

BIOLOGY OF NORWAY SPRUCE

Boratyński, A. & Bugała, W. (eds): *Biologia świerka pospolitego*. Bogucki Wydawnictwo Naukowe, Poznań, 782 + 32 pages, ISBN 83-86001-48-8, price 65 PZL (~20 USD).

In 1975 the Institute of Dendrology of the Polish Academy of Sciences in Kornik, Poland, started to publish the edition *Nasze Drzewa Leśne* [Our Forest Tree Species] aimed at the biology of forest tree species. This project was planned for 21 volumes, most of them being already published, however five are still waiting in the "queue". Several of the first volumes (Stone pine, Yew, Scots pine, and Poplars) have also been translated and published in English.

There is no doubt that the number of publications aimed at the biology of commercially important tree species is increasing annually and thus even such splendid monographs became old. This was actually the reason why the institute decided to publish the second edition of the monograph *Scots Pine* in much broader version under the title ***Biologia sosny zwyczajnej***¹ and seven years later also the monograph on Norway Spruce. When comparing the size of the first edition (300 pages of A5 size) with the size of the second one (814 pages of B5 size) the increased number of pages corresponds to (i) general increase of the publication number and (ii) a more detailed elaboration of individual chapters.

Thirty-nine authors participated in preparing the manuscripts of 13 main chapters: Norway Spruce in the History of Poland's Forests; Morphology and Variation; Systematics and Geographical Distribution; Anatomy; Embryology and Karyology; Principles of physiology; Reproduction; Genetics; Mycorrhiza; Ecology; Protection; Present Situation and Perspectives of Norway Spruce Plantations; Norway Spruce in Anthropogenically Changed Environment. In the appendix to these 13 main chapters the List of References, Subject Index and Plant and Animal Species

Index are published.

There are several chapters which bring relevant information to readers of *Forest Genetics* e.g. Morphology and Variation by T. Przybylski, Systematics and Geographical Distribution by W. Bugała and K. and A. Boratyński, Anatomy, Embryology and Karyology by A. Hejnowicz and Flowering and Fructification by W. Chałupka and finally the chapter on Genetics by M. Giertych, A. Lewandowski, L. Mejnartowicz, L. Janson and J. Matras.

The first part of the last mentioned chapter brings up-to-date information on geographical variation of Norway spruce based on provenance trials aimed not only at growth performance but also at adaptive traits. Results of interspecific and intraspecific hybridization of the genus *Picea* are also included in this chapter. The second sub-chapter Biochemical Genetics deals with results of the DNA analyses of chloroplast and mitochondrial genome of the genus as well as with results of extensive investigations of the isozyme studies of this species. Finally the last sub-chapter deals with the gene conservation of this species.

The chapters on generative reproduction (J. Sabor) and vegetative propagation (W. Barzdajn) might also be of interest for the readers of *Forest Genetics*.

There is no doubt this publication brings up-to-date information on the biology of Norway spruce in its European range. It is not a replacement of the famous Schmidt-Vogt's monograph "Die Fichte", but in many respects it can be considered as its updating.

The book is well illustrated with numerous drawings and b&w photographs in the text and as well as 85 colour and 35 b&w very illustrative photographs printed on 32 plates in appendix. The monograph ends with 112 pages of references (more than 3000), extensive subject and species indices.

¹ Białobok, S., Boratyński, A. & Bugała, W. (eds), 1993: *Biologia sosny zwyczajnej*. Sorus, Poznań - Kórnik, 624 pages, ISBN 83-85599-21-5.

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