quantities (*ca* 50 ml) till the soln became turbid and then refrigerated overnight The white crystalline solid (*ca* 200 mg) was filtered, washed with Et_2O and dried over ($CaCl_2$) in vacuum The solid was re-crystallized from aq MeOH and finally from H_2O (Yield 150 mg) The compound melted at 235° with decomposition, ran as a single spot on the chromatogram in all the solvents tested (Table 1) and gave positive reaction with ninhydrin Unlike some other basic amino acids, this compound did not yield either a picrate, flavianate or copper complex (Found C, 47 69, H, 8 1, N 9 03 and O, 35 18)

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β-PHENETHYLAMINE AND TETRAHYDROISOQUINOLINE ALKALOIDS OF *DESMODIUM CEPHALOTES**

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Key Word Index—*Desmodium cephalotes* Leguminosae; β-phenethylamine; tyramine; hordenine; candicine; (±)-salsolidine

Plant. Desmodium cephalotes Wall (tribe: Lotoideae). The plant material was supplied by Messrs United Chemical and Allied Products, Calcutta. A voucher specimen has been preserved at the Pharmaceutical Chemistry Research Laboratory *Source*: The plant grows in India in the Northern Circars, Hills of the Deccan and Carnatic, and Western Ghats up to 3000 ft, in forest undergrowth, especially with teak in the South, with Sal in the North *Uses*: Different parts are used in the Indian system of medicine as a cure for dysentery, in bronchial spasms and coughs, as a central stimulant.

Previous work. On sister species, viz., *D pulchellum*,[1] *D gangeticum*,[2] *D triflorum*,[3] *D gyrans*,[4] *D tiliaefolium*,[5] *D. floribundum*[6]

Plant part examined. Stem-roots, leaves In a typical experiment, air-dried and powdered stem-roots (3 2 kg) were continuously extracted first with light petroleum, then with EtOH (16 hr, each). The extractives were separately processed according to a previously described procedure.[7] Separation of the mixture of alkaloids from the different fractions was accomplished by gradient-pH extraction, fractionation into phenolic and non-phenolic bases over Amberlite-IRA 400 (HO^-) resin column, and by column and layer chromatography. The identity of the individual entities was established by co-TLC with authentic markers, correspondence of m.p where possible, spectral evidence (UV, IR, PMR, MS), and derivatization.

* Part VI in the series "*Desmodium* Alkaloids" For Part V see Ref 5

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Stem-roots. Total alkaloids, 0·011%. "*Weak base fraction*". β-phenethylamine (24 mg); picrate (m.p., m.m.p.). "*Moderately strong base fraction*". (±)-salsolidine (28 mg, $[\alpha]_D^{25}$ 0°, $CHCl_3$); base-HCl (m.p., m.m.p. tyramine (87 mg). "*Strong base fraction*". hordenine (120 mg); methiodide (m.p., m.m.p.). candicine (46 mg), base iodide (m.p., m.m.p.). "*Water-soluble bases*" choline (57 mg); picrate (m.p., m.m.p.). Unidentified quaternary bases (22 mg).

Leaves. Total alkaloids, 0·0048%. Only β-phenethylamine (major component), tyramine (minor), and salsolidine (traces) were obtained.

Members of the genus *Desmodium*, investigated so far,[1–6] provide considerable variation in the types and contents of alkaloids. The alkaloid patterns of the mentioned seven species can be grouped into three broad categories. Thus, while *D. pulchellum* produces only simple indole alkaloids (tryptamine analogues and their ring closed products), *D. cephalotes* produces β-phenethylamine, tyrosine analogues, and a ring closed product (tetrahydroisoquinoline: (±)-salsolidine). *D gangeticum*, *D. triflorum*, *D. gyrans*, *D. tiliaefolium*, and *D. floribundum* occupy intermediate position in this respect, elaborating both tryptophan and β-phenethylamine/tyrosine-derived "proto" and "true" alkaloids.

Preliminary pharmacological screening, conducted with the total alkaloids of *D. cephalotes*, would seem to indicate that the curative properties ascribed to the plant extracts in the Indian system of medicine are essentially due to the contained alkaloids.

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PTEROCARPANS FROM *PLATYMISCIUM TRINITATIS**

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Key Word Index—*Platymiscium trinitatis*, Leguminosae 6,7-dimethoxycoumarin, (6aS, 11a S)-3-hydroxy-9-methoxypterocarpan, (6aS, 11aS)-3,10-dihydroxy-9-methoxypterocarpan

Plant. Platymiscium trinitatis Bth., "macacaúba, tree, subfamily Leguminosae-Lotoideae.[2]

Source. Widespread throughout the drier forests of Amazonia

* Part XLV in the series "The Chemistry of Brazilian Leguminosae" For Part XLIV see Ref 1 Sponsored by Instituto Nacional de Pesquisas da Amazônia, Conselho Nacional de Pesquisas, Manaus

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