ON OILS CONTAINING CINEOL AND PHELLANDRENE.

By

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V. Test for Phellandrene by H. Klueter.

Oils containing Cineol.	Oils containing Phellandrene.	Oils containing Cineol and Phellandrene
Alpinia officinarum	Andropogon laingee	Cinnamomum camphora
Amomum aromaticum	Archangelica officinalis	Eucalyptus amygdalina
Cinnamomum Oliveri	Boswellia carteri	" capitellata
" Camphora.	Cinnamomum camphora	" loxophleba
Canella alba	" zeylanicum	" macrorrhyncha
Chenopodium ambrosioides var.anthelminticum	Citrus limonum	" obliqua
Curcuma Zedoaria.	Canarium species	" piperita
Eucalyptus amygdalina	Eucalyptus amygdalina	" resinifera
" Baileyana	" capitellata	" risdonia
" corymbosa	" loxophleba	Mentha piperita Amer.
" crebra	" macrorrhyncha	
" capitellata	" obliqua	
" dumosa	" piperita	
" dextropinea	" resinifera	
" eugenoides	" risdonia	
" globulus	Foeniculum vulgaris	
" hemiphloia	" Macedonia	
" haemastoma	" bitter wild.	
" laevopinea	Illicium verum	
" loxophleba	Oenanthe aquatica	
" microcorys	" phellandrium	
" macrorrhyncha	Peppermint Amer.	
" odorata	Piper nigrum	
" obliqua		

Oils containing Cineol	Oils containing Phellandrene	Oils containing Cineol and phellandrene
Eucalyptus oleosa	Picea excelsa	
" populifera	Peucedanum graveolens	
" punctata	Pinus montana	
" piperita	Sassafras officinalis	
" rostrata	Schinus molle	
" resinifera	Zingiber officinalis	
" risdonia		
Elettaria cardamomum		
Kaempfera rotunda		
Laurus nobilis		
Lavandula dentata		
" Stoechas		
" vera		
" pedunculata		
Myrtus communis		
" cheken		
Melaleuca acuminata		
" decussata		
" ericifolia?		
" genistifolia?		
" leucadendron var.lancifolia		
" linariifolia		
" squarrosa?		
" viridiflora		

Oils containing Cineol	Oils containing Phellandrene	Oils containing cineol and phellandrene

Melaleuca uncinata?

" Wilsomii?

Ocimum basilicum

Mentha piperita(Am)

Peppermintoel v.Réunion

Rosmarinus officinalis

Salvia officinalis.

Alpinia officinarum.

Hance, H.F. 1870.

Pharm. Journal 31,p.246. (Jahrsber. 6,p.33)

Source of the Radix Galangee Minoris of Pharmacologists.

Alpina officinarum. Characteristics of plant.

Hirth, 1873.

Peterm.Mitth.1873,p.14. (Vogl Com.1880,p.299. Jahresber. d.Pharm.15,p.28)

Alpine officinarum.

Hance, H.F. 1873.

Journ.of Linneau Soc. 13,p.1026. (Jahresber.d. Pharm. 15,p.28)

Alpina officinarum.

Culture of plant.

Meyer, A. 1881.

Arch.d. Pharm. (Jahresb.d. Pharm.16,p.85.)

Alpinia officinarum. (cineol)

Jordan, 1883.

Pharm. Journ. 43,p.8. (Jahresb.d.Pharm. 18,p.84.)

Alpinia officinarum.

Notes on Galangal. (cineol)

Thresh, J.C. 1884.

Year-Book of Pharm.1884,p.570-573. (Proc.A.PH.A. 33,p.111

Alpinia Officinarum, Analysis of the rhizome.

A volatile oil.

Hanausek, T.F. 1885.

Pharm.Centralh.26,p.2 (Jahresb.d.Pharm. 20,p.178)

Alpinia officinarum. Besitzt die Galgantwurzel ein Korkgewebe

Structure of parts of plant.

Schimmel & Co. 1890.

Schimmel & Co.Ber.--,p.--- (Jahresb.d.Pharm. 25,p.371)

Galgant Oel.

Pyhsical properties.

Ford, C. 1891.

Kew.Bull.1891,p.5 (Pharm.Journ. 50,p.665; Pharm.Ztg. 36/ p.173; Jahresb.d.Pharm. 26,p.172; Proc.Am.Pharm.Assoc. 39,p.376)

Abstammung des chinesischen Ingwers.

Alpinia Galanga and Zingiber officinale.

Amomum Aromaticum.

Schimmel & Co. 1897.

Schimmel & Co.Ber.April 1897,p.48 (Gild. & Hoff. Die Aetherischen Oele p.413)

Bengal Cardamomenoel.

Physical properties.

Holmes, E.M. 1897.

Schimmel & Co.Ber.1897,p.48 (Die Aeth.Oele, Gild. 7 Hoff. p.413)

Die Benzal Cardamomen von Amomum aromaticum.

Source, physical and chemical properties and constituents

Flueckiger and Hanbury. 1892.

Pharmacographia 11ed. p.728. (Pharmacog.Indica,Part 6, p.564; Schimmel & Co.Ber. April 1892,p.44; Die Aeth.Oele Gild. & Hoff. p.383)

Andropogon lanigee.

Source, physical and chemical properties and constituents

Kremers, E. 1887.

Proc.Am.Pharm.Assoc. 35,p.563.

Chemical examination of the oil of Andropogon nardus or cotronella oil, with a review of the different species of Andropogon of interest in pharmacy.

Andropogon laniger. Distrubution, Odor and taste.

Stephenson, 1892.

Ber. d.d.Bot.Gesell. 1892,p.72. (Jahresb. d.Pharm.27,p. 101)

Andropogon laniger.

Therapeutic action of the drug.

<u>Archangelica Officinalis.</u>

Buchner, L.A. 1842.

Buchner's Repert. f.Pharm.76,p.167 (Die Aeth.Oele,Gild. & Hoff. p.746)

Investigation of the oil of Angelica root.

---------- 1844.

Arch.d.Pharm. 38,p.297 (Jahresb.d.Pharm. 1844,p.43)

Archangelica officinalis.

Buchner, 1845.

Buchner's Rep.26,p.162 (Jahresb.d.Pharm. 1845,p.50)

Archangelica officinalis.

Brimmer, 1875.

Jahresb.d.Pharm. 10,p.107.

Archangelica officinalis.

Preparation of angelicine.

Flueckiger, 1876.

Documente zur Geschichte der Pharm. 1876,pp.23,46,54, 63, 72, 83, 85.

Preparation of angelica water and distillation.

Symes, C. 1878.

Jahresb. d.Pharm. 14,p.150.

Aetherischen Oele Archangelica, Andropogon.

Use of polarimeters in volatile oils.

Mueller, R. 1881.

Berichte d.d.Chem.Gesell. 14,p.2476 (Die Aeth.Oele, Gild and Hoff.p.748)

Ueber Methylaethylessigsauere und Oxymyristinsauere im Aetherischen Oel der Fruechte von Angelica Archangelica.

Analysis of oil.

Naudin, L. 1881.

Bull.Soc.Chem.11,37,p.107 (Compt.rend. 93,p.1146; Die Aeth.Oele, Gild. and Hoff. p.748; Jahresb.d.Pharm. 16, p.193)

Untersuchungen ueber die Terpene des samenoels von angelica.

Constituants of the oil.

Beilstein and Wiegand, E. 1882.

Berichte d.d.Chem.Gesell. 15,p.1741 (Die Aeth.Oele, Gild. und Hoff.p.746)

Ueber Angelica Oele.

Pyhsical properties.

Naudin, L. 1883.

Bull.Soc.Chim. 39,p.114 (Die Aeth.Oele, Gild.und Hoff. p.746)

Investigations of the oil of Angelica root.

Naudin, L. 1884.

Bull.Soc.Chim. 39,p.406-409 (Jahresb.d.Pharm.19,p.243)

Archangelica officinalis.

Oil.

Schimmel & Co. 1887.

Schimmel & Co.Ber. Oct.p.45 (Jahresb. d.Pharm.22,p.12)

Angelicasamen Procent von aetherischen Oel.

Archangelica officinalis procent von aetherischen Oel.

Canella Alba procent von aetherischen Oel.

Elettaria Cardamomum procent von aetherischen Oel.(c)
Laurus nobilis (c) Salvia officinalis (c) Zingeber officinalis

Schuebeler, 1888.

Die Pflanzenwelt Norwegens 1888,pp.280, 303; Die Aeth. Oele, Gild.und Hoff. p.746)

Culture of Angelica root in Norway.

Holfert, J. 1889.

Arch.d.Pharm. 227,p.496 (Jahresb.d.Pharm. 24,p.137)

Ueber die primaere Anlage der Wurzeln und ihr Wachstum.

Tschirch, A. 1890.

Arch.d.Pharm. 228,p.663 (Jahresb.d.Pharm. 25,p.1)

Ueber den Anban der Arzneigewaechse.

Character of Angelica plant.

Schimmel & Co. 1891.

Schimmel & Co.Ber. 1891 April,p.3 (Jahresb.d.Pharm. 26,p 425; Die Aeth. Oele, Gild.und Hoff. p.748)

Angelica Samenoel und Wurzeloel.

Phellandrene present.

Schimmel & Co. 1891.

Schimmel & Co.Ber. Oct.1891,p.41. (Jahresb.d.Pharm. 26, p.425)

Angelica Samenoel.

Contains phellandren.

Ciamician, G. and Silber, P. 1896.

Berichte d.d.Chem.Gesell. 29,p.1811 (Die Aeth.Oele, Gild und Hoff. p.746)

Ueber Angelica Oel.

Physical and chemical properties and constituents.

Matthioli, A.P. -----

Commentarii in sex libros Red.Dioscoridis de materia medica, Veneti 1554, Vol.1169; Die Aeth.Oele, Gild.und Hoff. p.746)

Angelica root and historical facts.

Boswellia Carterii.

Stenhouse, 1840.

Annalen d.Chem. 35,p.306 (Die Aeth.Oele, Gild.und Hoff. p.641)

Weihrauch oil distilled from Boswellia.

The procent of oil and physical properties.

Berg, 1864.

Jahresb.D.Pharm. 1864,p.108

Boswellia.

Source.

Colebrooke, 1870.

Jahresb.d.Pharm. 5,p.217.

Boswellia Carterii.

A A mention of plant only.

Kurbatoff, 1871.

Zeitschr. f.Chem. 7,p.201 (Jahresb.der Pharm. 6,p.138)

Boswellia Carteri.

Chenical examination.

Batka, F.B. 1873.

Buchn.N.Repert. 22,p.175 (Jahresb.d.Pharm. 8,p.167)

Boswellia Carteri.

Kurbatow, 1874.

Annalen d.Chem. 173,p.1 (Die Aeth.Oele,Gild.und Hoff. p.641)

Preparation of a nitrosochloride from a terpene contained in oil of Boswellia Carterii.

Flueckiger,F.A. and Ameero,B. 1888.

Arch.d.Pharm. 226,p.1025 (Jahresb.d.Pharm. 23,p.33)

Boswellia Carterii

Character of plant.

Wallach, O. 1889.

Annalen D/Chem. 252,p.100 (Die Aeth.Oele,Gild.und Hoff. p.641)

Composition of oil from Boswellia Carterii.

The fraction of oil between 177°and 179° contains a dipentene.

Schimmel & Co. ----

Beobachtung im Laboratorium vom Schimmel & Co.(Die Aeth. Oele, Gild.und Hoff. p.641)

Tha identification of Phellandren in oil from Boswellia Carterii.

Canella Alba.

Dale, 1605.

Pharmacologia sen manuductio ad Materiam medicam.London 1693,p.432; Die Aeth.Oele, Gild.und Hoff. p.662.

Description of bark of Canella Alba.

Pomet, P. 1894.

Histoire generale des Drognesi. Paris 1694, Vol.1.p.130 Die Aeth.Oele, Gild.und Hoff. p.662.

Confusion of the bark of Canella alba with other barks.

Sloane, 1707.

Trommsdorff's Taschenbuch f.Chem.u.Pharm.24,p.101 (Die Aether.Oele, Gild.und Hoff.p.662)

Distillation of the volatile oil from Canalla alba bark.

Henry, 1820.

Berlin.Jahresb.d.Pharm.24,1,p.106 (Die Aeth.Oele, Gild. und Hoff. p.662)

Distillation of the oil from Canella alba bark.

Meyer and von Reiche, 1843.

Annalen d.Chem. 47,p.224 (Die Aeth.Oele,Gild.und Hoff. p.663)

Investigation of the oil from Canella alba bark.

Miers, 1858.

Annals and Magazine of Natural History May,1858 (Miers Contributions to Botany 1,p.121; Die Aeth.Oele,Gild.und Hoff. p.662)

Confusion of bark of Canella albl with other barks.

Hanbury, 1862.

Buchn.N.Rep. 11,p.243 (Jahresb.d.Pharm. 1862,p.75)

Canella alba.

Henkel, 1863.

N. Repert. 11,p.1(Proc.Am.Pharm.Assoc. 11,p.77)

Canella alba.

Differences in bark.

Bonnet, 1877.

Jahresb. d.Pharm. 12,p.133

Illicicae - Canella alba.

Frey, J.P. 1884.

Am.Journ.of Pharm. 56,p.1 (Jahresb.d.Pharm. 19,p.359; Proc.Am.Pharm.Assoc. 32,p.175)

Canella alba.

Analysis.

Holmes, E.M. 1886.

Pharm.Journ. 46,p.405 (Jahresb.d.Pharm. 21,p.12)

Some of the drug exhibits at the colonial and indian exhibition.Canella alba.

Hirschsohn, E. 1890.

Pharm.Zeitsch.f.Russ.1890,p.225 (Jahresb.d.Pharm.25,p.363

Einen Beitrag zur Pruefung des Cassiaoeles. Canella albā.

Tests proving the presance of oil.

Williams, 1890.

Chem.News 61,p.64-65 (Jahresb.d.Pharm. 25,p.358)

Ueber die Pruefung aetherischen Oele nach Maumene's Probe.

Eucalyptus, Cajeput oil and Canella alba oil.

Anton, 1. 1890.

Chem.Zeit. 14,p.438 (Jahresb.d.Pharm. 25,p.358)

Ein Empfindliches Reagens fuer eine Gruppe aetherischen Oele.

Pyrrol.

Canella albl and other oils give a color reaction with Pyrrol.

Hulst, L.v. 1890.

Revue inter.scientif. 1890,p.31 (Jahresb.d.Pharm. 25, p.366)

Bemerkt ueber Zimmtoel.

Canella alba.

Schimmel & Co. 1891.

Schimmel & Co.Ber. 1891,April,p.9 (Jahresb.d.Pharm. 26,p.476)

Zimtoel. Canella alba.

Bruun, H.N. 1893.

Paper read at meeting of Wis.Pharm.Assoc. Aug.1893.

(Notes on New Remedies Aug.1893. Vol.6,p.1)

The volatile oil of Canella alba.

---------- 1893.

Proc.Am.Pharm.Assoc. 42,p.695.

Mannitol from Canella alba.

Preparation of manna from the bark; purification of the Manna.

Greenish, H.G. 1893.

Pharm.Journ. 53,p.793 (Proc.Am.Pharm.Assoc. 42,p.872)

Canella bark.

A study of its structure and an examination of the cell contents of several samples.

Bruun, H.N. 1893.

Annalen d.Chem. 246,p.368 (New Remedies 1893,4,p.---; Proc.Am.Pharm.Assoc. 42,p.695; Proc.Wis.Pharm.Assoc. 1893,p.36; Die Aeth.Oele Gild.und Hoff. p.662)

The volatile oil of Canella alba.

Physical properties and an analysis.

Williams, R.T. 1894.

Pharm.Rund. 12,p.183 (Jahresb.d.Pharm.29,p.471; Proc.Am. Pharm.Assoc. 43,p.1029; Die Aeth.Oele,Gild.und Hoff.p.662

The volatile oil of Canella alba.

A thorough research on the oil of Canella alba.

Greenish, 1894.

Pharm.Journ. 53,p.793 (Jahresb.d.Pharm. 29,p.76)

Canella alba.

A study of the structure of the bark.

Clusius, ---

Exoticorum Libri decem.Antverpiae 1605,p.78 (Die Aeth. Oele, Gild.und Hoff.p.662)

A discussion of the bark of Canella alba.

Grisebach, ----

Flora of the Brit. W.Indies 1,p.109 (Die Aeth.Oele, Gild und Hoff. p.662)

On bark of Canella alba.

Chenepodium ambrazoides.

Faust,A. and Homeyer,J. 1874.

Berichte d.d.Chem.Gesell.7,p.1427 (Jahresb.d.Pharm.9, p.319)

Ueber Wurmsamenoel und Cymen.

Boiling point 174 - 175°.

Wallach and Brass, 1884.

Annalen d.Chem.225,p.291 (Pharm.Journ.44,p.342; Proc. Am.Pharm.Assoc. 33,p.261)

Oilof wormseed - Constituents.

C H O principal constituent and other hydrocarbons. Odor boiling point and specific gravity.

Cinnamomum camphora.

Lallemand, 1860.

Annalen d.Chem. 114,p.196 (Die Aeth.Oele,Gild.und Hoff. p.486)

Impure dipenten dichlorhydrate prepared from camphor oil

Wallach, 1885.

Annalem d.Chem. 227,p.296 (Die Aeth.Oele,Gild.und Hoff. p.486)

Isolation of dipentene from camphor oil.

Bertram, 1. 1885.

