

# ECOLOGICAL FEATURES OF DENROFLORAS OF IRON DUMPS IN KRYVORIZHZHYA (UKRAINE)

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Plant individuals are very sensitive to changes in environmental parameters, as they are a fairly labile component of ecosystems. Each plant species has a specific range of environmental conditions in which it can exist – the tolerance amplitude of the species.

For today, the amplitude scales of 3300 flora species in Ukraine, in which amplitude characteristics of species are reflected (Didukh, 2011). In these ecological scales, the characteristics of most of the alien species are not presented, which we have supplemented based on comparative analysis.

The analysis of the technogenic landscape dendrofloras was carried out by us on seven model dumps – Petrivskiy, Pershotravnevyyi avtomobilnyi, Pershotravnevyyi zaliznychnyi, Leninskyi, mine «Bilshovyk», «Stepovyyi», «Inhuletskyi». We ascertained the species composition of dendrofloras dumps, which includes 65 species belonging to 46 genera, 25 families. The adventive fraction is represented by 43 species. The investigated plants species compound 12.6% of the total amount of the adventitious fraction of flora of Right-banks steppe Pridneprov'ya (Kucherevsky, 2004).

The eco-groups by the relation of trees species to soil water regime are represented by mesophytes (plants adapted to existence in ecotopes with a full soaking of the root-bearing layer of the substrate) – 53.1 % – *Ligustrum vulgare* L., *Lonicera tatarica* L., *Padus serotina* (Ehrh.) Borkh., *Rosa corymbifera* Borkh., *Tilia cordata* Mill. and others; sub-mesophytes (plants adapted to existence in ecotopes with moderate soaking of the root-bearing layer of the substrate) – 31.3%; hygropytes – 6.3% – *Populus alba* L., *P. tremula* L., *Salix alba* L., *Ulmus laevis* Pall.; sub-xerophytes – 9.3% – *Chaenomeles japonica* (Thunb.) Spach, *Mahonia aquifolium* (Pursh) Nutt., *Malus domestica* Borkh., *Padellus mahaleb* (L.) Vassilcz.

As regards to the soil acidity we defined 3 ecological groups: neutrophiles – plants, which grow on acidulous and neutral (pH = 6.5–7.1) soils – 57.8%; sub-acidophiles (soil with pH of 5.5–6.5) – 37.5%; acidophiles (plants adapted to the existence on substrates having an acidic reaction (pH 4.5–5.5, for example, *Betula pendula* Roth, *Sambucus racemosa* L., *Sorbus aucuparia* L.

The presence of accessible forms of nitrogen limits the growth of many species. We highlighted groups of trees plants to nitrogen content in soil: hemi-nitrophiles – 50%, nitrophiles – 40.6 %; sub-anitrophiles (plants which grow on poor on mineral nitrogen oligotrophic soils) – 4.7 % – *Betula pendula*, *Hippophae rhamnoides* L., *Pinus sylvestris* L.; eunitrophiles (plants which grow on soils well provided with mineral nitrogen) – 4.7% – *Corylus avellana* L., *Fraxinus excelsior*, *Swida sanguinea* (L.) Opiz.

The range of total salt regime in the dumps soil fall within the limits from 2–9 points to 9–14 points. On these criteria the following eco-groups are highlighted: semi-eutrophes – 45.3%; mesotrophes – 29.7%; eutrophes – 23.4 % and sub-glycotrophes – 1.6% (*Elaeagnus angustifolia* L., which can grow on soil with salt excess of  $\text{HCO}_3^-$ ). According to our observations *Elaeagnus angustifolia* is a pioneer of overgrowing open cut measures calciferous.

By a vegetation cover it is possible to give an integral estimation of environment factors, which are characterized by significant changes in space and time. Many researchers point at the need for correcting presenting ecological scales and supplementing them with values for new species.

**Key words:** Environmental, Plant Species, Dump, Eco-Groups