

## **SIMILARITY ANALYSIS OF SPECIES COMPOSITION OF INTRODUCTED RARE ARBOREAL PLANTS OF PROTECTED PARKS OF THE STEPPE OF UKRAINE**

**A. Vlasenko, PhD student**

**National university of life and environmental sciences of Ukraine**

The aim of our study was to identify and analyze the similarity degree of species composition of reserved dendroflora *ex situ* of protected artificial parks of the Steppe of Ukraine in the context of administrative regions, individual objects and relevant categories of Nature-Reserve Fund. The object of our research was species composition of rare arboreal plants *ex situ*, the subject of the research - the level of similarity and correlation of local protected dendrofloras of the Steppe of Ukraine.

According to physical-geographic zoning of Ukraine, the ukrainian Steppe completely covers the territories of Dnipropetrovsk, Donetsk, Zaporizhia, Luhansk and Kherson administrative regions, steppe parts of Kirovohrad, Mykolaiv, Odesa, Kharkiv and Poltava administrative regions and the Autonomous Republic of Crimea. Within these limits there are 105 artificial protected parks. Of this number, we selected ten the most representative objects. They are Donetsk Botanical Garden of NAS of Ukraine, V.I. Lipsky Odessa Botanical Garden of I.I. Mechnikov Odessa National University, Botanical Garden of Oles Honchar Dnipropetrovsk National University, Kryvyi Rih Botanical Garden of NAS of Ukraine, the branch of Nikita Botanical Garden - NSC NAAS of Ukraine "Novokakhovske", dendropark "Veseli Bokovenki", dendropark "Yevpatoriiskiy", dendropark of Biosphere Reserve "Askania-Nova", parks-sights of park and garden art "Zaporozhya children's botanical garden" and "Botanical Garden of Kherson Pedagogical University".

The Sørensen-Czekanowski index was used to identify the similarity of species composition of reserved dendrofloras *ex situ* of ten protected artificial parks, according to formula:  $K_{sc} = 2c / (a + b)$ , where:  $a$  - the number of species in one object,  $b$  - number of species in the second object,  $c$  - the number of species which

are common to both objects. To visualize the correlation between ten local reserved dendrofloras *ex situ* the graph method was used.

It was found that each of the studied protected local exotic dendrofloras is heterogeneous and has individual taxonomic composition of rare arboreal plants *ex situ*. This is due to the historical features of formation of the network of protected artificial parks in the Steppe of Ukraine, their introduction activities and natural conditions of their location.

The core of dendroflora of artificial protected parks of the Steppe of Ukraine is formed by Donetsk Botanical Gardens of NAS of Ukraine, V.I. Lipsky Odessa Botanical Garden of I.I. Mechnikov Odessa National University and dendropark of Biosphere Reserve "Askania-Nova". Palliative to this core are species composition of rare arboreal plants of Botanical Garden of Oles Honchar Dnipropetrovsk National University, Kryvyi Rih Botanical Garden of NAS of Ukraine, parks-sights of park and garden art "Zaporozhya children's botanical garden" and "Botanical Garden of Kherson Pedagogical University".

The most similar by species composition of plants are Donetsk Botanical Garden of NAS of Ukraine and dendropark of Biosphere Preserve "Askania-Nova" ( $K_{sc}=0,69$ ). The closest correlation is between regional rare dendrofloras of Odessa, Donetsk, Kherson and Dnipropetrovsk regions. Botanical gardens and dendroparks ( $K_{sc}=0,72$ ) are the most similar among the studied categories of Nature-Reserve Fund by the species compositions of rare arboreal exotic plants.