Locality	Date of collection	Organ	Total yield, %
Ayakagitma	May, 1971	Epigeal part	0.6
"	Sept., 1975	Seeds	0.073
"	"	Stems	0.108
Koktal	June, 1980	Epigeal part	0.32
"	"	Leaves	0.65
"	"	Stems	0.16
Turkestan	May, 1976	Epigeal part	0.015
Ustyurt	April, 1976	"	0.0085
"	"	Roots	0.0089

The results obtained indicate that the most promising samples are those growing in the Bukhara (Ayakagitma) [5] and Taldy-Kurgan (Koktal) provinces.

The plant from Ustyurt was collected by A. D. Matkarimov and those from the other sites by the botanists S. A. Khamidkhodzhaev and K. Taizhanov, of the Institute of Plant Substances of the Academy of Sciences of the Uzbek SSR, and others.

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ALKALOIDS OF *Veratrum oxysepalum*. III

N. V. Bondarenko

UDC 544.944/945

Three alkaloids, with R_f 0.22 (I) (system 1: chloroform saturated with formamide; Leningrad type M [slow] paper impregnated with formamide in ethanol (1:2)); 0.70 (II); and 0.73 (III) (system 2: chloroform–benzene (1:1), saturated with formamide), have been isolated from the combined alkaloids of the epigeal part of *Veratrum oxysepalum* Turcz. by chromatography on a column of cellulose [1].

Alkaloid (I) – $C_{27}H_{43}O_3N$, $[\alpha]_D^{23}$ –85° (c 0.43; chloroform). Amorphous. The UV spectrum of the substance in concentrated sulfuric acid (0.4 mg in 10 ml) recorded by Bondarenko's method [2] two hours after dissolution had λ_{max} 264, 389, 472, 523 nm. The R_f value of the substance in system 1 coincided with that of a sample of veramarine.

Alkaloid (II) – $C_{27}H_{43}ON$, mp 173-175°C (from acetone–ether) $[\alpha]_D^{24}$ –91° (c 0.35; chloroform). UV spectrum in concentrated sulfuric acid: 335, 417 nm. The R_f value of the alkaloid in system 2 coincided with that of a sample of verazine, and a mixture gave no depression of the melting point.

Alkaloid (III) – $C_{27}H_{41}O_2N$, $[\alpha]_D^{23}$ –94° (c 0.32; chloroform). Amorphous. The UV spectrum in concentrated sulfuric acid had λ_{max} 289, 416, 502 nm. The R_f value of the alkaloid in system 2 coincided with that of a sample of veramine.

The results of analyses of the compounds isolated agreed with those of known alkaloids: (I) – veramarine; (II) – verazine; and (III) – veramine [3, 4]. This is the first time that the alkaloids (I), (II), and (II) have been isolated from this plant.

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PRIMARY STRUCTURE OF SUBUNIT B OF THE 11S GLOBULIN OF COTTON SEEDS OF VARIETY 108-F.

V. SOME TYPES OF CHEMICAL CLEAVAGE OF SUBUNIT B

G. A. Piyakina and T. S. Yunusov

UDC 547.962.5

In the determination of the amino acid composition of subunit B, 1-2 methionine residues were found. In order to determine the methionine in the protein and to obtain the large fragments necessary for reconstructing the molecule, we have performed its cleavage with cyanogen bromide. With stirring, a 100-fold excess of cyanogen bromide was added to a solution of 10 mg of the protein in 70% HCOOH. Then the mixture was left at room temperature for 23 h. On a peptide map, one additional spot that had given a ninhydrin-positive reaction was observed (Fig. 1).

When the hydrolysate was separated on a column (1.1 × 70 cm) of Sephadex G-50 fine equilibrated with 30% HCOOH, two fractions were obtained (Fig. 2). The fraction of higher molecular mass, 1, had Val as the N-terminal amino acid and its composition was similar to that of the initial subunit B with the only difference that it contained no Met. Fraction 2 proved to be a homogeneous peptide with His as the N-terminal amino acid. Peptide 2 was obtained with a yield of 10%. Its amino acid sequence (His-Phe-Arg) was determined by the manual Edman method in the modification of Gray and Hartley [1]. Since the N-terminal sequence of subunit B itself coincides with the sequence of peptide 2, the Met residue is present in the fourth position from the N-end of the molecule. Cleavage at Met gave little information for the reconstruction of the molecule, and therefore to obtain large fragments we performed cleavage at Trp residues with N-bromosuccinimide. The qualitative reaction with the aid of the Ehrlich reagent on the peptide map revealed 1-2 Trp.

The protein (5 mg) was dissolved in a solution of 0.2 M ammonium acetate buffer, pH 4.0, in 6 M urea and the solution was left overnight for denaturation. Then a tenfold excess of N-bromosuccinimide was added and the mixture was stirred at room temperature of 2.5 h. After the end of the reaction, the mixture was desorbed on a column of Sephadex G-25 in 30% CH_3COOH. The degree of cleavage was monitored by the TLC method and by determining N-terminal amino acids (Fig. 3).

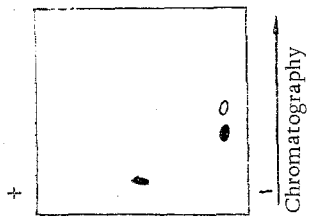

Fig. 1

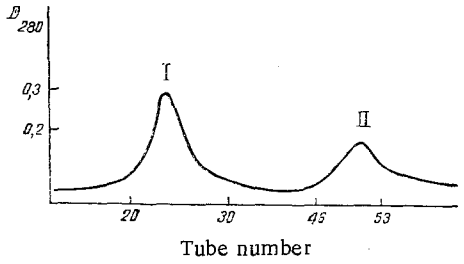

Fig. 2

Fig. 1. Peptide map of the cyanogen cleavage of subunit B.

Fig. 2. Gel chromatography of the products of the cyanogen bromide cleavage of subunit B.

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