**, 2167 (1947)

Marker *et al.*, *ibid.*, **69**, 2401 (1947)

***Y. jalicensis* Trel.**

STEROIDS: sarsasapogenin, smilagenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. louisianensis* Trel.**

STEROID: smilagenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. recurvifolia* Salisb.**

STEROID: smilagenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. reverchonii* Trel.**

STEROID: smilagenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. rigida*.**

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. schidigera*.**

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. schottii* Engelm.**

STEROIDS: mexogenin, neomanogenin, samogenin, sarsasapogenin, texogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **69**, 2167 (1947)

***Y. thornberi* McKel.**

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. torreyi* Schafer.**

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

***Y. treculeana* Hook.**

STEROIDS: sarsasapogenin, smilagenin, willagenin.

Rivera *et al.*, *Q.J. Crude Drug Res.*, **15**, 139 (1977); *Chem. Abstr.*, 88 148964e

***Y. valida*.**

STEROID: sarsasapogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

Y. whipplei subsp. *intermedia*.

STEROIDS: gitogenin, tigogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)*Y. whipplei* subsp. *parishii*.

STEROID: tigogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)*Y. whipplei* subsp. *precursa*.

STEROID: gitogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)*Y. whipplei* subsp. *typiva*.

STEROID: tigogenin.

Marker *et al.*, *J. Am. Chem. Soc.*, **65**, 1199 (1943)

Z**ZALUZANIA*****Z. angusta.***

SESQUITERPENOIDS: zaluzanin A, zaluzanin B, zaluzanin C, zaluzanin D.
 Romo de Vivar *et al.*, *Tetrahedron*, **23**, 3093 (1967)

ZANTHOXYLUM (Rutaceae)***Z. acanthopodium DC.***

FLAVONOIDS: tambulin, tambulol.
 TOXIN: acanthotoxin.
 TRITERPENOID: β -amyrenone.
 (F) Ahuja *et al.*, *Indian J. Chem.*, **13**, 1174 (1975)
 (T) Pal *et al.*, *Curr. Sci.*, **45**, 739 (1976)
 (Tox) Roy *et al.*, *Chem. Ind. (London)*, 231 (1977)

Z. arborescens Rose.

FURANOQUINOLINE ALKALOIDS: 8-hydroxy-4,7-dimethoxyfuranoquinoline, 8-(2-isopentenoyloxy)-4,7-dimethoxyfuranoquinoline.
 Grina *et al.*, *J. Org. Chem.*, **47**, 2648 (1982)

Z. avicennae (Lam.) DC.

NAPHTHOPHENANTHRIDINE ALKALOIDS: avicine.
 PROTOBERBERINE ALKALOIDS: α -allocryptopine, (-)-canadine.
 Fish *et al.*, *Phytochemistry*, **14**, 841 (1975)

Z. belicense.

CARBOLINE ALKALOID: canthin-6-one.
 FURANOQUINOLINE ALKALOIDS: dictamine, platydesmine, skimmianine.
 COUMARINS: citropten, isopimpinellin, marmesin.
 Najjar *et al.*, *Phytochemistry*, **14**, 2309 (1975)

Z. brachyacanthum.PROTOBERBERINE ALKALOIDS: α -allocryptopine, (-)-canadine.

MONOTERPENOID: menthane-1S,2S,4S-triol.

(A) Manske, *Can. J. Res.*, **20B**, 53 (1942)(T) Thappa *et al.*, *Phytochemistry*, **15**, 1568 (1976)**Z. budrunga.**

UNCHARACTERIZED ALKALOIDS: budrungaine, budrungainine.

MONOTERPENOID: menthane-1S,2S,4S-triol.

(A) Khastgir *et al.*, *Curr. Sci.*, **16**, 185 (1947)(T) Thappa *et al.*, *Phytochemistry*, **15**, 1568 (1976)**Z. caribaeum Lam.**

PROTOBERBERINE ALKALOID: berberine.

Awe, *Arch. Pharm.*, **284**, 362 (1951)**Z. conspersipunctatum Merr. et Perry.**

OXOPROTOBERBERINE ALKALOID: isoprotopine, pseudopropotopine.

