

Abstract

The Importance of Soil Conditions for the Development of Xerothermic Grassland (*Inuletum ensifoliae*) on Limestone in Southern Poland

On the elevation of Pińczów in southern Poland grows a very special plant association called *Inuletum ensifoliae*.

The hill consists of cretaceous marl and tertiary limestone.

The south-western slope of the elevation is characterized by various soil forms alternating on small space due to relief, spreading of sediments, and anthropogenic influence. In the very steep parts of the elevation where limestone prevails, there exist short soil profiles because of erosion processes. These profiles are characterized by poverty of nutrients as well as dry edaphic conditions. These conditions caused by the huge amount of sand in the soil are amplified by strong radiation of the sun.

In the steeper area of the south-western slope of the elevation, the xerothermic grassland occurs with the species *Inula ensifolia*. The vegetation is dominated by elements of the Pontic Flora which appears today in the region of the Black and Caspian Sea. The plant association consists of a large number of endangered species. The rare semi dry grassland depends on dry edaphic and climatic conditions which are investigated by the writer.

Because of the macro climatic conditions and the land use change in the past few years, the vegetation is in a process of succession. The xerothermic grassland is on the brink of extinction where bushes are replacing the habitat. To conserve the rare plant association, it is necessary to establish natural conservation with adapted maintenance.

This thesis also presents different types of possibilities to protect the unique plant association in that specific habitat in southern Poland.