

We have investigated the flavonoids of the epigeal organs of giant St.-John's-wort - *Hypericum ascyron* L. The raw material was gathered in the environs of Khabarovsk in 1990 during the period of incipient flowering.

To isolate the flavonoids, the epigeal part of giant St.-John's-wort (0.25 kg) was exhaustively extracted with 80% ethanol. The extract was evaporated in vacuum and the residue (32 g) was dissolved in 100 ml of distilled water and freed from lipophilic substances with 75 ml of chloroform. The flavonoids were extracted with 150 ml of ethyl acetate, and 21 g of the ethyl acetate fraction obtained after the evaporation of the solvent was separated on a column of silica gel (ratio 1:80) with elution by a chloroform-ethanol solvent system having a rising concentration of the latter.

As a result of the chromatographic separation, four substances were isolated - (I) (21 mg), (II) (29 mg), (III) (88 mg) and (IV) (125 mg).

Substance (I) - $C_{15}H_{10}O_6$, mp 275-278°C, λ_{max} 266, 367 nm (ethanol) - was identified as kaempferol [1].

Substance (II) - $C_{15}H_{10}O_7$, mp 309-312°C, λ_{max} 256, 370 nm (ethanol) - was identified as quercetin [2].

Substance (III) - $C_{21}H_{20}O_{11}$, mp 190-193°C, $[\alpha]_D^{20}$ -35° (c 0.25, in ethanol), λ_{max} 256, 358 nm (ethanol) - and substance (IV) - $C_{21}H_{20}O_{12}$, $[\alpha]_D^{20}$ -59° (c 0.30, in ethanol), mp 235-239°C, λ_{max} 257, 362 nm (ethanol).

In the products of the acid and enzymatic hydrolysis [2] of substances (III) and (IV) kaempferol (I), and quercetin (II) were identified in the solvent system benzene-ethyl acetate-acetic acid (23.5:74.5:2):formamide, and the sugar component D-galactose in the solvent systems n-butanol-acetic acid-water (4:1:2) and ethyl acetate-pyridine-water (9:2:2). It was established by means of UV spectroscopy with ionizing and complex-forming reagents [3] that the carbohydrate residue was attached at the third position in the flavone nucleus. On the basis of the physicochemical properties of the initial substances and of the products of their hydrolysis, and UV spectroscopy with diagnostic additives, the glycosides that had been isolated were identified as trifolin (III) [1] and hyperoside (IV) [4]. This is the first time that kaempferol and hyperoside have been isolated from *Hypericum ascyron*.

LITERATURE CITED

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