

STRUCTURAL AND SPECIES DIVERSITY OF FOREST LANDSCAPE PHYTOCENOSES OF WATER-GLACIAL PLAINS (WITHIN THE PENZA REGION)

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Abstract. *Background.* Position of the Penza region has played the leading role in the formation of its landscapes: it lies within the Oka-Don plain and the west slopes of the Volga upland. Landscapes of water-glacial plains are common in the northwest of the Penza region, in the marginal part of the Oka-Don lowland. The border between the Oka-Don plain and the Volga upland is indistinct and is currently not reflected in the relief. In general, the landscapes of the Oka-Don plain differ significantly from the landscapes of the Volga upland, which obviously should be also reflected in phytocenosis species composition and structure. Information about the vegetation of this territory is scarce, therefore this publication aims at analyzing the current state of vegetation cover of forest-steppe landscapes of water-glacial plains within the boundaries of the Penza region. *Materials and methods.* Floral composition and structure of broad-leaved forests were analyzed in route and stationary studies on test plots of 100 m² each. The structural diversity of communities was assessed by the ratio of ecological-coenotic groups (ECGs) of species in the vegetation cover. Classification of communities was carried out according to the principle of dominance, taking into account ecological-coenotic groups, as well as in accordance with the principles of floristic classification. *Results.* The modern vegetation cover of water-glacial plain landscapes within the Penza region is mainly represented by forests. Birch and aspen forests predominate, while pine forests occupy about a quarter of the territory, and broad-leaved forests with a high participation of oak account for about 10 %. Linden forests and maple forests (Norway maple) occupy rather small areas. Near springs, streams, along the floodplains of small rivers, black alder forests are formed, whereas around swamps (mostly with traces of anthropogenic activity in terms of drainage) willow forests appear. Vegetation classification was carried out, and the confinement of assigned classification units to different types of locality was recorded. *Conclusions.* Active economic activity in the landscapes of water-glacial plains has led to a significant transformation of vegetation cover. Much of the watershed has been ploughed and converted into farmland. Boreal pine forests are a rare type of forest in the Penza region. Their communities include some species that are extremely rare for the region.

Keywords: water-glacial plain, ecological-coenotic groups, vegetation classification, rare plant species, pine forests, birch forests, broad-leaved forests, aspen forests, black alder forests.