fragment *a*, giving rise to an ion with an additional ether bridge. The loss of rings C and D leads to fragment b with the appearance of a 13- or 14-membered ring.

Data on the Mass Spectra of Substances (I)–(V)

Fragment	(I)	(II)	(III)	(IV)	(V)
	m/e and relative intensity, %				
M^+	652 (62)	636 (100)	622 (52)	608 (40)	638 (100)
$(M-1)^+$	651 (31)	635 (64)	621 (26)	607 (23)	637 (46)
$(M-15)^+$	637 (12)	621 (51)	607 (6)	593 (5)	623 (9)
$(M-31)^+$	621 (5)	605 (17)	591 (2)	577 (5)	607 (6)
a'	426 (17)	—	396 (100)	382 (70)	—
a	213 (100)	205 (13)	198 (24)	191 (100)	213 (67)
$(a-15)^+$	206 (3)	—	381 (18)	183 (10)	206 (18)
$(a-46)^+$	190 (13)	—	175 (5)	168 (30)	190 (69)
b	461 (16)	—	—	—	417 (63)
$(b-15)^+$	446 (2)	—	—	—	402 (57)
c	515 (3)	499 (11)	—	—	515 (2)
d	175 (8)	175 (5)	175 (5)	175 (15)	175 (7)
$(d-1)^+$	174 (27)	174 (7)	174 (10)	174 (40)	174 (5)
e	90 (3)	90 (15)	90 (2)	90 (10)	90 (4)
$(e-1)^+$	89 (6)	89 (6)	89 (2)	89 (5)	89 (2)

As was to be expected, this fragment is absent from the spectrum of (II). The loss of ring E forms a new 8-membered ring, giving fragment c. The singly-charged ion with m/e 175 (fragment d) is formed either from one of the isoquinoline rings or, as in the case of (V), it is doubly charged and arises from the $(a - 46)^{++}$ ion through the loss of OCH_3 and the migration of hydrogen.

The ions m/e 90 and 89 [fragments e and $(e - 1)^+$] are characteristic for bisbenzylisoquinoline alkaloids with an unsubstituted benzene ring F.

The formation of these ions is confirmed by the presence in the spectra of substances (I)–(V) of metastable and isotopic peaks (table).

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8 February 1968 Institute of the Chemistry of Plant Substances AS UzSSR

UDC 547.944/945

ALKALOIDS OF SENECIO JACOBEA, HELIOTROPIUM ACUTIFLORUM, AND H. TRANSOXANUM

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Khimiya Prirodnykh Soedinenii, Vol. 4, No. 4, p. 258, 1968

From 500 g of the epigeal part of S. jacobea L., collected on 8 May 1967 in the budding period in the Oshskaya Oblast of KirgSSR (gorge of the R. Akbur) we have isolated by chloroform extraction 2.1 g of ethereal and 0.9 of chloroformic total alkaloids (0.6% of the total dry plant).

Treatment of the total ethereal alkaloids with methanol yielded 1.2 g of crystals with mp 232–235° C (methanol),

$[\alpha]_D$ −14.5° (c 1.0; chloroform); its picrate had mp 232–235° C. The same constants characterize the alkaloid d-otosenine [1, 2]. However, the base differs from d-otosenine by the sign of its rotation and it is therefore *l*-otosenine, which has not been described in the literature. From the methanolic mother liquor we isolated 0.6 g of renardine [3].

By separating the chloroformic total alkaloids according to the solubility of the bases in acetone, we obtained 0.4 g of jacobine [4] with mp 225–226° C (acetone).

From 135 g of the epigeal part of H. acutiflorum K. et K. collected on 11 June 1967 at the end of the flowering period in the Kyzyl-Kum by chloroform extraction we obtained 0.7 g of ethereal, 0.77 g of chloroformic, and 1.32 g of reduced total alkaloids (2.06% of the weight of the dry plant). The separation of 2.79 g of the total bases yielded 1.77 g of heliotrine [5, 6], and the mother liquors by reduction with zinc in hydrochloric acid gave an additional 0.3 g of this alkaloid.

Paper chromatography of the mother liquors in the butanol—acetic acid—water (100 : 5 : 100) system gave two spots with R_f 0.49 and 0.69, the first of which corresponded to heliotrine. Thus, the mother liquor contains another alkaloid besides heliotrine.

From 247 g of H. transoxanum Bge (Kyzyl-Kum), 11 June 1967, we obtained 0.92 g of ethereal, 1.75 g of chloroformic, and 1.43 g of reduced total alkaloids (1.65% of the weight of the dry raw material).

The separation of 4.1 g of the total bases yielded 2.97 g of heliotrine, and the mother liquors by reduction with zinc and hydrochloric acid gave 0.45 g. According to paper chromatography, the mother liquor contained another alkaloid, with R_f 0.71.

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9 February 1968

Institute of the Chemistry of Plant Substances AS UzSSR

UDC 547.944/945

STRUCTURE AND CONFIGURATION OF KORSEVERILINE

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Khimiya Prirodnykh Soedinenii, Vol. 4, No. 4, pp. 258–259, 1968

By chloroform extraction from the epigeal part and bulbs of Korolkowia sewerzowii Rgl. we have obtained 2.3%, 1.4, 1.3, and 1.7%* of total alkaloids, respectively. By separating the ethereal part of the 2.3% of the mixture of alkaloids with respect to their basicities and solubilities in methanol and acetone, we isolated korsine (8%) [1] and a new alkaloid korseveriline (30%). A similar separation of the 1.4% of total alkaloids gave korsine (5%), korseveriline (20%), that of the 1.3% of total alkaloids gave korsine (3%) and korseveriline (50%), and that of the 1.7% of total alkaloids gave korsine (2%) and korseveriline (40%).

Korseveriline ($C_{27}H_{45}O_3N$) has mp 240–242° C, $[\alpha]_D$ −15° (c 0.8; ethanol), mol. wt. 431 (mass spectrometry), thiocyanate mp 177–178° C, methiodide mp 300–301° C. Korseveriline is a saturated tertiary base containing two secondary and one tertiary hydroxyl and no N-methyl group. IR spectrum, ν_{max}: 3375, 1130, 1055, 1028, 1100–990 (—OH), 2915, 2860, 1465, 1443 ($-CH_3$), and 2773 cm^{-1} (trans-quinolizidine). Diacetylkorseveriline (I) was obtained

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*In the first two cases, the plant was collected in the flowering stage in the Sary-Agach region of the south Kazakhstan Oblast and in the other two cases in the flowering stage at Khamzaabad in the Fergana Oblast.