BASE FROM TELEKIA SPECIOSA

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From the epigeal parts of Telekia speciosa (Schreb.) Baumg. (family Compositae) collected in Georgia, 25–27 August we have isolated what is apparently a new alkaloid and have called it telekine.

The plant was extracted with 1% sulfuric acid. The acid extract was purified with ether. The mother liquor was made alkaline with 25% ammonia; the alkaloids were extracted successively with ether and chloroform. The bulk of the total alkaloids was obtained after the ethereal extract had been distilled.

The total alkaloids were dissolved in acetone and precipitated with ether (1:20). The precipitate was filtered off, washed, filtered with ether, and recrystallized from a mixture of acetone and ether (1:15). The plant contained 0.02% of telekine (on the weight of the dry plant), mp 170–171° C, R_f 0.34 (on a paper chromatogram in the butanol—5% acetic acid system). IR spectrum: λ_{max} 3430 (s.) cm^{-1}, 2950 (s.), 2860 (s.), 1765 (s.), 1710 (w.), 1640 (s.), 1464 (s.), 1382 (s.), 1320 (w.), 1270 (w.), 1225 (w.), 1110 (w.), 980 (w.), 830 (w.), 790 (w.) cm^{-1}.

Found, %: C 62.64; 62.45; H 8.06; 7.86; N 3.36. Calculated for $C_{22}H_{33}O_7N$, %: C 62.41; H 7.89; N 3.31.

Telekine is readily soluble in acetone and hot ethanol and very sparingly in ether.

Telekine picrate, mp 150–151° C.

Found, %: N 8.35. Calculated for $C_{22}H_{33}O_7N \cdot C_6H_2OH(NO_2)_3$, %: N 8.51.

The ethereal mother liquor from the precipitation of telekine yielded an amorphous alkaloid (0.003% on the weight of the dry plant) with R_f 0.86. Its picrate had mp 143–144° C.

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AN INVESTIGATION OF THE ALKALOIDS OF THE FRUIT OF HAPLOPHYLLUM FOLIOSUM

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Continuing our study of the alkaloids of the plant H. foliosum Vved. (family Rutaceae), we have investigated the fruit of this plant at the stage of full ripeness collected on 29 July 1964 in the surroundings of the village of Alimtai (Tadzhik SSR).

For defatting, the comminuted fruit was steeped in gasoline, whereupon 0.3% of the total alkaloids passed into the solvent; these were shown to be a mixture of foliosidine and skimmianine, previously isolated from the epigeal part of this plant [1]. Since these alkaloids were extracted from the fruit without its being treated with ammonia they are apparently present in the seeds in the free state.

Then the fruit was treated with 8% ammonia and the alkaloids were exhaustively extracted with chloroform (18 decantations). The usual working up process gave 1.61% of a mixture of bases. Thus, the fruit contained 1.91% of total alkaloids.

The chloroform mixture of bases was separated into a phenolic and a nonphenolic fraction. Separation of the nonphenolic total alkaloids on alumina gave skimmianine, foliosidine, foliosine, and a base with mp 118–119° C which crystallized from acetone and ethyl acetate. The base gave a hydrochloride with mp 228–229° C, and a picrate with mp 175–176° C. When this base was dried in vacuum at 100° C for 8 hrs, its melting point rose to 141–142° C. The IR spectrum of the base lacked the band of a hydroxy group but had a band at 1625 cm^{-1} with a low integral intensity, which is characteristic for derivatives of 4-quinolone [2]. Its NMR spectrum (taken by M. R. Yagudaev on a JNM-4H-100/100 MHz instrument in deuterochloroform) showed four signals with relative intensities of 1:8:1:3. In the weak-field region there was