STUDY OF THE CHEMICAL COMPOSITION OF THE PERICARPS OF THE SEEDS OF Thea sinensis

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During a study of physiologically active substances of the seeds of Thea sinensis L. (common tea), we have directed our attention to the pericarps of the seeds, not previously studied, collected in the fruit-bearing period (Kobuleti, Adzhar ASSR).

The dried and comminuted plant material (500 g) was extracted in a Soxhlet apparatus with chloroform. The resulting extract was evaporated to dryness and crystallized from acetone. This gave 0.45 g (0.09%) of a substance in the form of fine colorless needles with the composition $C_8H_{10}N_4O_2$, mp 232-235°C (subliming at 178°C), mol wt. 194 (mass spectrometrically). IR spectrum (mull in paraffin oil), cm^{-1}: 1715 (−C=O), 1668, 1487 (−C=N−), and 1560 (−C=C−). UV spectrum: λ_{max} 273 nm (log ε 3.99). NMR spectrum: singlet at 7.44 ppm (1H) (olefinic proton); singlets at 3.92, 3.50, and 3.44 ppm (3H each) (protons of N-methyl groups). The results of a comparison of melting points and of IR, UV, and NMR spectra of the substance isolated and of caffeine showed their identity.

The chloroform-treated pericarps were extracted with methanol. By chromatography on a column of KSK silica gel in chloroform−methanol−water (61 : 32 : 7) the methanolic extract yielded 0.93 g (0.18%) of a substance with the composition $C_{59}H_{90}O_{27} \cdot 2H_2O$, mp 222-224°C, $[\alpha]_D^{19}+10°$ (c 2.7; 70% ethanol). The substance was identified by its IR spectrum, hydrolysis products, and a mixed melting point with the theasaponin which we isolated previously from the seeds of the plant under study [1].

In addition, 0.4 g (0.08%) of sucrose was isolated.

LITERATURE CITED

1. I. N. Sokol'skii, É. P. Zinkevich, A. I. Ban'kovskii, and M. M. Molodozhnikov, Khim. Prirodn. Soedin., 654 (1972).

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