CONVOLAMINE N-OXIDE FROM *Convolvulus krauseanus*

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A report has been given previously [1] of the isolation from the epigeal part of *Convolvulus krauseanus* Rgl., collected in the region of the village of Bakhmal (Turkestan range), of five alkaloids — convolvine, convolamine, phyllalbine, convolidine, and convolicine [2]. Continuing our investigation, from the chloroform—methanol fractions obtained in the chromatographic separation of the mother liquors from the combined alkaloids, by treatment with acetone, crystals were obtained with mp 118-119°C, composition $C_{17}H_{23}NO_5$ (I), R_f 0.47 (chloroform—methanol—concentrated ammonia solution (8:2:0.1) system). In its properties and R_f value, base (I) differed from known tropane alkaloids.

According to its IR spectrum, (I) contained a conjugated aromatic ester carbonyl group (1700 cm^{-1}) and a 1,2,4-trisubstituted benzene ring (820, 885 cm^{-1}). The PMR spectrum of (I) confirmed the 1,2,4-substitution in the benzene ring (the meta proton gave a signal with δ 6.90 ppm, doublet, J_{ortho} = 8 Hz; and two ortho protons in the 7.40-7.65 ppm interval). A signal was detected at 5.20 ppm (1 H, t) from $C_{3\alpha}H$, two three-proton singlets from two aromatic methoxy groups at 3.84 and 3.86 ppm; and a three-proton singlet from a $O \leftarrow N{-}CH_3$ group at 3.24 ppm.

The mass spectrum of (I) contained the peak of the molecular ion, with m/z 321, differing from that of convolamine [2] by 16 m/z. The nature of the fragmentation of the base, the presence of the peaks of ions with m/z 182, 165, 151, 126, 123, 110, 97, and 95, which are characteristic for alkaloids of the tropane series, and the presence in the mass spectrum of strong peaks of ions with m/z 305 $(M - 16)^+$ and 304 $(M - 17)^+$, together with the solubility of the alkaloid in water, permitted the assumption that (I) was probably convolamine N-oxide.

When (I) was reduced with zinc in hydrochloric acid, a base identical with convolamine was obtained, and when convolamine was oxidized with hydrogen peroxide its N-oxide was formed.

Thus, the spectral characteristics and some chemical transformations of compound (I) permit it to be regarded as the natural N-oxide of convolamine.

LITERATURE CITED

1. S. F. Aripova and S. Yu. Yunusov, Khim. Prir. Soedin., 527 (1979).
2. S. Yu. Yunusov, Alkaloids [in Russian], Tashkent (1981), p. 308.

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