

## **ORIGIN, CLASSIFICATION, AND HABITAT SIGNIFICANCE OF SOIL LAMELLAE IN SANDY AND SILTY DEPOSITS IN SOUTHERN POLAND**

Formally, soil lamellae are treated as morphologic illuvial forms occurring in the soil profile. The definition of such features is: 'Lamellae are an illuvial soil horizon which occur as a series of layers that contain an accumulation of oriented silicate clay on sand and silt grains'. But the definition does not include similar forms that do not exhibit illuvial features and which are often observed in the soil.

The aim of the research project is to determine the origin of soil lamellae occurring in deposits with different texture and to determine their impact on habitat properties on the example of soils in the area of southern Poland.

In order to solve research problem a number of fieldwork studies and laboratory analyses will be conducted. Excavation of soil profiles and detailed description of their morphology and lamellae features are one of the most important elements in presented studies. Laboratory analyses will focus on determination of physical and chemical properties of soils and lamellae.

Soil lamellae are morphologic forms occurring commonly in the soil, which were not subject to systematic genetic studies involving various deposits. Their origin has not yet been resolved. Another problem motivating one to undertake this research topic is the virtual lack of research on the impact of lamellae on habitat conditions and the functioning of vegetation. The presence of lamellae in soils usually poor in nutrients (sandy soils, easily permeable) probably improves their condition by storing nutrients and water necessary for plant life.

The identification of soil lamellae origin will allow to draw conclusions about conditions favorable for the formation of these forms. The identification of the impact of soil lamellae on habitat conditions will allow to extend the knowledge on soil-plant relationships in the context of the availability of macro- and micronutrients as well as water retention.