AN INVESTIGATION OF THE ALKALOIDS

Of Vinca herbaceae

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Having continued an investigation of the alkaloids of V. herbaceae collected in the period of flowering and incipient fruit-bearing in Azerbaidzhan, we have isolated another two bases in addition to those found previously [1]. The first of them, isolated from the epigeal part of the plant, has been identified from its spectral characteristics and chemical properties as venalstonine [2]. This is the first time that this alkaloid has been isolated from the plant concerned.

The second base, which was found in the roots of the plant, with mp 110-112°C (ethanol), $[\alpha]_D$ −40 ± 5° (c 0.3; chloroform) had the composition $C_{20}H_{26}N_2$ (mass spectrometrically). Its IR spectrum showed absorption bands of a disubstituted benzene ring (730 cm^{-1}) and of an indoline chromophore (1650 cm^{-1}). The presence of the latter was also confirmed by its UV spectrum: λ_{max} 258, 308 nm (log ε 3.91, 3.45).

The NMR spectrum of the base (JNM-C-60 HL, 60 MHz, spectrometer; $CDCl_3$) showed signals from the CH_2-CH_3 group (δ, 0.69 ppm, triplet, 3 H), an $N-CH_3$ group (2.71 ppm, singlet, 3 H), two olefinic protons (5.60 ppm, multiplet, 2 H), and four aromatic protons (7.20-6.30 ppm).

The mass spectrum showed the peaks of ions with m/e 294 (M^+), 265, 182, 170, 158 (max), 135, 122, 121, and 107.

When the base was hydrogenated by the Adams method, it dihydro derivative was obtained (M^+ 296); its NMR spectrum lacked the signals of olefinic protons.

All the properties of the base given above coincide with those for N(a)-methyl-6,7-dehydroaspidospermidine, obtained by the hydrolytic cleavage of the dimeric alkaloid pycnanthinine [3].

LITERATURE CITED

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