

ВЛИЯНИЕ УСЛОВИЙ ОСВЕЩЕНИЯ НА РЕПРОДУКТИВНЫЙ УСПЕХ

EFFECT OF LIGHTING CONDITIONS ON THE REPRODUCTIVE SUCCESS OF *CYPRIPEDIUM CALCEOLUS* L. (ORCHIDACEAE, LILIOPSIDA)

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The influence of lighting conditions on the reproductive characteristics of the *Cypripedium calceolus* L. was studied on the territory of the Komi Republic, where the species is located on the Northern border of its habitat. The study was carried out in the southern part of the region (within the Vycheгда-Mezen plain) in 2017. Eight coenopopulations of the species in areas with various light intensities were examined, among which three coenopopulations were in swamps, and five were in forests with varying degrees of the canopy closeness. We used the index of “canopy closure” as a measure of light conditions on the areas of growth of *C. calceolus*. To evaluate this index, the method of analysis of digital hemispherical photographs obtained using a 180° ultra-wide-angle fish-eye lens was used. Photographs were processed and analysed using the graphical package Gimp 2.8 (GNU Image Manipulation Program, GIMP Team). Open habitats (with the index of canopy closure less than 65%) are shown to be more favorable for the seed reproduction of *C. calceolus*. The pollination efficiency, real seed productivity, and the number of juvenile plants of seed origin are higher in such places. Besides, the later vegetation start in swamps allows the plants to avoid damage by late spring frosts. In more shaded habitats, the vegetative renewal of *C. calceolus* comes to the first place, all studied coenopopulations of the species in such conditions were more stable and aimed at survival.

Key words: *Cypripedium calceolus*, seed productivity, fruit set, seed morphometry, canopy closure.

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