

119–120° [lit.² m.p. 119–120°]. Mass, NMR,² UV² and IR² spectral measurements corroborated the identification. *Leaves*. Seselin was detected in the ethanol extract by TLC.

² S. N. SHANBHAG, C. K. MESTA, M. L. MAHESHWARI, S. K. PAKNIKAR and S. C. BHATTACHARYYA, *Tetrahedron* **20**, 2605 (1964).

Key Word Index—*Naucleopsis caloneura*; Moraceae; pyranocoumarin; seselin.

Phytochemistry, 1972, Vol. 11, p. 1185. Pergamon Press. Printed in England.

MYRTACEAE

EUCALYPTIN FROM *EUGENIA* AND *MYRCIA* SPECIES*

O. R. GOTTLIEB, M. LEÃO DA SILVA and J. G. SOARES MAIA

Instituto Nacional de Pesquisas da Amazonia, Conselho Nacional de Pesquisas, Manaus, Brasil

(Received 21 September 1971)

Plants. *Eugenia biflora* (L.) DC., trivial name 'murta' *Myrcia citrifolia* (Aubl.) Urb., trivial name 'pedra-hume-caá', trees. *Source*. Manaus, Brasil.

Leaves. The light petroleum extracts were chromatographed on silica, giving β -amyrin and eucalyptin (5-hydroxy-4',7-dimethoxy-6,8-dimethylflavone), m.p. 198–200°, acetate, m.p. 245–246° [lit. m.p. resp. 198.5–200°² and 245–246°³]. Mass, NMR, UV and IR spectral measurements corroborated the identifications. Eucalyptin has previously been isolated from Australian *Eucalyptus*^{2,4–6} and *Angophora*⁶ species.

* Part III in the series "The Chemistry of Brazilian Myrtaceae". For part II see ref. 1.

¹ O. R. GOTTLIEB, M. KOKETSU, L. LANNES MOURA, A. MOREIRA and M. TAVEIRA MAGALHÃES, *Anais Acad. Brasil. Ciênc.* **42** (Suppl.), 143 (1970).

² D. H. S. HORN, Z. H. KRANZ and J. A. LAMBERTON, *Austral. J. Chem.* **17**, 464 (1964).

³ A. C. JAIN, P. D. SARPAL and T. R. SESHADRI, *Indian J. Chem.* **4**, 481 (1966); *Chem. Abs.* **66**, 94881 (1967).

⁴ M. A. ELKEIY, M. DARWISH, F. M. HASHIM and K. A. ASSEM, *Bull. Fac. Pharm. (Cairo Univ.)* **3**, 109 (1964); *Chem. Abs.* **64**, 14160 (1966).

⁵ W. E. HILLIS and K. ISOI, *Phytochem.* **4**, 541 (1965).

⁶ J. A. LAMBERTON, *Austral. J. Chem.* **17**, 692 (1964).

Key Word Index—*Eugenia biflora*; *Myrcia citrifolia*; Myrtaceae; eucalyptin; C-methylflavone.

Phytochemistry, 1972, Vol. 11, pp. 1185 to 1186. Pergamon Press. Printed in England.

RANUNCULACEAE

STIGMASTEROL AND HYDROCARBONS OF *CLEMATIS DRUMMONDII*

XORGE ALEJANDRO DOMÍNGUEZ, LOURDES DÁVILA and ASHOT MERIJANIAN

Departamento de Química, Instituto Tecnológico de Monterrey, Sucursal de Correos "J", Monterrey, N.L. Mexico

(Received 8 September 1971)

Plant. *Clematis drummondii*, Torr. & Gray. *Source*. Hills near to Monterrey, N.L. Mexico. *Uses*. Unknown. *Previous work*. On sister species.¹

¹ J. J. WILLAMAN and B. G. SCHUBERT, *U.S. Dept. Agric. Tech. Rep.* No. 1234, p. 183, Washington (1961).

