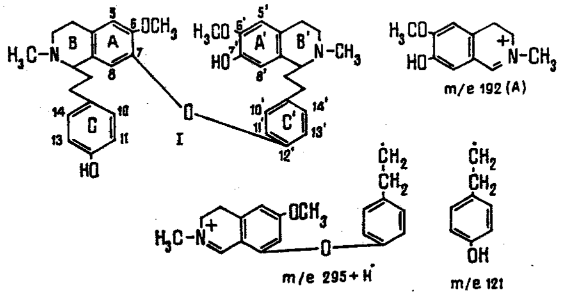

It must be noted that iolantinine is the first representative of the bisphenylethylisoquinoline alkaloids with one ether bond.

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ALKALOIDS OF Papaver arenarium AND P. commutatum

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UDC 547.944/945

By methanol extraction of the dried and comminuted plant Papaver arenarium M.B. collected in the flowering phase in July, 1974, in the region of Lake Sevan, we obtained the combined alkaloids with a yield of 0.13%. When the nonphenolic fraction of them was separated on a column of neutral alumina, benzene eluted a base identified as the alkaloid macrostomine [1] by IR, PMR, and mass spectra and $[\alpha]_D$ values, and also by a chromatographic comparison with authentic macrostomine (I).

The yield of (I) was 0.025%. This is the first time that (I) has been found in P. arenarium.

From Papaver commutatum Fisch. et Mey. collected in the flowering phase in July 1975 at a height of 2300 m in the Krasnosel'sk region of the Armenian SSR by the methanol method we obtained the combined alkaloids with a yield of 0.035%.

By precipitation in the form of hydrochlorides, from the phenolic fraction of the total material we isolated isocorydine (II) (0.01%), found previously in this plant [2], and from the nonphenolic fraction d-roemerine (III) [3] (0.012%). The bases were identified by mixed melting points with samples of (II) and (III), chromatographically, and by comparison of $[\alpha]_D$ values and IR, PMR, and mass spectra.

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Previously, [4], only papaverine was isolated from P. commutatum growing in the environs of the town of Erevan (at a height of 300-400 m), but this was not found in the samples of the plant that we studied. We are the first to have found (III) in P. commutatum. This shows the dependence of the alkaloid composition of this plant on the soil and climatic conditions of its growth.

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ALKALOIDS OF Reseda lutea

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UDC 547.944/945

By ethanolic extraction of the epigeal part of Reseda lutea (family Resedaceae) collected in the Samarkand oblast in the fruit-bearing phase we have isolated 0.02% of total alkaloids. Chromatographic separation of the mixture of bases on a column filled with silica gel yielded phenyl-β-naphthylamine [1] and a new base which we have called luteanine.

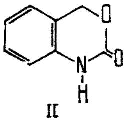
Luteanine (I) is a white crystalline substance with mp 185-187°C (benzene), composition $C_8H_7NO_2$.

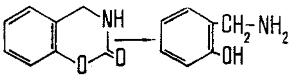
The IR spectrum of the alkaloid has absorption bands of the stretching vibrations of a NH group (3240-3280 cm^{-1}), of a -NHCOO group (1710-1720 cm^{-1}), and of an ortho-disubstituted benzene ring (750 cm^{-1}).

The mass spectrum of (I) with the peak of the molecular ion (M^{+} 149), confirming the composition of the base, contains strong peaks of ions with m/e 106 (M − 43) and 78. The 149 → 106 and 106 → 78 transitions are confirmed by the corresponding metastable peaks. In the mass spectrum of deuteroluteanine the peak of the molecular ion is shifted by one mass unit in the direction of higher masses, while the peaks of the other ions do not change. This shows that the active hydrogen is present in the fragment eliminated with a mass of 43. On considering fragments frequently found in mass spectra with the above-mentioned mass, it can be seen that the NHCO fragment contains the active hydrogen [2]. Consequently, the ion with m/e 106 is formed from the molecular ion by the splitting out of the above-mentioned neutral fragment.

Because of its poor solubility, the NMR spectrum of the base was recorded in trifluoroacetic acid. The spectrum (JNM 100/100 MHz, δ scale, HMDS as internal standard) showed a multiplet of four aromatic protons with its center at 6.78 ppm and a two-proton singlet at 4.26 ppm. We assigned the latter to the protons of a methylene group attached to an aromatic ring.

The facts given above permitted the assumption that luteanine is a cyclic carbamate and that it corresponds to structure (I) or (II):


II


I III

The choice between them was made on the basis of the hydrolysis reaction.

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