FLAVONOIDS OF *Sonchus arvensis*

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We have previously isolated luteolin, cynaroside, and isocynaroside from *Sonchus arvensis* L. (field sowthistle) [1, 2]. Continuing an investigation of **the flavonoid composition** of the plant, we have isolated another five substances of flavonoid nature.

Substance (I) with mp 310-312°C (mp of the acetate 199-201°C) was assigned on the basis of its UV spectrum and fluorescence to the flavones of aglycone nature. According to its NMR spectrum, the substance has no substituents apart from hydroxy groups in positions 3, 3', 4', 5, and 7 and is quercetin [3].

Substance (II) with mp 303-305°C (mp of the acetate 208-210°C) differs from substance (I) by the presence of an OCH_3 group in position 3 of the flavonol, and is isorhamnetin [4].

Substance (III) with mp 315-318°C (mp of the acetate 218-220°C is a flavone of aglycone nature. According to its NMR spectrum it has substituents in positions 3', 4', 5, and 7, the substituent in position 3' being an OCH_3 group, and it was identical with chrysoeriol [5].

Substance (IV) with mp 243-245°C was hydrolyzed by acids to form isorhamnetin (II) and glucose and, according to its NMR spectrum, is a monoglycoside [d 5.88 ppm (1H), J = 8 Hz and 6H in the 3.2-3.8 ppm region]. The glucose has the β configuration of the glycosidic center, as can be seen from the coupling constant (8 Hz) and is present in position 3. On the the basis of the facts presented, it may be concluded that substance (IV) is isorhamnetin 3-β-D-glucoside [5].

Substance (V) had mp 245-247°C $[\alpha]_D^{20}$ −59° (c 0.21; methanol–pyridine (5:1)). The products of acid hydrolysis were quercetin and glucose. The glucose was present in position 7 of the quercetin and had the β configuration of the glycosidic center (d 4.90 ppm, J = 7 Hz). On the basis of its UV, IR, and NMR spectra and a direct chromatographic comparison with an authentic sample, substance (V) was identified as quercimeritrin — quercetin 7-β-D-glucopyranoside.

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