BOOK REVIEW

ENVIRONMENT AND STRUCTURE OF THE NORWAY SPRUCE FORESTS IN THE RILA MOUNTAINS


The Norway Spruce (natural or planted) covers the second largest area among the Bulgarian conifers. Therefore, any information concerning the natural processes in stands dominated by this species is of particular interest to Bulgarian audience. The book reviewed is a contribution to the knowledge on the structure and function of Spruce forests in Rila Mountains.

The book is organised in 14 parts plus a foreword and summaries in Bulgarian and in English. In fact, each part is an independent study, even though all they fit within the common topic of Spruce forests. The papers are devoted to different problems and could conditionally be classified as follows: 1) climatology and hydrology; 2) productivity, regeneration and utilization; 3) plant ecology and physiology; 4) paleobotany; 5) genetics and breeding; 6) soil and water chemistry; 7) ornithology and 8) pests and diseases.

The first group includes two papers and the first one (Raev) presents results of the long-term studies on local climate in Ovnarsko station. It describes the climatic background of the region and the other papers could refer to it for climate conditions. The second paper (Raev et al.) tries to go to a deeper insight by using dendrochronological analysis. The 85-year sequence studied reveals longer and shorter cycles reflecting the climate fluctuations.

The second group of studies consists of 3 papers. The first one (Stoykov and Tsakov) combines studies on volume and biomass productivity, basal area and stand structure, and wood characteristics. On my opinion, particular attention deserves the structure of mixed forests dominated by Norway Spruce. The paper presenting results of an inventory on the medicinal plants (M. Stoyanova) is also classified into this group, because it reports not only the species composition but also the productivity and contents of valuable chemical substances. The third paper describes natural regeneration process in the Spruce stands (N. Stoyanova).

Slightly deviating from the pure forestry issues are the papers in group 3. They present results about ecology and community structure of the ground layer in coniferous ecosystems (Indgean), physiological processes in Spruce stands (Naydenova and Velinova) and the relationships among the physiological characteristics and potential for adaptation in several plant species growing in Spruce ecosystems (Merakchiyska-
Nikolova et al.).

Very specific topics are presented in the papers of groups 4 and 5. The first paper presents briefly results of extensive palynological studies in the coniferous ecosystems in Rila and the vegetation development in historical perspective (Tonkov and Bozhilova). The paper on genetics and breeding of Norway Spruce presents (also briefly) the studies of the author (Alexandrov) during several decades and are, therefore, of particular interest.

The papers of group 6 are gathered together because they focus on ecosystem chemistry (Velizarova). They provide a review on the studies on soil properties in Spruce stands and information about the chemical composition of the rainfall fluxes.

The ornithological paper (Nankinov) reports a full list of birds occurring in Spruce forests. The species are classified according to their nesting behaviour, type of occurrence and zoogeographic origin.

Even though last mentioned, the paper dealing with forest pathology issues is very interesting. The authors (Rosnev and Mirchev) identify 7 pathogenic fungi and 10 xylophagous insects occurring in Spruce forests and possessing some danger for the health status of Norway Spruce. The information about xylophagous insects is important not only from the point of view of forest health, but also in relation to dead wood management – a topic with increasing importance in the recent years.

The book is a result of several decades of studies and is, therefore, of particular interest to everybody having some interests in Spruce and Spruce forests. I would have preferred to see a summary after each paper instead of the common one at the end of the book, but this fact does not decrease the book’s importance. I believe it will be welcomed by the scientific community.

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