Present work. The aerial part was dried, powderized and extracted successively with light petroleum, CHCl_3 and ethanol. The light petroleum extract was saponified with 10% methanolic KOH. The unsaponifiable portion was taken into isopropyl ether and chromatographed on a silicic acid column, affording: *Octacosane*, $\text{C}_{28}\text{H}_{60}$; m.p. 60–62°, IR, NMR, m.m.p.; *Dotriacontane*, $\text{C}_{32}\text{H}_{66}$; m.p. 70–72, IR, NMR, m.m.p.; *Stigmasterol*, $\text{C}_{29}\text{H}_{48}\text{O}$; (M^+ 412), m.p. 150–154°; $[\alpha] -42.4^\circ$, IR, NMR, UV; Co-TLC and m.m.p. Stigmasteryl acetate $\text{C}_{31}\text{H}_{50}\text{O}_2$ (M^+ 454) m.p. 136–138° $[\alpha] -45^\circ$.

Acknowledgements—To Forge & Syntex of Mexico for their financial help. To Dr. J. Hartwell, National Institute of Health, Washington for the mass spectra, to Professor Paulino Rojas M. for identification of the plant and to Sabino Castillo and Perfecto Caceres for technical assistance on the preparation of the extracts.

Key Word Index—*Clematis drummondii*; Ranunculaceae; stigmasterol; alkanes.

Phytochemistry, 1972, Vol. 11, p. 1186. Pergamon Press. Printed in England.

RHAMNACEAE

CHRYSOPHANOL AND β -AMYRIN IN THE FRUITS OF *KARWINSKIA HUMBOLDTIANA**

XORGE ALEJANDRO DOMÍNGUEZ and LETICIA GARZA

Departamento de Química, Instituto Tecnológico y de Estudios Superiores de Monterrey, Sucursal de Correos "J", Monterrey, N.L., Mexico

(Received 28 September 1971)

Plant. *Karwinskia humboldtiana*, Zucc. **Occurrence.** Northern part of Mexico. **Uses.** Medicinal,¹ has a progressive paralysing action. It is toxic to cattle and human beings.² **Previous work.** An unidentified quinone.³

Present work. The dried fruit was extracted twice with light petroleum, extracts were chromatographed on silicic acid: (β -amyrin, $\text{C}_{30}\text{H}_{50}\text{O}$ (M^+ 426), m.p. 197° (m.m.p. with authentic sample), $[\alpha]$, IR, NMR of triterpenol, and of its acetate. From the second extract was obtained chrysophanol—(1,8-dihydroxy-3-methylanthraquinone, $\text{C}_{15}\text{H}_{10}\text{O}_4$ (M^+ 254), m.p. 197° UV, IR, NMR (m.m.p. co-TLC and IR with authentic specimen).

Acknowledgements—To Dr. Hal Ramsey for his interest in this research. This work was supported by a grant from Research Corporation from New York. Thanks to Dr. Teller from Strasbourg University for the MS and Professor R. H. Thomson for a sample of chrysophanol.

* Part XXI in the series "Mexican Medicinal Plants".

¹ M. MARTÍNEZ, *Plantas Medicinales de México* (4th Edition), p. 501, Editorial Botas, Mexico (1959).

² J. M. KINGSBURY, *Poisonous Plants of the United States and Canada*, p. 220, Prentice Hall, New Jersey (1964).

³ T. N. SHAVER, Dissertation, Texas A & M. University (1966).

Key Word Index—*Karwinskia humboldtiana*; Rhamnaceae; chrysophanol.

Phytochemistry, 1972, Vol. 11, pp. 1186 to 1188. Pergamon Press. Printed in England.

SCHROPHULARIACEAE

FLORAL FLAVONOIDS OF THE *MIMULUS LUTEUS* COMPLEX

A. M. FERRO, G. J. BALDWIN and R. K. VICKERY, JR.

Department of Biology, University of Utah, Salt Lake City, Utah 84112, U.S.A.

(Received 3 September 1971)

THE *Mimulus luteus* complex of section *Simiolus* consists of three species: *M. luteus* L.,