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

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Wood An EtOH extract was chromatographed on silica giving 6,7-dimethoxycoumarin, identified by comparison with a sample isolated from *Platymiscium praecox* Mart.,[3] (6aS, 11aS)-3-hydroxy-9-methoxypterocarpan, identified by comparison with a sample isolated from *Dalbergia decipularis* Rizz. *et* Matt.,[4] and a cmpd. $C_{15}H_9O_2(OH)_2OMe$. The PMR spectrum indicated this again to be a pterocarpan and helped to locate the substituents at C-3, 9 and 10. The relative assignment of these groups to rings A (OH) and B (OH.OMe) was based on the interpretation of the MS Acetylation caused significant paramagnetic shifts only of the PMR signals due to H-2, 4 and 7, indicating the presence of the original hydroxyls at the *ortho* and *para*-positions 3 and 10. Finally, the cmpd must possess the absolute S-configuration at both chiral centres 6a and 11a, since its ORD curve shows two positive extrema between 200 and 300 nm.[5] (6aS, 11aS)-3,10-Dihydroxy-9-methoxypterocarpan was isolated previously as an oil from *Machaerium vestitum* Vogel and designated vesticarpan.[6]

(6aS, 11aS)-3,10-*Dihydroxy*-9-*methoxypterocarpan* Colourless crystals, m p 154–156° (MeOH). M 286·0838, $C_{16}H_{14}O_5$ requires 286·0841 IR ν_{max}^{KBr} (cm^{-1}) 3460, 3345, 1634, 1502, 1155, 1129, 1009, 940, 845 PMR ($CDCl_3$, 220 MHz, τ) 2·57 (*d*, *J* 8 Hz, H-1), 3·28 (*d*, *J* 8 Hz, H-7), 3·50 (*dd*, *J* 8 Hz and indet., H-2), 3·57 (*d*, *J* 8 Hz, H-8), 3·62 (*d*, *J* 8 Hz, H-4), 4·48 (*d*, *J* 6 Hz, H-11a), 4·65 (*s*, OH), 4·83 (*s*, OH), 5·79 (*dd*, *J* 12, 5 Hz, H-6), 6·15 (*s*, OMe), 6·35 (*d*, *J* 12 Hz, H-6), *ca* 6·45 (*m*, H-6a). MS (*m/e*): 286 (100%) M, 285 (51) M-H, 271 (35) M–Me, 177 (5) and 164 (7) ions incorp. ring B, 147 (15) and 134 (12) ions incorp ring A. ORD (*c* 0·031 mg·ml, MeOH, 320–230 mm) $[\phi]_{315}$ 0, $[\phi]_{294}^{tr}$ − 15600, $[\phi]_{291}$ 0, $[\phi]_{280}^{pk}$ + 24000, $[\phi]_{268}^{tr}$ + 17400, $[\phi]_{240}^{pk}$ + 37900.

Diacetate PMR (CCl_4, 220 MHz, τ). 2·54 (*d*, *J* 8 Hz, H-1), 3·12 (*d*, *J* 8 Hz, H-7), 3·34 (*dd*, *J* 8, 3 Hz, H-2), 3·44 (*d*, J 3 Hz, H-4), 3·66 (*d*, *J* 8 Hz, H-8), 4·56 (*d*, *J* 6 Hz, H-11a), 5·82 (*dd*, *J* 12, 5 Hz, H-6), 6·26 (*s*, OMe), 6·43 (*d*, *J* 12 Hz, H-6), *ca* 6·50 (*m*, H-11a), 7·76 (*s*, COMe), 7·79 (*s*, COMe)

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