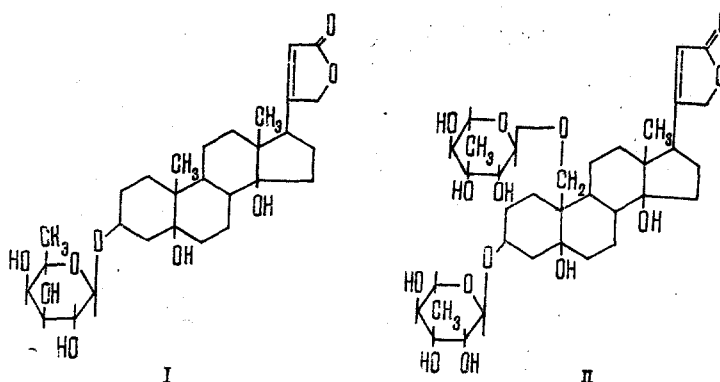


The NMR spectra were taken on a JNM-4H-100 instrument (100 MHz, HMDS, δ scale, ppm).



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ALKALOIDS OF *Hyoscyamus niger* AND *Datura stramonium*

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UDC 547.94

Extraction of the epigeal part of *Hyoscyamus niger* collected in the Urgut region, Samarkand oblast, in June, 1975 in the incipient fruit-bearing phase, yielded 0.13% of combined alkaloids. Separation of the combined bases according to their solubilities in benzene and subsequent chromatography on a column of silica gel gave hyoscyamine [1].

The fraction of the combined bases soluble in benzene consisted mainly of a mixture of hyoscyamine and hyoscyamine (60%). The individual fractions contained tropine and apoatropine (checked chromatographically).

From *H. niger* collected in the Urtakaiindy gorge, settlement of Chon-Kemin, Kirghiz SSR, on June 2, 1975 in the incipient fruit-forming phase was obtained 0.095% of combined bases. They were separated according to their solubilities in benzene and by chromatography on a column of Al_2O_3 . Hyoscyamine, hyoscyamine, and a base with mp 175-176°C were isolated. The latter was identified as skimmianine [2]. The fractions contained apoatropine, apoatropine, tropine, and α - and β -belladonnines.

Extraction of the epigeal part of *Datura stramonium*, collected on July 15, 1975, in the Surkhandar'ya oblast, village of Tupalang in the flowering and incipient fruit-bearing phase yielded 0.34% of combined bases. Separation of the mixture of alkaloids gave hyoscyamine, hyoscyamine, α -belladonnine, tropine, and skimmianine. A plant from this growth site was richest in hyoscyamine (74.5%) and hyoscyamine (19.5%).

The epigeal part of *D. stramonium* collected in the Lenin sovkhov, Fergana oblast, on June 15, 1975 in the flowering and incipient fruit-bearing phase contained 0.30% of a mix-

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ture of bases. Separation of the combined alkaloids yielded hyoscyamine (66%), hyoscine (14.5%), skimmiamine, and tropine. The combined bases isolated from the epigeal part of *D. stramonium* collected in the Tashkent oblast in the "Kommunist" kolkhoz, amounted to 0.25% of the weight of the dry plant. From the benzene-soluble fraction we isolated hyoscyamine (68%) and hyoscine (20%). Separation of the mother liquors yielded apohyoscine, tropine, and 2,6-dihydroxytropine.

The roots of this plant collected in the fruit-bearing phase contained 0.18% of combined alkaloids, 57% of which consisted of hyoscyamine and 17% of hyoscine. The mother liquors contained apohyoscine, apoatropine, tropine, and 2,6-dihydroxytropine.

The seeds of *D. stramonium* in the full fruit-bearing period contained 0.47% of a mixture of alkaloids from which we isolated hyoscyamine (74%).

The mother liquors yielded apohyoscine, tropine, and 2,6-dihydroxytropine.

The isolation of skimmiamine from plants of the family Solanaceae was unexpected, and biogenetically its presence is still not clear.

Thus, from *H. niger* we have isolated hyoscyamine, hyoscine, and skimmiamine. We have also detected apohyoscine, apoatropine, tropine, and α - and β -belladonnines in this plant. From *D. stramonium* we have isolated hyoscine, hyoscyamine, skimmianine, apoatropine, 2,6-dihydroxytropine, tropine, and α -belladonnine. The main alkaloids in all the initial mixtures of alkaloids obtained were hyoscyamine and hyoscine.

D. stramonium from the Surkhandar'ya oblast is characterized by the highest content of hyoscine and hyoscyamine (94%) and can be used as a source of these alkaloids.

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GORTSCHAKOINE — A NEW ALKALOID FROM *Corydalis gortschakovii*

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UDC 547.943

Continuing the separation of the combined alkaloids of *Corydalis gortschakovii* [1, 2] collected in the upper reaches of the R. Pskem in the flowering period, we have isolated a new liquid base with $[\alpha]_D -40^\circ$ (c 0.3; methanol), which we have called gortschakoine. The base is readily soluble in organic solvents and in solutions of alkalis. UV spectrum: $\lambda_{\text{ethanol}}^{\text{max}}$ 226, 282 nm (log ϵ 4.31, 3.68). The IR spectrum of the base shows absorption bands at 1610 cm^{-1} (aromatic ring) and 3510 cm^{-1} (hydroxy group). The mass spectrum of the base shows peaks of the molecular ion with m/e 313 and also of ions with m/e 192 (100%), 177, 148, and 121. The facts given permit gortschakoine to be assigned to the benzyltetrahydroisoquinoline alkaloids [3]. The PMR spectrum of gortschakoine (CCl_4 , 0 — HMDS, JNM-4H-100/100 MHz, δ scale) is characterized by the following signals at (ppm) 2.23 (s, 3H, N-CH₃), 3.63 (s, 3H, OCH₃), 3.73 (s, 3H, OCH₃), 5.94 (br. s, 1H, OH), 6.34 and 6.50 ppm (d, 1H each, $^3J = 7.9 \text{ Hz}$, o-aromatic protons), 6.56 and 7.00 ppm (d, 2H each, $^3J = 8.1 \text{ Hz}$, o-aromatic protons), and 3.88 (q, 1H, $^3J = 3.3$ and 8.5 Hz , C₁-H). A multiplet with an intensity of six proton units at 2.20–3.30 ppm corresponds to three methylene groups. The presence in the mass spectrum of gortschakoine of the ion with m/e 192 as the maximum peak shows that in the

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