

Nowadays wooded meadows have raised interest because of the high small-scale species richness of herb layer. On calcareous wooded meadows there are commonly over 50 species per one square metre. This is much more than in any other community in the forest zone. On woodless meadows the number can be as high as 30 species, on alvars this can reach until 40. On five wooded meadows of western Estonia the species number per one square metre has been found to be higher than 60. On the wooded meadow of Laelatu in Läänemaa county 76 species on one square metre were described, on Vahenurme wooded meadow in Pärnumaa county the species richness was as high as 74. Small-scale species richness has been found to be higher only on some fragments of forest-steppes in Southern Russia. The world highest small-scale species richness was recorded on grazed mountain meadows in Argentina - up to 88 vascular plant species per one square metre.

There are several reasons that cause the high species richness:

- 1) Regular mowing for a longer period of time. Attaining high species richness may require constant management because the insertion of species to the community takes place quite slowly.
- 2) The heterogeneity of environmental conditions. Higher habitat diversity develops when two such different communities as forest and meadow are interweaved. Wooded meadows offer suitable conditions to the species adapted to forests as well as to the species typical of meadows, although the conditions of such habitats may not be optimal.
- 3) Soil acidity (pH) affects species richness - less species are able to grow on acid soils than on neutral or calcareous. Species richness of the alkaline communities of western Estonia is several times higher than of the communities with acid soils in eastern and southern Estonia.
- 4) Soil fertility is very important - it has been shown that species richness is lower on poor as well as on very fertile soils. The abundance of nutrients favours species that grow bigger and compete out species with slower and smaller growth rate. Soil moisture often shows the same effect.
- 5) Large species pool, i.e. high species number of the surrounding communities. A plant community is an opened system and species richness can be maintained only, when the flora of the surrounding region (dispersal distance) is not impoverished. Consequently, the conservation of small but species-rich wooded meadows requires extensive protection zones.

Wooded meadows are unique examples of ecosystems, where the species richness and aesthetic value have grown as a result of human activities. The beauty of wooded meadows has been stressed by most of the visitors, who have made acquaintance with those communities.