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PROCERANOLIDE, A NOVEL TETRANORTRITERPENOID FROM *CARAPA PROCERA*

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Key Word Index—*Carapa procera*; Meliaceae; proceranolide; tetranortriterpenoid; structural determination.

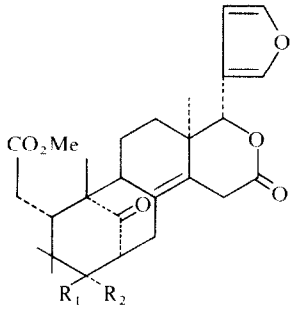
In continuation of our investigations [1, 2] on the seeds of *Carapa procera*, we have isolated from the methanol extract a novel tetranortriterpenoid which we designate as proceranolide (**1**). We wish to report its isolation and structural determination by physical and chemical methods.

The methanol extract was concentrated, and the residue chromatographed on a Si gel column (hexane–EtOAc 19:1–3:2) to yield 69 fractions. Compound **1** was isolated from fractions 59–62 by prep. TLC on Si gel eluted with C_6H_6–EtOAc (3:2). Mp 192–196°; M^+ at *m/e* 470; $C_{27}H_{34}O_7$. (Found: C, 69.93%; H, 7.23%).

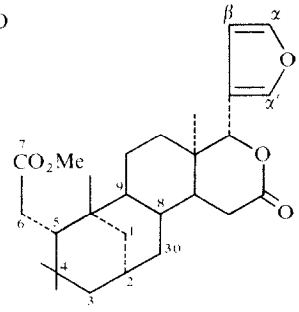
IR ν_{max}^{KBr} (cm^{-1}): 3550–3450 (OH), 3160 (C=C), 1740 (C=O, δ-lactone) 1710 (C=O, ester) and 872 (furan). ^{1}H NMR ($CDCl_3$): δ 0.72, 0.80, 1.02 and 1.12 (methyls), 2.42 (OH, disappeared with D_2O), 3.68 (*s*, OMe), 5.57 (*s*, H-17), 6.48 (*m*, Hβ-fur), 7.35 (*t*, J = 2 Hz, Hα-fur) and 7.44 (*m*, Hα′-fur).

The IR and ^{1}H NMR spectra were very characteristic [3] of a bicyclononanolide (**2**) (four methyls and one methyl—ester group, no epoxide and a double bond without vinylic protons). The ^{13}C NMR spectrum ($CDCl_3$) showed 27 carbon atom signals. After their assignment, we noted that the spectrum was very similar to that of fissinolide (**3**), [4, 5] except that our compound had no acetate group. Therefore, we conclude that proceranolide is 3β-deacetylfissinolide (**1**).

Oxidation of proceranolide afforded a compound, mp 222–228°, identical (NMR, MS, IR, mmp) with an authentic sample of mexicanolide (**4**) [6] and acetylation yielded a compound, mp 170°, identical (NMR, MS, IR, mmp) with an authentic sample of fissinolide (**3**).



1 R_1 = OH, R_2 = H
3 R_1 = OAc, R_2 = H
4 R_1R_2 = O



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