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STACHYDRINE FROM CAPPARIS SPINOSA

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The roots and leaves of C. spinosa gathered in the Farish region of the Syr-Dar'ya region were extracted with water. The aqueous extract was evaporated in vacuum to dryness, and the resulting dark brown mass was treated by a published method [1]. This gave 1.2 and 1.5%, respectively (on the weight of the dry raw material) of total alkaloids in the form of a light yellow noncrystalline mass. The action of an ethanolic solution of hydrogen chloride on the combined bases yielded optically inactive white acicular crystals with mp 228–229° C (decomp., ethanol–acetone) and the composition $C_7H_{14}O_2NCl$. On a paper chromatogram in the butanol (saturated with water)–hydrochloric acid (5 : 1) system, the base isolated had R_f 0.5 (revealed by Dragendorff's reagent). The addition of a saturated ethanolic solution of oxalic acid to a concentrated solution of the hydrochloride of the base formed an oxalate with mp 104–105° C. A picrate with mp 194–195° C was obtained analogously. When an aqueous solution of the hydrochloride was shaken with silver hydroxide, the free base precipitated with mp 103–105° C; after drying in vacuum (100° C), mp 225–226° C. From the properties described, this base is stachydrine [1–4]. Thin-layer chromatography showed that the mother liquors from the total alkaloids contained another base, with R_f 0.1.

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CONIDENDRIN FROM PICEA OBOVATA

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By steeping wood chips from Picea obovata in acetone, we obtained 1.0% of extractive substances. On concentration, the acetone extract formed two layers: an upper oily layer and a lower aqueous-acetonic layer. Thin-layer chromatography on alumina and silica gel using diazotized sulfanilic acid as revealing agent showed the presence in both layers of several components of a hydroxyaromatic nature. By repeatedly treating the upper layer of the extract with petroleum ether, the separation of the petroleum-insoluble hydroxyaromatic substances was achieved.

Preparative chromatography on silica gel with gradient elution by means of mixtures of benzene and isopropanol (96 : 4 → 90 : 10) of the total hydroxyaromatic substances yielded conidendrin with mp 212–219° C (ethanol–acetone) $[\alpha]_D^{20}$ −51.3° (c 2.3; acetone). UV spectrum: λ_{max} 283, 287 (shoulder), mμ (log ε 3.97, 3.95). The IR spectrum contained characteristic absorption bands: 1515, 1584, and 1616 cm^{-1} (C_6H_5–), 1758 cm^{-1} (lactone carbonyl), 3415 cm^{-1}