N-[β-(4-*Methoxyphenyl*)-*ethyl*]-3,4,5-*trimethoxycinnamamide*. Fine white needles, m.p. 144·5–146° (benzene). (Found: C, 67·48; H, 6·90; N, 3·77. $C_{21}H_{25}NO_5$ requires: C, 67·91; H, 6·78; N, 3·77%.) λ_{max}^{EtOH} (nm): 233, 302 (ε 18 200, 14 650), no alteration in presence of NaOH or HCl. ν_{max}^{KCl} (cm^{-1}): 3300, 1658, 1610, 1580, 1510, 1455, 1420, 1325, 1245, 1220, 1135, 975. PMR (220 MHz, τ): 2·46 and 3·72 (doublets, *J* 15·8 Hz, Ar—CH=CH—CO). 2·86 and 3·16 (doublets, *J* 8·4 Hz, aromatic AA'BB' system), 3·31 (s, 2 aromatic Hs), 4·15 (broad, t, *J* 5·6 Hz, NH), 6·19 and 6·23 (singlets, respectively one OCH_3 at C-4 and two OCH_3 at C-3 and C-5 of the cinnamoyl moiety), 6·28 (s, one OCH_3 at C-4 of the β-phenylethyl moiety), 6·38 (double t, *J* 5·6 and 6·5 Hz, N–CH_2), 7·18 (t, *J* 6·5 Hz, Ar–CH_2). MS (peaks of less than 5% relative intensity are not quoted): M 371 (21%), *m/e* (%) 238 (7), 237 (51), 236 (100), 221 (81), 207 (5), 206 (27), 193 (8), 192 (12), 191 (8), 190 (13), 178 (5), 177 (5), 163 (10), 162 (7), 161 (5), 149 (5), 148 (5), 147 (7), 135 (24), 134 (8), 133 (7), 122 (6), 121 (30), 120 (8), 119 (10), 118 (5), 105 (6), 103 (6), 102 (5).

The compound (50 mg) and aq. conc. HCl (3 ml) were heated under reflux (1 hr). After cooling to room temp, H_2O (10 ml) was added and the mixture extracted with Et_2O. The Et_2O was evaporated and the residue (15 mg) identified with 3,4,5-trimethoxy-*trans*-cinnamic acid by comparison of m.p. and IR spectrum with literature data.[3] The aqueous solution was turned alkaline by addition of aq. NaOH and again extracted with Et_2O. The solution was evaporated and the residue (12 mg) identified with β-(4-methoxyphenylethyl)-amine by comparison of the IR spectrum with literature data.[3]

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Key Word Index—*Aniba hostmanniana*; Lauraceae; 3,4-dimethoxyallylbenzene; 2,4,5-trimethox yallyl-benzene; *N*-[β-(4-methoxyphenyl)-ethyl]-3,4,5-trimethoxycinnamamide.

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LEGUMINOSAE

INDOLE BASES OF *DESMODIUM GYRANS*

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Plant. Desmodium gyrans DC. (tribe: Lotoideae). *Occurrence.* In northern parts of Bengal, N. Circars, Deccan and Hills of Carnatic and also W. Ghats, up to 3000 ft, in grass lands and forest undergrowth widespread but nowhere very common.[1] *Uses.* The leaves exhibit tonic, diuretic, febrifuge and aphrodisiac properties; the roots find use in the Indian system of medicine as emollient, laxative, antidysenteric and remedy for coughs and asthma. *Previous work.* On *D. pulchellum* Benth. ex Baker,[2] *D. gangeticum* DC.,[3] *D. triflorum* DC.,[4] *D. tiliafolium* G. Don.[5]

Present work. Dried and finely ground plant materials (leaves, 2 kg; roots, 0·5 kg) were continuously extracted with light petroleum (60–80°), petroleum extract triturated with aqueous citric acid (12%), liberated bases (marked 'weak' base fraction) from the clarified acidic solution chromatographed over Brockmann neutral alumina. Defatted plant material

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extracted with EtOH. EtOH-concentrate poured into aq. AcOH (4%), clarified acidic solution extracted with $CHCl_3$ at two pH-levels (4 and 9), the mixture of alkaloids ('moderately' strong and 'strong' base fractions) were purified by column chromatography and fractional crystallization of their picrates. The water-soluble bases were isolated through their reineckate salts.[6] Alkaloid assays in this laboratory indicated that fresh plant material contained more than five times the amount present in dry and preserved (about 6-month-old) samples.

