jacareubin (30 mg) which recrystallised from Me_2CO as yellow plates, mp 254–255° (lit. [4] 254–256°) identical with authentic sample.

Chromatographic separation of $CHCl_3$ extract of timber. The extract (6 g) was chromatographed on Si gel (150 g) to give 6-desoxyjacareubin (22 mg), mp 208–210° and jacareubin (1.57 g), mp 253–255°.

Chromatographic separation of light petroleum extract of bark. The extract (5 g) was chromatographed on Si gel (100 g) to give a mixture of friedelin and friedelan-3β-ol (288 mg) on elution with petrol–C_6H_6 (9:1) Separation of the mixture (100 mg) by preparative-TLC [3 × petrol–C_6H_6 (9:1)] gave friedelin (74 mg), mp 262–264° and friedelan-3β-ol (10 mg), mp 278–281°. Elution with petrol–C_6H_6 (1:1) yielded β-amyrin (120 mg), mp 199–200°, $[\alpha]_D^{25}$ + 85.1 (lit. [11] mp 197–197.5°), $[\alpha]_D^{19}$ + 88.4°) while elution with C_6H_6 gave sitosterol (230 mg), mp 137°.

1-Hydroxy-3,6,7-trimethoxyxanthone. (a) 1,3,6,7-Tetrahydroxyxanthone (30 mg) was methylated with CH_2N_2–Et_2O to give 1-hydroxy-3,6,7-trimethoxyxanthone (32 mg), mp 218–219° (lit. [12] 219.5–221°). (b) 1,7-Dihydroxy-3,6-dimethoxyxanthone (8 mg) was methylated similarly to give 1-hydroxy-3,6,7-trimethoxyxanthone (6 mg), mp 217–219°, identical with the above sample.

Acknowledgements—We thank Prof. R. H. Thomson, University of Aberdeen for NMR and MS and Dr. S. Balasubramaniam of the Department of Botany, University of Sri Lanka, Peradeniya Campus for help in the collection and identification of the plant specimen. This work was supported in part by a grant made by the United States Department of Agriculture under P. L. 480.

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(+)-CORYTUBERINE FROM *CORYDALIS PALLIDA* VAR. *TENUIS*

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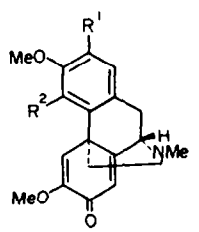
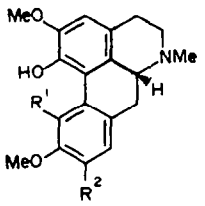
(*Received* 5 *June* 1976)

Key Word Index—*Corydalis pallida* var. *tenuis*; Papaveraceae; aporphine alkaloid; (+)-corytuberine.

In a previous paper [1], we reported the isolation of alkaloids, pallidine (**1**), kikemanine, corydalactam (alkaloid P), sinoacutine (**2**), (+)-isoboldine (**3**), capaurimine, capaurine, (−)-tetrahydropalmatine and protopine, from *Corydalis pallida* var. *tenuis* (Yatabe), which was collected in May 1969, in Sendai. Concurrently, Kaneko and Naruto [2] published the isolation of kikemanine, corydalactam, capaurimine, capaurine, capauridine, (−)-tetrahydropalmatine, protopine, (+)-tetrahydrocorysamine, (−)-scoulerine, (+)-corydaline, dihydrosanguinarine, oxysanguinarine, and ginnol from the same plant gathered in the southern part of Japan. We further studied the alkaloidal fraction of the plant collected in May 1975 in Sendai. Here we wish to report the isolation of (+)-corytuberine (**4**) along with the other alkaloids previously isolated by us. It is of interest that all four possible products from (+)-reticuline, by intramolecular phenol oxidative couplings, pallidine (**1**), sinoacutine (**2**), (+)-isoboldine (**3**) and (+)-corytuberine (**4**), occur in the same plant.



(1) R^1=OH, R^2=H
(2) R^1=H, R^2=OH



(3) R^1=H, R^2=OH
(4) R^1=OH, R^2=H

EXPERIMENTAL

(+)-Corytuberine. The basic fraction from 2.5 kg dried material was separated into phenolic and non-phenolic fractions, which were then purified by column chromatography on Si gel as previously reported [1]. Further elution of the phenolic fraction with $CHCl_3$–MeOH (19:1) gave a powder, which was recrystallised from $CHCl_3$ to give (+)-corytuberine (200 mg), mp 238–239° (uncorr.) [lit. [3], mp 240°], $[\alpha]_D^{20}$ +288° (*c* 0.026, EtOH) [lit. [3], $[\alpha]_D$ +282.7° (EtOH)]. *m/e* 327 (M^+), 312. UV: λ_{max}^{EtOH} 305, 270, 223 nm. NMR (CF_3CO_2H, TMS): δ3.37 (3H, *d*, *J* 5Hz, NMe), 4.08 (6H, *s*, 2 × OMe), 6.90 (1H, *s*, 3-H), 7.06 (2H, *s*, 8, 9-H) [4].

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