

SHORT COMMUNICATION

COUMARIN IN *AMBLYOLEPIS SETIGERA*

WERNER HERZ and S. V. BHAT

Department of Chemistry, The Florida State University,
Tallahassee, Florida 32306, U.S.A.

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Abstract—Extraction of *Amblyolepis setigera* DC. furnished coumarin. No sesquiterpene lactones were isolated.

Amblyolepis setigera DC. is the sole representative of the monotypic genus *Amblyolepis* which is closely related to the genus *Helenium*.¹ In fact, some early workers absorbed *Amblyolepis* into *Helenium*.

Because of our interest in constituents of *Helenium* and related species we have investigated a collection of *A. setigera*. Sesquiterpene lactones, so characteristic of the genus *Helenium*, were absent and only coumarin was found. The pronounced difference in chemical character appears to justify the separation arrived at on the basis of morphology.

EXPERIMENTAL

Powdered *Amblyolepis setigera* DC., wt. 11 lb, collected by A. S. Tomb in Uvalde Co., Texas, 7 miles west of Uvalde on U.S. 90, west of the Nueces River bridge (Tomb voucher No. 397 on deposit in University of Texas Herbarium, Austin, Texas), was extracted in the usual manner.² The crude gum, wt. 18 g. was chromatographed over 300 g of silica gel. The following 300-ml fractions were collected: Fraction 1–15 [benzene], 16–20 [benzene-CHCl₃, 1:1], 21–30 [CHCl₃], 31–36 [CHCl₃-MeOH, 9:1] and 37–40 [CHCl₃-MeOH, 3:1]. Fractions 3–10 gave 12 g of crude coumarin which was recrystallized from benzene-petroleum ether to give colorless crystals of pure substance, wt. 8 g, m.p. 66–68°, i.r. bands at 1725, 1622, 1608, 1565, 1454 and 836 cm⁻¹, u.v. absorption at 312, 273 nm (ϵ 7250 and 14,500), NMR signals (CDCl₃) at 6.54d and 7.82d (AB system, J = 9.5 Hz, H-3 and H-4), and complex multiplet near 7.6 ppm (H-5, H-6, H-7 and H-8). (Found: C, 73.90; H, 3.81; O, 22.27. Calc. for C₉H₆O₂: C, 73.96; H, 4.14; O, 21.90%.)

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¹ P. A. RYDBERG, *N. Am. Flora*, **34**, (2), 131 (1915).

² W. HERZ and G. HÖGENAUER, *J. Org. Chem.* **27**, 905 (1962).