

The total amount of alkaloids in the epigeal part of *Cynoglossum viridiflorum* Pall. ex Lehm. growing on the Ust Urt plateau was 0.5%. As well as the three alkaloids obtained previously from this plant, viridiflorine N-oxide [1] was isolated. In addition to the trachelanthamine and its N-oxide found previously trachelanthamidine [5] was isolated from *Trachelanthus korolkowii* Lipsky, collected in Tashkent province in the budding stage, this being the first time that this alkaloid had been isolated from the genus *Trachelanthus*. We may note that we obtained viridiflorine and trachelanthamine N-oxides in the form of solvates with 170-172°C and 125°C, respectively.

In samples of three species of *Salsola* investigated (*S. paletskiana* Liv., *S. nitraria* Pall., *S. dendroides* Pall.) gathered in the fruit-bearing on the Ust Urt plateau in Kara Kalapaka the amount of alkaloids did not exceed 0.01-0.07% and in not one of them were the salsoline and saosolidine that are characteristic for *Salsola richteri* [1, 6] detected.

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Dipthychocarpus strictus — A SOURCE OF SULFUR-CONTAINING ALKALOIDS

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In the Soviet Union, the family Cruciferae is represented by a single species *Dipthychocarpus strictus* (Fisch.) Trautv. This annual herbaceous plant is encountered as a weed of wheat plantations in Central Asia, Transcaucasia, and the South-Eastern European part of the USSR [1].

The study of the alkaloids of this plant was begun by Aripova, Akramov, and Yunusov, who isolated seven substances [2]. Having continued the investigation, we have isolated a total of 15 compounds. The majority of them each contained a sulfur atom, had similar properties, and proved to be N-alkyl derivatives of urea. Thirteen sulfur-containing alkaloids had not been described in the literature, and the structures of 10 of them were established [3, 4].

Our aim was to study the change in the qualitative and quantitative composition of the alkaloids in the epigeal part and seeds of this plant according to its growth site. The results of the determination of the total bases and the amounts of the main alkaloids are given in Table 1.

The yield of combined alkaloids and the ratio of the individual substances in them depended on the growth site. Thus, the epigeal part of the plant collected in the environs of the village of Aktash, Dzhizak province, contained half as much alkaloids as the epigeal part of the plant growing close to the village of Dzhilga. The seeds collected in the environs of Alimtau contained an eight times smaller amount of bases than the seeds collected close to

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TABLE 1

Collection site	Plant organ	Total alkaloids	Amounts of the main alkaloids, % on the total bases					Alkaloids isolated
			dipto-carpi-lidin	dipto-carpi-carpine	dipto-carpa-line	deoxy-dipto-carpi-dine	deoxy-dipto-car-paine	
Village of Dzhilga, Chirchik region, Kazakh SSR	Epigeal part	0,23	21,7	11,3	6,5	—	—	Diptocarpamine, diptamine, diptamine, N,N-diisopropylurea, bases A and B
The same	Seed	0,13	17,5	—	—	12,5	11,4	Diptocarpiline, diptocarpine sulfate, diptocarpiline
Environs of Alimtau, Chirchik region, Kazakh SSR	Seed	0,016	13,7	—	—	15,0	10,0	Diptocarpiline
Environs of the village of Aktash, Dzhirgatala province, Uzbek SSR	Epigeal part	0,10	18,3	20,5	10,6	—	—	Diptocarpamine, N-isopropylurea, diptocarpiline

Dzhilga. The maximum accumulation of alkaloids in the epigeal part of the plant from the environs of Dzhilga was observed in the period of incipient budding — 0.27% (the plant was not studied at an earlier period).

The qualitative composition of the bases also varied according to the soil and climatic conditions and the plant organ. One of the main alkaloids of the bases of *D. strictus* is diptocarpilidine.

It must be mentioned that it was mainly the sulfoxides of the sulfur-containing alkaloids that were isolated from the epigeal part of *D. strictus*, while from the seeds it was their deoxy products. It may be assumed that the sulfur-containing alkaloids in the sulfoxide form actively participate in the biological processes taking place in the plant during the whole vegetation period.

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