

**THE SEASONAL DYNAMICS OF PHENOLIC CONTENT
IN THE LEAVES OF *PENTAPHYLLOIDES FRUTICOSA* (ROSACEAE)
GROWN IN CULTURE IN THE SOUTH OF THE AMUR REGION**

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SUMMARY

Results of seasonal changes of phenolic compounds are presented in the article for leaves of *Pentaphylloides fruticosa* (L.) O. Schwarz grown in culture in the south of the Amur region. The phenolic compounds were analyzed by the method of a high-performance liquid chromatography with a liquid chromatograph (Agilent 1200 series) equipped with a diode array, an autosampler detector, and a software ChemStation for processing of chromatographic data. Six glycosides of flavonol (hyperoside, isoquercitrin, rutin, avicularin, quercetin and astragalol), three aglycones (quercetin, kaempferol and rhamnetin) and tannins (ellagic acid and its glycoside) were found and identified on the basis of obtained spectral data (ultraviolet and mass spectrometry) and by comparison of retention times of the substances in the samples with those of corresponding standards. It was found that phenolic composition in *P. fruticosa* was changing, but the qualitative composition of the main phenolic complex remained constant regardless to stage of vegetation. Minor components varied in the qualitative composition. Maximal total content of phenolic compounds in leaves of *P. fruticosa* was recorded at the start of blossoming and fructification (40.9 and 40.3 mg/g). Quercetin and kaempferol glycosides were found at all stages of development with rhamnetin glycosides only in mature leaves. Flavonol glycoside maximum was found in the stage of the beginning and mass blossoming and fructification with aglycones (quercetin) at the beginning of vegetation and the ending of a blossoming. The events of disagreement in the accumulation dynamics of glycosides and their aglycones were revealed. Content of the individual phenolic compounds was maximal in mature leaves during blossoming and fruiting. Components 1 and 2 prevailed in young leaves. Hyperoside, isoquercitrin and component 23 were the predominant glycosides in mature leaves. Ellagic acid dominated in young leaves whereas ellagic acid glycoside was the predominant in mature tissues.

Key words: Rosaceae, *Pentaphylloides fruticosa*, phenolic compounds, seasonal dynamics, Amur region.