Chromatography of the ethyl acetate extract on a column of polyamide yielded substances (II)-(IV). Substance (II) – $C_{15}H_{10}O_7$, mp 308-310°C; $\gamma_{max}^{C_2H_5OH}$: 256, 270 nm. Substances (III) – $C_{27}H_{30}O_{16}$, mp 187-190°C, $\lambda_{max}^{C_2H_5OH}$:256, 354 nm; on acid hydrlolysis quercetin, glucose, and rhamnose were detected. Substance (IV) – $C_9H_8O_4$, mp 194°C: $\lambda_{max}^{C_2H_5OH}$: 328, 302 sh., 240 nm.

The results of the physicochemical investigation [3], and also a comparison of the substances isolated with authentic samples permitted them to be characterized as quercetin, rutin, and caffeic acid, respectively.

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FLAVONOIDS OF *Artemisia sublessingiana*

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We have investigated the epigeal part of *Artemisia sublessingiana* (Kell.) Krasch. ex Poljak. collected during the flowering period in the environs of the town of Uzun-Agach (Alma-Ata province).

To extract the flavonoids, the air-dry raw material was treated with ethanol. The extracts were combined, concentrated, diluted with water, and filtered. The filtrate was treated successively with benzene, chloroform, and ethyl acetate. The aqueous fraction was separated on a column of polyamide. Aqueous ethanol (20%) eluted substance (I) – $C_{28}H_{32}O_{18}$, mp 176-178°C (aqueous ethanol); $\lambda_{max}^{C_2H_5OH}$ 256, 358 nm (log ε 4.94, 4.88). The results of UV spectroscopy with diagnostic additives and the products of alkaline cleavage characterized substance (I) as a flavonol with a substituted 3-OH group and with free OH groups in positions 4', 5, and 7 and an OCH_3 group in position 3'.

Acid hydrolysis gave an aglycone and two sugars: glucose and rhamnose. IR spectrum (cm^{-1}): 3600-3300 (OH); 1600 (C=O); 1610 (C=C); 2940 (OCH_3). NMR spectra for substance I (pyridine) and its acetate ($CDCl_3$) confirmed the presence in it of one OCH_3 group, three OH groups, and free H-2', -5', -6', -6, and -8 protons [1].

The structure of the carbohydrate moiety of the substance was deduced from the PMR spectrum of its acetate. The spectrum of the acetate of substance (I) contained signals of the anomeric protons of rhmnose at 4.56 ppm (s) and of glucose at 5.40 ppm (d, J = 7 Hz), which are characteristic for the pyranose forms of these sugars. The signal of the terminal group of rhamnose was detected in the 0.95 ppm region (d, J = 6 Hz). Such signals of rhamnose (0.95 and 4.56 ppm) are characteristic of it in rutinosides [2].

Integration of the regions of appearance of the signals of the protons of the sugar residues at 3.1-3.8 and 4.7 and 5.5 ppm gave a ratio of 4:8, which also permitted compound (I) to be assigned to the rutinosides [2-4].

On the basis of the results obtained, the substance isolated was identified as 3'-methoxy-3-[Oα-L-rhamnopyranosyl)-(1 → 6)- β-D-glucopyranosyloxy]4',5,7-trihydroxyflavone (isorhamnetin 3-O-rutinoside). This compound has been isolated from the wormwoods *A. absinthium* and *A. vulgaris* [5].

When the benzene fraction was separated on polyamide with 30% aqueous ethanol, substance (II), $C_{17}H_{14}O_7$, mp 223-225°C, $\lambda_{max}^{C_2H_5OH}$ 273, 342 nm, was eluted. The substance was identified by UV, IR, and PMR spectroscopy and also on the basis of the products of alkaline cleavage

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as 4',5,7-trihydroxy-3',6-dimethoxyflavone, which has been detected previously in the wormwoods A. frigida, A. xerophytica, and A. arctica [6, 7].

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COMPONENTS OF Launaea asplenifolia

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We have studied the components of the epigeal part of Launaea asplenifolia Hook (family Asteraceae) growing in the region of Saharanpur (India). There is no information on the chemical study of this plant in the literature.

The dried and comminuted epigeal part of the plant was extracted with ethanol. The concentrated ethanolic extract was diluted with water and was then shaken out successively with petroleum ether and ethyl acetate. By column chromatography, the petroleum ether extract yielded compound (I). Th ethyl acetate extract was distilled, and the residue was dried in vacuum and separated into fractions soluble in chloroform (fraction A), in ethyl acetate (B), and in methanol (C). Fraction A was chromatographed on silica gel with elution by chloroform and by chloroform–methanol. This gave compounds (II), (III), and (IV). In the same way, fraction B yielded compound (V).

Fraction C was concentrated and left in the cold. After a week, a crystalline compound (VI) had precipitated.

Compound (I), $C_{30}H_{50}O$, mp 212-214°C (from ethanol); acetate with mp 216-217°C; benzoate with mp 286-287°C; PMR spectrum ($CDCl_3$), δ: 0.8-1.8 (18 H, signals of six CH_3 groups); 1.3-1.45 (>CH_2 groups); 1.73 (3 H, s, >C=C–CH_3); 3.2 (1 H, m, –CHOH); 4.63 (2 H, d, 8 Hz, >C=CH_2). Mass spectrum m/z M+ 426 (98%, $C_{30}H_{50}O$), 411, 408, 393, 384, 207, 219, 220, 218, 189, 122 (100%), 81, 28.

Compound (II) crystallized from methanol in the form of pink crystals; $\lambda_{max}^{CH_3OH}$ 274, 300, 440, 554; $\lambda_{max}^{C_2H_5)H}$ (1% HCl) 276, 355, 558; λ_{max}^{AlCl} 277, 305, 580 nm.

Compound (III) crystallized from methanol in the form of yellow crystals; $\lambda_{max}^{CH_3OH}$ 265, 297, 335; (S + CH_3ONa 275, 325, 380; +$AlCl_3$, 276, 300, 350, 385; +$AlCl_3$/HCl 276; 299, 341, 380; +CH_3COONa 274, 300!, 376; +CH_3COONa/H_3BO_3 268, 301, 336 nm. PMR spectrum, δ: 6.0 (1 H, d, J = 2 Hz, H-6); 6.2 (1 H, s, H-3); 6.4 (H, d, J = 2 Hz, H-8); 6.7 (2 H, d, J = 9 Hz, H-3', 5'); 7.6 (2 H, d, J = 9 Hz, H-2', 6').

Compound (IV) crystallized from methanol in the form of yellow crystals. $\lambda_{max}^{CH_3OH}$ 240, 253, 268, 291, 353; +CH_3ONa 260, 336, 405; +$AlCl_3$ 278, 301, 431; +$AlCl_3$/HCl 265, 276, 285, 363, 384; +CH_3COONa 270, 326, 388; +CH_3COONa/H_3BO_3 262, 328, 370 nm. PMR spectrum, δ: 6.1 (1 H, d, J = 2 Hz, H-6); 6.3 (1 H, s, H-3); 6.5 (1 H, d, J = 2 Hz, H-8); 6.8 (1 H, J = 9 Hz, H-5'); 7.4 (1 H, d, J = 2 Hz, H-2'); 7.5 (1 H, q, J = 9 Hz, H-6').

Compound (V) crystallized from methanol and was not hydrolyzed by dilute hydrochloric acid. When 100 g of the substance was boiled with $FeCl_3$ (0.8 g in 3.2 ml of water) for 6 h, D-glucose was formed, this being identified by paper chromatography. $\lambda_{max}^{CH_3OH}$ 271, 301,

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