DIOXEPIN: psoromic acid.

(A) Johns *et al.*, *Aust. J. Chem.*, **22**, 2233 (1969)(D) Hunek *et al.*, *ibid.*, **29**, 1059 (1976)**Z. culantrillo.**

ALKALOID: culantraramine.

Swineheart *et al.*, *Phytochemistry*, **19**, 1219 (1980)**Z. decaryi.**

NAPHTHOPHENANTHRIDINE ALKALOID: decarine.

/MONOTERPENOID: eucalyptol, 4-hydroxyterphiene, linalool, β -pinene, α -terpineol.

SESQUITERPENOID: caryophyllene epoxide.

(A) Vaquette *et al.*, *Phytochemistry*, **13**, 1257 (1974)(T) Vaquette *et al.*, *Plant Med. Phytother.*, **9**, 315 (1975)**Z. dipetalum.**

CARBOLINE ALKALOID: canthin-6-one.

QUATERNARY ALKALOIDS: chelerythrine, nitidine, tembetarine.

COUMARINS: avicennol, xanthoxyletin.

FLAVONOID: hesperidin.

TRITERPENOID: lupeol.

Fish *et al.*, *Phytochemistry*, **14**, 2073 (1975)**Z. elephantiasis.**

COUMARIN: cis-avicennol.

Gray *et al.*, *Phytochemistry*, **16**, 1017 (1977)

Z. fagara Sarg.

COUMARIN: castanaguyone.

Snyder *et al.*, *Tetrahedron Lett.*, 5015 (1981)**Z. flavum.**

ALKALOID: dihydrorutaecarpine.

Waterman, *Phytochemistry*, **15**, 578 (1976)**Z. leprieurii.**

ACRIDONE ALKALOIDS: arborinine, xanthoxoline.

MONOTERPENOID: α -pinene.SESQUITERPENOIDS: α -cadinane, β -farnesene, humulene.Reisch *et al.*, *Pharmazie*, **40**, 811 (1985)**Z. microcarpum.**

NAPHTHOISOQUINOLINE ALKALOID: nornitidine.

Boulware, Stermitz, *Lloydia*, **44**, 200 (1981)**Z. myriacanthum.**

QUATERNARY ALKALOIDS: dihydronitidine, magnoflorine, nitidine nitrate, tembetarine.

STEROID: β -sitosterol.Waterman, *Phytochemistry*, **14**, 2530 (1975)**Z. nitidum (Lam.) DC.**

NAPHTHOISOQUINOLINE ALKALOIDS: nitidine, oxynitidine.

Arthur *et al.*, *J. Chem. Soc.*, 1840 (1959)**Z. ochroxylon DC.**UNCHARACTERIZED ALKALOIDS: α -xantherine, β -xantherine.LePrince *et al.*, *Bull. Soc. Pharmacol.*, **18**, 343 (1911)**Z. oxyphyllum.**

QUATERNARY ALKALOIDS: zanthoxyline, zanthoxyphylline.

Tiwari, Masood, *Phytochemistry*, **16**, 1068 (1977)**Z. pluviatile.**

SESQUITERPNOIDS: pluviatilol, pluviatolide.

Corrie *et al.*, *Aust. J. Chem.*, **23**, 133 (1970)

Z. podocarpum Hemsl.

AMIDE: neoherculin.

STEROID: β -sitosterol.TRITERPENOID: β -amyrin.Renei *et al.*, *Yaoxue Xuebao*, **19**, 268 (1984); *Chem. Abstr.*, 103 19810f**Z. punctatum Vahl.**

ALKALOID: alfileramine.

Caolo *et al.*, *Tetrahedron*, **35**, 1487 (1979)**Z. rhetsa.**

One monoterpenoid.

Mathur *et al.*, *Tetrahedron*, **35**, 2495 (1979)**Z. senegalense DC. (*Fagara xanthoxyloides*).**

UNCHARACTERIZED ALKALOID: artarine.

Giacosa, Monari, *Gazzetta*, **17**, 362 (1887)**Z. thomense.**

AMIDE: zanthomanide.