Schimmel & Co.Ber.Sept.1885,p.7 (Die Aeth.Oele, Gild. und Hoff. p.487)

Isolation of safrol C H O from oil of camphor.

Yoshida, 1885.

Journ.Chem.Soc. 47,p.779 (Die Aeth.Oele,Gild.und Hoff. p.486)

Yoshida obtained a fraction of oil containing l-pinene.

Schimmel & Co. 1886.

Schimmel & Co.Ber.April 1886,p.5 (Die Aeth.Oele,Gild. und Hoff. p.487)

Separation of small amounts of eugenol from camphor oil by shaking out with sodium hydroxide.

Flueckiger, F.A. 1886.

Arch.d.Pharm.224,p.625 (Jahresb.d.Pharm.21,p.58)

Notiz zur Geschichte des Camphors.

Flueckiger, F.A. 1887.

Pharm.Journ. 46,p.989 (Jahresb.d.Pharm.22,p.94)

The distrubution of safrol.

Schimmel & Co. 1888.

Schimmel & Co.Ber. April 1888,p.9 (Die Aeth.Oele,Gild. und Hoff. p.486)

Presence of terpineol in camphor oil.

Schimmel & Co. 1888.

Schimmel & Co.Ber.April,1888,p.9 (Die Aeth.Oele,Gild.und Hoff. p.487)

Schimmel & Co. doubt the presence of camphorogenol in camphor oil.

Chamberland, 1888.

Zeitschr.d.oest.Apoth.Ver. No.2,p.21 (Jahresb.d.Pharm. 23,p.316)

Antiseptische Wirkung der aetherischen Oele.

Oil of cinnamon as an antiseptic.

Schimmel & Co. 1888.

Schimmel & Co.Ber.Oct.1888,p.8 (Die Aeth.Oele, Gild. und Hoff. p.486)

Isolation of cineol from camphor oil.

Schimmel & Co. 1889.

Schimmel & Co.Rep. April,1889 (Pharm.Journ. 48,p.803; Proc.Am.Pharm.Assoc. 37,p.597)

Notes on essential oils.

Cineol in oil of camphor. Physical properties.

Schimmel & Co. 1889.

Schimmel & Co.Ber. April 1889,p.9 (Die Aeth.Oele,Gild. und Hoff. p.487)

Cadinen forms the greater part of the high boiling fraction of camphor oil.

Schimmel & Co. 1889.

Schimmel & Co.Ber. April 1889,p.8 (Die Aeth.Oele,Gild. und Hoff. p.487)

Preparation of dipentendihydrochlorate. from camphor oil

Schimmel & Co. 1889.

Schimmel & Co. April 1889,p.8 (Die Aeth.Oele, Gild. und Hoff. p.485)

Fraction of camphor oil containinf dextro pinene.

Schimmel & Co. 1889.

Schimmel & Co.Ber. April 1889,p.8 (Pharm.Journ.48,p.804; Proc.Am.Pharm.Assoc. 37,p.597; Die Aeth.Oele, Gild. und Hoff.p.486)

Phellandrene in oil of camphor.

Ballard, 1890.

Am.Pharm.Rundsch. 1890,p.82 (Jahresb.d.Pharm. 25,p.366)

Zimtoel aus der Rinde.

Oil of cinnamon physical properties.

Neeset, E. 1890.

Chem.and Drug. 1890,p.516 (Jahresb.d.Pharm.25,p.98)

Cinnamomum camphora.

The commerce of camphor.

Perrot, M. 1891.

L.Union Pharm. 1891,p.253 (Jahresb.d.Pharm. 26,p.424)

Kampheroelnachweis.

Color reactions for a number of volatile oils.

Jackson, J. 1891.

Chem. and Drugg. 39,p.220 (Jahresb.d.Pharm. 26,p.15)

Wohlreichende Hoelzer.

Cinnamomum camphora.

Bornemann, G. 1892.

Technische Mitth. f.Malerei 9,p.5 (Die Aeth.Oele,Gild.und Hoff. p.488.

The lighter portion of the camphor oil is a good solvent for resins.

Schimmel & Co. 1892.

Schimmel & Co. Oct.1892,p.11 (Die Aeth.Oele,Gild.und Hoff. p.485)

The percent of oil from the leaves and roots of the camphor tree.

Bertram and Walbaum, 1894.

Journ.f.pract.Chem. 11 49,p.19 (Die Aeth.Oele,Gild. und Hoff. p.486)

Bertram and Walbaum wuestion the distillate used by Yoshida in his work on camphor oil.

Grassmann, D.E. 1895.

Mitth. der Deutschen Gesell. f.Natur- u. Volkerkunde , Ostasiens Tokio, 6,p.277 -328; Die Aeth.Oele,Gild.und Hoff. p.480

Der Campherbaum.

Collection and distillation of camphor.

Hooper, 1896.

Pharm.Journ. 56,p.21 (Die Aeth.Oele,Gild.und Hoff. p.485)

Distillation of the oil from fresh cinnamon leaves.

Nees and Eberm, 1897.

Am.Journ.Pharm. 69,p.507 (Proc.Am.Pharm.Assoc. 46,p.790)

Cinnamomum camphora.

A discussion of the climates best adopted for its cultivation.

Yoshida, ----

Journ.Chem.Soc. 47,p.779 (Die Aeth?Oele, Gild. und Hoff. p.487)

Pfesence of camphorogenol boiling between 212-213° and formula C H O .

Kaempher, E. -----

Amoenitates exoticae.Lemgo 1712,p.772 (Die Aeth.Oele, Gild.und Hoff. p.480)

Distillation of camphor oil.

Cinnamomum.oliveri.

Baker, R.T. 1897.

Proc.of Limean Soc. of N.S.Wales 1897,11, p.275 (Pharm. Zeit. 42,p.859; Die Aeth.Oele,Gild.und Hoff.p.516)

The lower bioling fractions of the oil connamomum olivеri contain cineol by the iodol test.

Staiger, K.T. 1898.

Proc. Am.Pharm.Assoc. 46,p.788.

Cinnamomum Oliveri.

Distillation of the oil.

Maiden, J.H. 1899.

Dept.Agr.Sydney N.S.Wales, Part 11,p.15.

Indigenous vegetable drugs. Cinnamomum oliveri.

Odor and therapeutic properties.

Cinnamomum Zeylanicum.

Schumanns, ----

Schumann's krit.Untersuch. ueber die Zimtlaender (Die Aeth.Oele, Gild.und Hoff. p.489)

Appearances of Cinnamomum Zeylanicum.

Herodotus. ----

Historiarum libri 9,Lib.1,p.107, Lib.3,p.llo (Die Aeth. Oele, Gild.und Hoff. p.489)

Cinnamomum Zeylanicum.

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Offenb.Joh.Cap. 18,Ver.13 (Die Aeth.Oele,Gild.und Hoff. p.489)

Cinnamomum Zeylanicum of the Bible.

Moses, ----

Buch.Moses, Cap.30,ver.23-24 (Die Aeth.Oele, Gild. und Hoff. 9.489)

Appearance of cinnamomum Zeylanicum in the bible.

Jeremiah, ----

Jeremiah Cap. 6,ver. 20 (Die Aeth.Oele, Gild.und Hoff. p.489)

Cinnamomum Zeylanicum in the books of Jeremia.

Salomon, ----

Sprueche Salomonis Cap.7,verse 17 (Die Aeth.Oele, Gild. unf Hoff.p.489)

Cinnamomum Zeylanicum of the Bible.

Hesekiel, ----

Hesekiel Cap. 30 verse 19. (Die Aeth.Oele, Gild.und Hoff. p.489)

Cinnamomum Zeylanicum of the Bible.

Salomon, ----

Hohe Lied Salomonis Cap.4 verse 14 (Die Aeth.Oele, Gild. und Hoff. p.489)

Cinnamomum Zeylanicum of the Bible.

----- ----

Jesus Sirach Cap.24,verse 20-21 (Die Aeth.Oele, Gild. und Hoff. p.489)

Cinnamomum Zeylanicum of the Bible.

David, ----

Psalm 45,verse 9 (Die Aeth.Oele, Gild. und Hoff. p.489)

Cinnamomum Zeylanicum in the Psalms.

---------- 1857.

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Bretschneider, 1870.

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Collin, 1876.

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Cinnamomum ceylanicum.

Duemichen, 1880.

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Elliot, S.G.F. 1893.

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Mee, G. 1866.

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Citrus limonum.

Preservation of lemons by varnishing.

Diehl, C.L. 1867.

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Groves, H. 1874.

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Sedative.

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Garden and Forest (The Drugg.Bull.1888 Dec.;Jahresb.d.

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Pereira Jonathan.

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Lepage, 1858.

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Reaction of pigment with acid.

Daube, 1870.

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Cooke, 1871.

Pharm.Journ. 30,p.415 (Jahresb.d.Pharm. 6,p.33)

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Notes on the naming of the coloring matter and some salts crystalline in

Pocklington, 1872.

Pharm.Journ. 32,p.301 (Jahresb.d.Pharm. 7,p.41)

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Microscopic examination.

Meyer,A. 1881.

Arch.d.Pharm. (Jahresb.d.Pharm. 16,p.85)

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Jackson, and Menke, A.E. 1883.

Am.Chem.Journ. 4,p.360 (Jahresb.d.Pharm. 18,p.84)

Curcuma longa.

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Pharm.Journ. 46,p.123 (Jahresb.d.Pharm. 21,p.104.)

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Analysis of root resin. Brown extractive matter.

Schimmel & Co. 1886.

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Holfert, J. 1889.

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Ueber die primaere Anlage der Wurzeln und ihr Wachstum.

Curcuma longa and Curcuma Zedoaria.

Schimmel & Co. 1890.

Schimmel & Co.Ber.Oct. 1890,p.17 (Die Aeth.Oele,Gild. und Hoff. p.398)

The lowest boiling fractions of the oil of curcuma longa contain phellandrene.

Peckolt, Th. 1893.

Pharm.Rund. 11,p.288 (Jahresb.d.Pharm. 29,p.216)

Von brasiliranischen Nutzpflanzen aus der Familie der Zingiberaceen.Curcuma longa and Zingiber officinale.

Oils and physical properties.

Curcuma Zedoaria.

1859.

Jahresb.d.Pharm. 1859,p.15.

Curcuma Zedoaria.

Schimmel & Co. 1890.

Schimmel & Co.Ber. oct.1890,p.53 (Die Aeth.Oele,Gild. und Hoff. p.400)

Identification of cineol in the bromine test in the oil of Curcuma Zedoaria.

Schimmel & Co. 1890.

Schimmel & Co.Ber.1890 (Jahresb.d.Pharm. 25,p.369)

Cineol im Zittwerwurzel oele.

Presence of cineol im Curcuma Zedoaria and oil of Cabella alba.

Elettaria Cardamomum.

1862.

Am.Journ.Pharm.34,p.133 (Proc.Am.Pharm.Assoc.11,p.94)

Ellettaria Cardamomum.

Cultivation and collection.

1876.

New Rem.5,p.2 (Journ.of appl.science; Jahresb.d.Pharm. 11,p.88)

Elettaria cardamomum.

1877.

New Rem. 6,p.355 (Jahresb.d.Pharm. 21,p.60)

Elettaria cardamomum.

Its culture.

1884.

Tropical Agriculturist 1884 Feb. (Madras Mail; Pharm. Journ. 43,p.761; Jahresb.d.Pharm. 19,p.86)

The cardamomum hills of Travancere.

1885.

Pharm.Centralorgan 67,p.643 (Jahresb.d.Pharm. 20,p.179)

Elettaria cardamomum.

Size of seed.

Weber, E.

1887.

Annalen d.Chem.238,p.98 (Die Aeth.Oele,Gild.und Hoff. p.409)

Elettaria cardamomum von B.

Has a fraction boiling at 170-178°

Eggers, H.

1890.

Potome Nat. Wissenschaft 1890. (Pharm.zeit.35,p.240; Jahresb.d.Pharm. 25,p.16)

Neuen Gewurzinseln.

Elettaria cardamomum.

Waage, Th.

1893.

Ber.d.Pharm.Gesell. 1893,p.162 (Jahresb.d.Pharm.28,p.200)

Ueber neuerdings beobachtete Verunreinigungen Verwechselungen, Verfaelschungen und minderwertige Sorten von Drogen.

Fructus cardamomi: Elattaria cardamomum.

Eucalyptus amygdaline.

Squire,

1890.

Chem. and Drugg.1890,p.380 (Jahresb.d.Pharm.1890,p.369)

Eucalyptus amygdalina.

Specific gravity, phellandrene reaction.

Gildemeister,E. 1888.

Pharm.Zeit. No.67,p.499 (Jahresb.d.Pharm. 23,p.322)

Oleum Eucalyptus.

Oil of Eucalyptus amygdalina, its constituents.

Schimmel & Co. 1887.

Handelsb.1887,April,p.14 (Jahresb.d.Pharm. 22,p.361)

Oleum Eucalypti. Kein eucalyptol von Eucalyptus amygdalina.

Wallach and Gildemeister, 1888.

Annalen d.Chem.246,p.278 (Die Aeth.Oele, Gild.und Hoff. p.696)

Oil of Eucalyptus amygdalina.

Principal constituent phellandrene. Phellandrene nitrite test. Small amount of cineol.

Wallach,O. 1895.

Annalen d.Chem. 287,p.371 (Jahresb.d.Pharm. 30,p.370)

Eucalyptus Bosistoana and Eucalyptus Baileyana.

Maiden, J.H. 1897.

Agr.Gaz. of N.S.W. july Pub.No.165.

Useful Australian Plant. A red box.

Eucalyptus Bosistoana.

Schimmel & Co. 1888.

Schimmel & Co.Ber. April 1888 p.19 (Die Aeth.Oele,Gild. und Hoff. p.698)

Oil of Eucalyptus Baileyana.

Boiling point. Percent of cineol.

Schimmel & Co. 1888.

Schimmel & Co.Ber. 1888,p.48 (Jahresb.d.Pharm. 23,p.322)

Oils of E.Baileyand, E.Dealbata, E.maculata, E.maculata var. citriodora, E.Staigeriana von Backhausia citriodia, E. Haemastoma.

Physical properties of the oils obtained from the above species.

Maiden. 1897.

Agr.Gaz.of N.S.W.July Pub.No.165,p.266. (Die Aeth.Oele Gild. und Hoff. p.698)

Oil of Eucalyptus Baileyana.

Percent of oil from fresh leaves.

Eucalyptus capitellata.

Baker and Smith. 1898.

Journ.and Proc. of the Royal Soc. of N.S.Wales.32,p.104 (Die Aeth.Oele, Gild.und Hoff. p.699)

Oil of Eucalyptus capitellata.

Synonym, percent of oil. Contains cineol and a trace of phellandrene.

Eucalyptus corymbosa.

Maiden, 1889.

The useful native plants of Australia. 1889,p.266. (Die Aeth.Oele,Gild.und Hoff. p.697)

Oil of Eucalyptus corymbosa

Odor and taste.

Schimmel & Co. 1893.

Schimmel & Co.Ber.April 1893,p.28 (Die Aeth.Oele,Gild. und Hoff. p.697)

Oil of Eucalyptus corymbosa.

Specific gravity and cineol content.

Eucalyptus crebra.

Schimmel & Co. 1893.

Schimmel & Co.Ber. April o893,p.28 (Die Aeth.Oele,Gild. und Hoff. p.699)

Oil of Eucalyptus crebra.

Habitat, color and odor. Rich in cineol.

Maiden, J.H. 1895.

Notes on the commercial timbers of N.S.W. p.8.

Narrow leaved ironbark (E.crebra)

Tallow wood (E. microcorys)

Grey Box (E. hemiphlora)

Red Mahogany (E. resinifera)

Murray Red gum (E. rostrata)

Bloodwood (E. Corymbosa)

Eucalyptus dextro and leavopinea.

Baker, R.T. 1898.

Proc.of the Linnean Soc. of N.S.W. 1898,Part 3. (Pharm. Journ. 1899,p.119; Proc.Am.Pharm.Assoc. 47,p.561)

New Species of Eucalyptus.

E. Dextropinea and E. laevopinea.

Baker, 1898.

Proc. of the Linnean Soc.of N.S.W.27,p.414 (Die Aeth.

Oele,Gild. und Hoff. p.701)

Oil of Eucalyptus dextropinea.

Habitat and specific gravity.

Smith, 1898.

Journ.and Proc.of the Royal Soc.of N.S.W. 32,p.195. (Die Aeth.Oele, Gild.und Hoff. p.701)

Oil of Eucalyptus dextropinea. Constituent, pinennitrosochlorid. Small amount of cineol.

Eucalyptus dumosa.

Flueckiger, 1868.

Jahresb. d.Pharm. 3,p.124.

Eucalyptus dumosa.

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Jahresb.d.Pharm. 4,p.114.

Eucalyptus dumosa.

Bosisto, 1883.

Chem. and Drugg. 24,p.519 (Jahres.d.Pharm. 18,p.699)

Aetherische Oel von Eucalyptus dumosa.

Eucalyptol, physical properties.

Bosisto, 1883.

Chem. and Drugg. 24,p.519 (Jahresb.d.Pharm. 18,p.261)

Eucalyptus dumosa.

Compared to Eucalyptus globulus.

Schimmel & Co. 1889.

Schimmel & Co.Ber. Oct.1889,26 (Die Aeth.Oele, Gild. und Hoff. p.696.)

Oil of Eucalyptus dumosa.

Contains a large amount of cineol.

1890.

