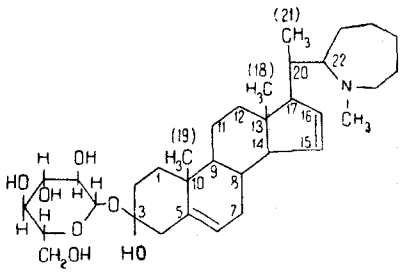
The determination of the structure of sewkoridine enables the following structural formula to be proposed for it.



In the mass spectrometry of sewkoridine, α-cleavage leads to the formation of an ion with m/e 112; the splitting off of hydrogen from C_{22}, β-cleavage and the elimination of hydrogen from the C-21 CH_3 gives an ion with m/e 138; β-cleavage and migration of hydrogen from C_{22} to C_{20} following the splitting out of the methyl group gives an ion with m/e 125.

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THE SEEDS OF THERMOPSIS DOLICHOCARPA: A NEW SOURCE OF CYTISINE

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The alkaloid cytisine is used in medicine in reflex cessations of breathing and in operations [1]. This substance is obtained industrially from the seeds of Thermopsis lanceolata with a yield of about 0.8% [2].

We have studied the seeds of Th. dolichocarpa V. Nik., which is widely distributed in Central Asia [3], and have found a considerable amount of cytisine in them.

To isolate the alkaloids, the ground seeds of Th. dolichocarpa, moistened with 10% ammonia, were extracted with chloroform. The extract was concentrated and the alkaloids were extracted with 10% sulfuric acid. The sulfuric acid solutions of the alkaloids were made alkaline and extracted first with ether and then with chloroform. The ethereal fraction yielded 0.15% and the chloroform fraction 3.55% of total alkaloids. The total ethereal alkaloids consisted mainly of pachycarpine. The total chloroform alkaloids consisted of a semicrystalline mass, which was washed several times with acetone until the crystals had lost their color and these were then filtered with suction and recrystallized from acetone. The crystals obtained melted at 154-156°C. A mixture of these crystals with cytisine showed no depression of the melting point. Treatment of the acetone mother liquors with nitric acid gave an additional amount of cytisine nitrate.

Thus, the seeds of Th. dolichocarpa contain 3.7% of total alkaloids including 0.1% of pachycarpine and 1.62% of cytisine. Consequently, these seeds may be an additional source for the production of cytisine.

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