

DESACETYL COLCHICINE AND DESACETYL COLCHICEINE -
NEW ALKALOIDS FROM *Merendera robusta*

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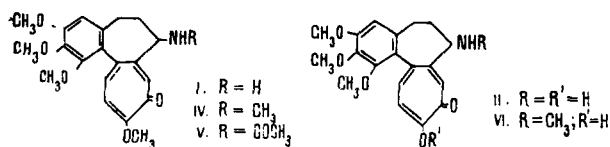
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In an investigation of the epigeal parts of *Merendera robusta* Bge., collected in 1958 in the budding period in the Tashkent oblast, we found, in addition to compounds obtained previously [1], three new alkaloids which we have isolated in the individual form and have studied in detail. Table 1 gives their compositions and physical constants.

The broad maximum in the UV spectrum of each of the three compounds at 350 nm shows the presence of a tropolone ring in them [2]. The NMR spectrum of (I) shows the signals of four O-methyl groups (δ 3.67, 3.92, 3.95, and 4.03 ppm). Base (II) contains one O-methyl group less (4.03 ppm). It was established by the Oberlin-Zeisel method that (I) has a tropolone methoxy group, which is absent from substance (II).

The NMR spectra of both alkaloids lacked signals of N-methyl and N-acetyl groups. The mass spectra of the bases had peaks of ions with m/e 312 and 207, which confirms the presence of an unsubstituted amino group in each of them [3].

The facts given above permitted the hypothesis that (I) has the structure of desacetylcolchicine and (II) that of desacetylcolchiceine:



To prove its structure, (I) was converted into the N-methyl and N-acetyl derivatives, identical with colchamine (IV) and colchicine (V), respectively [4]. The action of diazomethane on (II) gave two isomeric O-methyl ethers, one of which was identical with N-desacetylcolchicine (I). The methylation of (II) with methyl iodide yielded a substance identical with colchameine (VI) [4].

Desacetylcolchicine and desacetylcolchiceine were first isolated by the hydrolysis of colchicine [5]. In spite of the fact that they are known as biogenetic precursors of colchicine, this is the first time that they have been isolated from a plant.

Base (III) was identified by its physical constants and chromatographic behavior as N-methylcolchamine [6].

TABLE 1

Sub- stance	Composi- tion	Mp, °C	$[\alpha]_D$, deg	UV spectrum, λ_{max} , nm
I	$C_{20}H_{23}O_5N$	Amorphous	-146	246, 350
II	$C_{19}H_{21}O_5N$	151-153	-152	243, 350
III	$C_{22}H_{27}O_5N$	206-208	-109	248, 350

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