THE STRUCTURE OF LAPACONIDINE

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UDC 547.944/945

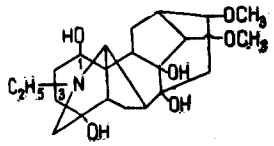
From the roots of Aconitum leucostomum (excelsum) we have isolated a base $C_{22}H_{35}O_6N$, mp 206-207°C (benzene), mol. wt. 409 (mass spectrometrically). The NMR spectrum of the alkaloid has signals due to a N-ethyl group (three-proton triplet at 1.07 ppm) and to two methoxy groups (three-proton singlets at 3.26 and 3.36 ppm).

The acetylation of the base yielded a tetraacetate with mp 195-197°C the NMR spectrum of which had the signals of a N-ethyl group (three-proton triplet at 1.04 ppm) and also the signals of four acetyl groups (2.10-1.89 ppm). Consequently, the developed formula of the base is $C_{18}H_{20}(OH)_4(OCH_3)_2(N-C_2H_5)$. The alkaloid proved to be new, and we have called it lapaconidine (I).

In the mass spectrum of I, the maximum ion is M - 17, which shows the presence of a hydroxy group at C-1 [1].

The methylation of I with methyl iodide in the presence of sodium hydride gave tetramethyllapaconidine $C_{26}H_{43}O_6N$, mp 69-71°C, identical with the product of the methylation of lapaconine [2, 3] which we obtained under the same conditions.

On the basis of these facts, the following structural formula is proposed for lapaconidine:



LITERATURE CITED

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Institute of the Chemistry of Plant Substances, Academy of Sciences of the Uzbek SSR. Translated from Khimiya Prirodnykh Soedinenii, No. 5, pp. 639-640, September-October, 1970. Original article submitted June 8, 1970.