Chem. and Drugg. 1890 ,p.863 (Proc.Am.Pharm.Assoc.38, p.423)

Eucalyptus dumosa.

Eucalyptus dumosa yields manna.

Maiden, 1889.

The useful native plants of Australia,1889,p.267. (Die Aeth.Oele, Gild. und Hoff. p.695)

Oil of Eucalyptus dumosa.

Habitat, yield of oil and specific gravity.

Eucalyptus eugenoides.

Madden, J.H. 1898.

Agr. Gaz. of N.S.W. Jan 1898 Pub. No.201.

Useful Australian plant. The stringybacks of New S.Wales.

E.eugenoides, E.capitellate and E.Macrorrhyncha.

Baker and Smith. 1898.

Journ. and Proc. of the Royal Soc. of N.S.W. 32,p.104 (Die Aeth.Oele, Gild. und Hoff. p.699)

Oil of Eucalyptus eugenioides.

Synonym, percent of oil, specific gravity. Contains cineol and no phellandrene.

Eucalyptus globulus.

Ullersperger, 1866.

Zeitschr.d.Oest.Apoth.Ver. 4,p.445. (Jahresb.d.Pharm. i,p.118)

Eucalyptus globulus. Blaetter.

Febrifugum, antiperiodicum and anodynum.

Ullersperger, 1868.

A.J.Med.Sci. 110,p.526 (Proc.Am.Pharm.Assoc. 16,p.177)

Eucalyptus globulus.

Infusion for treatment of fevers in Barcelona.

Lorinser, F. 1869.

N.Rep.f.Pharm. 7,p.410 (Proc.Am.Pharm.Assoc. 18,p.287)

Eucalyptus globulus.

Tincture as a febrifuge.

Weber, 1869.

N.Jahrb.d.Pharm. 31,p.322. (Jahresb.d.Pharm. 4,p.115;

Apoth.Ztg. p.82; Proc.Am.Pharm.Assoc. 18,p.287)

Eucalyptus Globulus.

Chemical investigation. Infusion and extract a febrifuge

Buchner, A. 1869.

N.Rep.f.Pharm. 9,P.551 (Proc.Am.Pharm.Assoc. 18,p.287)

Eucalyptus globulus.

Preliminary examination of the oil of E.globulus.

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N.Rep.f.Pharm. 9,p.545 (Proc.Am.Pharm.Assoc. 18,p.287)

Eucalyptus globulus.

Information as to the planking and cultivating the tree.

Leitz, Hertz, Lorinser and Ullersperger. 1870.

Bayerschesaerztl. Intelligenzblatt 24; Wiener Med.Woch-

enschr. 24,26,27 and 30; Buchn.N.Rep. 19,p.372,428, 568;

N.Jahrb.d.Pharm. 34,p.50; Jahresb.d.Pharm. 5,p.198.

Eucalyptus globulus.

Medical uses of leaves. Preparation of a tincture.

Cloez. 1870.

Compt.rend. 70,p.687 (Amnalen 154,p.372; Die Aeth.Oele, Gild.und Hoff. p.691; Pharm.Zeitschr. f.Russ.1870,p.---; Proc.Am.Pharm.Assoc. 19,p.275; Jahresb.d.Pharm. 5,p.198)

Oil of Eucalyptus globulus.

Investigations of constituents. Used in intermittent fevers.

Raveret - Wattel. 1871.

Bull.de la Soc. d'Acclimation. 1871-1872. (Pharm.Journ. 32,p.22; Arch.d.Pharm. 203,p.39; Jahresb.d.Pharm. 8,p.146

L'Eucalyptus. Rapport sur son Introduction, sa Culture, ses Properties et uses.

Eucalyptus globulus and other species, properties of oil. Antiseptic.

Duquesnel, 1872.

Journ.de Pharm. et de Chem. 4,p.44 (Jahresb.d.Pharm.7, p.456)

Oleum Eucalyptus globuli.

Adulterations tests and constituents.

Brummel, 1872.

Jahresb.d.Pharm. 7,p.200.

Eucalyptus globulus.

Contains eucalyptin.

Chermovis, and Pedro,L.N. 1872.

Boston Med. and Surg?Journ. Oct.24,/872 (Am.Journ.Pharm. 44,p.564; Proc.Am.Pharm.Assoc. 21,p.250)

Eucalyptus globulus.

Synonym, the fevertree. Descriptionof tree. Dose. Therapeutic properties.

Koehler, 1873.

Arch.d.Pharm. 203,p.126 (Jahresb.d.Pharm.8,p.146; Proc. Am.Pharm.Assoc. 22,p.145)

Eucalyptus globulus. Bericht ueber die neusten bezueglichen Arbeiten.

Notes on the most important species.Growth of trees. Eucalyptol found present.

Ullersberger, 1873.

N.Rep.d.Pharm. 6,p.346 (Proc.Am.Pharm.Assoc.22,p.146)

Eucalyptus globulus.

Experiments with the tree as a forest tree in Algiers and France.

Bentley, 1874.

Pharm.Journ. 33,p.872 (Jahresb.d.Pharm. 9,p.160)

The characters, properties and uses of Eucalyptus globulus and other species of Eucalyptus febrifuge.

Bontjema, 1874.

Pharm.Weekblad No.38 (Nieuw. tydschrift v.de Pharm. in Nederland 1874,p.60; Jahresb.d.Pharm. 9,p.163)

Eucalyptus globulus.

The leaves.

Schroff, 1874.

Zeitschr.d.allgem.oest.Apoth.Ver. 12,p.357 (Jahresb.d. Pharm. 9,p.161.)

Eucalyptus globulus.

Culture in Wien and description of leaves.

Dietsch, 1874.

Inaugur.Dissertation des Verfassers, Muenchen 1874 (Jahresb.u.d.Fortsch.d.Pharmacog. 9,p.164)

Therapeutic Versuche mit Eucalyptus globulus.

Homeyer, J. 1874.

Arch.d.Pharm. 205,p.385 (Proc.Am.Pharm.Assoc. 23,p.206; Jahresb.d.Pharm.9,p.163)

Ueber die Blaetter von Eucalyptus globulus und deren aetherisches Oel.

Characteristics of species and mention of oils.

Vulpius, G. 1874.

Arch.d.Pharm. 205,p.406 (Jahresb.u.d.Fortschr.d.Pharm. 9,p.161)

Ueber Anpflanzungen von Eucalyptus globulus. Febrifuge action

Schlaeger, 1875.

Inaug.Diss. (Lit.Nachweis. 303; Jahresb.d.Pharm. 10,p.497

Eucalyptus globulus, exper.Untersuchung ueber die physiol.Wirkung.

Tests of physological actions on frogs, dogs and rabbits

Wayne, E.S. 1876.

Am.Journ.Pharm.48,p.23 (Proc.Am.Pharm.Assoc.24,p.188,805)

Laboratory notes on Eucalyptus globulus.

Preparation of Fliud Extract, formation of crystals.

Hartzer, P.A. 1876.

Berichte d.d.Chem.Gesell.9,p.344 (Am.Journ.Pharm.48,p. 329; Proc.Am.Pharm.Assoc. 25,p.203)

Untersuchungen ueber Eucalyptus globulus.

Preparation of two resins, a resinious acid and a crystalline salt.

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Proc.Am.Pharm.Assoc. 24,p.805.

Eucalyptus vegetation.

Products of E.amydalina and E.Globulus. Constituents and their therapeutic properties.Dose.

---------- 1876.

Proc.Am.Pharm.Assoc. 24,p.806.

Pharmaceutical preparations from British colonies.

Pulv.E.Globulus folia. Antiseptic. Tinct.E.globulus, Therapeutic action and dose. Cigarettes E.globulus. Disinfectant.

Goeppert, 1877.

Zeitschr.d.allgem.oestr.Apoth.Ver.15,p.149 (Jahresb.d. Pharmacog. 12,p.182)

Eucalyptus globulus.

Sanitary use.

Senftleben, 1877.

Pharm.Journ. 37,p.392 (Proc.Am.Pharm.Assoc. 26,p.279)

Eucalyptus and pharmacy in Brazil.

Manufacture of the Tincture of E.globulus. Used in fever regions.

Lockwood, S. 1878.

Popular Science Monthly (Proc.Am.Pharm.Assoc. 26,p.279)

Eucalyptus globulus.

A fever preventative.

Coates, E. 1878.

Pharm.Journ. 37,p.1037.

Tincture Eucalyptus globulus. What is the best formula?

Bentley, 1878.

Pharm.Journ. 37,p.865. (Jahresb.d.Pharm. 13,p.174)

Eucalyptus globulus.

As a febrifuge. Botany of growth, properties and uses. Eucalyptol a mixture of a terpene and cymene and an oxidized substance. Gas formed when leaves were burned used for illuminating purposes.

Mosler & Goeze. 1879.

Brit.Med.Journ. (New.Rem. 8,p.163;Proc.Am.Pharm.Assoc. 27,p.234)

The Eucalyptus globulus in Greifswald.

Symes, C. 1879.

Pharm.Journ. 39,p.211 (Jahresb.d.Pharm. 14,p.154.)

The Polarimeter and its use in pharmacy.

Specific gravity and rotatory power of E.globulus and E.amygdala, odorata.

---------- 1879.

Proc.Am.Pharm.Assoc. 27,p.600.

Eucalyptus in Calofornia.

E.globulus common. Growth.Febrifuge, tonic, stimulant antiseptic. As a tan. Leaves used externally in rheumatism, neuralgia, gout etc.

Rothrock,J.T. 1880.

Jahresb.d.Pharm. 15,p.29.

Bericht ueber die nuetzlichen Pflanzen im Westender U.S.

Eucalyptus globulus in southern California.

Lehn, L. 1880.

Proc.Am.Pharm.Assoc. 28,p.371.

Report of Comm.on the Drug Market. Eucalyptus leaves in brisk demand. E.globulus most medicinal properties.

Andre, M. 1883.

Gardener's Chron. p.237 (Jahresb.d.Pharm. 18,p.260)

Eucalyptus globulus.

Plant.

Jahns, E. 1884.

Ber.d.d.Chem.Gesell. 12-18,p.2941 (Die Aeth.Oele,Gild. und Hoff. p.691.)

Ueber Eucalyptol in E.globulus.

Formula, Isomers.

Wallach and Brass. 1884.

Annalen d.Chem.225,p.291 (Die Aeth.Oele, Gild.und Hoff. p.691)

Eucalyptus globulus.

Bonavia, 1885.

Gard.Cron. 1885,p.762 (Pharm.Journ. 44,p.1069; Proc.Am. Pharm.Assoc. 33,p.176)

Inefficiency in swampy and marshy districts of E.globulus.

Character of tree, influence of moisture.

Bonavio, 1885.

Gard.Chron.702:59,1885 No.59,p.564. (Jahresb.d.Pharm. 20,p.101)

Eucalyptus globulus.

New growth in East Indies.

Grosglik, 1886.

Bull.de la Soc.Bot.de France. (Gard.Chron. 1886,p.338; Proc.Am.Pharm.Assoc. 34,p.454)

Eucalyptus globulus.

Development of the leaves.

Lafite, H. 1887.

Pharm.Zeit.f.Russl. 26,p.342 (Jahresb.d.Pharm.22,p.6)

Original mittheilungen aus dem amerikanischen Arzneischatze.

Eucalyptus globulus, fluid extract as antiseptic.

Adrian, 1887.

Nour.Rem. 1887,p.195.(Jahresb.d.Pharm. 22,p.109)

Eucalyptus globulus and eucalyptol.

Yield of eucalyptol from E.globulus.

Wallach and Glidemeister, 1888.

Annalen d.Chem.246,p.283. (Bull.Soc.Chim.11,50,p.106; Die Aeth.Oele,Gild.und Hoff. p.691)

Eucalyptus globulus.

d- Pinene.

Voiry, M.R. 1888.

Journ.de Pharm.et de Chim. 18,p.49 (Arch.d.Pharm. 226, p.799; Proc.Am.Pharm.Assoc. 37,p.595; Compt.rend. 106, p.1419; Jahresb.d.Pharm.23,p.323)

Composition of Oleum Eucalypti globuli.

Physical properties.

Schimmel & Co. 1888.

Schimmel & Co.Ber. April 1888,p.18. (Die Aeth.Oele,Gild. und Hoff. p.692; Jahresb.d.Pharm. 23,p.323)

Eucalyptus globulus.

The aldehydes.

Benjafield, 1890.

Pharm.Journ. 49,p.740.(Jahresb.d.Pharm. 26,p.128)

ANwendung von Eucalyptus globulus, Labill in Australien.

The source of Eucalyptol.

Briosi, G. 1891.

Atti dell inst.bot.dell univ.di Pavia, Ser.11.Vol.2 (Jahresb.d.Pharm. 26,p.129)

Intorno all'anatomia delle foglie dell'Eucalyptus globulus, Labill.

)))))))))))) 1892.

Pharm.Journ. of Australasia Nov.1892/ (Schimmel & Co.Ber. April 1893,p.27; Jahresb.d.Pharm.28,p.448)

Eucalyptus oils.

Success of Eucalyptus globulus in the market.

Simmonds, L. 1892.

Bull.of Pharm. 1892,p.261 (Jahresb.d.Pharm.27,p.28)

Bemerkung ueber einige aetherischen und Medicinaloele.

Eucalyptus globulus, yield of oil.

Biosi, G. 1892.

Arch.ital.de biol.turin.1892,p.202 (Proc.Am.Pharm .Assoc 41,p.677)

Eucalyptus globulus.

Anatomy of the leaves.

Benjafield, H. 1893.

Chem.News. 1893,p.120 (Proc.Am.Pharm.Assoc. 41,p.677)

Eucalyptus globulus and its uses.

Bouchardat and Oliviero. 1893.

Bull.Soc.Chim.111,9,p.429 (Die Aeth.Oele, Gild.und Hoff. p.692)

Eucalyptus globulus.

Ethyl and amyl alcohol.

Bentley, W.H. 1893.

Med.Summary,Phil. 14,p.115 (Proc.Am.Pharm.Assoc. 41,p.677

Eucalyptus globulus.

Bouchardat and Tardy, 1895.

Compt.rend. 120,P.1417. (Die Aeth.Oele, Gild.und Hoff. p.692; Jahresb.d.Pharm. 30,p.370)

Eucalyptus globulus.

Terpenes and alcohols.

Musmeci, M. 1896.

Giornale med.del Regio esercito 1896,4,p.289. (Jahresb.

d.Pharm. 31,p.151)

Biolggischen Wirksamkeit von Eucalyptus globulus.

Schneider, A. 1897.

Am.Journ.of Pharm. 1897,p.169. (Jahresb.d.Pharm.32,p.151)

Eucalyptus globulus.

Anatomy of leaves.

Maiden, J.H. 1898.

Proc.Linn.Soc. of N.S.W. 1898,part 2,June 29.Pam.p.154.

Observations on the Vegetation of Lord Howe Island.

Eucalyptus globulus. Introduced on Lord Howe Island as shelter. Cannot stand the wind.

Wallach and Glidemeister.

Annalen d.Chem.246,p.283. (Die Aeth.Oele,Gild.und Hoff. p.692)

Eucalyptus globulus.

Fatty acids.

Eucalyptus haemastoma.

Timbury, J. 1890.

Schimmel & Co.Ber.April 0890,p.20.(Jahresb.d.Pharm.25, p.369)

Eucalyptus haemastoma.

Contains terpene cymol and menthone.

Schimmel & Co. 1888.

Schimmel & Co.Ber.April 1888,p.20 (Die Aeth.Oele,Gild. und Hoff. p.704)

Oil of Eucaluptus haemastoma.

Contains cineol,terpene and perhaps ciminic aldehyde and

menthone.

Eucalyptus hemiphloia.

Schimmel & Co. 1892.

Schimmel & Co.Ber. April 1892,p.30 (Die Aeth.Oele,Gild. und Hoff. p.698)

Eucalyptus hemiphloia.

Contains cineol and cuminic aldehyde.

Eucalyptus laevopinea.

Baker, 1898.

Proc.ofthe Linnean Soc.of N.S.W. 27,p.414 (Die Aeth.Oele Gild.und Hoff. p.701)

Oil of Eucalyptus laevopinea.

Smith, 1898.

Journ.and Proc.of the Royal Soc.of N.S.W. 32,p.195. (Die Aeth.Oele, Gild.und Hoff. p.701)

Oil of Eucalyptus laevopinea.

Percent of oil. Specific gravity.

Eucalyptus Loxophleba.

Parry, E.J. 1898.

Proc.Brit.Pharm.Conf. 1898,p.345 (Proc.Am.Pharm.Assoc. 47,p.562; Pharm.Journ.61,p.189; Die Aeth.Oele, Gild.und Hoff. p.700)

Characters of volatile oil from Eucalyptus Loxophleba.

Comtains both cineol and phellandren. Synonyms, "York Gum." Uses, specific gravity. Phosphoric test for cineol

Eucalyptus microcorys.

Schimmel & Co. 1888.

Schimmel & Co.Ber. April 1888,p.19 (Die Aeth.Oele, Gild. und Hoff. p.698)

Oil of Eucalyptus microcorys.

Distribution yield from leaves, specific gravity and boiling point. Terpenene and cineol.

Eucalyptus maculata.

Schimmel & Co. 1890.

Schimmel & Co.Ber.Oct.1890,p.20 (Jahresb.d.Pharm. 25,p. 370)

Eucalyptol und phellandrene nicht in Oel von E.Maculata, var. citriodora enthalten.

Thoms, H. 1891.

