# ALKALOIDS OF Colchicum szovitsii. III

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We have investigated the compound with $R_f$ 0.45, called szovitsine previously isolated from Colchicum szovitsii [1]. Szovitsine has the composition $C_{42}H_{50}O_{10}N_2$, mp 139-141°C (from ether and acetone), $[\alpha]_D + 72°$ (c 1.52; chloroform) and from its UV spectrum [$\lambda_{max}$ 260 and 290 nm (log ε 4.22 and 3.94)] it belongs to the group of homoaporphine alkaloids [2, 3]. The NMR spectrum of the base has the signals of the protons of two N-methyl groups (6 H, 2.45 ppm), six methoxy groups (3 H, 3.36 ppm; 3 H, 3.55 ppm; 12 H, 3.83 ppm), and four aromatic protons isolated from one another (one-proton singlets at 6.35, 6.52, 6.58, and 6.68 ppm). The mass spectrum of szovitsine shows peaks of maximum ions with mass numbers M − 17 and M − 31. After repeated recrystallizations of the base, the nature of the PMR and mass spectra did not change. The crystals and the mother solution contained a substance with the same $R_f$ values on various sorbents in various solvent systems.

The product of the methylation of szovitsine with diazomethane and its methiodide and quaternary base were chromatographically identical with the corresponding derivatives obtained from szovitsamine [4]. The identity of the product of methylation of szovitsine with O-methylszovitsamine was also confirmed by their IR, PMR, and mass spectra; in their mass spectra the maximum peak is that of the ion M − 31, and the PMR spectrum has the signals of one N-methyl group (3 H, 2.34 ppm), five methoxy groups (3 H, 3.46 ppm; 3 H, 3.55 ppm; 3 H, 3.78 ppm; and 6 H, 3.81 ppm) and two aromatic protons (one-proton singlets at 6.45 and 6.59 ppm).

These facts permit the assumption that azovitsine is a molecular compound of two diphenolic homoaporphine bases in a ratio of 1 : 1, while O-methylszovitsamine could be formed from szovitsine only if the functional groups of the homoaporphine system of these two bases were substituted identically.

On the basis of the mass spectral and PMR spectral characteristics and literature information [5] it may be concluded that in the first of the components of szovitsine one of the hydroxy groups is located at $C_4$ and the second at $C_5$. Since each benzene ring of natural homoaporphines contains not more than one hydroxy group, the only possible structure that can be ascribed to the component with the hydroxy group at $C_4$ is 2,4-dihydroxy-3,5,6-trimethoxyhomoaporphine. For the same reasons, the structure of 3,6-dihydroxy-2,4,5-trimethoxyhomoaporphine (floramultine) [5] or 3,5-dihydroxy-2,4,6-trimethoxyhomoaporphine (multifloramine) [6] can be proposed for the second component of szovitsine. A comparative study of the PMR spectra of szovitsine and the homoaporphines mentioned showed that the second component of szovitsine is closer to multifloramine.

## LITERATURE CITED

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