

The family *Rosaceae* Juss. in the parkland of industrial cities in the east Ukraine

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In this study we summarize data on condition of plants of *Rosaceae* Juss. family growing in the parkland of industrial cities of the south east Ukraine. We decided to study this family due to the wide use of these plants in urban landscaping.

The aim of this study was to evaluate condition of *Rosaceae* species found in the parkland and their prospects for urban greening in the south east Ukraine. This evaluates are based on the species composition, representation, age structure and viability.

Plantings were inventoried in 2012–2014 by route inspection method. We determined the species, number of individuals, age, trunk diameter, height and viability of trees in amenity plantings of eight city squares and A.S. Scherbakov park of Donetsk, six squares of Makeyevka and A.P. Chekhov park of Khartsyzsk (Donetsk region).

Based on this survey, *Rosaceae* family is the most abundant with diverse species composition, represented by 27 tree species and cultivars and 24 shrub species and cultivars. The genus *Malus* Mill. is the most diverse by species composition (6 species), along with *Spiraea* L. (4 species and 3 cultivars), *Cerasus* L. (3 species and 2 cultivars), *Prunus* L. (4 species and 2 cultivars), *Cotoneaster* B. Ehrh. (3 species and 2 cultivars), *Crataegus* L. (3 species).

Malus sylvestris (L.) Mill., *Padus avium* Mill. and *Pyrus communis* L. are the aboriginal species of the south east Ukraine. The species listed in the Red Book of Ukraine, Red Book of Donetsk region and European Red List are absent. *Padellus mahaleb* (L.) Vass., *Pyrus communis*, *Prunus spinosa* L. are marked in LC species list of European Red List, *Malus sylvestris* is identified as DD.

Prevailing tree species are *Sorbus intermedia* (Ehrh.) Pers. (18% of the total species number), *Padus avium* (6% of the total species number), *Crataegus*

monogyna Jacq. (15% of the total species number), *Sorbus aucuparia* L. (9% of the total species number). It should be noted that *Sorbus intermedia* dominates among all other tree species of the Donetsk squares (11% of the total species number). Shrubs of the *Rosaceae* family form the basis of ornamental compositions in the studied plantings. Their number is much greater than that of other bushes. The following species are the most numerous among shrubs of this family: *Rosa hybrida* (31% of the total species number), *Physocarpus opulifolius* (L.) Maxim. and its cultivars (14 and 17% of the total species number respectively), cultivars of *Spiraea japonica* L. f. (11% of the total species number), *S. ×vanhouttei* (Briot) Zbl. (4% of the total species number).

We analyzed grouping of trees in different classes of height. Trees of the second class of height insignificantly dominate (53% of the total tree number). There are no trees of the first height. The shrubs of the second height class make 80% of the total number of shrubs.

The most numerous among age groups are those of plants aged 10 to 19 (42% of the total number of trees of this family), and 20 to 29 (29% of the total number of trees of this family). The group of shrubs below the age of 10 dominates (80% of the total number of shrubs).

Most trees and shrubs of family *Rosaceae* are in good condition evaluated at 8–6 points (89% и 96% of the total number of trees and shrubs of this family, respectively).

This study has shown that trees and shrubs of *Rosaceae* family are characterized by a shorter life cycle spans under adverse urban environmental conditions. At 25–30 years of age they show the signs of aging and lower viability. In general, species of *Rosaceae* family play important role in urban plantings, parks and squares of the south-east of Ukraine. It is possible to reinforce their assortment due to introduction of highly ornamental cultivars of the genera *Prunus*, *Spiraea*, and also those of genera *Exochorda* Lindl. and *Princepia* Royle.