Apoth.Zeit. 1891,p.438 (Jahresb.d.Pharm. 26,p.441)

Aetherisches Oel von Eucalyptus maculata, var.citriodora.

The percent of eucalyptol and physical properties of oil

Baker, R.T. and Smith,H.G. 1898.

Journ.Royal Soc.N.S.W. 31,p.260 (Pharm.Journ. 61,p.437; Proc.Am.Pharm.Assoc. 47,p.667)

Chemical investigation of oil of Eucalyptus punctata.

Percentage of eucalyptol in this species.

Eucalyptus macrorrhyncha.

Baker and Smith. 1898.

Journ.and Proc.of the Royal Soc.of N.S.W. 32,p.104 (Die Aeth.Oele,Gild.und Hoff. p.699)

Oil of Eucalyptus macrorrhyncha. "Red stringy bark"

Specific gravity, boiling point. Contains a trace of phelandrene, cineol and eudesmol.

Eucalyptus oblique.

Schimmel & Co. 1898.

Schimmel & Co.Ber.Oct.1898,p.27 (Die Aeth.Oele,Gild.und Hoff. p.700)

Oil of Eucalyptus oblique.

Solubility, iodol reaction and nitrite test.

Maiden, 1889.

The useful native plants of Australia,1889,p.272 (Die Aeth.Oele, Gild.und Hoff. p.700)

Oil of Eucalyptus onliqua.

Specific gravity and boiling point.

Eucalyptus odorata.

Maiden, 1889.

The useful native plants of Australia 1889,p.272 (Die Aeth.Oele,Gild.und Hoff. p.695)

Oil of Eucalyptus odorata.

Boiling point.

Schimmel & Co. 1889.

Schimmel & Co.Ber.April 1889,p.19 (Die Aeth.Oele, Gild. und Hoff. p.695; Jahresb.d.Pharm. 24,p.358)

Oil of Eucalyptus odorata.

Cuminic aldehyde shown to be present.

Eucalyptus oleosa.

Wilkenison, 1893.

Proc. of the Royal Soc.of Victoria. 1893p.159 (Die Aeth. Oele, Gild.und Hoff. p.695)

Oil of Eucalyptus oleosa.

Specific Gravity, contains cineol and cuminic aldehyde.

Maiden, 1889.

The useful native plants of Australia 1889,P.272 (Die Aeth.Oele,Gild.und Hoff. p.695)

Oil of Eucalyptus oleosa.

Yield of oil.

---------- 1891.

Pharm.Era 6,p.274,275 (Proc.Am.Pharm.Assoc. 40,p.668)

Eucalyptus oleosa.

Nature of the oil. Therapeutic action and percant of cineol. Eucalyptus globulus, therapeutic action.

Eucalyptus piperita.

Wilkinson, 1893.

Proc.of the Royal Soc.of Victoria 1893,p.198 (Die Aeth. oele, Gild.und Hoff. p.704)

Oil of Eucalyptus piperita. Spec

Specific gravity and rotation.

Baker and Smith. 1897.

Journ.and Proc.of the Royal Soc.of N.S.W. 31,p.195)Die Aeth.Oele,Gild.und Hoff. p.704)

Oil of Eucalyptus piperita.

Percent of oil from leaves, color, specific gravity, boiling point. Contains cineol and phellandrene. Specific rotation due to phellandrene. Amount of cineol by phosphoric acid reaction.

Eucalyptus populifera.

Maiden, 1889.

The useful plants of Australia 1889, p.273 (Die Aeth. Oele, Gild. und Hoff. p.697)

Oil of Eucalyptus populifera.

Odor like cajeput.

Schimmel & Co. 1893.

Schimmel & Co. Ber. April 1893, p.28 (Die Aeth. Oele, Gild und Hoff. p.---

Oil of Eucalyptus populifera.

Contains cuminic aldehyde and cineol.

Eucalyptus punctata.

Baker, R.T. and Smith, H.G. 1897.

Journ. and Proc. of the Royal Soc. of N.S.W. 31, p.259 ((Schimmel & Co. Ber. Oct. 1898, p.27; Die Aeth. Oele, Gild. und Hoff. p.700)

Oil of Eucalyptus punctata.

No phellandrene present. Eucalyptol principal constituent Specific gravity.

Eucalyptus Risdonia.

Schimmel & Co. 1894.

Schimmel & Co. Ber. April 1894, p.30 (Die Aeth. Oele, Gild. und Hoff. p.698)

Oil of Eucalyptus risdonia.

Specific gravity, rotation.

Eucalyptus rostrata.

Wilkinson, 1893.

Proc.of the Royal Soc.of Victoria 1893,p.197,198 (Die Aeth.Oele,Gild.und Hoff. p.697)

Oil of Eucalyptus rostrata.

Color, odor, and specific gravity.

Maiden, 1889.

The useful plants of Australia,1889,p.273 (Die Aeth. Oele,Gild.und Hoff. p.697)

Oil of Eucalyptus rostrata.

Yield of oil from leaves.

---------- 1863.

Jahresb.f.Chem.1863,p.541 (Journ.Chem.Soc.17,p.1; Die Aeth.Oele,Gild.und Hoff. p.697)

Oil of Eucalyptus rostrata.

Contains nor phellandrene.

Russell, 1890.

Brit.Med.Journ. 1890,p.4o9 (Jahresb.d.Pharm. 25,p.114)

Eucalyptus rostratus.Anwendung des Gummi gegen Seekrankeit.

Trochisci Eucalypti gummi.

Wittstein and Mueller, 1891.

Schimmel & Co.Ber.Oct.1891,p.40 (Jahresb.d.Pharm.26,p.442

Eucalyptus Oel von E.Rostrata.

Specific gravity of oil.

Schimmel & Co. 1891.

Schimmel & Co. Oct.1891,p.40 (Die Aeth.Oele, Gild.und Hoff. p.697)

Oil of Eucalyptus rostrata. Contains valerianic aldehyde and cineol.

Simmonds, P.L. 1895.

Am.Journ.Pharm.67,p.128 (Pharm.Ztg. 1895,p.423; Jahresb. d.Pharm. 30,p.4)

Notes on some saps and secretions used in pharmacy.

Use of secretions of E.rostrata in medicine.

Maiden, J.H. 1897.

Am.Journ.Pharm. 69,p.1 (Jahresb.d.Pharm.32,p.150)

The Murray Red Gum (Eucalyptus rostrata schlecht and its Kino Names, how collected, medicinal uses,its oil, specific gravity, rotation etc.

Brownscombe, W.J. 1899.

Pharm.Journ. May 1899,p.276 (Proc.Am.Pharm.Assoc.47,p.561

Gummi Eucalypti rostratae. The advisability of confining the official gum to this species.

Foeniculum vulgare.

Gardner, 1862.

Am.Drugg.Cir.5,p.201 (Proc.Am.Pharm.Assoc. 10,p.95)

Foeniculum vulgare.

Umney, J.C. 1897.

Pharm.Journ. 58-59,p.225 (Jahresb?d.Pharm.32,p.239)

The commercial varieties of fennel and their essential oils.

Occurence of phellandrene.

Tardy, E. 1897.

Journ.de Pharm. 1897,p.98 (Jahresb.d.Pharm. 32,p.485)

Franzoesische Fencheloel. Bestandtheile, vierwerthigen Terpene

Tardy, 1897.

Bull.Soc.chim.111,17,p.660 (Die Aeth.Oele,Gild.und Hoff. p.740)

Oil of Foeniculum vulgare.

Contains mixture of phellandrene and cymol.

Foeniculum Bitter Wild.

Wallach, O. 1887.

Annalen d.Chem. 239,p.40 (Die Aeth.Oele,Gild.und Hoff. p.741)

Foeniculum bitter wild.

Cahours. 1842.

Annalen d.Chem.41,p.74 (Die Aeth.Oele,Gild.und Hoff.p.741

Foeniculum bitter wild. Phellandrene found as a terpene.

Bunge, 1869.

Zeitschr.f.Chem. 5,p.579 (Die Aeth.Oele,Gild.und Hoff. p.741)

Foeniculum bitter wild.

Phellandrene.

Foeniculum macedonian.

Schimmel & Co.

Beobachtung im Laboratorium von Schimmel & Co. (Die Aeth.Oele, Gild.und Hoff. p.741)

Foeniculum macedonian. P

Phellandrene present by phellandrene nitrite test.

Illicium verum.

Holmes, E.M. 1888.

Pharm.Journ.48,p.101 (Proc.Am.Pharm.Assoc. 37,p.467)

Note on star anise.

Illicium verum the true source.

Hooker, J.D. 1888.

Bot.Mag.July 1888 (Pharm.Zeit. No.78,p.579; Pharm.Journ. 47,p.101; Jahresb.d.Pharm. 23,p.72)

Illicium verum.

Characteristic of plant.

Hooker, 1889.

Centr.(Pharmaceut) 30,p.491 (Jahresb.d.Pharm. 24,p.71)

Pharmacognostisches. Illicium verum. Stammpflanze des Sternanis.

Blondel, R. 1889.

Journ.Pharm.et de Chem. 1889,5,Ser. XX No.12 (Jahresb. d.Pharm. 25,p.106)

Illicium verum.

Culture of plant and the distillation of the oil.

Schimmel & Co. 1891.

Schimmel & Co. 1891,p.45. (Jahresb.d.Pharm. 27,p.470)

Sternanis Oel.

Pfister, R. 1892.

Mach Sonderabdruck. (Jahresb.d.Pharm. 27,p.737)

Zur Kenntnis des echten und der giftigen Sternanis.

Neis, P. 1892.

Am.Drugg. 21,p.1 (Jahresb.d.Pharm. 27,p.120)

Illicium verum.

Description of the tree, method of distillation of the oil.

Prebble, J.G. 1893.

Pharm.Journ. 53,p.21 (Jahresb.d.Pharm. 28,p.126)

Some notes on economic Botany.

Illicium verum.

Schimmel & Co. 1896.

Schimmel & Co.Ber. 1896,p.21 (Jahresb.d.Pharm. 31,p.478)

Sternanis Oel.

Physical properties.

Tanren, W. 1896.

Nord.Farm. Tidekr. 1896,p.293 (Jahresb.d.Pharm. 31pp. 139, 763)

Unterscheidung des echten vom giftigen Sternanis.

Kaempheria rotunda.

Schimmel & Co. 1893.

Schimmel & Co.Ber.Oct.1893,p.47 (Jahresb.d.Pharm.28,p.456

Haempferia rotunda Oel.

Specific gravity and boiling point.

Schimmel & Co. 1894.

Schimmel & Co.Ber.April 1894,p.57 (Die Aeth.Oele,Gild. und Hoff. p.400)

Cineol was found in oil of Kaempferia rotunda.

1895.

Nederl.Tijdschr.v.Pharm.1895,p.20 (Jahresb.d.Pharm.30,4.)

Anpflanzungen im botanischen Garten zu Buitenzug. Kaempferia rotunda.

A new oil from it containing cineol.

Lavandula dentata.

Schimmel & Co. 1889.

Schimmel & Co.Ber.Oct.1889,p.54 (Die Aeth.Oele,Gild. und Hoff. p.799; Pharm.Journ. 49,p.282; Proc.Am.Pharm. Assoc. 38,p.578; Jahresb.d.Pharm. 24,p.365)

The oil from Lavandula dentata has a specific gravity 0.926, boiling point 170-200° and contains cineol.

Laurus nobilis.

Grosourdi, 1851.

Journ.de Chem.med. 6,p.257,266,321 and 385. (Jahresb.d. Pharm. 1851,p.41)

Laurus nobilis.

Chemical investigation.

---------- 1852.

Jahresb.d.Pharm. ----,p.36.

Laurus nobilis.

Blas, 1865.

Annalen d.Chem. 134,p.1 (Jahresb.d.Pharm. 1865,p.23)

Laurus nobilis.

Physical properties and composition.

Gladstone, 1865.

Journ.Chem.Soc. 2,p.1 (Jahresb.d.Pharm. 1865,p.23)

Laurus nobilis

Composition of oil.

-55-

Pauli, 1872.

Ausland Vol.48,p.381 (Jahresb.d.Pharm. 10,p.66)

Luarus nobilis.

Laurus camphora.

Doran, M.A. 1872.

Pharm.Journ.32,p.488 (Proc.Am.Pharm.Journ. 21,p.210)

Laurel leaves as a febrifuge.

Mention of a volatile oil.

Schiff, H. 1874.

Berichte d.d.Chem.Gesell. 1874 1 p.781 (Jahresb.d.Pharm. 9,p.80)

Ueber Laurostearin.

Wanderer, X. 1875.

Am.Journ.Pharm. 45,p.535 (Proc.Am.Pharm.Asoc.24,p.129)

Notes on some medicinal and dietletic articles.

Laurus nobilis.

)))))))))))))) 1885.

(Jahresb.d.Pharm. 21,p.98)

Laurus nobilis.

Leaves to adulterate tea.

Barbaglia, G.A. 1889.

Pharm.Journ. 48,p.824 (Jahresb.d.Pharm. 24,p.354)

Oil of Bay leaves.

Volatile oil distills at 170-175°C.

Wallach, O. 1889.

Annalen d.Chem. 1889,p.94 (Apoth.Ztg. 4,p.690; Proc.Am. Pharm.Assoc. 38,p.583)

Volatile oil constituents.

Oil of laurel leaves contains cineol also does the oil of laurel berries. Oil of Elemi contains dextro phellandrene Oil of Sage centains cineol.

Grennadius, P. 1897.

Journ.Imp.Inst. 3,p.155 (Proc.Am.Pharm.Assoc. 45,p.490)

Laurus nobilis.

Cultivation and uses in Cyprus.

Schimmel & Co. 1899.

Schimmel & Co.Ber.April 1899,p.31 (Die Aeth.Oele,Gild. und Hoff. p.524)

Cineol a constituent of the oil from Laurus nobilis, Boiling point of fraction 176°.

Lavandula spica.

---------- 1888.

Proc.Am.Pharm.Assoc. 36,p.325.

Lava ndula spica.

Presence of Eucalyptol.

Lavandula Stoechadis.

Schimmel & Co. 1889.

Schimmel & Co.Rep.Oct.1889,p.--(Pharm.Journ. 49,p.282; Proc.Am.Pharm.Assoc. 38,p.578.)

Notes on essential oils.Oleum Lavandula Stoechadis Flor. Method of obtaining oil.Therapeutic priperties. Specific gravity boiling temperature.Cineol present.

Lavandula vera.

Lavandula vera.

1874.

The Garden 1874 Aug.22 (Jahresb.d.Pharm. 9,p.93)

Ueber Anbau von Lavandula Mentha and Salvia in Mitcham.

Holmes, E.M. 1877.

Pharm.Journ. 37,p.301 (Jahresb.d.Pharm. 12,p.28)

The cultivation of medicinal plants at Hitchin.

Lavandula vera most extensively.

Perks, S. 1880.

Pharm.Journ. 39,p.680 (Jahresb.d.Pharm. 15,p.72)

Lavandula vera.

Hook, 1888.

Bot.Mag.t 7oo5 July 1888 (Proc.Am.Pharm.Assoc.37,p.467)

Illicium verum.

Description of tree.

Labler, K. 1889.

Zeitschr.d.allg.oest.Apoth.Ver. 27,p.212 (Jahresb.d.

Pharm. 24,p.7)

Anbua von Arzneipflanzen.

Lavandula vera Salvia officinale.

Sawer, j.Ch. 1891.

Chem.and Drugg. 1891,p.308 (Jahresb.d.Pharm. 26,p.104)

Lavendel und dessen Varietaeten.

L.Stoechas, L.vera.

1891.

Pharm.Journ.51,p.510 (Jahresb.d.Pharm.26,p.6)

Cultivation of medicinal plants in Japan.

Lavandula vera and Rosmarinis officinalis.

Schimmel & Co. 1893.

Schimmel & Co.Ber.Oct.1893,p.25 (Die Aeth.Oele,Gild.und Hoff. p.789)

Cineol was found to be present inthe fraction of the oil from Lavandula vera boiling at 160-170°

Schimmel & Co. 1893.

Schimmel & Co.Ber. Oct.1893,p.25 (Jahresb.d.Pharm. 28, p.459, 460)

Lavendeloel Pinengehalt and Cineol gehalt.

Schimmel & Co. 1894.

Schimmel & Co.Ber. Oct.1894,p.31 (Die Aeth.Oele,Gild. und Hoff. p.790)

English oil of Lavandula vera is separated from French oil of Lavandula vera by a much larger percent of cineol

--------- 1872.

Journ.of Applied Science 1872,p.339 (Am.Pharm.Journ. 44, p.510; Proc.Am.Pharm.Assoc. 21,p.219)

The lavender Country.

Distillation of herb and culture. Lavandula species.

Holmes, 1885.

Pharm.Hourn. 45,p.125,76 (Jahresb.d.Pharm.20,p.90)

Culturen von Lavendel Oele.

Semmler, F.W. and Tiemann, F. 1892.

Berichte d.d.Chem.Gesell.1892,p.1180 (Jahresb.d.Pharm. 27,p.462)

Lavendeloel.

Absence of cineol from this plant.

Schimmel & Co. 1892.

Schimmel & Co.Ber.1892,p.22 (Jahresb.d.Pharm. 27,p.462)

Lavendeloel.

Absence of cineol.

Bouchardat, G. 1894.

Compt.rend. 117,p.53 (Jahresb.d.Pharm.29,p.491)

Lavendel oel.

Constituents.

Schimmel & Co. 1896.

