

The fatty acid composition of the plant lipids was determined by the GLC method on a Vyukhrom instrument with a flame-ionization detector (Table 2). GLC conditions: column 300 × 0.4 cm; support — Celite 545 (50–60 mesh); stationary phase — polyethyleneglycol adipate (15%); column temperature 198°C; pressure of helium 0.6–0.8 kg/cm².

LITERATURE CITED

1. A. F. Hammerman, A Course of Pharmacognosy [in Russian], Leningrad (1967), p. 167.
2. T. P. Berezovskaya, N. V. Doshinskaya, N. R. Karav'ev, and N. S. Yashchuk, Handbook on the Preparation of the Medicinal Plants of the Tomsk Province [in Russian], (1977), p. 53.
3. M. I. Goryaev and V. S. Bazalitskaya, Zh. Prikl. Khim., **35**, 2799 (1962).
4. I. S. Akhmedov, Sh. Z. Kasymov, and G. P. Sidiyakin, Khim. Priro. Soedin., 245 (1972).
5. M. Oswiecimska, A. Polak, O. Seide, and J. Sendra, Dissert. Pharmacol., PAN, No. 17, 503 (1965).
6. O. L. Opita and D. Jolu, Rumanian Patent No. 61,462 (1976).

STRUCTURE OF THE NEW COUMARIN OBTUSIPRENOL

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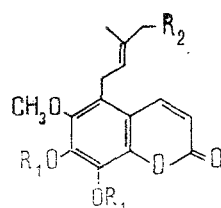
UDC 547.15/17:582:29

Continuing an investigation of the coumarins of *Haplophyllum obtusifolium* [1], an aqueous ethanolic extract of the epigeal part has been chromatographed on a column of silica gel. The substances were eluted with chloroform-methanol. At a 19:1 composition of the mixture, a new coumarin I was eluted with the composition C₁₅H₁₆O₆ (M⁺ 292), mp 106–108°C (chloroform-ethanol (8:2)) $\lambda_{\text{max}}^{\text{C}_2\text{H}_5\text{OH}}$ 229, 263, 340 nm (log ϵ 4.28, 4.01, 4.14), which has been named obtusiprenol. The IR spectrum of (I) has maxima at (cm⁻¹) 3530, 3290–3410 (OH groups), 1702 (α -pyrone C=O), and 1617 and 1588 (aromatic C=C vibrations). The UV spectrum of (I) is similar to the spectra of fraxetin and of obtusiprenin [1]. A positive reaction with a solution of FeCl₃, and also a bathochromic shift of the long-wave band in the presence of AlCl₃ (λ_{max} 215, 276, 364 nm) shows the presence of a ortho-dihydroxy grouping in the benzene ring [2].

The PMR spectrum of obtusiprenol (Py-d₅, δ scale) shows, in addition to the signals of the H-3 (doublets at 6.09 ppm, J 10 Hz) O and of a CH₃ and H-4 group (3.83 ppm, 3 H, s) the signals of the protons of a —CH₂—CH=C—CH₂OH side chain at 1.85 ppm (doublets at 7.75 ppm, J 10 Hz), 3.60 (2 H, d, 6.5 Hz), 4.12 (2 H, br.s), and 5.60 ppm (1 H, t, 6.5 Hz). The acetylation of (I) in pyridine with acetic anhydride gave a triacetyl derivative (II) with mp 139–140°C having the composition C₂₁H₂₂O₉. The PMR spectra of (II) (CDCl₃) differs from that of (I) by the presence of the signals of the protons of two Ar-OCOCH₃ groups (2.29 and 2.31 ppm, s, 3 H) and of a —CH₂OCOCH₃ group (1.97 ppm, s, 3 H), and also by the displacement of the signal of the gem-acyl methylene group downfield by 0.24 ppm. The H-4 chemical shift shows the absence of an oxygen-containing substituent at C-5 [3, 4], and consequently, this position is occupied by a hydroxyprenyl group. The facts presented, and also a comparison of the UV, PMR, and mass spectra of (I) with those of obtusiprenin (III) [1] permits structure (I) to be put forward for obtusiprenol. (See scheme on following page.)

