The NMR spectrum of isomajdine also shows the identity of the position of the OCH_3 substituents in the aromatic ring of isomajdine and majdine.

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THE ALKALOIDS OF HAPLOPHYLLUM BUCHARICUM

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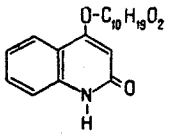
From the plant H. bucharicum Litv. (family Rutaceae) collected in the flowering stage in the Kashka-Dar'inskaya Oblast we have isolated skimmianine [1], folifine [2], haplopine [3], and a new base bucharaine.

Bucharaine, with mp 151-152° C (from methanol) has the composition $C_{19}H_{25}O_4N_4$, mol. wt. 331 (mass spectrometry). It gives a dibromo derivative with mp 145-146° C (from acetone), an O-acetyl derivative with mp 168-169° C (from acetone), and a N-methyl derivative with mp 142-143° C. The IR spectrum of the alkaloid has absorption bands at 3310 cm^{-1} (hydroxy group), 2955 (NH group), and 1657 cm^{-1} (amide carbonyl). The UV spectrum has the three maxima that are characteristic for 2-quinolone: λ_{max} 226, 266, and 276 mμ (log ε 2.76, 2.26, and 2.24, respectively).

The Adams hydrogenation of bucharaine gave a substance (A) with mp 354-356° C, with the composition $C_9H_7O_2N$, and a nitrogen-free oily substance (B) with the composition $C_{10}H_{22}O_2$. A direct comparison of substance (A) and its nitroso and O-methyl derivatives with 2,4-dihydroxyquinoline [4] and its nitro and O-methyl derivatives showed that they were identical.

Consequently the basic skeleton of bucharaine is 2,4-dihydroxyquinolone, with a $C_{10}H_{19}O_2$ residue attached in the γ position.



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