

THE STRUCTURE OF ROEMREFIDINE

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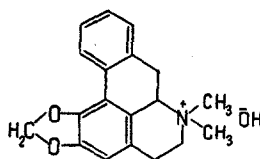
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It has previously been reported that a number of bases have been isolated from the combined alkaloids of Roemeria refracta [1-5].

Continuing the separation of the readily water-soluble fraction of the mixed bases obtained from 470 kg of the plant, we have isolated 140 mg of crystals with mp 223-224° C (from aqueous methanol).

From its properties the base is a new one, and we have called it roemrefidine. The UV spectrum has maxima in the 270 and 315 m μ regions (log ϵ 4.26 and 3.73, respectively). The spectra of roemrefidine is similar to that of michepressine iodide [6]. Roemrefidine does not contain methoxy, hydroxy, or carbonyl groups and gives positive reactions for a methylenedioxy group with chromotropic, gallic, and phloroglucinol sulfuric acids. A comparison of the IR and UV spectra of this substance and of *l*-isoroemerine methiodide [2,3] have shown that they are completely identical. A mixture with *l*-isoroemerine methiodide likewise gave no depression of the melting point.

Roemrefidine has been isolated in the form of the iodide and is the quaternary form of the *l*-isoroemerine



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ALKALOIDS OF THE ROOTS OF THALICTRUM FLAVUM

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The roots of Th. flavum L. collected in the period of vigorous growth of the plant, 20-25 May 1962 in the Chon-Kemin valley, Kirgiz SSR, were extracted with chloroform, and 1.55% of total alkaloids was isolated. From the chloroform fraction of the mixture of bases, 0.3% of berberine has been obtained in the form of the chloride [1].

The ethereal fraction of the total alkaloids was treated with methanol. Greenish needle-like crystals of an optically inactive phenolic base with mp 133-135° C (decomp) were formed. Its IR spectrum: λ_{\max} 236, 264, 314, 338 m μ (log ϵ 4.36, 4.56, 4.12, 3.72).

The IR spectrum of the base has absorption bands at 1722 cm $^{-1}$ (carbonyl), 3400 (hydroxyl), 1277, 1230 (methoxyl), and 1040 cm $^{-1}$ (methylenedioxy group). The properties of this base are very similar to those of thalicsine [2] and it is apparently new.

The mother liquors were separated into phenolic and nonphenolic fractions. The mixture of nonphenolic bases