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#### ABSTRACT

**Title of dissertation:** Flora and Fitogeographic Problems of the Xerothermic Grasslands of the Sandomierz Upland

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The study presents a list of xerothermic grassland vascular plants of the Sandomierz Upland. Each of the species has a qualitative cartogram presenting its distribution across the study area. The object of the study was constituted by the xerothermic grasslands which are non-forest plant habitats. They are most frequently located on sunlit slopes along river valleys, on alkaline or neutral soils rich in calcium carbonate. Xerothermic grasslands are among the most threatened plant habitats in Europe, with many valuable and rare elements of flora, fauna and other life forms such as fungi.

According to the Poland's physiographical division, the Sandomierz Upland is a mesoregion within the macroregion of the Kielce Upland and covers about 1140 km<sup>2</sup>. Because of favourable climate and soil conditions, the studied area is a convenient place for growing grapes, vegetables and fruit. The study area surface is covered by loess. This contributed to the development of a typical agricultural landscape there.

Floristic studies were conducted in the years 2014-2016 using the cartogram method. Division of the study area was based on an ATPOL grid. The study area was divided into three "large" squares (EE, FE, FF) and 21 "small" squares (10 x 10 km). The study area contains 234 square units (2.5 x 2.5 km). However, each xerothermic grassland patch was considered as a study stand. The maximum number of records reached by a given species equals to 133.

Xerothermic grassland flora of the Sandomierz Upland has 515 species, both native and domesticated ones. The identified species belong to 82 families and 277 kinds. For particular species, the following details as a degree of frequency and geographical-historical status were provided. Also, data concerning mountain species as well as directional and geographic flora elements were included. Furthermore, this article contains quantitative cartograms illustrating the concentration of selected plant habitat groups.

The flora of Sandomierz Upland has 42 species being under legal protection, among which 26 are fully protected and 16 – partially protected. There are also 13 species included in the "Red Book of Poland", 70 species included in the "Red List of Poland" and 97 species included in the "Red List of Małopolska Upland". The most valuable and threatened flora elements are: *Adonis vernalis*, *Aster amellus*, *Campanula sibirica*, *Cerasus fruticosa*, *Gentiana cruciata*, *Orchis militaris*, *Pulsatilla pratensis*, *Rosa gallica*, *Stipa capillata* and *S. pulcherrima*.

Intensification of agriculture has brought this habitat to the brink of extinction. During the field works, other equally important threats were observed: overgrowing process, intensive spread of invasive species, especially *Solidago canadensis*, increasing proportion of the native species (*Calamagrostis epigejos*, *Rubus caesius*), and greater number of plants belonging to the *Artemisietea vulgaris* and *Stellarietea mediae* classes. Further failure to actively protect the xerothermic grasslands of the Sandomierz Upland will lead to their complete impoverishment or, in many cases, their loss.

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