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ROSACEAE

PRUNASIN, DAUCOSTERIN AND SITOSTEROL FROM THE BITTER SEEDS OF *PRUNUS AMYGDALUS**

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Key Word Index—*Prunus amygdalus*; Rosaceae; prunasin; daucosterin; sitosterol.

Plant. Prunus amygdalus, var. amara Baill. *Source.* Morocco 1965. *Uses. Bitter seeds* (bitter almonds) like sweet almonds used cosmetically, medicinally and industrially.[1] *Previous work.* On the main constituents[2] and the vitamins[3–6] of bitter and sweet almonds.

Present work. Undamaged bitter almonds were dried (6 hr, 110°), ground under absol. EtOH and heated. The extract after the removal of crude amygdalin and oil was chromatographed over SiO_2. Prunasin (0·005%).† $C_{14}H_{17}NO_6$, m.p.‡ 148–149° (EtOAc) (m.m.p., $[\alpha]_D$ of the glucoside and the acetate, IR, NMR, UV, MS of the acetate). Emulsin yielded benzaldehyde, HCN and glucose. Daucosterin[7] (0·05%). $C_{35}H_{60}O_6$, m.p. 305° (pyridine–MeOH–H_2O) (m.m.p., $[\alpha]_D$ of the glucoside and the acetate, IR, NMR). Acid hydrolysis yielded sitosterol and glucose.

The unsaponifiable constituents of the oil were extracted from the soap with ether and chromatographed over SiO_2. Sitosterol (0·15%). $C_{29}H_{50}O$, m.p. 137–138° (MeOH) (m.m.p., $[\alpha]_D$ of the sterol and the acetate, IR, NMR, MS). Sweet almonds (source: S. France 1964) contained daucosterin (0·05%) and sitosterol (0·15%) only.

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* Taken from the thesis submitted by the author to the Christian-Albrechts-Universität Kiel (1970).
† Contents are estimated chromatographically and are based upon dry wt. of plant material.
‡ M.ps are corrected.

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[2] See C. WEHMER, *Die Pflanzenstoffe* 2nd Edition, Vol. I, p. 464, Verlag von Gustav Fischer, Jena (1929).
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[7] W. KARRER, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, p. 857, Birkhäuser-Verlag, Basel-Stuttgart (1958).