

ALKALOIDS OF *Verbascum songoricum*

R. Ziyaev, A. Abdusamatov,
and S. Yu. Yunusov

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We have investigated *V. songoricum* Shrenk, family Scrophulariaceae collected in the village of Chimgan, Tashkent oblast, in the early vegetation periods, each organ being collected separately (Table 1).

From the leaves of *V. songoricum*, chloroform extracted 0.07% of combined ethereal and 0.9% of combined chloroformic alkaloids. The ethereal fraction of the combined alkaloids was treated with petroleum ether. The TLC of this extract in the benzene-ethanol (4:1) system gave two spots with R_f 0.42 and 0.79. By separation on a column of silica gel [benzene-ethanol (98:2)] we obtained a liquid base $C_{10}H_{14}N_2$ with R_f 0.42, $[\alpha]_D^{20} -76^\circ$ (c 0.3; chloroform), mol. wt. 162 (mass spectrum). The melting point of the picrate was 203-205°C (water).

The UV spectrum of the base had a maximum at λ_{max} 262 nm (log ϵ 3.18), which is characteristic for alkaloids of the pyridine type. The IR spectrum exhibited absorption bands at (cm^{-1}) 3500-3200 (>N-H), 2980-2920 (-CH₂-), 1600 (pyridine ring), 1060, and 720.

The mass spectrum showed the following ionic peaks: M^+ 162, 161, 133, 119, 105, 84 (100%), 56 and 42 m/e.

The results of a comparison of physicochemical properties and also of the UV, IR, and mass spectra of the base with literature data [1-2] showed that the alkaloid was anabasine.

The combined chloroformic alkaloids were separated according to their basicities into 10 fractions. On treatment with acetone, fraction 1 yielded a base with mp 218-220°C, which proved to be identical with plantagonine [3]. Fractions 2-4, on treatment with acetone, yielded substances with mp 195-196°C and 80-82°C, the latter being identified as acetamide.

Thus, we have isolated anabasine, plantagonine, and acetamide, and a base with mp 195-196°C. This is the first time that anabasine has been isolated from the family Scrophulariaceae.

TABLE 1

Date of collection	Fruit	Buds	Leaves	Stems	Roots
	combined alkaloid, % of the wt. of the dry plant				
Sept. 10, 1968	0,12	—	0,095	0,07	0,065
May 20, 1970	—	0,23	0,16	0,086	0,076

LITERATURE CITED

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