Simeray *et al.*, *Phytochemistry*, **24**, 2720 (1985)**Z. tsahanimposa.**

NAPHTHOISOQUINOLINE ALKALOID: dihydrochelerythrine 11-acetone.

Decaudin *et al.*, *Phytochemistry*, **13**, 505 (1974)**Z. veneficum F.M.Bail.**

PROTOBERBERINE ALKALOIDS: (-)-canadine, N-methylcanadine.

Manske, *Can. J. Res.*, **20B**, 53 (1942)**ZEA (Gramineae/Poaceae)****Z. mays.**

CYTOKININ: zeatin.

TRITERPENOID: cyclosadol acetate.

(C) Shaw *et al.*, *J. Chem. Soc., C*, 921 (1966)(T) Pinhas, *Bull. Soc. Chim. Fr.*, 2037 (1969)

ZEDOARIA

Z. rhizome.

SESQUITERPENOIDS: furanogermenone, germacrone-4,5-epoxide.

Shibuya *et al.*, *Heterocycles*, 215 (1982)

ZELKOVA (Ulmaceae)

Z. serrata Makino.

NAPHTHALENIC: 7-hydroxy-3,3'-dimethoxy-8,7'-bicadalenyl ether.

SESQUITERPENOIDS: homozelkoserratone, zelkoserratone.

Hayashi, Takahashi, *Mokuzai Gakkaishi*, **26**, 54 (1980)

ZEPHYRANTHES (Amaryllidaceae)

Z. candida.

INDOLE ALKALOIDS: nerinine, zephyranthine.

Jeffs, Hawksworth, *Tetrahedron Lett.*, 217 (1963)

Ozaki, *Chem. Pharm. Bull.*, **12**, 253 (1964)

Z. carinata.

ISOQUINOLINE ALKALOID: carinatine.

Kobayashi *et al.*, *Chem. Pharm. Bull.*, **25**, 2244 (1977) 1977)

Z. rosea Lindl.

ISOQUINOLINE ALKALOID: lycorine.

Greathouse, Rigler, *Am. J. Bot.*, **28**, 702 (1941)

Z. texana.

ISOQUINOLINE ALKALOID: lycorine.

Greathouse, Rigler, *Am. J. Bot.*, **28**, 702 (1941)

ZEXMENIA(Compositae/Heliantheae)

Z. brevifolia.

SESQUITERPENOID: orizabin.

Ortega *et al.*, *Rev. Latinoam. Quim.*, **2**, 38 (1971)

Z. gnaphaloides Gray.

SESQUITERPENOIDS: (7E)-10-epi-valerenol, (7Z)-10-epi-valerenol, 10-epi- α -valerenol.

Bohlmann *et al.*, *Chem. Ber.*, **113**, 2410 (1980)

Z. phyllocephala.

DITERPENOIDS: 7 α -acetoxy-1 β ,11 α -dihydroxysandaracopimara-8(14),15-diene, 1 β -acetoxy-7 α -hydroxysandaracopimara-8(14),15-diene, 7 α -acetoxy-1 β -hydroxysandaracopimara-8(14),15-diene, sandaracopimara-8(14),15-diene-1,7-diol, sandaracopimara-8(14),15-diene-1 β ,7 α ,11 α -triol, sandaracopimara-8(14),15-dien-7-ol, sandaracopimara-8(14),15-1,11-diol.

Bohlmann, Lonitz, *Chem. Ber.*, **111**, 843 (1978)

ZEHYERA

Z. digitalis.

PHENOLIC: zeyherol.

de Silveira *et al.*, *Phytochemistry*, **14**, 1829 (1975)

Z. tuberculosa.

PHENOLIC: zeyherol.

SESQUITERPENOID: dehydro- α -lapachone.

(P) de Silveira *et al.*, *Phytochemistry*, **14**, 1829 (1975)

(T) Manners *et al.*, *ibid.*, **15**, 225 (1976)

ZEYSIA

Z. matrella.

TRITERPENOID: fern-9(11)-en-3-one.

Nishimoto *et al.*, *Tetrahedron*, **24**, 735 (1968)

ZIERIA (Rutaceae)

Z. aspalathoides A.Cunn. ex Benth.

MONOTERPENOID: car-3-en-2-one.

