

Original article

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## The State of Species of the Genus *Oenothera* L. Cenopopulations in Transformed Ecotopes of Donbass

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**Abstract.** The features of the structure of cenopopulations of adventitious species of the genus *Oenothera* L. were studied in some disturbed ecotopes of Donbass. There were studied such phytocoenotic and ecological-demographic characteristics of cenopopulations as ecological and effective density, spatial structure, ontogenetic structure and types of ontogenetic spectra of cenopopulations, also were calculated age index ( $\Delta$ ), efficiency index ( $G$ ), recovery index ( $I_r$ ). Cenopopulations (CP) were evaluated by the ratio of age and efficiency indexes and by the ability to self-maintenance. It has been shown that CPs are part of emerging communities with participation from 7 to 12 species. The ecological density varies from 18.6 to 35.4 individuals per 1 m<sup>2</sup>. It was found that the studied cenopopulations of *Oenothera salicifolia* Desf. ex G. Don, *Oenothera biennis* L., *Oenothera* × *hoelscheri* Renner et Rostanski are full-term normal plants with left-sided spectrum type. Stages of the pregenetic period predominate in the ontogenetic structure of cenopopulations: for CP 1, CP 3, and CP 4, plants of the juvenile stages predominate, for CP 2, individuals of the immature age state predominate. All cenopopulations are assigned to the young type and defined as unimodal according to the “delta-omega” classification. The studied CPs of adventitious species are assessed as stable, they self-sustain effectively because a large number of seeds are produced, which give rise to viable individuals. Species spread and naturalize in disturbed habitats actively, they have good adaptability to extreme conditions of technogenic ecotopes of Donbass. The data obtained allow us to make an assumption about the use of *Oe. salicifolia*, *Oe. biennis*, *Oe.* × *hoelscheri* for reclamation of disturbed ecotopes.

**Key words:** cenopopulation, technogenic ecotopes, *Oenothera* L., ontogenetic structure, adventitious species, Donbass.

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