

Phytochemistry, 1971, Vol. 10, p. 2550. Pergamon Press. Printed in England.

CONSTITUENTS OF *EUPHORBZA LATHYRZS*

P. K. DUTTA and R. N. CHAKRAVARTI

Indian Institute of Experimental Medicine, Calcutta-32, India

(Received 18 September 1970, in revised form 16 November 1970)

Plant. *Euphorbia lathyris* L.

Uses. Medicinal.¹

Previous work. On seeds²⁻⁵ and leaves.⁶

Seeds. Extracted with light petroleum, chloroform and ethanol.

Petroleum ext. The oil extracted with petrol on keeping for a few weeks deposited the crystals of the product, m.p. 198-199°.²⁻⁴ The structure has very recently been determined as phenylacetate-diacetate of a new diterpene 6,20-epoxy-lathyrol by X-ray crystallographic studies.⁷

Ethanol extract. The ethanolic extract on concentration deposited a yellow solid which on purification by charcoal and crystallization from MeOH yielded light yellow prisms, m.p. 269-270°. It has R_f 0.73 on filter paper with *n*-BuOH-HOAc-H₂O (4: 1: 1). It forms an acetate, m.p. 140-141° and a methyl ether, m.p. 152-154°. Work on this product is in progress.

Leaves. Petroleum ext. on chromatography over alumina yielded β -sitosterol, C₂₉H₅₀O (m.p., mixed m.p. and $[\alpha]_D$; m.p., mixed m.p. and $[\alpha]_D$ of acetate).

Stem. Petroleum ext. chromatographed on alumina. Petrol fraction afforded hentriacontane (m.p. and mixed m.p.). Petrol-benzene (8: 1) yielded taraxerone, C₃₀H₄₈O (m.p., mixed m.p., $[\alpha]_D$, IR, TLC). Benzene-Et₂O (4: 1) fraction yielded β -sitosterol (m.p., mixed m.p., $[\alpha]_D$; m.p., mixed m.p. and $[\alpha]_D$ of acetate). Benzene-E&O (1 : 1) eluate afforded taraxerol, C₃₀H₅₀O (m.p., mixed m.p., $[\alpha]_D$, IR and TLC; m.p., mixed m.p., $[\alpha]_D$, of acetate and benzoate) and betulin (m.p., mixed m.p., $[\alpha]_D$, IR, TLC; m.p., mixed m.p. and $[\alpha]_D$ of acetate).

Acknowledgement-The work has been carried out under PL-480 Project No- NIH-01-073-I.

¹ R. N. CHOPRA, S. L. NAYAR and I. C. CHOPRA, *Glossary of Indian Medicinal Plants*, p. 114, C.S.I.R., New Delhi (1956).

² N. F. DUBLYANSKAYA, *Farmatsiya i Farmakol.* No. 8, 1 (1937); *Chem. Abstr.* 33, 9545⁸ (1939).

³ W. TRZEBNY, *Bull. Acad. Polon. Sci., Ser. Sci. Chim.* 13, 337 (1965); *Chem. Abstr.* 64, 6916c (1966).

⁴ R. S. LUDWICZAK, W. TRZEBNY and I. ZYCZYNSKA, *Roczniki Chem.* 39, 1233 (1965); *Chem. Abstr.* 64, 1459c (1966).

⁵ N. F. DUBLYANSKAYA, *Biokhim. Fiziol. Maslich. Rust.* 2, 295 (1967); *Chem. Abstr.* 70, 93908k (1969).

⁶ K. DUMKOW, *Z. Naturforsch. B*, 24, 358 (1969).

⁷ K. ZECHMEISTER, M. RÖHRL, F. BRANDL, S. HECHTFJSCHER, W. HOPPE, E. HECKER, W. ADOLF and H. KUBINYI, *Tetrahedron Letters* 3071 (1970).