

Plant. M. nitida Benth. (Hong Kong Herbarium voucher Specimen No. 6903). *Previous work.* None.

Leaves. Friedelin and friedelan-3 β -ol as for *M. dielsiana* leaves.

Stems. Extracted light petrol., chromatographed—alumina): Friedelin from light petrol.–benzene (4:1) fractions. Taraxerone from light petrol.–benzene (7:3) fractions. Friedelan-3 β -ol from light petrol.–benzene (1:1) fractions. Taraxerol C₃₀H₅₀O (m.p., m.m.p., [α]_D, IR) from light petrol.–benzene (2:3) fractions. A sterol mixture from benzene fractions, as for *M. dielsiana* stems.

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TRITERPENOIDS OF *ISERTIA HYPOLEUCA* LEAVES*†

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Key Word Index—*Isertia hypoleuca*; Rubiaceae; α -amyrin; sitosterol; taraxasterol.

Plant. Isertia hypoleuca Benth. *Occurrence.* Ecuador,¹ Brazil,^{2,3} Colombia,⁴⁻⁶ the Guianas,⁷ Panama,⁸ Peru,^{5,9} Venezuela.⁶ *Source.* Leticia, Colombia. *Uses.* Unknown. *Previous work.* Alkaloids,^{10,11} biological and phytochemical screening.¹²

* Part III in the series "Constituents of *Isertia hypoleuca*". For Part II see C. A. LAU-CAM and J. TASHIRO, *Phytochem.* **10**, 1655 (1971).

† Experimental work reported herein was conducted at the University of Rhode Island, College of Pharmacy.

¹ P. C. STANDLEY, *Pubcn.* 285, *Botanical Series, Field Museum Natural History*, Vol. 7, pp. 183, 211, Chicago, Illinois (1931).

² A. H. R. GRISEBACH, *Flora of the West Indian Island*, p. 316, Lovel-Reeve, London (1869).

³ C. SCHUMANN, in *Flora Brasiliensis* (edited by C. F. P. DE MARTIUS and A. G. EICHLER), Vol. VI, p. 284, Frederick Fleisher, Munich (1889).

⁴ R. E. SCHULTES, personal communication.

⁵ P. C. STANDLEY, *Pubcn.* 270, *Botanical Series, Field Museum Natural History*, Vol. 7, p. 45, Chicago, Illinois (1930).

⁶ P. C. STANDLEY, *Pubcn.* 302, *Botanical Series, Field Museum Natural History*, Vol. 7, p. 348, Chicago, Illinois (1931).

⁷ C. SCHUMANN, in *Flora Brasiliensis* (edited by C. F. P. DE MARTIUS and A. G. EICHLER), Vol. VI, p. 286, Frederick Fleisher, Munich (1889).

⁸ M. D. CORREA, personal communication.

⁹ P. C. STANDLEY, *Pubcn.* 302, *Botanical Series, Field Museum Natural History*, Vol. 7, p. 35, Chicago, Illinois (1931).

¹⁰ H. BOHRMANN, C. LAU-CAM, J. TASHIRO and H. W. YOUNGKEN, JR., *Phytochem.* **8**, 645 (1969).

¹¹ C. A. LAU-CAM and J. TASHIRO, *Phytochem.* **10**, 1655 (1971).

¹² C. A. LAU-CAM, C. O. WARD, A. TANG and A. ASKARI, unpublished results.

Leaves. The dried, powdered material was extracted with light petrol. (b.p. 30–60°). The concentrated extract was saponified and worked up as described by Scheuer *et al.*¹³ An ethereal solution of the unsaponifiable fraction was successively extracted with 5% aq. NaHCO₃ and 5% aq. KOH solutions, and then evaporated to dryness. The residue was chromatographed on a column of neutral alumina.

The benzene eluate contained a mixture of sitosterol and α -amyrin, resolved by preparative TLC (benzene–Et₂O, 7:3, silica gel G). Sitosterol, C₂₉H₅₀O, m.p. 135–137°, [α]_D –35° (L.B. test, m.m.p., IR, co-TLC); acetate, m.p. 125–127°, [α]_D –39° (m.m.p., IR, co-TLC). α -Amyrin, C₃₀H₅₀O, m.p. 185–186° (L.B. test of triterpene, TNM, m.m.p., IR, co-TLC); acetate, m.p. 210–220° (m.m.p., IR, co-TLC); α -amyrenone, m.p. 121–123° (2,4-DNPH and TNW tests, IR, co-TLC). More sitosterol was eluted with Et₂O. The benzene–Et₂O (9:1) eluate gave a mixture of three substances resolved by preparative TLC (benzene–MeOH, 4:1, silica gel G) into sitosterol (identified as above), unknown A, m.p. 170–172° (L.B. test of triterpene, TNM, IR acetate, m.p. 62–64°) and of unknown B (trace).

Dilution of the 5% aq. KOH solution followed by cooling furnished taraxasterol, m.p. 222–224° (L.B. test of triterpene, TNM, IR, co-TLC); acetate, m.p. 238–241°; deacetylation product, m.p. 221–223°; benzoate, m.p. 238–241°. Acidification of the alkaline solution, extraction with ether and evaporation of the ethereal extract to dryness yielded unknown C, m.p. 239–241° (dec.), MW 452 (M⁺) (L.B. test of triterpene, TNM, IR).

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¹³ P. J. SCHEUER, C. E. SWANHOLM, L. A. MADAMBA and W. R. HUDGINS, *Lloydia* **26**, 133 (1963).

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A NOVEL WITHANOLIDE FROM *DATURA QUERCIFOLIA*

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Key Word Index—*Datura quercifolia*; Solanaceae; withanolide; daturalactone.

During the chemical investigation of *Withania somnifera* a new type of steroidal lactone has been reported.¹ Recently, similar withanolides have been reported from *Jaborosa integrifolia*.^{2,3} In this communication we report the presence of a similar type of withanolide, named here as daturalactone from *Datura quercifolia*.

During the screening of *Datura* species for the alkaloid hyoscyne, a novel compound close to withanolides in structure was extracted from leaves of *D. quercifolia* HBK with benzene and purified by repeated crystallization from light petrol.–benzene mixture (1:1).

¹ D. LAVIE, I. KIRSON and E. GLOTTER, *Israel J. Chem.* **6**, 671 (1968).

² R. TSCHESCHE, K. ANNEN and P. WELZEL, *Chem. Ber.* **104**, 3556 (1971).

³ R. TSCHESCHE, K. ANNEN and P. WELZEL, *Tetrahedron* **28**, 1909 (1972).