

DIFFERENTIATION OF MEADOW AND STEPPE VEGETATION WEST AND EAST OF OB' RIVER

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DOI: 10.31857/S0006813622100076

Meadows and steppes represent zonal types of grassland vegetation in the forest-steppe and steppe zones of the West Siberian Plain. In its southeastern part, the plain is intersected by the Ob River valley. The purpose of our study was to determine the differences between meadow and steppe vegetation to the east and west of the Ob River. The analysis of 1826 relevés allowed to determine ecologically similar communities on the right and left banks of the river. The average annual precipitation and soil moisture, the latter determined using plant indicator values, were analyzed. As a result of cluster analysis based on constancy and importance values of species, the main plant communities were identified. Differential species were determined using formalized criteria. It was established that the species composition of meadow and steppe communities in the studied area is firstly affected by the soil moisture and their location relative to the Ob valley, which can be considered as a natural boundary in vegetation differentiation. The annual precipitation does not affect the species composition of meadows and steppes significantly. Coenotic and floristic diversity of grasslands mainly depends on the moisture that is determined by their position in the relief. The rugged relief of the right bank contributes to a good preservation of natural communities, which are indicated by a complex of meadow-steppe mesoxerophytes or meadow-forest mesophytes. In the flat left bank, due to the plowing, zonal vegetation complexes were totally destroyed. As a result of the destruction, synanthropic elements are represented in the indicator groups of meadow species. The similarity between the left-bank and right-bank communities decreases as dryness increases. Wet meadows corresponding to 60–64 grades of moisture are the most similar. The steppe meadows and meadow steppes of the left bank corresponding to 52–60 grades of moisture are more xerophytic as compared to the right bank. The herbaceous vegetation of the right and left banks of the Ob differs significantly in syntaxonomic composition. The greatest differences (in the rank of alliances of the floristic classification) are shown between forest meadows of the order **Carici macrourae–Crepidetalia sibiricae** and meadow steppes of the order **Brachypodietalia pinnati**. These communities are natural and develop in habitats that have not been ploughed. Typical meadows of the order **Arrenatheretalia** and steppe meadows of the order **Galietales veri**, which develop mainly on old fallow lands, differ at the level of associations or sub-associations. It is possible to determine the general principles of grassland differentiation in the studied region and to trace the changes in syntaxa from west to east. The analysis of habitat moisture makes it possible to identify ecological analogues in the right and left banks of the Ob.

Keywords: herb vegetation, biodiversity, ecological scales of plants, floristic classification, West Siberia

ACKNOWLEDGEMENTS

The work is performed within the framework of the state assignment No. AAAA-A21-121011100007-6 of the Central Siberian Botanical Garden SB RAS.

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