SK-4, from its properties and hydrolysis products, was identified as evomonoside, which has been obtained previously by Reichstein et al. [2–4].

SK-1 proved to be a monoglycoside with a fairly high biological activity (10 370 cat units). The properties presented give reasons for assuming that this is a new cardiac glycoside.

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A CASE OF THE SPONTANEOUS FORMATION OF HYDROCHLORIDES IN CRUDE MIXTURES OF ALKALOIDS

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When mixtures of alkaloids from various samples of Anabasis aphylla [1] were stored for two weeks, in a number of cases a crystalline deposit was formed, the hydrochloride of one of the components of the mixture isolated (anabasine, isoanabasine [2], or lupinine). The reason for the appearance of a hydrochloride may be the partial decomposition of the chloroform in the alkaline medium, since on extraction with ether no precipitate has been found. It has been shown that isoanabasine forms a hydrochloride more readily than anabasine. Below we give the amounts of the mixture of alkaloids and bases isolated from the hydrochloride (% by weight of the dry plant).

Total	Base isolated from a hydrochloride	Nature of the precipitate
2.60	—	—*
4.30	0.12	Isoanabasine
2.20	—	—*
9.50	0.73	Lupinine
3.15	0.056	Isoanabasine
5.70	—	—*
4.00	0.41	Lupinine Anabasine Isoanabasine **
5.20	0.79	Lupinine

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* No precipitate was formed.

** Lupinine, 0.082%; anabasine, 0.34%; and isoanabasine, 0.06%.

The plant was extracted with 5% acetic acid. The acid extract was made alkaline with a 40% solution of caustic soda and was exhaustively extracted with chloroform. Twelve hours after the solvent had been distilled off, a precipitate of hydrochloride formed which was triturated with ether, filtered, recrystallized from acetone, and converted into the base. Lupinine was identified by a mixed melting point test. Anabasine and isoanabasine were converted into the methiodides of the benzoyl derivatives and their melting points were determined.

From anabasine hydrochloride was obtained a previously unreported complex salt, anabasine chloride tartrate, with mp 163° C.

Found, %: C 52.37, 52.53; H 6.41, 6.56; N 10.51, 10.77; Cl 12.46. Calculated for $2C_{10}H_{14}N_2 \cdot C_4H_6O_6$. 2HCl, %: C 52.67; H 6.77; N 10.23; Cl 12.80.

The anabasine isolated after the decomposition of this salt had $[\alpha]_D$ −78° (c 1.1235; benzene).

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THE ALKALOID SMIRNOVINE FROM *ASTRAGALUS TIBETANUS*

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As has been reported previously, alkaloids have been found in *Astragalus tibetanus* Beneth. (*A. laxmanii* Bge.). Smirnovine has been isolated as the carbonate from the epigeal parts collected in the flowering phase (8–11 August) in the Tien-Shan at a height of above 2000 m. The same substance has been found in the plants *Smirnovia turkestana* Bge. [3], *Eremosparton flaccidium* Litw., and *Eremosparton aphyllum* (Pall.) Fish, [4, 5].

The plant was extracted with methanol–chloroform (3:7). The solvent was distilled off and the residue was treated with 5% hydrochloric acid. The precipitate of chlorophyll was filtered off and the acid solution was freed of contaminating acids by successive extraction with ether and chloroform. The mother solution was made alkaline with 40% caustic soda and the alkaloids were extracted with chloroform. The residue after the chloroform had been distilled off crystallized on standing; it was recrystallized from methanol–acetone (1:15). The plant contained 0.12% of smirnovine (of the weight of the dry plant). IR spectrum: ν_{max} 1010 cm^{-1}, 1120, 1170, 1290, 1380, 1410, 1450, 1580, 1650, 1690, 2870, 2960, 3250, 3340 cm^{-1}.

Found, %: C 52.00; H 8.66; N 19.22. Calculated for $C_{12}H_{24}ON_4 \cdot H_2CO_3$, %: C 51.70; H 8.66; N 18.85.

Dibenzoylsmirnovine, mp 118–118.5° C. Found, %: N 12.68. Calculated for $C_{26}H_{32}O_3N_4$, %: N 12.50.

Smirnovine hydriodide, mp 165–166° C. Found, %: C 39.72; H 6.78; N 15.65; I 34.54. Calculated for $C_{12}H_{24}ON_4HI$, %: C 39.14; H 6.79; N 15.22; I 34.49.

Smirnovine picrate, mp 150° C, gave no depression of the melting point in admixture with a sample of smirnovine picrate supplied by A. A. Ryabinin. Found, %: C 46.20; H 5.70; 21.09. Calculated for $C_{12}H_{23}ON_4 \cdot C_6H_3O_7N_3$, %: C 46.05; H 5.75; N 20.89.

Isopropylvinylputrescine, mp 262° C, was obtained by the saponification of smirnovine with 50% caustic potash. Found, %: C 32.27. Calculated for $C_9H_{20}N_2 \cdot 2\ HCl$, %: Cl 32.72.

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