Schimmel & Co.Ber.1896,p.50 (Jahresb.d.Pharm. 31,p.462)

Melaleuca acuminata.

Schimmel & Co. 1892.

Schimmel & Co. April,1892,p.44 (Die Aeth.Oele,Gild.und Hoff. p.686)

Cineol was found in the oil from Melaleuca acuminata.

Melaleuca decussata.

Maiden, 1889.

The useful native plants of Australia 1889,p.275 (Die Aeth.Oele, Gild.und Hoff. p.686)

The oil from Melaleuca decussata has a cajeput oil odor and taste.

Melaleuca ericifolia.

Bossistes,J. and Johnson, W. 1873.

Proc.Am.Pharm.Assoc.21,p.251.

Volatile oil from Melaleuca, linarifolia, M.ericifolia M.Wilsonii, M.uncinata, M.genistifolia, M.sqaarrassa.

Oil used in place of keresone for illuminating purposes.

Medical properties like those of cajeputol.

Maiden, 1889.

The useful native plants of Australia 1889,p.275 (Die Aeth.Oele,Gild.und Hoff. p.686)

Melaleuca ericifolia.

Yields an oil containing cajeputol.

Maiden, J.H. 1898.

Proc.Linnean Soc.of N.S.W. 1898,part 2.June 29 p.129.

Observations on the vegetation of Lord Howe Island. Melaleuca ericifolia.

Identity with "Kilmauk" or Kilmogue of N.Z.

Melaleuca leucadendron. Cajeput Oil.

Witting, 1845.

Arch.d.Pharm. 94,p.294 (Jahresb.d.Pharm. 1845,p.175)

Verfaelschung des Cajeputoeles.

Physical properties.

Erdmann, 1850.

Pharm.Centralbl.1850,p.96 (Jahresb.d.Pharm.1851,p.141)

Oleum Cajeputi.

An investigation of the oil.

Schmidt, 1861.

Trans.of the Royal Soc.of Edinb.22,part2 p.369 (Chem. Centralbl.6,p.65;Jahresb.d.Pharm.1861,p.198-200)

Oleum Cajeputi.

Cajeputol and compounds prepared from it. Cajeputen bihydrate.Physical properties and chemical formula.

Delvaux.P. 1861.

Presse,Med. 12,13,17,23,25,30 (1861) (Jahresb.d.Pharm. 1862,p.258)

Oleum Cajeputi. Therapeutische Anwendung.

Schwanert, 1863.

Jahresb.d.Pharm. 1863,1?p.170.

Oleum Cajeputi. Cajeputen bihydrate.

Werner, 1867.

Zeitschr.d.Oest.Apoth.Ver.5,p.397 (Jahresb.d.Pharm.2,p. 349)

Oleum Cajeputi.

Presence of copper. Specific gravity.

Werner, H. 1868.

Pharm.Zeitschr.f.Russ. 1868 (Proc.Am.Pharm.Assoc.17,p.181

Melaleuca.

Cajeputi oil, examination for copper.

Histed, E. 1872.

Pharm.Journ.31,p.804 (Jahresb.d.Pharm. 7,P.454)

Occurence of copper in Cajeput oil.

Several tests in examining oil.

Dragendorff, 1873.

Jahresb.d.Pharm. 8,p.416,423.

Oleum Cajeputi.

Tests on the solubility of the oil.

Schmidt, 1874.

Proc.Brit.Pharm.Conf.1874,p.632 (Proc.Am.Pharm.Assoc. 23,p.332; Jahresb.d.Pharm. 9,p.318)

Oil of Cajeput.Melaleuca leucadendron.

Chief constituent C H O. Boiling point 177°C. Also another product boiling between 176° and 179°.

Dragendorff, 1876.

Jahresb.d.Pharm. 11,p.440)

Oleum Cajeputi rectificatum.

Tests on solubility etc.

--------- 1877.

Nachw.No.382 (Jahresb.d.Pharm. 12,p.557)

Oleum Cajeputi.

Claiborne, 1881.

Gaillard's Med.Journ.April (Chi.Med.Rev.May; Am.Journ. Pharm. 53,p.475;Proc.Am.Pharm.Assoc. 30,p.321)

Oil of Cajeput in Eczema.

Medicinal properties.

Wallach, O. 1881.

Annalen d.Chem.1881,22,p.824 (Jahresb.d.Pharm. 18,p.696)

The constituents of Cajeput iol.

Hager, H. 1882.

Pharm.Centralh. 23,p.---- (New Rem.1882,p.168;Proc.Am.P Pharm.Assoc. 30,p.318)

Ethereal oils.

Solubility in alcohol as a test of their purity.

Oil of cajeput and eucalyptus.

Merck, E. 1884.

Chem.techn.Centralb.1884,p.340 (Jahresb.d.Pharm.18,p.698)

Oleum Eucalypti.

Physical properties.

Grinwade, E.H. 1884.

Pharm.Journ. 43,p.836 (Jahresb.d.Pharm. 18,p.260)

Eucalyptus oil.

Eucalyptol, source of.

Cummings, H.T. 1886.

Gmelin H.Buch. 7,p.312 (Proc.Am.Pharm.Assoc. 34,p.60)

Coloration of oil of cajeput.

Hager, H. 1886.

Pharm.Centralb.27,p.17 (Jahresb.d.Pharm.21,p.234)

Notiz zu den Faelschungen der aetherischen Oele.

Oleum Cajeputi.

Hirschsohn,E. 1887.

Zeitschr.f.Nahrs.und Hyg.Vol.1 (Jahresb.d.Pharm.22,p.353)

Loeslichkeit des Jodols in aetherischen Oelen.In Cajeput oel, Wurmsamen Oel, Eucalyptus Oel etc.

Eykman, J.F. 1887.

Nieuw.Tijdschr.v.Pharm.1887 (Jahresb.d.Pharm. 22,p.111)

Oil of Cajeput. Melaleuca leucadendron.

The leaves.

Tichomirow, W.A. 1888.

Pharm.Zeitschr.f.Russ.35,p.545 (Jahresb.d.Pharm.23,p.317)

Kenntniss der spektroskopis Eigenschaften einiger aetherischen Oele.

Color of cajeput oil due to chlorophyl.

Voiry, 1888.

Compt.rend.106,p.1538 (Jahresb.d.Pharm. 23,p.320)

Oleum Cajeputi.

Constituents and physical properties.

Voiry, 1888.

Journ.de Pharm.et de Chim.17,p.149 (Arch.d.Pharm.226, p.852; Proc.Am.Pharm.Assoc.37,p.595)

Constituents and formula for some constituents.

West, W. 1888.

Yearbook of Pharm. 1888,p.363 (Proc.Am.Pharm.Assoc.37,p. 596)

Examination of commercial samples of oil of Cajeput.

Physical properties and constituents.

Schimmel & Co. 1889.

Schimmel & Co.Ber.1889 (Pharm.Journ.48,p.804; Proc.Am. Pharm.Journ. 37,p.596)

Purity of the direct imported oil of Cajeput.

Adulteration of the oil of Cajeput.

Schimmel & Co. 1891.

Schimmel & Co.Ber.Oct.1891,p.23 (Jahresb.d.Pharm.26,p.435

Cajeputoel. Gehalt in verschiedenen Arten Melaleuca Arten.

Schimmel & Co. 1892.

(Jahresb.d.Pharm. 27,p.446)

Terpineol from Cajeputoel.

Melting point.

Schimmel & Co. 1892.

Schimmel & Co.Ber.April 1892,p.44 (Die Aeth.Oele,Gild. und Hoff. p.687)

The oil from Melaleuca leucadendrom yields cineol.

Umney, J.C. 1895.

Pharm.Journ.58,p.948 (Proc.Am.Pharm.Assoc.43,p.1029)

Cajeput oil.

Maiden, J.H. 1898.

Dept.Agr.Sydney N.S.W. Pub.No.256,p.17.

Indigenous vegetable drugs. Eucalyptus.

Medibinal properties due to essential oils and kinos.

Melaleuca leucadendron, therapeutic action.

Melaleuca linarifolia.

Maiden, 1889.

The useful native plants of Australia 1889,p.276 (Die Aeth.Oele,Gild.und Hoff. p.687)

Melaleuca linarifolia.

Has an odor like cajeputol.

Melaleuca uncinata.

Gilgemeister and Hoffmann, 1899.

Die Aeth.Oele,Gild.und Hoff. p.687.

The presence of cineol was established in the oil from Melaleuca uncinata.

Tepper, J.G.O.

Proc.R.S.Soc. 3,p.174 (Dept.Agr.of Sydney N.S.W.p.18)

Melaleuca uncinata.Therapeutic action.

Melaleuca viridflora and Melaleuca Wilsonii.

Soubeiran, 1870.

Journ.de Pharm.et de Chem.4 Ser.11,p.242 (Jahresb.d.Pharm 5,p.240)

Melaleuca viridiflora.

Colorless or yellow oil, odor like cajeput oil. Solubility of oil. Yield.

Bavay, 1875.

Journ.de Therap.T 3,p.77 (Arch.d.Madrnavale Aug.1875; Jahresb.d.Pharm. 11,p.207)

Melaleuca viridiflora.

Therapeutic action Yield of oil.

Bertrand, G. 1893.

Compt.rend. 1893,116,p.1070 (Jahresb.d.Pharm. 28,p.462)

Niaouli Oel Melaleuca viridiflora.

Investigation of oil.

Maiden, 1889.

The useful native plants of Australia 1889,p.280 (Die Aeth.Oele,Gild.und Hoff. p.687)

The oil from Melaleuca Wilsonii yields cajeputol.

Myrtus chekan.

Holems, E.M. 1878.

Pharm.Journ.38,p.653 (Jahresb.d.Pharm.14,p.54)

Myrtus chekan.

Medicinal use in native country.

Weiss, F. 1878.

Pharm.Journ.38,p.653 (Therap.Gaz.1881,p.395; Am.Journ.

Pharm.55,p.246; Therap.Gaz.1882,p.284; Arch.d.Pharm.226, 665; Jahresb.d.Pharm.23,p.80)

Myrtus chekan. Die Chemische Bestandtheile der Chekanblaetter

Holmes, E.M. 1879.

Pharm.Journ.38,p.653 (Jahresb.d.Pharm. 14,p.54; Proc.Am. Pharm.Assoc. 27,p.235)

Myrtus chekan, Sprengel.

Therapeutic properties, aromatic astringent. Taste of syrup and fluid extract more palatable than those of Eucalyptus globulus.

Moeller, J. 1882.

Chem.Ztg.1882,p.330 (Jahresb.d.Pharm. 17,p.204)

Myrtus chekan.

Leaves.

England, F.W. 1882.

Detroit Therap.Gaz.1882,p.284 (Jahresb.d.Pharm.18,p.259)

Myrtus chekan, aetherisches Oel, Harz and tannin.Alkaloid.

---------- 1883.

Jahresb.d.Pharm. 18,p.805.

Myrtus chekan

Fluid extract.

Weiss, 1888.

Arch.d.Pharm.226,p.666 (Die Aeth.Oele,Gild.und Hoff.p.665

Aetherisches Oel aus den Blaettern von myrtus chekan.

Cineol identified by the atthor of article.

Myrtus communis.

Lavignac, 1875.

Rep.de Pharm. 1875,p.633 (Pharm.Journ. 34,p.625; Proc.Am.Pharm Assoc. 24,p.187)

Myttus communis.

Savignac, D. 1876.

Bull.general de Ther. T 90,p.165,217 (Jahresb.d.Pharm. 11,p.209)

Myrtus communis.

Therapeutic action, botanical characteristics, chemical constituents, pharmaceutical preparations.

Watson, R. 1877.

Pharm.Journ.37,p.342 (Jahresb.d.Pharm.12,p.28)

Notes on Maltese drugs. Myrtus communis.

Leaves used in excoriation in young children.

---------- 1878.

Journ.de Pharm.et de Chem.1878,p.551 (New Rem.1879,p.51; Proc.Am.Pharm.Assoc. 27,p.235)

Myrtus communis.

Use of the volatile oil in medicine. Character of plant.

Myrtus chekan.1Leaves.

Jahns, 1889.

Arch.d.Pharm.227,p.174 (Die Aeth.Oele,Gild.und Hoff.p.664

Ueber Myrtenoel und Myrtol.

The fraction of oil boiling at 176° contained cineol.

Identified by the bromine and iodine addition products.

Ocimum basilicum.

---------- 1894.

Brit.and Col.Drug.1894,p.27 (Proc.Am.Pharm.Assoc.43,p.818

Ocimum basilicum.

Habitat and therapeutic action.

Oenantha phellandrium.

Devay and Guillermond, 1852.

Bull.de Therap.Aug.1852,p.171 (Jahresb.d.Pharm.1852,p.55)

Oenantha phellandrium.

Physical and therapeutic properties. Method of obtaining phellandrene.

Pesci, L. 1883.

Riv.di Chim.med. e Farm.1883,p.174 (Jahresb.d.Pharm.18, p.703)

Oleum Phellandrii.

Work on the terpene, tests for, physical and chemical properties.

Pesci, 1886.

Gazz.chim.ital.16,p.225 (Die Aeth.Oele,Gild.und Hoff. p.748)

Oil of Phellandrium aquaticum.

Contains phellandrene.

Wallach,O. 1887.

Annalen d.Chem.239,p.40 (Die Aeth.Oele,Gild.und Hoff.p. 743)

Oil of phellandrium aquaticum.

Phellandrene present.

American Peppermint oil.

Castle, F.A. 1882.

New Rem. (Pharm.Ztg.64,p.313; Jahresb.d.Pharm.

17,p.117)

Amerikanische Pfefferminzcultur.

Todd, A.N. 1886.

Am.Drugg.15-16,p.161 (Proc.Am.Pharm.Assoc.35,p.117)

Peppermint.

Influence of drying and prolonged exposure of the plant on the volatile oil. No loss of oil.

Power, F.B. and Kleber,C. 1894.

Pharm.Rundsch. 12,p.157 (Proc.Am.Pharm.Assoc.43,p.1036)

The constituent of American Peppermint oil and a method for the quantitative determination of Menthol.

Umney, J.C. 1895.

Pharm.Journ.54,p.1039 (Proc.Am.Pharm.Assoc. 43,p.1036)

Peppermint oil.

Tests, specific gravity, rotation, distilling temperature

Gildemeister and Hoffmann, 1899.

Die Aetherischen Oele p.848.

Pfeffermuenoel von Reimion.

Odor like lavender oil. Cineol reaction with Iodol.

Gildemeister and Hoffmann, 1899.

Die aetherischen Oele,p.842.

American peppermint oil.

Contains phellandrene by phellandrene nitrite test. Melting point. Contains cineol. Boiling point. Formation of cineolic hydrogen bromide and cineolic acid.

Peucedanum graveoleus.

Schimmel & Co. 1897.

Schimmel & Co.Ber. April 1897,p.13 (Die Aeth.Oele,Gild.und Hoff. p.757)

Oil of Peucedanum graveoleus.

Phellandrene present by nitrite test. From an english distilled oil.

Schimmel & Co. 1898.

Schimmel & Co. Oct.1898,p.20 (Die Aeth.Oele,Gild.und Hoff. p.757)

Oil of Peucedanum graveoleus.

Phellandrene reaction from a spanish oil.

Picea excelsa.

Hirschsohn, E. 1885.

Pharm.Ztg.f.Russ. 34,p.529 (Jahresb.d.Pharm. 20,p.19)

Verhalten der Haerze von Pin Silvestris und Picea excelsa.

Solubility of the resins.

Bastin and Trimble, 1896.

Am.Journ.Pharm.63,p.---- (Jahresb.d.Pharm.31,p.30)

Pcea excelsa.

The presence of a terpene boiling at 100°C.

---------- 1897.

Proc.Am.Pharm.Assoc. 45,p.573.

Pcea excelsa.

A description of the tree, analysis of stem and root bark for the amount of tannin and ash.

Gildemeister and Hoffmann, 1899.

Die Aeth.Oele,p.337.

Pinus montana.

Bertram and Walbaum, 1860.

Arch.d.Pharm. 231,p.297 (Annalen d.Chem. 116,p.323; Die Aeth.Oele,Gild.und Hoff. p.338)

Oil of Pinus montana.

Phellandrene present,phellandrene nitrite,melting point.

Adam, 1893.

Apoth.Ztg. 8,p.209 (Jahresb.d.Pharm. 28,p.82)

Medizinisch-therapeutischen Wert der Fichtenrinde.Harzigterpen-artigen Geruch.

Bertram and Walbaum,H. 1893.

Arch.d.Pharm. 231,p.290 (Jahresb.d.Pharm. 28,p.452)

Beitrag zur Kenntnis der Fichtennadeloele. Ein terpen.

Schimmel & Co. 1893.

Schimmel & Co.Ber.April 1893,p.30 (Jahresb.d.Pharm. 28,p. 445)

Werthbestimmung der Fichtennadeloele.

Bastin and Trimble, 1896.

Am.Journ.Pharm. 63,p.----(Jahresb.d.Pharm. 31,p.26; Proc.Am.Pharm.Assoc. 44,p.653)

Drogen des Pflanzenreiches,Pinus montana.

Uses of the tree.

Piper nigrum,

Don, 1843.

Spr.syst.veg.Curoe post.p.69 (Jahresb.d.Pharm.1843,p.140)

Fructus piperis nigri.Piper nigrum.

Pickop,Eli. -73- 1850.

Jahresb.d.Pharm. 1850,p.287.

Piper nigrum. Inflammtion and ulceration of the stomach from.

