

FLAVONES AND THEIR GLYCOSIDES IN SOME PLANTS
OF THE FAMILY CAMPANULACEAE

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We have previously reported the isolation of luteolin (I) from the epigeal part of *Cylindrocarpa sewerzowii* Rgl., and of diosmin and lonicerin from *Asyneuma campanuloides* (Bieb.) Bornm. [1, 2]. Continuing a study of the flavonoids of plants of the branch *Phyteumaceae* Fed., family *Campanulaceae* Juss. [3], we have obtained alcoholic extracts from the dry leaves and flowers of seven species growing in the Caucasus and in Central Asia.

After the elimination of the solvent and preliminary treatment of the residue with water and chloroform and then with ethyl acetate followed by reprecipitation of the ethyl acetate extract with dry chloroform, we obtained the total flavonoids. Chromatographic analysis of the total flavonoids on paper using chromogenic reagents showed the presence in each of the species of not less than 10 polyphenolic compounds.

By repeated crystallization and by partition chromatography in columns of polyamide and regenerated cellulose (eluents: water, chloroform, and methanol and ethanol with increasing concentrations) we isolated apigenin, luteolin, cynaroside, luteolin 7- β -gentiobioside [4], and diosmin [1, 2].

The flavonoids were identified on the basis of chemical and spectral investigations.

Apigenin and luteolin were isolated from all the representatives of the branch of the *Phyteumaceae*: *Asyneuma campanuloides* (Bieb.) Bornm. (environs of Kislovodsk. Dzhinal. Predkavkaz'e), *A. argutum* (Rgl.) Bornm., *A. trautvetteri* (B. Fedtsch.) Bornm., *Sergia sewerzowii* (Rgl.) Fed., *Cryptocodon monocephalus* (Trautv.) Fed., *Cylindrocarpa sewerzowii* (Rgl.) (Kara-Tau range, Kazakh SSR), and *Asyneuma cichoriforme* (Boiss.) Bornm. (environs of Ordubad, Nakhichevan ASSR). Luteolin 7- β -rutinoside and luteolin 7- β -gentiobioside [4] were detected in the first five species, and cynaroside only in the last four species. Diosmin was obtained from *Asyneuma argutum* (Rgl.) Bornm. and *A. campanuloides* (Bieb.) Bornm.

LITERATURE CITED

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