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β-AMYRIN JUAREZATE A NOVEL ESTER FROM *MARSDENIA PRINGLEI* AND TRITERPENES FROM *ASCLEPIAS LINARIA*

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Key Word Index—*Marsdenia pringlei*; Asclepiadaceae; β-amyrin juarezate (β-amyrin 5-phenylpentadien-2,4-ate); kondurite; *Asclepias linaria*; triacontane; ψ-taraxasteryl acetate; oleanolic acid.

Plant: *Marsdenia pringlei* Wats (Talayote). Voucher Specimen No. 7309. *Source*: Galeana Mountains, N.L. México September 72. *Uses*: root for poisoning coyotes. *Previous work*: On sister species.[1–4]

Present work. The dried plant material was extracted successively with light petrol and EtOH. The respective extracts were concentrated under reduced pressure. The residue from each extract was chromatographed over silica gel. In each case the chromatogram was eluted successively with solvents of increasing polarity, starting with benzene to MeOH. The light petrol extract afforded β-amyrin juarezate (β-amyrin 5-phenylpentadien-2,4-ate), $C_{41}H_{58}O_2$ MS (M^+ 582, base peak 218); in chl. $\{\alpha\}_{589}^{24}$ +87·4°; $\{\alpha\}_{578}$ +92·3°; $\{\alpha\}_{546}$ +106·8°; $\{\alpha\}_{436}$ +195·8°; $\{\alpha\}_{365}$ +298·1°; UV λ_{max}^{EtOH} 202 (29100), 215 (19206), 310 (33174), IR, NMR. On hydrogenation, β-amyrin 4-phenylvalerate was obtained, $C_{41}H_{62}O_2$, m.p. 108–109°; in chl. $\{\alpha\}_{578}$ +65·0°; $\{\alpha\}_{546}$ +74°; $\{\alpha\}_{436}$ +129°; $\{\alpha\}_{365}$ +204°. On saponification β-amyrin-, identified m.p. coTLC, m.m.p., IR, NMR, was isolated and, after acidification, juárezic acid (5-phenylpentadien-2,4-oic acid), $C_{11}H_{10}O_2$, m.p. 156–158°, IR, UV, NMR was separated. This acid was hydrogenated on Pd-C forming 4-phenylvaleric acid, m.m.p., coTLC, IR, NMR. On $KMnO_4$–acetone oxidation, juárezic acid was degraded to benzoic acid. The ethanolic extract provided white crystals of kondurite (3,4,5,6-tetrahydroxycyclohexene), m.p. 143°, optically inactive, m.m.p., coTLC, NMR, IR, acetate and benzoate derivatives.

Comments. Both extracts gave negative the test for alkaloids cardenolides.[5]

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Plant. Asclepia linaria Cav. (Venenillo). Voucher specimen No. 7222. *Source*: Zacatecas, Mex. March 1973. *Previous work*: only on sister species.[6,7] *Uses*: Medicinal.[8]

Present work. The *aerial part* (1350 g), was dried, powdered and extracted with petrol. The extract (45·2 g) was separated into individual constituents by a combination of column chromatography and preparative TLC (silica gel G hexane–C_6H_6, 7:3) and the following compounds were identified by direct comparison of each one with authentic samples (m.m.p., coTLC, and their $[\alpha]$, MS, IR and NMR spectra). Triacontane, ψ-taraxasteryl acetate sitosterol and oleanolic acid. The roots (2300 g) on similar procedure provided 64 g of light petrol extract from which ψ-taraxasteryl acetate and oleanolic acid were separated and identified.

Comment. Cardiac glycosides and alkaloids were not found in a direct ethanolic extract of aerial and roots material.

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FLAVONOID COMPOUNDS FROM *ALNUS VIRIDIS*

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Key Word Index—*Alnus viridis*; Betulaceae; flavonoids; 2',4'- dihydroxy-6'-methoxychalcone; galangin; galangin 3-methyl ether.

Plant. Alnus viridis DC. Source. Jura mountains, near Grenoble, France. *Part of plant.* Winter buds. *Previous work.* Fine structure of bud glands;[1] flavonoid excretion in *Alnus glutinosa*.[2]

Present work. Buds of *Alnus viridis*, which are covered with a whitish scurf of terpenoid material,[3] were extracted with acetone at room temperature. Three flavonoids were isolated by chromatography on columns of silica gel and polyamide with C_6H_6 and increasing quantities of EtOAc and MeOH. Compounds **1** and **2** separated only when crystallized from EtOH. TLC comparisons were on silica gel (solvent A. C_6H_6–Me_2CO, 9:1) and polyamide (solvent B. C_6H_6–petrol–EtOAc–MeOH. 60:26:7:7).

* Aminoethylester of boric acid.

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