Cahours, 1852

Compt.rend. 34,p.481 (Jahresb.d.Pharm. 1852,p.33)

Piper nigrum.

---------- 1857.

Jahresb.d.Pharm. 1857,p.22-23.

Piper nigrum.

Strecker, 1858.

Annal.d.Chem.Pharm.15,p.317 (Jahresb.d.Pharm. 1858,p.12)

Piper nigrum.

---------- 1861.

Jahresb.d.Pharm. 1861,p.22.

Piper nigrum.

Foster, 1862.

Annalen D.Chem. 124,p.115 (Jangesb.d.Pharm. 1862,p.21)

Piper nigrum.

Evans, 1862.

Pharm.Journ.and Trans. (Am.Drugg.Circ.5,p.287 (Proc.Am.

P Pharm.Assoc. 10,p.106)

Piper nigrum.

Babo and Keller, 1863.

Jahresb.d.Pharm. 1863,p.17.

Piper nigrum.

Strecker,A. 1863.

Annalen d.Chem. 118,p.281 (Proc.Am.Pharm.Assoc. 11,p.85)

Piper nigrum.

Resulting products when piperine is split up into piperic acid.

Jackson, 1866.

Zeitschr.d.Oesterr.Apoth. 4,p.12.(Jahresb.d.Pharm. 1,p.4)

Piper nigrum.

Fittig and Mielck. 1869.

Xeitschr.f.Chem.N.F. 5,p.326 (Jahresb.d.Pharm. 4,p.34)

Piper nigrum.

Blyth, 1874.

Chem.News. 3,Ser.V.4,p.682 (Jahresb.d.Pharm. 9,p.65)

Piper nigrum.

Blyth, 1875.

Jahresb.d.Pharm. 10,p.52.

Piper nigrum.

Blyth,A.W. 1876.

Proc.Am.Pharm.Assoc. 24,p.197.

Piper nigrum.

Commercial examination and bibliography.

Buchheim, 1876.

Arch.f.exp.Pathol.u.Pharm. Bd.5,p.455 (Jahresb.d.Pharm. 11,p.95)

Piper nigrum.

An alkaloid chavicin, soluble in ether alcohol and petroleum ether.

Cazeneuve and Caillol, 1877.

Journ.de Pharm.et de Chem.4 Ser.vol.25,p.421.(Jahresb.

d.Pharm. 12,p.67.)

Piper nigrum.

Extraction of piperine.

Heraens,W.C. 1878.

Arch.d.Pharm. 212,p.440 (Jahresb.d.Pharm. 13,p.71)

Ueber Zimmt und Pfefferunterschungen.

Eberhardt,L.A. 1887.

Arch.d.Pharm. 225,p.515 (Jahresb.d.Pharm. 22,p.365)

Ueber das aetherische Oel des schwarzen Pjejjers.

Linksdrehenden Terpen.

Johnstone, L.W. 1888.

Chem.News 1888,p.235 (Chem.Ztg.39,p.312;Apoth.Ztg. 96, p.980; Zeitschr.f.Ang.Chem. 1888,p.717; Jahresb.d.Pharm. 23,p.96)

Piper nigrum.

Presance of an alkaloid.

Andouard,L. 1890.

Journ.de Pharm.et de Chem.1890,p.585 (Jahresb.d.Pharm. 25,p.131)

Proben von Pfeffer.

Examination of 25 commercial samples of pepper for adulterations.

Schimmel & Co. 1890.

Schimmel & Co.Ber. Oct.1890,p.39 (Die Aeth.Oele,G.&H. p.418)

Oil of Piper nigrum.

l-phellandrene present.

Rosmarinus officinalis.

Martin, 1867.

Journ.de Chem.med. 5,p.198 (Jahresb.d.Pharm.1867,p.349)

Oleum Rosimarini.

Culture and distillation.

Unger, 1868.

Paper to Wien Akad.der Wiss. (Proc.Am.Pharm.Assoc.16,p. 190)

Rosmarinus officinalis.

Cultivation and characters.

Weber,E. 1867.

Annalem d.Chem.238,p.89 (Die Aeth.Oele,Gild.and Hoff. p.781)

Oil of Rosmarinus officinalis.

Cineol present isolated by making compound with hydrogen chloride. Formation of dipententetrabromide and dipententendiiodide. Melting points. Formation of dipentendichlorhydrate.

Elfstrand, 1895.

Upsala Laek.f.Rorhandl.N.F.Bd.1,p.50. (Pharm.Ztg.1895,p. 842; Jahresb.d.Pharm. 30,p.2)

Systematische Eintheilung der officinellen Blaeter,Rosmarinus officinalis. Salvia officinalis.

Salvia officinalis.

Vignard, 1868.

Am.Drugg.Circ. 11,p.183 (Proc.Am.Pharm.Assoc.16,p.190)

Salvia officinalis.

Decoction for relief of profuse sweating.

Labler, 1887.

Runds.f.d.Int.d.Pharm.Chem.etc No.24,p.468 (Jahresb.d. Pharm. 22,p.8)

Salvia officinalis.

Wallach, 1889.

Annalen d.Chem.252,p.103 (Die Aeth.Oele Gild.und Hoff. p.802)

Oil of Salvia officinalis.

Cineol present by hydrogen bromide combination.

Labler,C. 1893.

Zeitschr.d.allg.oesterr.Apoth.ver. 31,p.303 (Jahresb.d. Pharm. 28,p.2)

Zum Anbau von medizinischen Pflanzen.

Salvia officinalis.

Krahn, 1896.

Wiener klin.Woch. (Pharm.Centr. 37,p.638;Jahresb.d.Pharm 31,p.123)

Salvia officinalis.

Use of the oil as a household remedy.

Sassafras officinalis.

Reinsch, 1845.

Buchn.Rep. 39,p.185 (Jahresb.d.Pharm. 5,p.31)

Sassafras officinalis.Chemische Untersuchung.

Reinsch, 1846.

Jahrb.f.prakt.Pharm. 12,p.95)Jahresb.d.Pharm. 1846,p.36)

Sassafras officinalis.

Ansinghi, 1863.

Tijdschrift v.wetensch.Pharm. 5,p.105 (Jahresb.d.Pharm. 1863,p.21)

Sassafras officinalis.

Physicallproperties,odor.

Proctor,W. 1866.

Am.Journ.of Pharm.38,p.481 (Jahresb.d.Pharm. 2,p.60)

An essay on Sassafras officinalis.

Notes on oil and bark.

Proctor,Wm. 1866.

Proc.Am.Pharm.Assoc. 14,p.211.

An essay on Sassafras officinalis.

Pocklington,H. 1872.

Pharm.Journ. 32,p.161 (Jahresb.d.Pharm. 7,p.48)

The microscope in Pharmacy. Sassafras radix.

Examination of wood with the microscope.

Hill, 1885.

Rep.de Pharm. Vol.13,p.68 (Jahresb.d.Pharm. 20,p.524; Arch.d.Pharm.1885,p.512)

Sassafras officinalis.

Toxicity of Sassafras.

Bartlett,J. 1886.

Drugg.Circ.1886,p.60 (Jahresb.d.Pharm. 21,p.501)

Sassafras officinalis.

Harris,T.C. 1887.

Pharm.Journ.46,p.672 (Jahresb.d.Pharm.22,p.95)

Manufacture of oil of sassafras.

---------- 1891.

Oil Paint and Drug Rep.Spet.14 (Pharm.Journ. 51,p.491; Jahresb.d.Pharm. 26,p.107)

Oil of Sassafras.Bereitung des Sassafrasoelen den suedlichen Staaten Nordamerikas.

---------- 1894.

Apoth.Ztg. 9,No.80 (Jahresb.d.Pharm. 29,p.115)

Sassafras officinale.

Characters of plant.

Power,F.B. and Kleber,C. 1896.

Pharm.Review 14,p.102 (Die Aeth.Oele,Gild.und Hoff.p.521)

On the chemical composition of the oil of sassafras bark and oil of sassafras leaves. Phellandrene present by phellandrene nitrite test.

Schinus molle.

Landerer,M. 1862.

Wittstein Viertejahr 11,p.72 (London Chem.News. 1862; Am.Journ.Pharm.35,p.157;Proc.Am.Pharm.Assoc. 11,p.84;Jahresb. d.Pharm. 1862,p.94)

On the presence of piperine in the Schinus molle.

Guibourt, 1867.

N.Rep.16,p.240 (Proc.Am.Pharm.Assoc. 15,p.174)

Schinus molle.

Bark of tree used among the Mexicans as an astringent.

Jackson, J.R. 1877.

Pharm.Journ. 36,p.998.(Jahresb.d.Pharm.12,p.33)

Notes on some of the Pharmaceutical products exhibited in the Philadelphia Exhibition of 1876.

Schinus molle, contains an astringent resin.

Spica, G. 1883.

Gazz.chim. 14,p.199 (Jahresb.d.Pharm. 18,p.294)

Schinus molle.

Maisch, 1885.

Am.Journ.of Pharm.57,p.339 (Pharm.Centralh.1885,p.633; Jahresb.d.Pharm. 20,p.25)

Schinus molle.

Resin used for emulsions, oil also used. Therapeutic properties.

Fleuckiger,F.A. 1885.

Gazz.Chim.italiana 14,p.199 (Jahresb.d.Pharm.23,p.12)

Schinus molle.

A terpene present and other constituents.

Brown,C. 1887.

Chem.And Drugg.32,p.350 (Jahresb.d.Pharm. 22,p.540)

Schinus molle. Samen als Verfaelschungs mittel des Pfeffers.

---------- 1887.

Pharm.Journ. 47,p.461 (Proc.Am.Pharm.Assoc. 36,p.398; Jahresb.d.Pharm. 22,p.25)

Schinus molle.

Characters and uses of fruit.

Maisch,J.M. 1888.

Proc.Penn.Pharm.Assoc.1888,p.12 (Proc.Am.Pharm.Assoc. 36,p.304)

Odd Remedies.

Schinus molle.

Christy,Th. 1889.

Pharm.Ztg.34,p.55 (Jahresb.d.Pharm.24,p.1)

Th.Cristy's new commercial plants and drugs.Schinus molle.

Maisch,J.M. 1890.

Am.Journ.Pharm. 62,p.331 (Proc.Am.Pharm.Assoc. 39,p.331)

Schinus molle.

Synonym, habitat,therapeutic properties.

Peckolt,Th. (Jahresb.d.Pharm.26,p.39) 1891.

Brasilian einheimischen Schinus arten. Schinus molle.

---------- 1895.

Garden and Forest 1895,p.502 (Am.Journ.Pharm. 68,p.215;

Proc.Am.Pharm.Assoc. 44,p.637)

The pepper tree. Schinus molle.

Habitat, odor, use of berries and bark.

Schimmel & Co. 1897.

Schimmel & Co.Ber. 1897,April. (Jahresb.d.Pharm. 32,p.503

Aetherisches Oel der Beeren von Schinus molle. Phellandrene

riechenden Oeles.

Gildemeister and Stephen, 1897.

Arch.d.Pharm. 235,p.582 (Proc.Am.Pharm.Assoc. 46,p.866)

Schinus molle.

Characters of the volatile oil of the fruit.

Analysis showed the presence of phellandrene.

Gildemeister and Hoffmann. 1899.

Die Aeth.Oele.Gild.und Hoff. p.652.

Oil of Schinus molle.

Contains a mixture of dextro and laevo phellandrene by nitrite test.

Zingiber officinalis.

Pereira,J. 1849.

Pharm.Journ. 9,p.212 (Jahresb.d.Pharm. 1849,p.33)

On the commercial varieties of Ginger.

Papousek, 1852.

Ber.d.k.k.Acad.d.Wissensch.Wien.1852 (Jahresb.d.Pharm. 1852,p.32)

Zingiber officinalis.Chemische Untersuchung.

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OIL OF EUCALYPTUS GLOBULUS.

The eucalyptus globulus tree is found growing in Algiers South Africa, Italy, Spain, Portugal, California, Florida, Mexico, Jamaica, Transvaal, Pretoria, India and others countries.(1)

For many years various species of eucalyptus had figured in the botanical gardens of Europe, and travellers who had seen the gigantic trees in their native country, had been unanimous in their praise of the elegance and rapid development of these magnificient representatives of the Australian flora. But it was not until 1854, when M.Ramel, being in Melbourne, had his attention called to the growth of a young blue gum tree (Eucalyptus globulus), by Dr.Ferdinand Mueller, the indefatigable Director of the Botanical Gardens there, that any extensive attempt was made at its naturalization in other countries. M.Ramel was not content with admiring the tree. In 1856 he sent some seeds to Paris which were followed in 1857 and 1860 by other supplies. These were distributed and the tree is now propagated and naturalized not only throughout Sourthern Europe, but in many localities in Asia, Africa and America.(2)

The Eucalyptus globulus is a native of Tasmania, where it is more especially found on the damp slopes of valleys with a southern aspect. Before the flowers expand, the bud, covered by a lid or operculum of the calyx, has a rounded form; hence

its specific name, GLOBULUS. The tree is so rapid in its growth "that any man in twenty years time could find himself, if he chose, surrounded by a forest of his own planting".(3)

Senftleben(4) informs us that the Eucalyptus trees, grown in Brazil and the river Platte countries are said to be less fragrant than the Australian and to yield less aromatic oil, which is evidently due to the richer, more clayey soil and the moister climate.

Mosler and Goeze (5) say that, notwithstanding the cold winds which prevail in Greifswald from the situation near the Baltic sea, and the long winter which lasts from four to six months, the eucalyptus thrives out of doors for the remainder of the year and has been cultivated with a view to its influence upon malarial poison. The experiment of growing it in pots in the hospital wards as a means of improving the local air appears to have been quite successful and meets with much favor

Notwithstanding the positive statements that have been made as to the suitability and value of plantations of Eucalyptus globulus in swampy and marshy districts, some scepticism has been manifested upon the point and some time since an account was quoted which attributed anything but favorable results to the experiments made in this direction in Italy. In a recent report on the Lucknow Horticultural Gardens, Bonavia (6) records a similar experience and expresses a wonder that the tree should have ever been thought suited for the purpose. He says that in the plains of India as soon as the Eucalyptus

globulus feels the rain, it dies off and appears not in the least capable of withstanding moisture and heat combined. In the Nilgiris, on the contrary where there is both moisture and drainage and where the temperature is not high the tree thrives wonderfully.

In his article on "Observations on the vegetation of Lord Howe Island", J.H.Maiden(7) says of Eucalyptus globulus "it was introduced by Mr.Nat Thompson about fourteen years ago as a shelter. The trees are thirty or forty feet high. They cannot stand the wind and are all dying back."

PHYSICAL PROPERTIES OF THE OIL.

Yield of oil, its color and odor.

According to Cloez(8), Eucalyptus globulus leaves contain about 6 percent of a liquid almost colorless essential oil, its odor resembling that of camphor.

Oil of Eucalyptus globulus is a light yellow, mobile oil having a strongly aromatic odor. It gradually becomes brown, when exposed to the air and partly resinifies.(9)

According to Adrian(11) distillation of leaves of Eucalyptus globulus carried on in southern France yields from 0.4 to 0.7 percent oil. One kilogram of oil of Eucalyptus globulus yields 600 grams of eucalyptol.

Oil of Eucalyptus globulus is of a yellow color and of a disagreeable odor.(12)

Specific Gravity.

Specific gravity of oil at 12°C. is 0.8762.(9)

" " " " " 0.881 .(10)

" " " " " 0°C. " 0.932.(12)

Optical rotation.

Rotatory power of oil of Eucalyptus globulus = ⅄36°30'.(10)

" " " " " " " = +4°24'

for sodium light at a pressure of 0.1 m.(12)

Boiling temperature.

Eucalyptus globulus is a mixture of several bodies, which boil at different temperatures. The first, eucalyptol, boils at 170°C. and has a specific gravity of 0.905 at 8°C., is readily soluble in alcohol, the dilute solution having a roselike odor. Its elementary composition is $C_{24}H_{20}O_2$. When subjected to the action of anhydrous phosphoric acid, a carbo-hydrogen, $C_{24}H_{18}$, called eucalyptene is obtained, of specific gravity 0.836 at 12°C. and boiling at 165°C.(8)

Boiling point of eucalyptol, which is a mixture of Terebenthen and Cymene, is 175° according to Adrian.(11)

CHEMICAL COMPOSITION.

As the result of an analysis of Eucalyptus globulus, H. Weber(13) prepared from it, 1.A volatile oil; 2.A resinous extract containing white needle-shaped crystals; 3.A resin; 4.A peculiar acid; 5.A neutral bitter principle.

See (8) for Cloez analysis.

Brunnel having claimed the existence of eucalyptene in Eucalyptus globulus, Robuteau(14) denies the existence of this constituent as it was not found by Cloez in his investigation of the oil, made especially for this constituent.

Results of Homeyer's(9) distillation of Eucalyptus globulus.1000 grams were distilled. 450 grams distilled over from 175-180°. 225 grams from 180-183°. 62 grams from 183-186°. The remainder passed over from 200-245°. About 50 grams of resinous substance remained.

P.A.Harzer(15) obtained the following principles from old leaves of Eucalyptus globulus, an acid resin, yielding with sulphuric acid, a copulated acid of a handsome carmine color, becoming violet on the addition of ether; two resins which are not colored red by sulphuric acid; a new fatty acid, crystallizing in fine needles, the sodium and potassium salts of which are soluble in ether; cerylic or a similar alcohol and tannin. The latter yields a red deliquescent crystalline salt on treating the ethereal solution of the alcoholic extract with a solution of potassa in absolute alcohol.

