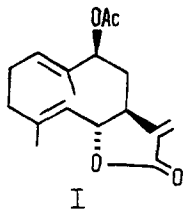

I

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ALKALOIDS OF THE MONGOLIAN FLORA

I. ALKALOIDS OF THE EPIGEAL PART OF Aconitum barbatum

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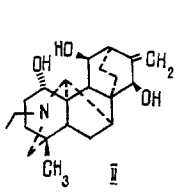
UDC 547.944/945

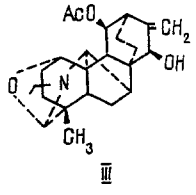
Continuing the separation of the total alkaloids of the epigeal part of Aconitum barbatum Pers. [1, 2], we have isolated three bases.

Alkaloid (I), with the composition $C_{25}H_{41}NO_7$, was identified on the basis of a study of its spectral characteristics and comparison with an authentic specimen as delsoline [3].

Alkaloid (II) had the composition $C_{22}H_{33}NO_3$, mp 191-193°C (acetone). On acetylation it gave a triacetyl derivative. A study of the spectral characteristics of the alkaloid and of its triacetate enabled us to suggest a structure [4] coinciding with that of the alkaloid lepenine [5]. A direct comparison of the IR spectra of lepenine and of the alkaloid that had been isolated showed their identity. A study of the ^{13}C NMR spectrum of lepenine, which was not taken into consideration in the proof of its structure [5], agreed with this. The multiplicities of the signals were determined from the "off-resonance" spectrum, and the assignment of the signals was made by comaprison with the spectrum of 11-acetyl-1,19-epoxydenudatine (III) [2].



II



III

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TABLE 1. Details of the ^{13}C NMR Spectra (100 MHz) of Lepenine (II) (C_5D_5N) and of 11-Acetyl-1,19-Epoxydenudatine (III) ($CDCl_3$)

Carbon	II	III	Carbon	II	III
1	70,1	68,3	12	42,4	43,3
2	31,7	24,1	13	23,8	24,3
3	39,3	29,7	14	25,1	26,9
4	33,8	37,5	15	77,9	77,1
5	52,8	49,6	16	155,5	153,7
6	28,2	24,4	17	108,7	110,7
7	47,9	47,4	18	23,3	18,6
8	44,3	45,5	19	51,1	92,9
9	54,3	46,5	20	68,3	69 8
			N CH_2		
10	51,6	49,4		57,3	48,4
11	73,2	74,2	CH_3	13,8	14,1

Alakaloid (III) had the composition $C_{24}H_{35}NO_4$, mp 137-139°c, and differed from lepenine by the presence of an acetoxy group in place of a hydroxy group. Alkaline hydrolysis gave an amino alcohol identical with lepenine. The presence in PMR spectrum of the alkaloid of the signal of C-11-α proton at 5.52 ppm (d, J = 9 Hz) that was shifted downfield in comparison with the analogous signals in the spectrum of lepenine showed that the acetoxy group was located at C-11. Consequently, this alkaloid was lepetine [5].

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