The mass spectrum of (I) contains the following strong ion peaks, m/z (%): M⁺ 292 (54), 261 (M — CH₃O, 16), 243 (M — CH₃O — H₂O, 39), 229 (25), 221 (21), 225 (66), 208 (23), 207 (20), 125 (27), 123 (32), 121 (34), 120 (43), 111 (34), 109 (32), 106 (41), 97 (52), 95 (50), 93 (57), 91 (20), 85 (43), 83 (55), 81 (50), 71 (68), 69 (73), 67 (36), 57 (100), 55 (82). The peaks of the ions with m/z 85 and 71 confirm the structure of the side chain of obtusiprenol.

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- I. $R_1 = H_2$, $R_2 = OH$
 II. $R_1 = OCOCH_3$, $R_2 = OCOCH_3$
 III. $R_1 = R_2 = H$

The PMR spectra were taken on a JNM-100/100-4H instrument (100 MHz; 0 — HMDS), and the mass spectra on an MKh-1303 instrument.

LITERATURE CITED

1. A. D. Matkarimov, E. Kh. Batirov, V. M. Malikov, and E. Seitmuratov, *Khim. Prirod. Soedin.*, No. 5 (1981).
2. M. E. Perel'son, Yu. N. Sheinker, and A. A. Savina, *The Spectra and Structure of Coumarins, Chromones, and Xanthenes* [in Russian], Moscow (1975), p. 65.
3. J. Reisch, I. Novak, K. Szendrei, and E. Minker, *Pharmazie*, **22**, 205 (1967).
4. W. Steck and M. Mazurek, *Llodia*, **35**, 418 (1972).

AN INVESTIGATION OF *Seseli peucedanoides*

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From the total extractive substances of the roots of *Seseli peucedanoides* collected in the period of fruit-bearing in the Batabat area of the Shakhbuz region of the Nakhichevan ASSR by adsorption chromatography on silic gel (40/100 μ) a crystalline compound (I) has been isolated with the composition $C_{20}H_{24}O_{10}$, mp 257–259°C (acetone), $[\alpha]_D^{20} -24.58^\circ$ (c 3.2; pyridine). Substance (I) is new, not having been described in the literature, and we have called it seseloside.

The IR spectrum of (I) has absorption bands at (cm^{-1}) 3600–3100 (hydroxy group), 1715 (α -pyrone CO), 1630 and 1590 (aromatic ring), and 1380 (gem-dimethyl group). The 1H NMR spectrum of seseloside (Fig. 1) shows the signals of the protons of a gem-dimethyl group (1.45 ppm, 6 H, singlet), of a β -anomeric proton (5.05 ppm, 1 H, doublet, $J = 6.0$ Hz), the protons of a glucose residue (3.65–4.25 ppm, 6 H), and also the protons of a coumarin nucleus (6.20 ppm, 1 H, doublet, $J = 10.0$ Hz; 6.70 ppm, 1 H, broadened singlet; 7.60 ppm, 1 H, doublet, $J = 10.0$ Hz).

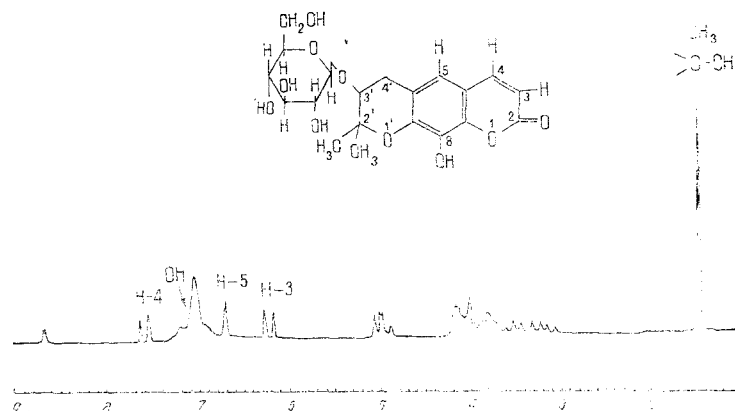


Fig. 1. 1H NMR spectrum of seseloside in D-pyridine; Varian HA-100D.

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