8TH PLANTA EUROPA CONFERENCE

"Save Plants for Earth's Future"

Book of abstracts

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What can we learn from comparative population studies of *Pulsatilla patens* (L.) Mill. *sensu lato* in North America and Europe?

Conservation of *Pulsatilla patens* is of growing concern across the whole its range. The species is included in the European Red List and in the Red Data Book of Ukraine. Conservation status of *P. patens* has recently been ranked in six U.S. states and two provinces of Canada.

We analyzed the size of *P. patens* populations, their age structure and reproduction in different habitat types and disturbance regimes. The field surveys were conducted in Boreal Plain and Prairie eozones of Saskatchewan, Canada and on the border of Forest and Forest-Steppe zones in Kyiv, Ukraine.

Habitat factors and disturbance regimes affect population parameters and regeneration potential in various ways. In Canada, the population size varies from solitary individuals to $>10000$ plants. Disturbances include grazing, burning and recreational trampling. In prairies with low disturbances populations have complete age spectra dominated by $v$ or $g$ plants; in prairies with moderate disturbances prevail incomplete age spectra dominated by $j$, $v$ or $g$ plants; and in shrublands and forests with low $j$ moderate disturbances succeed complete age spectra dominated by $j$ plants. Dissemination occurs regularly in all populations.

In Ukraine, populations are heavily affected by forest management which can lead to complete habitat destruction. The population size in forest habitats varies from solitary individuals to 500 plants. Disturbances are caused by human impact (regular burning, digging up plants and picking flowers). As a result, populations have incomplete age spectra dominated by $g$ plants. The $j$, $im$, and $v$ plants were observed only in some years. Populations have high ratio of abortive flowers and rarely produce seeds.

Thus, in Canada, *P. patens* requires maintaining of natural disturbance regime to sustain a stable population structure. In Ukraine, strict conservation areas to protect habitats of *P. patens* should be established; illegal trade of the plants must be stopped.