

Ecological heterogeneity of *Epipactis palustris* (L.) Crantz. populations in Kyiv city and its vicinities

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We studied two populations of *Epipactis palustris* (L.) Crantz. (a relatively rare orchid protected by the Red Data book of Ukraine) of Kyiv region: one in the floodlands near Glevaha village and the other in Kyiv (neglected fish ponds of the fish industry “Nivka” of the Institute of fishery).

In either case, phytosociological relevés were made after Braun-Blanquet and 20 flowering plants were described by 4 morphological features (height of plant, length of the largest leaf, width of the largest leaf, number of flowers in inflorescence). The environments were compared: the percentage of the species interval in the entire spectrum of a factor was calculated considering Tsyganov environmental scales (Cyganov, 1983) for each relevé.

The Glevaha population was presented by 2 fragments: 1 – flood-plain forest close to a garden-plot, and 2 – a water-meadow nearby. The total cover of the grasses was about 100%, with the considerable proportion of Gramineae (*Poa pratensis* (4), *Dactylis glomerata* (2), *Festuca gigantea* (2) in the forest, and *Briza media* (4) in the meadow); in the first fragment there were also woody species (*Salix alba*, *Populus nigra*, *Betula pendula*; total cover 25%) and shrubs (*Swida sanguinea*, *Cerasus vulgaris*, *Prunus vulgaris*, *B. pendula*; total cover 10%).

In the neglected fish ponds the amount of woody species (*B. pendula*, *Pinus sylvestris*, *Salix cinerea*, *S. caprea*, *Sorbus aucuparia*, *Populus tremula*, total cover 30%) gradually increased during the study; total cover of the grasses was 90% (several species codominated: *Cirsium arvensis* (1), *Agrostis stolonifera* (1), *Typha angustifolia* (1), *Pyrola minor* (1), *P. rotundifolia* (2), *Eupatorium cannabinum* (2), *Scirpus lacustris* (2)). *C. arvensis* was also found in both fragments of Glevaha population.

The populations differed significantly only in the soil moistening estimator (39 and 37% in Glevaha and 50% in the fish ponds). Therefore, the determinative factor for the orchid is the hydrological regime, being more favorable in the ponds. The conclusion is confirmed by comparing the morphometrical features.

Site	Morphological feature (average±standard error/variance)			
	Height, cm	Leaf length, cm	Leaf width, cm	Flower number
Ponds	87,9±2,4/112,3	15,6±0,5/5,6	4,8±0,2/1,0	6,6±0,8/13,2
Glevaha 1	54,9±3,5/240,7	10,8±0,6/7,3	4,0±0,2/1,0	10,6±2,1/90,4
Glevaha 2	64,5±2,0/79,2	11,0±0,4/2,5	2,5±0,1/0,3	7,0±0,7/10,5

However, it is still unclear to what extent the features' variability is influenced by the annual fluctuations of the illumination and moistening.