Oil of Eucalyptus globulus is by far the most important constituent of the leaves. Its principal constituent was found by Cloez(8) some years since to be a colorless liquid which he regarded as analagous to camphor and to which he gave the name of eucalyptol. This has been recently shown to be a mixture of at least two hydrocarbons, a terpene and cymene and an oxidized substance. It was formerly imagined that Eucalyptus leaves

also contained quinia or some one or more of the other well known alkaloids of cinchona barks. But the experiments of Broughton entirely disprove this, for upon careful examination of the leaves and likewise of the bark, this chemist states that neither quinia, nor any of the other alkaloids of cinchona barks, as quinidia, cinchona, or cinchonidia exist in any proportion.(16)

The correct formula for eucalyptol ($C_{10}H_{18}O$) was first discovered by Jahns(17) while he proved its identity with cineol and cajeputol. He used the method previously employed by Wallach and Brass to isolate cineol, namely by passing HCl into the liquid containing it.

By the distillation of the leaves of eucalyptus globulus Schimmel & Co.(18) obtained aldehydes among which are, valerianic, butyric and capronic aldehydes. Besides these aldehydes Bouchardat and Oliviers determined the presence of ethyl and amyl alcohol in eucalyptus globulus oil. Eucalyptus globulus contains besides pinene also other terpenes. Bouchardat and Tardy obtained by the action of formic acid on the terpene fraction of the oil boiling from 156-157° terpineol, isoborneol and fenehyl alcohol. The oil also contains fatty acids(19)

CHEMICAL PROPERTIES OF EUCALYPTUS GLOBULUS PRODUCTS.

E.S.Warner obtained a crystalline mass from the fluid extract of eucalyptus in the following manner. In the prepara-

tion of the fluid extract he had not been able to obtain a preparation that would not in a short time form a copious precipitate, supposed to be chlorophyll. The green appearance of it warranted that opinion but when separating it from the extract and examining it he found that chlorophyll formed only a small part of the mass. He dissolved the precipitate in alcohol, filtered it through bone black and obtained a light colored solution, free from green chlorophyll. This was then treated with an alcoholic solution of lead acetate, which was added as long as it gave a precipitate, this was filtered and sulphuric acid passed into the filtrate to remove the excess of lead, the filtrate was placed in a loosely covered vessel to evaporate spontaneously. As the alcohol evaporated crystals began to form on the sides of the bottle, and by slow evaporation a confused crystalline mass was obtained, retaining the peculiar odor of the substance. The crystalline form could not be made out, but when reduced to a powder, the color was a pale ochre tint. The substance is soluble in ether and chloroform; its alcoholic solution gives with ferric chloride, a dark brownish-red color. The precipitate consequently contains besides chlorophyll and tannic acid, a peculiar crystallizable acid resin which gives a brownish red reaction with ferric chloride.(20)

From the quantity of oil contained in the leaves of Eucalyptus globulus, they yield when burned a very large proportion of gas, and it is stated that one of the towns in the

gold regions of Australia was for along time lighted by gas thus obtained. The oil thus derived is said to produce a very drilliant flame and as much as 10,000 cubic feet have been obtained from a ton of leaves. But the expense of collecting these leaves in a country where labor is so costly, appears to have proved a barrier to its employment except under altogether exceptional circumstances.(16)

TESTS FOR IDENTITY.

The most important constituent of Eucalyptus globulus oil is probably the cineol or eucalyptol which constitutes the greater percent of the oil.

Eucalyptol has the property of greatly resisting the action of concentrated nitric acid and unlike turpentine oil, it does not resinify when exposed to the oxidizing influence of atmospheric oxygen, being a saturated compound having the formula of an ether. It is miscible with water, easily soluble in alcohol, ether, fatty and ethereal oils.(21)
(Iodol test and phosphoric acid test for cineol, see cineol.)

ADULTERATIONS AND DETECTION OF ADULTERANTS.

Duquesnel(22) mentions methods by which oil of Eucalyptus globulus may be adulterated and in what manner the adulterations may be detected.

a.Alcohol adulteration of the oil may be detected by putting the oil in a graduated tube, adding the same volume of water and then continually shaking. Then allow the liquid to separ-

ate in layers. The increase in the amount of water or the decrease in the volume of oil, indicates the amount of alcohol with which the oil was adulterated.

Another method of detecting alcohol adulteration is by adding some aniline red dye to the oil to be tested. The aniline red is not soluble in the pure oil and does not change the feebly green color of the same. But if alcohol is present an intensive red color will appear, the intensity of the coloration depending on the amount of alcohol present.

b. Fatty Oils may be detected by evaporating some of the oil on a paper over a flame. A fatty residue remaining indicates the presence of a fatty oil. Fatty oils may also be detected by steam distillation of the oil. The eucalyptus oil will distill over and the fatty oil will remain in the distilling flask floating on top of the water.

c. Turpentine Oil adulteration may be detected by distillation. The unadulterated oil does not distill until a temperature of 169-170° is reached, whereas if turpentine oil is present it will distill at a temperature of 155°. Turpentine oil may also be detected by the addition of iodine to the oil. Pure eucalyptus oil will react with iodine, but not with explosive heat and development of red iodine fumes as is the case if turpentine oil is present.

d. Balsam of Copaiba adulteration may be detected by distillation when it can be detected by its high boiling point 260°, as compared with the pure oil which boils and distills from 169°-171°. The balsam will, therefore, remain in the distilling

flask after a temperature of 171° has been exceeded. It may then be identified by the much greater amount of 73 percent algohol required to dissolve it as compared with the small quantity required to dissolve the pure oil of eucalyptus, one cc of which is soluble in 1.6 cc of 73 percent alcohol.

THERAPEUTIC PROPERTIES OF OIL AND OTHER PREPARATIONS OF EUCALYPTUS GLOBULUS.

Ullersperger(23) mentions the leaves of Eucalyptus globulus as having febrifuge, antiperiodic and anodyne properties. An infusion of the leaves is according to Ullersperger(24) used with decided success in Barcelona and the neighborhood for the treatment of fevers and has been found preferable to quinia in severe cases of intermittents.

A tincture made from the leaves of this tree (Eucalyptus globulus) which is cultivated in Spain and Portugal and grows wild in Australia is highly spoken of as an excellent febrifuge by Fred Lorinser.(25)

H.Weber(26) points out that the infusion of the leaves and the extract are possessed of valuable febrifuge properties in such cases of intermittents in which quinia was without effect.

The leaves of this indigenous tree of Tasmania have been used with varied success in the treatment of intermittent fevers.(27)

So popular has an infusion of its leaves become as a febrifuge, especially in case where quinine has not been success-

ful, that M.Alumada says that his trees were completely stripped of leaves and he was still unable to supply many people that came to him for the remedy. Employed as an antiseptic, the essential oil will be very useful in putrid fevers, foetid suppurations,etc. Dr.Grimbert states that mixed with albumen or fresh fibrin it prevents decomposition; injected into the veins of an animal it prevents or retards putrefaction for a long time. Clots of blood of injected rabbits and rats have been kept three months without alteration; the tissues were dried,mummified and exhaled the eucalyptus odor. Some drops evaporated in an apartment corrected bad odors that had been persistent for several days and it has been successfully employed for embalming.(28)

Of the"fever tree" (Eucalyptus globulus) Dr.Chernovis(29) says,"It is a comparatively new medicine of much promise and is given internally for intermittent fever, in doses of from one to four drachms of the powdered leaves- twice during the intermission - or in infusion (two drachms in four ounces of boiling water) morning and evening. Aqueous and alcoholic extracts in doses from two to eight grains, are also used for the same disease. One or two drops of its essential oil, on sugar, in pill or capsule are advised in bronchial and pulmonary affections, laryngitis and catarrhal aphonia.

The first and most important influence which the eucalyptus globulus tree exerts and that which has brought it more especially into notice, is its power of destroying the malar-

ious agency which is supposed to cause fever in marshy districts, from which circumstance it has been called the "fever destroying tree". It is in this respect commonly regarded as being serviceable in two ways - first, by the far spreading roots of this gigantic tree acting like a sponge, as it were, and thus pumping up water and draining the ground; and secondly, by emitting odorous, antiseptic amanations from its leaves. Professor Bently said that he did not believe, as has been recently stated, that the branches of a solitary eucalyptus tree can have any effect in neutralizing the malarious influence of a district previously constantly infected by fever, but he does think that the foliage of groves of eucalyptus trees, by diffusing an agreeable, aromatic, camphoraceous, stimulating odor in the surrounding air would have an appreciable influence in neutralizing marshy miazmas and thus improving the healthiness of the district. The great influence is, however, in his opinion, produced by the power the roots possess of absorbing water from the soil. It is stated that a eucalyptus tree absorbs as much as ten times its weight of water from the soil(3)

Vulpius(30) claims that the febrifugal properties of Eucalyptus globulus are due to the property the tree has of ozonizing the air.

Schlaeger(31) carried on experiments with the tincture, decoction, eucalyptus oil and eucalyptol on frogs, dogs and rabbits. The results which he obtained are the following:

a. Eucalyptus preparations directly introduced into the stomach

brought about a lowering of the body temperature.

b. By intra-venous injection the action of the heart was slowed the blood pressure lowered by the direction action upon the heart.

c. The size of the spleen decreased with the use of eucalyptus globulus. It becomes harder and takes on a granulated appearance.

The Oil. Tonic, stimulant, antiseptic and anthelmintic. A small dose promotes appetite, a large one destroys it. In stronger doses of 10 to 20 minims, it first accelerates the pulse, produces pleasant general excitement and a feeling of buoyancy and strength. Intoxicating in very large doses, but unlike alcohol or opium, the effects are not followed by torpor, but produce a general calmness and soothing sleep. A strong cup of coffee will at once remove any unpleasantness arising from an overdose. Anthelmintic. By enema, 30 to 60 minims in mucilage of starch. Internally, dose 3 to 5 minims in gum mucilage syrup or glycerin.

Eucalyptol. For inhalation in bronchial and throat affections. Quantity employed, from half to one teaspoonful with half a pint of hot water in the inhaler.

Liquor Eucalypti globuli. Antiperiodic. The tonic or bitter principle obtained from the leaves of the tree in an amorphous condition. An ague remedy. It appears to counteract malaria without exerting the prejudicial effects of quinine on the nervous system. For ague and Dengue fever 30-60 minims in half

a wineglassful of mucilage and water or glycerin and water with the occasional addition of 2 minims of eucalyptol every two or three hours during the paroxysms of ague. As a general tonic, 20-30 minims three times a day. Incompatibles; The mineral salts.

Tincture Eucalypti Globuli. Stimulant, tonic, antiperiodic, and antiseptic. Dose 20-30 minims.

Pulv. Eucalypti Globuli folia. Antiseptic, cataplasma.

Cigarettes Eucalypti globuli. Disinfectant, employed in bronchial and asthmatic affections. (32)

It appears that tincture of eucalyptus glubulus is manufactured on rather a large scale in Braxil where intermittent and remittent fevers prevail extensively in the low coast and river regions and also in the valleys and backwoods of the uplands. It is used by the native doctors as a popular medicine mostly in obstinate cases especially when relapses occur. This tallies with the reports of the Australian practitioners who treated cases of ague contracted in the swampy river countries of Hungary. In fresh or protracted cases of intermittent fever where no remarkable enlargement of the spleen has yet taken place, quinine is by far the most reliable febrifuge. But where an "ague cake" has formed and the recurring attacks depend rather on the locally remaining of the diseases, the eucalyptus in doses of a half or one fluid drachm, twice or three times per day for a week or a fortnight proves the most useful remedy. (33)

Whatever the sanitary activities of eucalyptus may be, the fact is squarely settled, that spots in Italy, uninhabitated because of malarial fevers have been rendered tolerable by the planting of eucalyptus globulus, and it is believed that a more plentiful planting would nearly, if not quite, remove the difficulty.(34)

It is a powerful tonic and diffusable stimulant; performs remarkable cures in cases of chronic catarrh and dyspepsia, is an excellent application for wounds. The fresh leaves are used in the form of fomentations and applied externally in severe cases of rheumatism, neuraliga, gout etc. (35)

The fluid extract was adopted by the U.S.Pharmacopoeia and is employed in malaria and in ulceration of the vagina etc. According to Dupont(36) 5-10 drops proved active in diphtheria. Musmeci(37) experimented with tincture of eucalyptus globulus as an antidote for strychnine poisoning.

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OIL OF EUCALYPTUS ROSTRATA.

Eucalyptus rostrata, a native of Australia, and spread from South Australia to northern Queensland, has been planted to a great extent in South Africa as well as in Algiers, where it stands the heat better than Eucalyptus globulus.(1)

Besides being known as "Red Gum" it is the "Flooded Gum" of the interior of Western and South Australia. In western New South Wales it is called "Creek Gum" as it is always found near watercourses. There are several kinds of trees which go by the name of "Red Gum", but according to Maiden(2) the red gum par excellence of these colonies is Eucalyptus rostrata, and by way of distinction he has denoted it - on account of its most celebrated locality - "Murray Red Gum."

With regard to confining the official (B.P.) Eucalyptus Gum to this species, Brownscombe(3) expresses it as his opinion that the kino of Eucalyptus rostrata is superior as a therapeutic agent to any of the kinos of the other Eucalypti, and, moreover, that it is simply its own merit that has won it the place it holds in medical estimation to-day.

PHYSICAL PROPERTIES.

Color, odor and taste.

The oil of Eucalyptus rostrata is of a yellow color and has an odor similar to that of Eucalyptus odorata(1). Taste and odor similar to Eucalyptus odorata(4). According to Bosisto(5) plants grown on high ground give an oil of dark amber color, possessing an agreeable aromatic flavor and having

the odor of caraway. The plants grown on low marshy soil yield an oil of a pale yellow color, in appearance and smell similar to that yielded by Eucalyptus odorata. The oil has a powerful odor of valerianic aldehyde according to Schimmel & Co. (4)

Specific Gravity.

Specific gravity of oil of E.rostrata = 0.918(6)

" " " " " " = 0.925 at 15° (4)

" " " " " " (7)

Sample 1.....0.9120

Sample 11.....0.9216

Sample 111.....0.9222

Optical Rotation.

Optical activity of oil of E.rostrata = + 12? 58' in 100 mm tube(4).

α_D = -1°8' to +13° (1).

Sample 1.Sp.rotation of oil of E.Rostrata = +8.7°

" 11 " " " " " " = +2.2° (7)

" 111" " " " " " = +0.5°

Boiling temperature of Eucalyptus rostrata = 137° - 181° C.(6)

Other physical properties.(7)

Oil No.	Refractive index.	Sp.refractive energy.
1	1.4604	0.5072.
11	1.4600	0.5014
111	1.4607	0.5018.

Yield of oil from leaves.

0.1 percent from fresh leaves.(1)

one ounce ans six drachms from 100 pounds of fresh gathered leaves from high soil. (5)

9 1/3 drachms from 100 pounds of fresh leaves from low marshy soil.(5) 7 ounces from 100 pounds of leaves. (8)

The oil is soluble in two parts of 70 percent alcohol.(1)

CHEMICAL COMPOSITION.

The oil contains valerianic aldehyde and cineol(4) but no phellandrene.(1) The eucalyptus oil from Eucalyptus rostrata is not a regular article of commerce as it is not yielded in payable quantity.(8).

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OIL OF EUCALYPTUS OLEOSA.

A London correspondent of the Era(1) mentions that a striking contrast to the eucalyptus oils yielding a considerable proportion of light constituents (i.e. such as have low boiling points) is that of eucalyptus oleosa, which has taken an assured place among the most valuable and medicinally active of the eucalyptus oils.

Physical Properties.

Odor color etc.

When this oil was first introduced into European commerce it at one attracted attention, partly because of its color, characterized by the admixture of the aroma of cumin aldehyde, and partly because, when subjected to the rough test for eucalyptol ~~i~~immersion in a freezing mixture- it solidified to a pasty mass, thus giving evidence of unusual richness in the oxygenated compound. Further examination showed it tobe free from the light constituents, which excite cough when inhaled.(1)

Specific gravity.

Specific gravity of oil of E.oleosa = 0.923 (55°C.) (1)

" " " " " " = 0.906-0.926 (2)

Optical Rotation.

$(\alpha)_D$ = + 4 to 5°.(2)

Boiling Temperature.

72 percent of the oil distills over between 170° and 180°(1)

Chemical Composition.

The oil contains cineol and cumin aldehyde(3). Davies and Pearman(4) examined some twenty-four samples of Eucalyptus

oil. In order to determine roughly the amount of eucalyptol contained in the oils, 50 cc were subjected to distillation, and the fractions passing between 170° and 175° and between 175° and 180° separately collected. When this was done it was at once perceived that the oil of eucalyptus oleosa yielded a large proportion of these fractions, which at the same time had the smallest rotatory power of any of the samples examined, and this observation led to the more careful fractionation of this oil. From 500 cc, 236 grams were obtained between 174 and 177°C., which, when cooled to -10°, crystallized abundantly, yielding 120 grams of approximately pure eucalyptol. This product had a rotation of only 1.46 to the left in a 100 mm tube, and a specific gravity of 0.9190 at 15.5°C.

Therapeutic Properties.

