

FLORA WILLOW (SALIX L.) IN UKRAINIAN CARPATHIANS

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Keywords: *Salix*, willow, flora, Ukrainian Carpathians, alpine, subalpine and boreal species

Genus willow (*Salix L.*) is one of the largest in the boreal flora of Ukraine and according to various sources, it comprises 24-25 species (Nazarov et al., 1952; Krichfalushiy, 1982; Skvortsov, 1999; Ishchuk, 2015). Genus *Salix* species, due to its plasticity, can change a tree form into bush one and vice versa depending on soil and climatic conditions. However, the number of willows is steadily declining as due to both high demand for raw materials and due to excessive anthropogenic impact on the riverine and highland ecosystems (Ishchuk, 2014a; 2014b).

We conducted the research on the genus *Salix* species chorology by routing methods in the Ukrainian Carpathians and by analyzing the literature and herbarium samples of the genus *Salix* species in the herbarium of the Institute of Botany of NAS of Ukraine (KW), Uzhgorod National University (UU), I. Franko Lviv National University (LW) and the State Natural History Museum of Ukraine (Lviv) (LWS). The nomenclature of the plant species is given in accordance with the A by S.M. Mosyakin and M.M. Fedororchuk (Mosyakin, Fedororchuk, 1999). When analyzing the genus *Salix* species chorology, we used floristic zoning by B. Chopyk and S. Mosyakin (2015), under which the following areas are isolated on territory of the Ukrainian Carpathians: the Carpathians, the Eastern Beskids and low meadows, Gorgans, Sydovets, Chornohora, Chyvchyno-Hrynyavski mountains Maramorosh Alps, Volcanic Carpathians, Transcarpathian foothills and Transcarpathian plains.

The last edition of the Red Book of Ukraine (2009) lists six species of the genus *Salix*, of which *S. alpina* Scop. is classified as endangered, *S. lapponum* L., *S. myrtilloides* L. and *S. starkeana* Willd. – vulnerable, and *S. herbacea* L., *S. retusa* L. are categorized as rare.

The analysis reveal that the natural flora of the Ukrainian Carpathians is represented by 22 species of the genus *Salix*: *S. alpina* Scop., *S. alba* L., *S. daphnoides* Vill., *S. aurita* L., *S. Kitaibeliana* Willd., *S. caprea* L., *S. fragilis* L., *S. lapponum*, *S. eleagnos* Scop., *S. myrsinifolia* Salisb., *S. cinerea* L., *S. viminalis* L., *S. purpurea* L., *S. pentandra* L., *S. rhaetica* Anders., *S. rosmarinifolia* L., *S. silesiaca* Willd., *S. starkeana*, *S. herbacea*, *S. triandra* L., *S. retusa*, *S. myrtilloides*.

According to the literature in the Alps Marmarosh very rare *S. reticulata* L., and the array of Montenegro *S. hastata* L. (Krichfalushiy, 1982; Chopyk, Fedororchuk, 2015). However, the evidence in the herbarium herbarium Herbarium of the Institute of Botany of NAS of Ukraine (KW), Uzhgorod National University (UU), Lviv National University AND I. Frank (LW) and the State Natural History Museum of Ukraine (m. Lviv) (LWS) is not revealed, so we believe that these species are absent in the Ukrainian Carpathians.

Thus, based on the analysis of publications, herbarium specimens and their study route can be argued that the natural flora of the genus *Salix* in the Ukrainian Carpathians has 22 species. By alpine and subalpine florotsenotchny complexes timed six species *S. alpina*, *S. herbacea*, *S. retusa*, *S. Kitaibeliana*, *S. rhaetica*, *S. silesiaca*. Two types of *S. hastata* and *S. reticulata* raise doubts about their presence on the territory of Ukrainian Carpathians and their chorology need clarification. The most numerous boreal flora *Salix* element in the Carpathians, covering 16 species: *S. alba*, *S. x fragilis*, *S. pentandra*, *S. triandra*, *S. myrtilloides*, *S. myrsinifolia*, *S. caprea*, *S. cinerea*, *S. aurita*, *S. starkeana*, *S. viminalis*, *S. lapponum*, *S. daphnoides*, *S. rosmarinifolia*, *S. eleagnos*, *S. purpurea*. All boreal species belong to mezohihrofiti or hygrophytes. Also found that all types of subalpine and alpine zone and boreal *S. starkeana*, *S. lapponum* need protection.

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