ORIENTININE AND DEHYDROISOTHEBAINE — NEW ALKALOIDS FROM *Papaver orientale*

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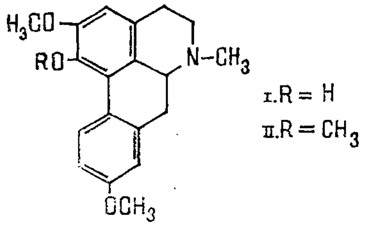
Continuing the separation of the combined alkaloids of *Papaver orientale* L. [1], from the phenolic fraction we have isolated two new bases.

Base (I), amorphous, $[\alpha]_D$ +62° (c 0.18; methanol), which we have called orientinine (I) had absorption maxima in the UV spectrum at 275 nm and 315 nm (inflection), which are characteristic for 1,2,9-trisubstituted aporphine alkaloids [2]. In the mass spectrum of the base peaks of ions were detected with m/z 311 (M^+), 310, 296, 294, 281, 280, 268, and 155.5 (M^{++}). The PMR spectrum (δ, scale), recorded in deuterochloroform, showed signals in the form of three-proton singlets at 2.50 ppm from a N-methyl group and at 3.76 and 3.82 ppm from two methoxy groups. In the aromatic region of the spectrum there were a one-proton singlet at 6.53 ppm and a one-proton doublet at 8.36 ppm (J = 10 Hz). At 6.70-6.95 ppm there was a multiplet corresponding to two protons. The signals of the protons of the methylene and methine groups appeared in the 2.6-3.7 ppm region. Methylation of the base with diazomethane gave O-methylorientinine, identical with orientine (II) (TLC, mass spectrum) [1].

On the basis of the results obtained, the base was assigned to the 1,2,9-trisubstituted aporphine alkaloids with methoxy groups at C_2 and C_9, with the following structure:

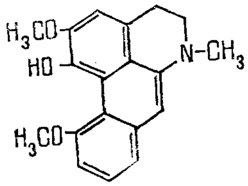


Base (II) was optically inactive and had a green coloration. In the UV spectrum there were absorption maxima at 267, 340, 391, and 438 nm. The mass spectrum of the base contained the peaks of ions with m/z 309 (M^+), 294, and 154.5 (M^{++}). In the PMR spectrum there were signals in the form of a three-proton singlet at 3.00 ppm from a N-methyl group, a six-proton singlet at 3.92 ppm from two methoxy groups, and one-proton singlet at 6.40 and 6.97 ppm. Other aromatic protons appeared at 6.75-7.25 ppm (3 H). At 3.22 ppm there was a broadened singlet corresponding to four protons.

The UV and mass spectra, and also the appearance of the signal of the protons of a N-methyl group in the weak field show that the base belongs to the dehydroaporphine alkaloids [2].

The Adams hydrogenation of the base gave a product identical with (±)-isothebaine (TLC, IR spectrum) [1].

Thus, base (II) is dehydroisothebaine and has the structure



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LITERATURE CITED

1. I. A. Asrailov, M. A. Manushakyan, V. A. Mnatsakanyan, M. S. Yunusov, and S. Yu. Yunusov, Khim. Prir. Soedin., 81 (1984).
2. H. Guinaudeau, M. Leboeuf, and A. Cave, Lloydia, 38, 275 (1975).

ALKALOIDS OF *Glaucium oxylobum*

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Glaucium oxylobum Boiss. et Buhse is an endemic plant of Central Asia which is found in the mountain regions of Turkmenia (western Kopet Dagh) [1].

The alkaloid composition of this plant has been studied abroad, and 17 alkaloids from the aporphine, protoberberine, benzophenanthridine, and protropine groups have been isolated from the cultivated plant [2].

G. oxylobum has not been studied chemically in the Soviet Union.

We have investigated plants collected in the Kara-Kala region of the Turkmen SSR in various vegetation periods.

A plant collected in the vegetation stage, when extracted with chloroform, yielded 0.27% of alkaloids, from which by chromatography on a column of silica gel nine individual alkaloids were isolated: corydine, dehydrocorydine, isocorytuberine, isoboldine, norisocorydine, N-methylcoclaurine, protropine, allocryptopine, and domesticine. All the alkaloids isolated were identified from their spectral characteristics and by direct comparison with authentic samples [3, 4].

The plants collected in the fruit-bearing stage contained 0.09% of alkaloids, from which, in addition to those obtained previously, isocorydine [3] and glaufidine [5] were isolated.

The main alkaloids in both samples, regardless of the vegetation period of the plant, were corydine (46 and 36%), protopine (13 and 17%), and allocryptine (14 and 12%). This is the first time that isocorydine, glaufidine, isocorytuberine, norisocorydine, N-methylcoclaurine, and dehydrocorydine have been isolated from *G. oxylobum*.

A comparison of the results that we have obtained with information in the literature has shown that the qualitative alkaloid composition of the plant growing in Central Asia differs from the composition of those studied previously.

LITERATURE CITED

1. Flora of the USSR [in Russian], Leningrad, Vol. 7 (1937), p. 591.
2. I. A. Israilov, S. U. Karimova, and M. S. Yunusov, Khim. Prir. Soedin., 125 (1979).
3. S. U. Karimova and I. A. Israilov, Khim. Prir. Soedin., 224 (1980).
4. I. A. Israilov, M. I. Ibragimova, M. S. Yunusov, and S. Yu. Yunusov, Khim. Prir. Soedin., 612 (1975).
5. I. A. Israilov, S. U. Karimova, M. S. Yunusov, and S. Yu. Yunusov, Khim. Prir. Soedin., 104 (1979).

Institute of the Chemistry of Plant Substances, Academy of Sciences of the Uzbek SSR, Tashkent. Translated from Khimiya Prirodnykh Soedinenii, No. 2, p. 259, March-April, 1984. Original article submitted October 31, 1983.

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