Since the antiseptic properties of the oil undoubtedly depend upon the presence of this oxygenated compound, it is important that only such oils should be recognized as are rich in this constituent, especially as eucalyptus oil has been recently recommended by medical authorities and in the public press for the prevention of the spread of scarlet fever and other contagious diseases. For these purposes it is to be sprinkled about the rooms, used in the form of spray, etc. Besides being an efficient antiseptic it has also an agreeable perfume and relieves the throat symptoms.(1)

REFERENCES.

1. Pharm. Era 6, p.275.

2. Die Aeth. Oele, G. and H. p.695; from Proc. Royal Soc. of Victoria 1893, p.195.

3. Die Aeth. Oele, G. and H. p.695.

4. Pharm. Era 6, p.275; from a paper contributed to the pharmaceutical Conference at Cardiff.

EUCALYPTUS AMYGDALINA.

Historical.

The tree known in the south eastern part of Australia as the White and Brown Peppermint-tree, Eucalyptus amygdalina belongs to the larger varieties and often gnows to a height of 400 feet and over. The leaves of this tree arericher in oil than those of any other variety and yield upon distillation over 3 percent of oil.(1)

This oil appearedin large quantities on the market at an early date but has been replaced more and more by the oils richer in cineol. This is but natural since the medicinal properties of Eucalyptus oils depends upon cineol or eucalyptol and not on the terpene phellandrene.(1)

Physical properties. Color and odor.

The oil from Eucalyptus amygdalina is very pale yellow or it is colorless. The odor of the small percent of cineol is entirely covered up by the large percentage of phellandrene present.

Specific Gravity.

The specific gravity of the oil according to Gildemeister and Hoffmann is 0.850 - 0.886.

According to Squire.....0.874, 0.889
0.897, 0.893
0.877, 0.874

Squire examined six samples of the oil determining their specific gravity, specific rotation and the percentage of phellandrene by the nitrite test.(2) The work of Squire is however

questioned by Schimmel & Co., they claiming that he did not have samples of pure oils but oils from a mixture of leaves. Schimmel & Co. give the specific gravity of the unrectified oil as 0.865 and of the rectified oil as 0.856.(3)

Optical Rotation.

The specific rotatory power of the oil according to Gildemeister and Hoffmann is from -25 to -70°.(2) According to Squire the specific rotation for six samples of oil is -38° to -24°, -30°, -37°, -120° and -111°.

Solubility.

The oil as compared to the oil from Eucalyptus globulus is very sparingly soluble in alcohol.(2)

Chemical Composition.

According to Gildemeister and Hoffmann the oil is almost entirely phellandrene. The phellandrene is leavo rotatory and it may be interesting to state here that it was in this oil that leavo phellandrene was first identified. The amount of cineol is very small. It cannot be identified by the hydrochloric acid test but can be identified by the hydrobromic acid test in a solution of the oil in petroleum ether.

Chemical properties.

Phellandrene the chief chemical conctituent of the oil is identified by the formation of phellandrene nitrite.($C_{10}H_{16}N_2O_3$) as follows. To a solution of 5 cc of the oil in 10 cc of petroleum ether add a solution of 5 grams of sodium nitrite in 8 cc of water then to this mixture add gradually 5 cc of acet-

ic acid constantly shaking the mixture. The formed nitrite separates in a fine white crystalline semi-solid mass and can be separate by filtration. The crystals are first washed with distilled water then with methyl alcohol. The washed product is finally dissolved in chloroform and precipitated with methyl alcohol and is recrystallized from hot ether. The melting point of nitrite prepared from this oil is 103°C. It is almost insoluble in alcohol and petroleum ether, slightly soluble in cold ether and carbon disulphide and very soluble in chloroform.(4)

Reaction.

In the reaction the valence of one nitrogen atom changes from three to five, thus:

Cineol which exists inthe oil in small quantities cannot be identified by the phosphoric acid reaction. According to Gildemeister cineol was identified in this oil by the formation of the hydrobromic acid addition product (C H O.BrH). By this test Gildemeister claims to be able to identify cineol in an oil containing as low as one percent. To confirm the presence of cineol he oxidized it to cineolic acid by the aid of potassium permanganate.(5)

It does not seem possible that the cineol in this oil can be identified by the iodol test because of the small percent therein contained. Mr. Tandvig was unable to obtain a positive result with cineol below 5 percent in strength. The specific gravity and rotatory power of this oil are two very reliable factors in the examination of it. A sample of oil having a high specific gravity and a low rotatory power may be regarded as containing a large percent of cineol. If however the specific gravity is low and the rotatory power is high a large percent of phellandrane is probably present.

Adulterations and Adulterants.

No mention in literature has been made regarding the adulteration or adulterants of this oil. This can probably be accounted for by the large yield and the fact that it would not be profitable to adulterate a cheap oil with cineol which is much more expensive.

Therapeutical Properties.

The oil from Eucalyptus amydalina has been used as a rubefacient, disinfectant and employed externally in cases of

rheumatic affections. It has also been used to some extent in the manufacture of perfumes ans soaps. When mixed with sawdust in the proportion of four ounces to the bushel it makes an excellent and agreeable disinfectant.(6)

REFERENCES.

1.Die Aeth.Oele,G.and H. p.696.

2.Jahresb.d.Pharm. 25,p.369.

3.Schimmel & Co.Ber. April 1887,p.38.

4.Beilstein,

5.Jahresb.d.Pharm. 23,p.322.

6.Proc.Am.Pharm.Assoc. 24,p.806.

EUCALYPTUS LOXOPHLEBA.

Historical.

Eucalyptus loxophleba because of its abundance near and in the city of York is known as the York Gum. It grows chiefly in companionship with Eucalyptus redunca and perculiarly enough while it flourishes on the eastern slopes of the Darling range, it is not to be found on the western slopes. It grows abundantly in the neighborhood of York, Beverley and Pingelly. It grows on any soil and the wood is ashard as that of the famous Eucalyptus marginata. The tree grows to a height of Loo feet and is 1 1/2 to 3 feet in diameter; the bark is rough and dark colored and the leaves which are tapering ahve a perculiar oblique venation.(1)

Physical Properties.

The oil from Eucalyptus loxophleba has a very obnoxious odor and induces coughing when inhaled.

Specific Gravity.

The oil has been found to have a specific gravity of 0.8828 by E.J.Parry.

Optical Rotation.

According to E.J.Parry the oil is slightly dextro rotatory about 0.5° in a 100 mm tube.

Boiling temperatures.

The oil was fractionated by E.J.Parry and it began to boil at 160° rising rapidly to 168°.The fractions collected were:-

168 - 171°.....68 percent of the oil.

171 - 176°.....14 percent of the oil.

176 - 182°.....2 percent of the oil.

182 - 187°.....8 percent of the oil.

Residue.....8 percent of the oil.

Chemical Composition.

The oil was found to contain cineol, phellandrene, aldehydes and ketones. The first fraction of the oil was almost free from cineol while the fraction boiling between 176 - 182° was almost entirely cineol. The percent of cineol has been placed patween 15 and 20 percent. Phellandrene makes up a large portion of the remaining 80 percent, but the phellandrene while identified by the nitrite test was not determined quantatively A small percent of the oil was found to consist of aldehydes and ketones. Amyl alcohol is supposed to give the oil its obnoxious odor but has not been identified.

Chemical properties. (Tests for identifying constituents)

The cineol of the oil was identified and estimated by the phosphoric acid test. Phellandrene was identified by the formation of its nitrite. Aldehydes and ketones were identified in the oil by the absorption of sodium bisulphite of about ten percent.

Adulterations and Adulterants.

No mention has been made of any adulterations in this oil It has not as yet entered into medical use but without doubt willbe largely used since its percent of cineol (15-20) makes it of practical value. The investigation of this oil has been

carried on by E.J.Parry alone. The investigation was carried on in 1898 on a sample of 70 cc of oil. It is the opinion of some of the volatile oil investigators that more work will be done on this oil and interesting results may be looked for.

REFERENCES.

1.Pharm.Journ. 61,p.198.

2.Die Aeth.Oele,G.and H. p.700.

3.Ber.v.Schimmel & Co. 1898,p.26.

EUCALYPTUS RESINIFERA.

Historical.

Eucalyptus resinifera is a native of New South Wales, and Queensland.(1) It is not one of the largest eucalyptus trees but grows to a height of 140 feet and attains a diameter of 19 inches. The side branches of the tree remain small until the tree reaches a height of 100 feet when they grow rapidly to a length of about 90 feet giving the tree the appearance of a large umbrella(2). The tree is a very rapid grower yet its beautiful red wood is very hard and heavy. The flowers are white and are visited by bees in their collection of honey. The tree is an evergreen and its seeds are about the size of tobacco seeds. The principle use of the wood is in the manufacture of furniture.(2)

PHYSICAL PROPERTIES.

Odor and color.

The oil from Eucalyptus resinifera has a strong turpentine like odor and it seems it is mainly due ti this that the oil has not been used more.(3) This oil is not soluble in 70 to 80 percent alcohol.(4)

Specific Gravity.

According to Schimmel & Co. the specific gravity of this oil is 0.893.(4)

Specific Rotatory Power.

The angle of rotation was determined as - 17° 8'.(4)

Boiling Temperatures.

No mention in literature has been made regarding the boiling temperature of this oil.

CHEMICAL COMPOSITION.

This oil is composed mainly of a hydrocarbon with a turpentine like odor. It contains also a small amount of cineol and phellandrene.(4)

CHEMICAL PROPERTIES.

There is in literature no trace of work on the hydrocarbon with the turpentine like odor. Cineol has been identified in the oil by the iodine reaction.(4) Phellandrene is also present but no mention is made stating how it was identified, yet it is but just to suppose that the nitrite was prepared.

OTHER PRODUCTS FROM EUCALYPTUS RESINIFERA.

this tree seems to be a favorite source of Eucalyptus Kino. The kino contains tannin. It is collected by making incisions in the bark of the tree, the resin like kino exuding and is collected by scraping off. The kino dissolves completely in alcohol with a specific gravity of 0.835.(5) Kino is sometimes adulterated with extract of catechu.(6) No mention is made of the oil being used in medicine.

1. Journ. of Chem. Soc. 17, 1864.

2. Jahresb. d. Pharm. 5, p. 197.

3. Schimmel & Co. Ber. Oct. 1897, p. 27.

4. Schimmel & Co. Ber. Oct. 1898, p. 26.

5. Am. Journ. Pharm. 31, p. 226.

6. Proc. Am. Pharm. Assoc. 15, p. 179.

Twelve samples of Eucalyptus oils obtained from various firms were examined as to specific gravity, optical rotatory power, percent of cineol etc.

	Sp.Gr.	Sp.Gr.	Sp.Rot.Pow.	Sp.Rot.Pow.
Sample 1.)T)	0.9197	0.918(B)	+ 4.62(T)	+ 4.9(B)
Sample 11.(T)	0.8807	0.877(B)	+1.027(T)	+ 1.33(B)
Sample 111(T)	0.9245	0.923(B)	+ 1.532(T)	- 1.266(B)
Sample 1V.(T)	0.9261	0.927(B)	+ 0.149(T)	+ 0.573(B)
Sample V.(T)	0.9218	0.921(B)	+ 7.526(T)	+ 9.77(B)
Sample V1.(T)	0.9469	0.945(B)	+ 5.995(T)	+ 5.57(B)
Sample 1.(K)	0.8789	0.878(B)	-62.654(K)	- 63.271(B)
Sample 11.(K)	0.8657	0.864(B)	-36.668(K)	- 36.461(B)
Sample 111(K)	0.9247	0.925(B)	+16.298(K)	+ 15.63(B)
Sample 1V.(K)	0.8688	0.867(B)	-67.768(K)	- 68.54(B)
Sample V.(K)	0.9032	0.902(B)	-24.353(K)	- 27.12(B)
Sample V1.(K)	0.9131	0.911(B)	+ 7.775(K)	+ 7.90(B)

T = worked by A.Tandvig

K = worked by H.Klueter

B = worked by 1.Brandel

The samples were tested for the amount of cineol they contained by the phosphoric acid test according to the method described in Die Aetherischen Oele,G.and H.(1) and others. To 4 cc of eucalyptus oil contained in a glass capsule immersed i in a mixture of ice and water, syrupy phosphoric acid is added drop by drop, under constant stirring. The phosphoric acid is

added until a drop commences to produce a dark red coloration of the mass. The crystalline mass is then quickly transferred to porcelain (unglazed) plates and placed in a tincture press under a small amount of pressure. When dry it is immediately weighed. The product is an addition product ofone molecule of phosphoric acid to one molecule of cineol.

$$C_{10}H_{18}O + H_3PO_4 = C_{10}H_{18}OH_3PO_4.$$

The weight of the product obtained is multiplied by the factor 0.611 which gives the weight of cineol in 4 cc of the oil. The specific gravity of the oil being known, the percent of cineol contained in it can then be calculated.

Phellandrene.

The samples were tested for phellandrene by the preparation of phellandrene nitrite.

Method: According to Gildemeister and Wallach phellandrene nitrite is prepared as follows(2). To a solution of 5 cc of the oil containing phellandrene in 10 cc of petroleum ether add a solution of 5 grams sodium nitrite in 8 cc of water. To these solutions addmgradually and with constant shaking 5 cc of acetic acid. The nitrite forms in very fine white crystals which adhere and are separated and washed first with water and then with methyl alcohol. The nitrite is then purified further by dissolving in chloroform and precipitating with methyl alcohol and finally by dissolving in hot ether and allowing it to crystallize on cooling. The melting point is between 103°- 104°.

Reaction.

$$CH_2COOH + NaNO_2 = CH_2COONa + HNO_2.$$

$$2HNO_2 = \begin{matrix} HONO \\ HONO \end{matrix} = H_2O + \begin{matrix} -N=O \\ -O-N=O \end{matrix} = \begin{matrix} -N=O \\ -N=O \\ =O \end{matrix}$$

The valence of the nitrogen changes from three to five.

	p.c. Cineol.	p.c.Phellandrene	Color.
Sample 1.(T)	49.11	-------	greenish yellow
Sample 11.(T)	no reaction	no reaction	" "
Sample 111.(T)	41.40	~~~~~~~~	colorless
Sample 1V.(T)	68.89	---------	colorless
Sample V.(T)	no reaction	no reaction	greenish yellow
Sample V1.(T)	32.01	----------	yellowish green
Sample 1.(K)	~~~~~~~~	5.50	almost colorless
Sample 11.(K)	---------	3.71	light yellow
Sample 111.(K)	54.00	----------	almost colorless
Sample 1V.(K)	--------	4.79	light yellow
Sample V.(K)	no reaction	no reaction	yellow
Sample V1.(K)	8.29	----------	colorless

T = worked by A.Tandvig

K = worked by H.Klueter

Tests were made for cineol with iodol according to the method of Hirsohn(3). Tests were first made with petroleum ether solutions of pure eucalyptol, the solutions being of various percentage strengths. Iodol was added to the solution in excess and dissolved by shaking. Almost immediately, or on standing a short

time, grayish green crystals are deposited on the sides of the vessel.

50 p.c. cineol solution.....crystals deposited.
25 p.c. " " " "
10 p.c. " " " "
5 p.c. " " " "
3 p.c. " " no crystals
2 p.c. " " " "

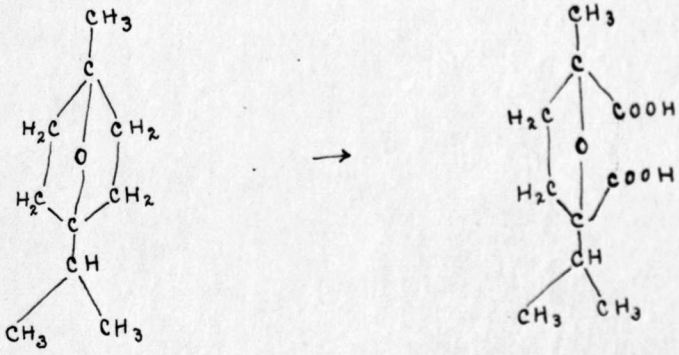
Taking the 10 percent solution as a standard, tests were made for cineol, by the iodol test, with the samples of oil which had given the cineol test with phosphoric acid. The oils were dissolved in petroleum ether, according to the amount of cineol shown to be present by the phosphoric acid test, so as to make 10 percent solutions of cineol.

Oil No.1 (10%) crystals deposited.
" " 111.(10%) " "
" " 111(K)(10%) " "
" " 1V (10%) " "
" " V1 (10%) " "
" " V1(K)8.29%) " "

An attempt was made to prepare dipentenehydrochloride from cineol by the method described by Heusler(4). Pure cineol was dissolved in an equal volume of glacial acetic acid. This was immersed in a cold bath of ice and water, and dry hydrogen chloride passed into it for several hours. The solution became purple to blue in color, but no crystals separated out.

OXIDATION OF CINEOL.

Cineol was oxidized with potassium permanganate according to the method described by Huesler(5). 6 cc of cineol are heated with a solution of 30 grams of potassium permanganate in 450 grams of water on a water bath, until the solution becomes colorless. Filter the solution and evaporate to dryness. Then extract with alcohol and evaporate the alcoholic solution. Decompose the fesidue with dilute sulphuric acid. Dissolve the free acid in ether, evaporate the solution, and dissolve the residue in 20 parts of boiling water. The reaction of the oxidation of cineol to cineolic acid takes place as follows:



cineol → cineolic acid.

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Pharm.Ztschr.f.Russ. 26,p.513

4.Preparation of dipentenehydrochloride.

Heusler's Die Terpene,p.114.

5.Oxidation of Cineol to Cineolic acid.

Heusler's Die Terpene,p.115 from Annalen d.Chem.246,p.265.

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