Lassak *et al.*, *Aust. J. Chem.*, **27**, 2061 (1974)

Z. macrophylla.

SESQUITERPENOID: zierone.

Bradfield *et al.*, *Proc. R. Soc. N.S.W.*, **67**, 200 (1933)

Z. smithii.

MONOTERPENOID: (-)-linalool, O-methyleugenol, safrole.

Fletcher *et al.*, *J. Econ. Entomol.*, **68**, 815 (1975); *Chem. Abstr.*, 84 56529f

ZINGIBER (Zingiberaceae)

Z. americana.

SESQUITERPENOID: zerumbone.

van Veer, *Recl. Trav. Chim. Pays Bas*, **58**, 691 (1939)

Z. officinale.

PHENOLIC: (R)-gingerol.

Connell *et al.*, *Aust. J. Chem.*, **22**, 1033 (1969)

Z. zerumbet Smith.

SESQUITERPENOID: humenol, humulene epoxide I, humulene epoxide II, humulenol II, zerumbone.

Desmodaran, Dev, *Tetrahedron*, **24**, 4123 (1968)

ZINNIA

Z. acerosa.

SESQUITERPENOID: zinarosin, zinniadilactone.

Romo *et al.*, *Rev. Latinoam. Quim.*, **2**, 24 (1971)

Z. angustifolia.

SESQUITERPENOID: zinangustolide.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1623 (1981)

Z. elegans.

FLAVONOID: apigenin 7-glucoside, apigenin 4'-glucoside, cosnosin, kaempferol 3-glucoside, kaempferol 3-xyloside-7-glucoside, luteolin 7-glucoside, quercetin 3-glucoside.

Dembinska-Migas *et al.*, *Herba Pol.*, **29**, 197 (1983); *Chem. Abstr.*, 1033694k

Z. flavicoma.

SESQUITERPENOID: zinaflorin A-1, zinaflorin A-2, zinaflorin A-3, zinaflorin A-4, zinaflorin A-5.

Ortega *et al.*, *Phytochemistry*, **24**, 2635 (1985)

Z. haageana.

SESQUITERPENOID: haageanolide.

Kessel, *Phytochemistry*, **17**, 1059 (1978)

Z. peruviana.

SESQUITERPENOID: zinaflorin I, zinaflorin II, zinaflorin III, zinaflorin IV.

Ortega *et al.*, *Chem. Lett.*, 1607 (1983)

Z. tenuifolia.

DITERPENOID: 12,18-dihydroxygeranylgeraniol.

Bohlmann *et al.*, *Phytochemistry*, **20**, 1623 (1981)

ZIZIA

Z. aptera.

BENZOPYRAN: apertin.

SESQUITERPENOID: isosamidin.

(B) Steck *et al.*, *Phytochemistry*, **13**, 1925 (1974)

(T) Hata *et al.*, Chem. Pharm. Bull., **22**, 957 (1974)

ZIZIFLORA

Z. bungeana.

TRITERPENOID: bungeolic acid.

Bimurzaev, Nikonov, Khim. Prir. Soedin., 530 (1980)

ZIZYPHUS (Rhamnaceae)

Z. abyssinica.

MACROCYCLIC ALKALOIDS: abyssenine A, abyssenine B, abyssenine C.

Tschesche *et al.*, Phytochemistry, **13**, 2328 (1974)

Z. aenophila Mill.

PEPTIDE ALKALOIDS: zizyphine, zizyphinine.

Menard *et al.*, Helv. Chim. Acta, **46**, 1801 (1963)

Z. amphibia A.Cheval.

PEPTIDE ALKALOIDS: amphibins A, B, C, D, E, F, G and H.

Tschesche *et al.*, Chem. Ber., **107**, 686 (1974)

Z. hysodrica.

PEPTIDE ALKALOID: hysodricanine A.

Tschesche *et al.*, Phytochemistry, **16** 1025 (1977)

Z. joazeiro.

SAPONIN: jujubogenin 3-O- α -L-arabmofuranosyl- β -D-glucopyranosyl- α -L-arabinopyranoside.

TRITERPENOID: betulinic acid.

