2',6'-Dihydroxy-4'-methoxychalcone (IX) – bright orange-colored acicular crystals with the composition $C_{16}H_{14}O_4$ (M^+ 270), mp 149-151°C (chloroform–MeOH). The chalcone nature of substance (IX) followed from its PMR spectrum, which contained two doublet signals with SSCCs of 16 Hz at 8.26 and 7.78 ppm, belonging to the H-β and H-α protons.

Thus, seven flavonoid compounds have been isolated from balsam buds for the first time, and the presence of two other flavonoids – chrysin and tectochrysin – has been confirmed.

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FLAVONOIDS OF Lathyrus pratensis

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UDC 547.972

Meadow pea, Lathyrus pratensis L., family Fabaceae, is a perennial herbaceous plant possessing an expectorant, sedative, and anti-inflammatory action. Flavonoids, quinones, phenolic carboxylic acids, cyclitols, and other substances have previously been found in this plant [1].

We have studied the flavonoids of the meadow pea growing in Uzbekistan. The epigeal part of the plant was gathered in the period of mass flowering in the village of Chimgan, Tashkent province, UzSSR. To isolate the total flavonoids, the air-dry herbage was comminuted and was treated with chloroform in order to eliminate substances of lipophilic nature. Then the flavonoids were extracted from the raw material with boiling 70% ethanol. The aqueous alcoholic extract was concentrated to an aqueous residue, which was purified with chloroform. The flavonoids were extracted from the purified aqueous residue with water-saturated butanol. The solvent was distilled off from the extract so obtained, and the residue was separated on a column of silica gel. The eluting liquids used were chloroform and mixtures of chloroform with increasing proportions of ethanol. Monitoring was carried out by thin-layer chromatography on Silufol UV-254 plates [using the chloroform–ethanol (9:1), (8:2), and (7:3) systems]. Four flavonoids were isolated in the individual form.

Flavonoid (I), composition $C_{15}H_{10}O_6$, M^+ 286, mp 326-328°C, $\lambda_{max}^{ethanol}$ 260, 274* (inflection), 356 nm, was identified from its UV, PMR, and mass spectra and comparison with an authentic sample as luteolin.

Flavonoid (II), $C_{21}H_{20}O_{11}$, mp 188-192°C; $\lambda_{max}^{ethanol}$ 271, 290*, 339 nm; $+CH_3COONa$ 272, 357 nm; $+CH_3ONa$ 270, 370 nm; $+AlCl_3$ 277, 349, 383 nm; was a glycoside, as was shown by its chromatographic mobility and its PMR spectrum, which exhibited the signals of an anomeric proton (5.55 ppm, d, J = 6.5 Hz) and other protons of the carbohydrate moiety (3.80-4.57 ppm).

The acid hydrolysis of this flavonoid gave luteolin and D-glucose. UV spectra taken with the addition of diagnostic reagents showed the presence of free phenolic hydroxy groups

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Translated from Khimiya Prirodnykh Soedinenii, No. 2, pp. 273-274, March-April, 1990. Original article submitted May 12, 1989.

in the C-5 and C-7 positions of flavonoid (II). By a comparison of its UV and PMR spectra and physicochemical constants with those of luteolin 3'-O-β-D- and 4'-O-β-D-glucopyranosides [2] it was established that flavonoid (II) was luteolin 4'-O-β-D-glucopyranoside.

Flavonoids (III), $C_{21}H_{20}O_{12}$, mp 229-232°C, $\lambda_{max}^{ethanol}$ 257, 267*, 361 nm and (IV), $C_{27}H_{30}O_{16}$, mp 188-191, $\lambda_{max}^{ethanol}$ 259, 267*, 362 nm were identified on the basis of a study of UV and PMR spectra, acid hydrolysis, and direct comparison with authentic samples as isoquercitrin (quercetin 3-O-β-D-glucopyranoside) and rutin (quercetin 3-O-rutinoside), respectively [3].

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FLAVONOIDS OF Lagonychium farctum

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UDC 547.972

Lagonychium farctum (Banks et Soland.) Bobr. (family Mimosaceae) is a perennial tinctorial and tanning plant. Various organs of this plant are used in folk medicine for dysentery and as a hemostatic [1]. Rutin has previously been isolated from L. farctum and the presence of tanning substances, catechins, and other compounds has been established [1].

We have studied the phenolic compounds of the buds of L. farctum gathered in the Kashkadar'ya province, UzSSR. The chloroform-deresinified raw material was treated with 80% ethanol. The dry residue from an alcoholic extract was passed through a column of silica gel with elution by chloroform and chloroform—ethanol. As a result we isolated five phenolic compounds.

Substance (I) with the composition $C_{15}H_{10}O_7$, mp 311-314°C, $\lambda_{max}^{ethanol}$ 256, 268* (inflection) 375 nm, was identified as quercetin [2].

Substance (II), $C_{27}H_{30}O_{16}$, mp 187-189°C, $[\alpha]_D$ −33.1° (c 0.2, methanol), $\lambda_{max}^{ethanol}$ 258, 264*, 360 nm, was a glycoside, and on acid hydrolysis was split to form quercetin, D-glucose, and L-rhamnose. On the basis of a study of its UV, IR, and PMR spectra and comparison with an authentic sample, the compound was identified as rutin [1, 2].

Substance (III), $C_{21}H_{20}O_{11}$, mp 225-228°C, $\lambda_{max}^{ethanol}$ 272, 305*, 340 nm, was also a glycoside and, as a result of acid hydrolysis, yielded an aglycon, identified as apigenin (4',5,7-trihydroxyflavone), and D-glucose. It was established by UV spectroscopy with diagnostic reagents that the carbohydrate residue was attached to the hydroxyl in the C7 position of the aglycon. The value of the SSCC of the signal of the anomeric proton (J = 7.5 Hz) in the PMR spectrum indicated the β configuration of the anomeric center of the D-glucose residue. Consequently, the substance was apigenin 7-O-β-D-glucopyranoside (cosmosiin) [2].

Substance (IV), $C_{21}H_{20}O_{13}$, mp 279-281°C, $\lambda_{max}^{ethanol}$ 261, 308, 367 nm, was assigned on the basis of its UV and PMR spectra to the myricetin derivatives. The PMR spectrum of substance (IV) exhibited the signals of the protons H-6 (6.42 ppm, d, 2 Hz), H-8 (6.50 ppm, d, 2 Hz), H-2', 6' (7.96 ppm, s), and H-1" (5.93 ppm, $W_{1/2}$ = 6 Hz) and of the protons of a carbohydrate moiety (3.50-4.32 ppm). The acid hydrolysis of substance (IV) in an atmosphere

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Translated from Khimiya Prirodnykh Soedinenii, No. 2, pp. 274-276, March-April, 1990. Original article submitted May 23, 1989.

0009-3130/90/2602-0226$12.50