

A STUDY OF THE ALKALOIDS OF *Vinca herbaceae*

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The isolation from *Vinca herbaceae*, which grows in Georgia, of the alkaloids reserpine, isomajdine, norfluorocurarine, and akuammine has been reported previously [1, 2]. The present paper gives the results of a study of three alkaloids isolated from the plant collected in the period from April 15 to May 15, 1968 (in full flowering) in the environs of Tbilisi. The total alkaloids in the roots amounted to 4%, and in the epigeal part 2.5%.

A comparison of the IR, UV, NMR, and mass spectra and some chemical properties of the bases (I) and (II) with those for vincarine and tabersonine showed that they were respectively identical [3, 4].

The base (III) was isolated simultaneously from the epigeal parts of *V. herbaceae* and *V. erecta* growing in the Fergana oblast. It has mp 172-173°C, UV spectrum, λ_{\max} , nm: 250, 322, 333 ($\log \epsilon$ 4.65; 3.75; 3.77). The NMR spectrum had the signals of three methoxy groups (singlets: δ 3.95, 4.05, and 4.28 ppm, 9 H). In the region of aromatic protons there were four signals in the form of doublets (δ 6.90 and 7.46 ppm, $J=2.5$ Hz, and 7.10 and 7.86 ppm, $J=9$ Hz). The mass spectrum showed peaks with m/e 259 M^+ (93%), 244 ($M-15$)⁺ (100%), 230 ($M-29$)⁺ (61%), 216 ($M-43$)⁺ (32%), 213 (28%), 201 (240), and others.

On catalytic hydrogenation by Adams' method, a tetrahydro derivative was obtained. Its UV spectrum, λ_{\max} , nm: 218, 250, 257, 322, 335 ($\log \epsilon$ 4.51; 4.14; 4.15; 4.04; 3.96). The mass spectrum of this derivative had peaks of ions with m/e 263 (M^+), 248 ($M-15$), and 234 ($M-29$). The NMR spectrum ($CDCl_3$) had the signals: of an ethyl group (triplet at 1.17 ppm, 3 H, and quartet at 2.60 ppm, 2 H); of three methoxy groups (singlets δ 3.87, 3.89, and 3.60 ppm, 9 H); of two aromatic protons (doublets with centers at δ 6.81 and 7.31 ppm, $J=9$ Hz); and of an NH group (singlet at 9.67 ppm, 1 H).

An analysis of the results obtained showed that this base was possibly a furanoquinoline derivative. In view of this, a direct comparison was made of it with alkaloids of this series, and its complete identity with skimmianine [5] was shown.

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