(Sap) Higuchi *et al.*, Phytochemistry, **23**, 2597 (1984)

(T) Trigueiro *et al.*, Cienc. Cult. (Sao Paulo), **44** (1981); Chem. Abstr., 97 195830d

Z. jujuba.

SAPONINS: jujuboside A, jujuboside B, jujuboside B1, jujuboside C.

Inouye *et al.*, J. Chem. Res., 144 (1978)

Z. mauritiana Lasm.

PEPTIDE ALKALOIDS: mauritines A, B, C, D, E and F.

ANTHRAQUINONE: 3,6,8-trihydroxy-1-methylanthraquinone-2-carboxylic acid.
 STEROID: zizogenin.

- (A) Tschesche *et al.*, *Justus Liebigs Ann. Chem.*, 1915 (1974)
 (An) Gadgil *et al.*, *Tetrahedron Lett.*, 2223 (1968)
 (S) Srivastava, Srivastava, *Phytochemistry*, **18**, 1758 (1979)

Z. mucronata Willd.

PEPTIDE ALKALOIDS: mucronines A, B, C and D.
 Tschesche *et al.*, *Chem. Ber.*, **105**, 3106 (1972)

Z. nummularia.

PEPTIDE ALKALOIDS: N-desmethyljubanine A, jubanine A, jubanine B, mauritine C, nummularines A, B, C, D, E, F, G, H and K.

- STEROID: zizynummin.
 (A) Miana *et al.*, *Fitoterapia*, **56**, 363 (1985)
 (S) Sharma, Kumar, *Phytochemistry*, **22**, 1469 (1983)

Z. oenoplia Mill.

PEPTIDE ALKALOIDS: zizyphines A, B, C, D, E, F and G.
 Cassells *et al.*, *Tetrahedron*, **30**, 2461 (1974)
 Tschesche *et al.*, *Tetrahedron Lett.*, 2941 (1974)

Z. saliva.

PEPTIDE ALKALOIDS: sativanines A, B, C, D and F.
 PHENOLICS: terephthalic acid, terephthalic acid dimethyl ester, terephthalic acid methyl ester.
 (A) Shah *et al.*, *Phytochemistry*, **22**, 931 (1983)
 (P) Thakur *et al.*, *Planta Med.*, **28**, 172 (1975)

Z. spina-christi.

TRITERPENOIDS: betulinic acid, ceanothic acid.
 Ikram *et al.*, *Planta Med.*, **29**, 289 (1976)

Z. vulgaris.

TRITERPENOID: betulinic acid.
 Krajniak *et al.*, *Aust. J. Chem.*, **22**, 1331 (1969)

Z. vulgaris var. spinosus.

TRITERPENOID: betulin.
 Zimmermann, *Helv. Chim. Acta*, **27**, 332++(1944)
 Zimmermann, *ibid.*, **27**, 334 (1944)

ZOLTERNIA

Z. poraensis.

CHALCONE: 2,2',4,4'-tetrahydroxydihydrochalcone.

FLAVONOIDS: formononetin, (\pm)-7-hydroxy-4'-methoxyisoflavone, isoliquiritigenin, (+)-liquiritigenin, (+)-medicarpin, (+)-vestitol.

Ferrari *et al.*, *Phytochemistry*, **22**, 1663 (1983)

ZOYSIA

Z. matrella.

TRITERPENOIDS: fern-9(11)-en-3-one, 12-ketoarundin.

Obafemi *et al.*, *Phytochemistry*, **18**, 496 (1979)

ZYGADENUS (Liliaceae)

Z. elegans Pursh.

STEROIDAL ALKALOIDS: isogermine, zygadenine.

Feofilakov, Alekseeva, *J. Gen. Chem. SSSR*, **28**, 989 (1955)

Z. intermedium.

STEROIDAL ALKALOIDS: isogermine, zygadenine.

Heyl *et al.*, *J. Am. Chem. Soc.*, **35**, 258 (1913)

Z. venenosum.

STEROIDAL ALKALOIDS: isogermine, zygacine.

Kupchan *et al.*, *J. Am. Chem. Soc.*, **77**, 689 (1953)

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