Leaves. Total alkaloids, 0·036%. *'Weak' base fraction.* N,N-*Dimethyltryptamine*-N_b-*oxide* (traces, co-TLC).[2] *β-Phenethylamine* [0·11 g, co-TLC (pharmacological properties)]; picrate (m.p., m.m.p.). *'Moderately strong' base fraction.* 5-*Methoxy*-N,N-*dimethyltryptamine*-N_b-*oxide* (traces, co-TLC).[2] N,N-*Dimethyltryptamine*-N_b-*oxide* (0·18 g, co-TLC); reduction with Zn and AcOH gave *N,N*-dimethyltryptamine, picrate (m.p., m.m.p.). *'Strong' base fraction.* 5-*Methoxy*-N,N-*dimethyltryptamine* (35 mg, m.p., m.m.p.);[2] picrate (m.p., m.m.p.). N,N-*Dimethyltryptamine* (82 mg, co-TLC); picrate (m.p., m.m.p.).[2] *Bufotenine* (68 mg, m.p., m.m.p., co-TLC); methiodide (m.p., m.m.p.).[7] 5-*Methoxy*-N-*methyltryptamine* (97 mg, co-TLC);[2] base-HCl (m.p., m.m.p.). Uncharacterized *β-carboline* (26 mg); blue-violet fluorescence on paper in UV; λ_{max} 238, 245, 290, 342–344 nm; yellow picrate from EtOH, m.p. 262°; m.m.p. with the picrate of either harman or norharman, depressed; the alkaloid did not give any molecular-ion peak in its mass spectrum. *Water-soluble bases. Choline* (92 mg, co-TLC); picrate (m.p., m.m.p.). Uncharacterized *indole-3-alkylamines* (27 mg); colour tests with Dragendorff-, Ehrlich-, and α-nitroso-β-naphthol reagents[3] positive; λ_{max} 222–224, 278, 292–294, 305–310 nm.

Roots. Total alkaloids, 0·33%. *Chloroform-soluble bases.* Minor alkaloids (52 mg), consisting of *N,N*-dimethyltryptamine, its N_b-oxide and two other uncharacterized indole-3-alkylamines. *Water-soluble bases. Choline* (0·4 g). *Hypaphorine* (1·2 g, co-TLC, m.p., m.m.p.);[3] base-HCl (m.p., m.m.p.). Traces of unidentified β-phenethylamines [colour reactions, UV, (pharmacological properties)]. Members of the genus *Desmodium* investigated so far show considerable variation in the types and content of alkaloids; the five species[2–5] studied can be grouped into three categories. *D. pulchellum* contains only simple indolic bases (indole-3-alkylamines and β-carbolines) in its various parts, while *D. gangeticum* and *D. gyrans* elaborate three different types of 'true' and 'proto' alkaloids, e.g. simple indolic bases, β-phenethylamines and carboxylated tryptamines. Finally *D. triflorum* and *D. tiliafolium* produce mainly carboxylated tryptamines and only traces of β-phenethylamines and *N,N*-dimethyltryptamine. Qualitative variation occurs not only in the different species but also in the various parts of the same species and at different stages of their development.[8]

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Key Word Index—Desmodium gyrans; Leguminosae; indole bases; bufotenine; 5-methoxy-*N,N*-dimethyltryptamine; hypaphorine/β-phenethylamine.