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ALKALOIDS OF *PROSOPIS NIGRA**

GLORIA A. MORO, MARIA N. GRAZIANO and J. D. COUSSIO

Departamento de Bioquímica Vegetal, Cátedra de Farmacognosia, Facultad de Farmacia y Bioquímica, Universidad de Buenos Aires, Junín 956, Buenos Aires, Rep. Argentina

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Key Word Index—*Prosopis nigra*; Leguminosae; tryptamine; *N*-acetyltryptamine; eleagnine; harman; β-Phenethylamine; tyramine.

Plant. Prosopis nigra (Gris.) Hieron. is a perennial native tree that grows in central, north and northeastern Argentina (local name "algarrobo negro") [1]. *Source.* Fresh leaves were collected in Tucumán Province, Argentina. A voucher specimen is deposited in the university herbarium (Herbario del Instituto "Miguel Lillo", Universidad Nacional de Tucumán, Tucumán, Argentina). *Uses.* Its fruits have been reported to have medicinal and nutritional properties [2]. *Previous work.* Phytochemical screening [3] and isolation of cassine from the bark [4]. On other species of *Prosopis* [4–6].

Present work. The air-dried and powdered leaves were extracted exhaustively with 10% HCl during 24 hr at 70° in steam bath, filtered and the residue was extracted 2× with 10% HCl. The combined acid extracts were adjusted to pH 9 with Na_2CO_3 and continuously extracted with Et_2O during 72 hr. The ethereal extract containing the mixture of the crude alkaloids was evaporated to dryness *in vacuo* at 40° and the residue dissolved in EtOH and filtered.

Total alkaloids (2% *d. wt*). The mixture was resolved by column chromatography on Brockmann neutral alumina. Elution with C_6H_6 increasing amounts of $CHCl_3$ in C_6H_6, $CHCl_3$, and finally increasing amount of MeOH in $CHCl_3$ afforded the fractions $a - d$ each of which was purified by preparative TLC (Si gel HF_{254}, $CHCl_3$–MeOH (93:7) saturated with 25% NH_4OH). (a) *β-Phenethylamine* [7] (principal alkaloid, 0·4%), R_f 0·80 eluted with C_6H_6. (b) *Eleagine* [7, 8] (0·10%, R_f 0·50) and *harman* [7] (0·15%, R_f 0·70), eluted with C_6H_6–$CHCl_3$ (6:4). (c) *Tryptamine* [7] (0·3%, R_f 0·35) and *N-acetyltryptamine* [9] (0·2%, R_f 0·45), eluted with $CHCl_3$. (d) *Tyramine* [7] (0·20%, R_f 0·20), eluted with $CHCl_3$–MeOH (75:25). All the alkaloids were identified by comparing their UV, IR and NMR spectra with those of authentic samples and by mp, mmp of their picrates, co-chromatography (TLC 3 solvents) of the isolated compounds and their derivatives.

Two facts must be noted in connection with the present findings: this is the first report of the isolation of *N*-acetyltryptamine from a natural source; and of its co-occurrence with β-carboline alkaloids isolated for the first time from the genus *Prosopis*. Both facts suggest that, as a general rule, *N*-acetyltryptamine is a direct precursor in the biosynthesis of β-carbolines. This pathway has been previously detected only in the genus *Passiflora* [10].

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