

OBSEVING SOIL-PLANT CONNECTIONS ON DIFFERENT GRASSLANDS OF HUNGARY

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As a consequence of human activities altering nature, remained loess vegetation belongs to the most endangered habitats of Hungary. Its remained patches, however, can be considered as relicts of the vegetation of genuine loess grasslands, therefore are highly valuable.

We made through investigations on the botany and soils of the „Belső-Mágor” area of Körös-Maros National Park, giving possibility for interpreting and reconstruction of the vegetation of this area. We made coenological investigations on the sample area, based on the method of Braun-Blanquet, using 2x2 meters sized quadrates. Soil samples taken from different plant associations were observed in laboratory (humus %, salt %, pH(HOH), pH(KCl), CaCO₃ %, moisture volume%, pF-values, Al-P₂O₅ mg/kg, Al-K₂O mg/kg, textural properties).

Coenological investigations were made in 2 quadrates of the loess grassland patch, in 3 transects of the salty zone and in 2 transects of the zone which is separated from the salty environment and contains also *Festuca rupicola*. Coenological tables prepared on the different areas indicate the differences observed on the spots well. Tables prepared in the loess grasslands show a sharp contrast from the ones made on quadrates of salty vegetation. *Festuca rupicola* is the dominant species in loess grasslands. The other characteristic genus, *Salvia*, however, is often missing. It is mainly weeds that are common in both areas (*Convolvulus arvensis*, *Bromus mollis*, *Agropyron repens*). *Koeleria cristata* and *Cynodon dactylon* were also found in both areas. *Poa angustifolia* is a characteristic species of the loess grassland patch. *Festuca* species occur in each area behind sharp borders: *Festuca rupicola* lives in loess grasslands, meanwhile, *Festuca pseudovina* occurs in the salty habitat.

Vegetation and diversity of the sample area are well indicated also by soils. Below the mosaic area covered by alternating loess grasslands and salty vegetation chernozem, chernozem with vertic properties and solonetz soil types could be separated. Main differences evolved on the area as a consequence of erosion. The A-horizon rich in organic materials and plant roots. Below this, the B-horizon is grey and has columnar structure. Based on data of laboratory examinations, texture of salty soils is clayey. Salt content also refers to salinization and is higher in the case of samples taken from the B-horizon prepared to the surface by erosion. pH is slightly alkaline, therefore not only sodium salts (soda) are present in the salt content.