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We have investigated the roots and epigeal part of *Thalictrum longipedunculatum* E. Nikit. [1], and, in addition to substances isolated previously, we have obtained O-methylthalicberine, thalicminine, glaucine, thalicberine, thalicsimidine, and columbamine.

The combined bases were obtained by the usual method, and column chromatography and thin-layer chromatography were used for isolating the individual compounds.

| Collection site | Plant organ | Vegetation period | Total alkaloids, % on the weight of the raw material | Alkaloids |
|---|--------------|-------------------|--|--|
| Uzb SSR, Samarkand province, Nurat | Epigeal part | Budding | 0,30 | Thalfetidine, thalidasine, thaliglucinone |
| Tadzh. SSR, Petra I range, gorge of the R. Obi-Khingau, environs of settlement of Saied | " | Flowering | 0,13 | Thalicberine, O-methylthalicberine |
| | | Budding | 0,19 | |
| " | Roots | Flowering | 0,70 | Glaucine, thalicmidine, thaliglucinone |
| " | " | Fruit-bearing | 3,46 | Thalicmine, berberine, magnoflorine, columbamine |

The bases were identified by direct comparison with authentic samples, with the exception of (I).

The combined bases from the epigeal part collected in the budding period in the Tadzh. SSR in the environs of the settlement of Saied were chromatographed on a column of alumina. The alkaloids were eluted with benzene-methanol. The fractions obtained with benzene containing 1% of methanol gave O-methylthalicberine, and the fraction from benzene containing 2% of methanol gave base (I) with mp 159°C (ether), $[\alpha]_D^{20} +230^\circ$ (chloroform). UV spectrum: λ_{max} (ethanol) 280 nm; (ethanol + OH⁻) 285, 310 nm. In the PMR spectrum (CDCl₃, 0 - HMDS, δ , ppm) signals were observed at 2.02 and 2.07 (singlets, 3 H each, 2 × NCH₃); 3.52, 3.67, and 3.77 (three-proton singlet, 3 × OCH₃); and 5.90-7.05 (10 × ArH). The mass spectrum of (I) contained the peaks of ions with m/z 608 (M⁺), 607, 485, 417, 416, 396, 395, 381, 198, 175, 174.

A comparison of the results that we have obtained with literature information enabled base (I) to be identified as thalicberine [2]. This is the first time that this alkaloid has been detected in plants of the genus *Thalictrum* growing on the territory of the USSR.

The aqueous ammoniacal mother liquor after the separation of the tertiary bases was evaporated to dryness. The dry residue was chromatographed on a column of alumina. The column was washed with chloroform and with chloroform-methanol. This gave berberine, magnoflorine, and columbamine.

Thus, twelve bases have been isolated from *Th. longipedunculatum* of which columbamine, glaucine, thalicminine [3], thalicberine, thalicsimidine [4], and O-methylthalicberine have been detected in this plant for the first time.

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ALKALOIDS OF *Nitraria schoberi*

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Four species of *Nitraria* have been described from the arid zones of the Soviet Union: *Nitraria schoberi* L., *N. sibirica* Pall., *N. komarovii* Iljin et Lava, and *N. roborowskii* Kom. The last mentioned is found very rarely [1]. The most common species is *N. schoberi* and at the same time it is the richest in alkaloids both in the qualitative and in the quantitative respects. The aim of the present investigation was to determine the total amount of alkaloids in *N. schoberi* according to the growth site.

It is known from literature sources that this plant possesses a gigantic salt capacity and contains ions of the alkali and alkaline earth metals and chloride, sulfate, and bicarbonate ions. The bicarbonate alkalinity is 3.27 [1, 2]. The population used to use it, in particular, for soapboiling [3].

The facts given show the difficulties that must be faced in the process of extracting the alkaloids — the formation of stable emulsions in the stages of isolating the total material.

In order to select the optimum method of extraction, we performed three experiments. To simplify the experiment we took the stems of plants collected in September, 1975, in the Kyzyl-Kum, containing a relatively smaller amount of alkaloids:

| Method of extraction | Total yield, % | Including tertiary alkaloids, % |
|--|----------------|---------------------------------|
| Chloroform | 0,043 | 0,035 |
| 2% solution of CH ₃ COOH in chloroform | 0,075 | 0,060 |
| Chloroform (raw material moistened with 8% ammonia solution) | 0,108 | 0,087 |

The highest yield of bases was given by ordinary chloroform extraction of the plant moistened with 8% of ammonia solution, as in the cases of *N. sibirica* [4] and of *N. komarovii*. However, the use of this method is accompanied by the formation of stable emulsions in the process of extracting the bases into acid solution, which complicated the isolation of the combined bases and increases the time for which the alkaloids are present in an acidic medium. When a 2% solution of acetic acid in chloroform was used as the extractant, although about a quarter of the total material was lost, emulsions were formed to a smaller degree. Apparently, in the initial study of the material and, in particular, those organs and from those growth sites where the alkaloid content is high, it is justified to use this method. However, a detailed study of the plant must be carried out by the use of the usual method of extraction.

We give the results of qualitative determinations of the combined alkaloids of *N. schoberi* from various growth sites. In the first two experiments extraction was carried out with acidified chloroform, and in the others by the ammonia method:

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