Thus, we have isolated six bases from Th. minus, of which base (II) is new for the genus [8, 9].

Three bases have been isolated from Th. foetidum of which thalflavine is new for this species [4].

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SPECIOSAMINE — A NEW BASE FROM Colchicum speciosum

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The combined alkaloids of Colchicum speciosum Stev. (showy autumn crocus), obtained from the corms, were separated into fractions of strongly basic, weakly basic, and neutral substances. Then a chloroform extract of the weakly basic compounds was treated successively with 3% caustic soda solution and with water and was dried over sodium sulfate, and after the solvent had been distilled off the mixture of substances was separated by chromatography on a column of alumina. By eluting the substances with mixtures of ether and chloroform in ratios of 9:1, 3:1, 2:1, 1:1, and 1:2 and with chloroform, four individual compounds were isolated with R_f 0.86, 0.83, 0.76, and 0.68 (TLC on type LS 5/40 silica gel with 13% of gypsum; methanol—chloroform—benzene—acetone—25% aqueous ammonia (8:10:3:6:3) system). We have established the structure of one of them, with R_f 0.83, composition $C_{28}H_{31}O_5N$, mp 192-294°C, $[\alpha]_D$ −42° (c 0.26; chloroform), mol. wt. 461 (mass spectrum), and have called it speciosamine (I).

From its color reactions [1, 2] and spectral characteristics, (I) was assigned to the group of tropolone alkaloids of the autumn crocuses. Its UV spectrum had absorption maxima at 248 and 350 nm, and its IR spectrum had eight absorption bands in the 1400-843 cm^{-1} region that were characteristic for the tricyclic system of the colchicine alcoloids [3], and those of a tropolone ring (1588 cm^{-1}) and of a tropolone carbonyl (1616 cm^{-1}) [3, 4]. The PMR spectrum of (I) exhibited the signals of four methoxy groups (3.83, 3.80, 3.76, and 3.54 ppm), of nine aromatic protons — H_8 (7.90 ppm, s), H_{12} (6.95 ppm, d, $J_{12,11}$ = 11 Hz), H_{11} (6.52 ppm, d, $J_{11,12}$ = 11 Hz), and H_4 (6.37 ppm, s) of a tropolone ring [5], a five-proton singlet at 7.14 ppm, and a three-proton singlet at 2.00 ppm, obviously due to the presence in the structure of the base of a monosubstituted benzene ring and of a N-methyl or N-acetyl group. In view of the absence from the IR spectrum of the bsorption band of an amide carbonyl, the last of the signals mentioned can be assigned to a N-methyl group. The absence of the signals of a NH group from the spectrum was also noted.

The elementary composition and the PMR spectrum of the alkaloid permitted the assumption that it was an analogue of speciosine (II) [6, 7], isolated from the same plant previously. A comparison of their developed formulas showed that in (I), unlike (II), there was no hydroxy group. The closeness of the structures of these two compounds was also confirmed by the

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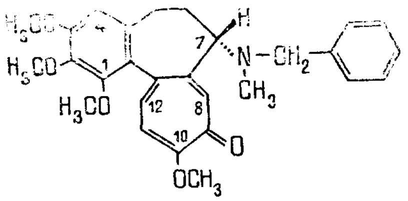
results of a study of the ^{13}C NMR spectrum of speciosamine. Its carbon spectrum contained the signals of all the C atoms of the colchamine skeleton [8] and those of five tertiary C atoms (127.6 × 2, 127.0 × 2, and 125.7 ppm), of a quaternary C atom in a benzene ring (133.4 ppm), and of a methylene group (59.4 ppm).

The facts given above permitted the conclusion that the colchinine moiety of the molecule of the base was linked, as in (II) with a monosubstituted benzene ring through a methylene bridge, and speciosamine is represented by structure (I):



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TRIGAMINE N-OXIDE FROM Merendera jolantae

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We have previously [1] reported the isolation from the epigeal part of Merendera jolantae E. Czernjak of a previously unknown alkaloid (I) with the composition $C_{19}H_{27}O_4N$, mp 201-202°C, $[\alpha]_D$ +10°. We have now determined its structure on the basis of the results of a study of spectral characteristics and chemical transformations.

The UV spectrum of (I) had absorption maxima at 216 and 290 nm, and the IR spectrum absorption bands of active hydrogen (3390-3210 cm^{-1}), of the C=C bonds of a benzene ring (1600 cm^{-1}), and of methylene groups (1475 cm^{-1}). The PMR spectrum of the base (in $CDCl_3$) contained the resonance signals of the rotons of a N-methyl group (3 H, s, 3.40 ppm), of a O-methyl group obviously present in a benzene ring (3 H, s, 3.80 ppm), and of the proton of a benzene ring (6.50 ppm). The mass spectrum of (I) contained as the main peaks those of ions with m/z 334 $(M + 1)^+$, 333 (M^+), 317 $(M - 16)^+$, 316 $(M - 17)^+$ (100%), 315 $(M - 18)^+$, 300, 289, 275, 259, 248, 246 (100%), 218, 217. The downfield shift of the signal of the N-methyl group, the presence of a triplet of peaks of ions $(M - 16)^+$, $(M - 17)^+$, and $(M - 18)^+$ [2, 3] and the solubility of the base in water permitted (I) to be assigned to the N-oxides.

When (I) was reduced with zinc in hydrochloric acid, a compouond identified from its Rf value and spectral characteristics as trigamine (II), isolated previously from Merendera trigina [4], was obtained. Thus, (I) was trigamine N-oxide.

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