

STUDIES ON INDIAN MEDICINAL PLANTS, 87. ¹LACINILENE C—A RARE SESQUITERPENE FROM *ALANGIUM LAMARCKII*

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Isolation of several benzoquinolizine alkaloids of the emetine, tubulosine, and benzopyridoquinolizine types from the seeds of *Alangium lamarckii* Thw. (Alangiaceae) has already been reported (1,2). We record, herein, the occurrence of lacinilene C from the same source. Implicated as a causative agent of byssinosis (3), this rare sesquiterpene has so far been encountered only in *Ulmas laciniata* Mayr. (4) and the cotton bract, *Gossypium hirsutum* L. (3,5).

The identity of the compound was inferred on the basis of spectral data (3) and confirmed by direct comparison of the ir, uv, ¹H nmr, and tlc of the compound with those of an authentic sample. However, while lacinilene C isolated from cotton bract is reported (5) to have $[\alpha]_D + 37.7^\circ$, that from *A. lamarckii* is optically inactive, which presumably explains the discrepancy in their mps.

EXPERIMENTAL

GENERAL EXPERIMENTAL PROCEDURES.—Spectra were recorded with the following instruments: ir, Perkin-Elmer Model 177; nmr, JEOL FX-100; uv, Varian DMS 100 spectrometer; ms, Hitachi RMU-6L (direct inlet, 80 eV); and optical rotation, Perkin-Elmer Model 141 polarimeter. Si gel for tlc and cc were supplied by BDH, India.

PLANT MATERIAL.—Air-dried seeds of *A. lamarckii*, collected in June 1980, in West Bengal, were supplied by M/S United Chemicals and Allied Products, Calcutta. A voucher specimen (no. p 34) is available with the suppliers.

EXTRACTION AND ISOLATION.—Coarsely ground, dried seeds (10 kg) of *A. lamarckii* were extracted with MeOH at room temperature. The MeOH extract was concentrated, poured into 3N HOAc, and defatted with light petrol (bp 60-80°). The aqueous phase was then basified with NH₃ and exhaustively extracted with CHCl₃. The organic layer was extracted successively with buffers (pH 6.4 and 4.6) and 2N HCl to remove the alkaloids (2). The CHCl₃ solution was evaporated, and the residue was chromatographed over deactivated Si gel. The fraction eluted with light petrol-CHCl₃ (4:1) was rechromatographed to yield lacinilene C as the major component that was purified by preparative tlc. The compound was crystallized from CHCl₃/light petrol to furnish light yellow granules, mp 92-93° [lit. (5) mp 65-74°]; $[\alpha]_D \pm 0^\circ$ (0.85, EtOH) in $3 \times 10^{-4}\%$ yield; uv λ max (EtOH) nm (log ϵ) 211 (4.33), 227 (4.21), 250 (4.26), 307 (3.55), 350 (3.99), 377sh (3.90); (+0.1N NaOH) 207 (4.49), 245 (4.25), 269 (4.07), 310 (3.51), 350 (3.47), 437 (4.17); ir (Nujol) ν max 3250, 1645, 1635, 1600 cm⁻¹; ms *m/z* (rel. int.) 246 (M⁺, 61), 231 (10), 230 (27), 218 (56), 215 (39), 203 (80), 188 (43), 176 (31), 175 (100), 161 (69); ¹H nmr (CDCl₃) δ 1.23 (d, *J*=7 Hz; 3H), 1.26 (d, *J*=7 Hz; 3H), 1.50 (s, 3H), 2.24 (s, 3H), 3.20 (m, 1H), 4.06 (br s, OH), 6.01 (s, 1H), 7.20 (s, 1H), 7.35 (s, 1H).

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