

Foreword

The 23rd volume of *Ecological Questions* is dedicated mainly to the structure and functioning of meadow ecosystems. It includes 8 scientific papers devoted to these issues. The papers are divided into two thematic groups, four papers in each group.

The first group of papers relates to methods of meadow use and their impact on changes in the structure of phytocoenoses. The structure of phytocoenoses is analysed in these papers using the classical phytosociological method with an indication of their location in the hierarchical classification system of plant communities. The first article from this group presents species diversity of *Alopecuretum pratensis* phytocoenoses, used alternatively as a grazing land or meadows, compared to floodplain forests such as *Ficario-Ulmetum minoris* and *Salici-Populetum* existing in the same area before deforestation and creation of the meadows. Species diversity of *Alopecuretum pratensis* was also compared with the level of this parameter observed in a poplar plantation established before afforestation of logging sites or this type of meadows. The second article presents the current characteristics and structural changes in the vegetation that occurred in the last 25 years in intermittently wet *Molinia* meadows (alliance *Molinion*). The third article presents values of ecological indicators and parameters for wet meadows from the alliance *Calthion palustris*. The assessments were made on the basis of monitoring carried out in Natura 2000 areas covered by the agri-environmental programme. The fourth paper of the first thematic group discusses the results of the research on the impact of intensive sheep grazing on the vegetation of calcareous xerothermic grasslands from the *Festuco-Brometea* class.

The second group of articles presents the results of the research on plant populations and ecology of meadow plant species. The first three papers in this group concern studies conducted in the meadows with varying moisture conditions from the alliance *Molinion*. Two of them describe populations of strictly protected species – *Gentiana pneumonanthe* L. and *Trollius europaeus* L. – in meadows of this type in the southern part of Poland. The third paper relates to the research on mycorrhizae of some characteristic herbaceous species of *Molinietalia* meadows at the Natura 2000 sites in the Kujawy region, in central Poland. The last paper from the second group of the articles relates to the ecology of meadow plant species from the class *Molinio-Arrhenatheretea* in the early stages of succession on the artificial substrate, i.e. an ash settler of a power plant in the town of Toruń.

We believe that the results of the studies presented in this volume of *Ecological Questions* will serve as a good reference for the spatio-temporal comparisons.

Editorial Board