

NORWAY SPRUCE PROVENANCES AND BREEDING

Rone, V. (ed.), 1993: *Norway Spruce Provenances and Breeding. Proceedings of the IUFRO S 2.2–11 Symposium. Latvia 1993*. Mežzinatne 3[36]:1–262, price 35 USD.

The proceedings of the IUFRO S 2.2–11 Symposium on Norway spruce provenances and breeding has been published as the special issue of the Latvian forestry journal *Mežzinatne* in a rather short period after the symposium. Within the activity of the IUFRO working party on the Norway spruce provenances and breeding this was the 5th symposium where the topical questions were discussed: Biri, Norway (1975), Bucharest, Romania (1978), Vienna, Austria (1985), Tjärnap, Sweden (1988), Riga, Latvia (1993).

The symposium has been divided into two parts Provenances and Breeding – theory and practice, in which 21 and 17 papers were presented, respectively.

In proceedings there are however presented some papers more which were submitted but not presented at the symposium.

From the first group of papers **Provenances** two papers were aimed at the IUFRO 1964/68 international provenance experiment (Balut & Sabor, Nieuwenhuis & Rostami, Rau, Skröppa, Person & Person) and further papers were aimed at IUFRO 1972 provenance experiment with Polish provenances (Matras). Further papers were aimed at the investi-

gation of the genetic diversity and differentiation of Norway spruce populations in Slovakia (Gömöry & Paule), Latvia (Goncharenko) and in the transition zone of *Picea abies* and *P. obovata* (Krutovskij & Bergmann).

In the second section of the papers – **Breeding – theory and practice** – the contributions aimed at climatic change and the Norway spruce breeding (Dietrichson) and frost tolerance and bud dormancy (Eriksson) were the introductory ones. Seven papers were aimed at the data on Norway spruce breeding in individual countries e.g. Russia (Dolgovikov), Lithuania (Gavrilavičius & Pliura), Poland (Giertych), Sweden (Danel, Werner, Karlsson), Germany (Kleinschmit) and Finland (Mikola).

The final part of the proceedings are the conclusions (Dietrichson & Skröppa) accepted by the participants of this symposium.

The proceedings are available from the Latvian Forestry Research Institute "Silava", LV–2169 Salaspils, Latvia.

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CONSERVATION GENETICS

V. Loeschke, J. Tomiuk & S. K. Jain (eds.), 1994: *Conservation Genetics*. Birkhäuser Verlag, Basel – Boston – Berlin, 440 pp., price CHF 65.00. ISBN 3–7643–2939–4 (Basel), or 0–8176–2939–4 (Boston).

This book grew out of the view that a reassessment of the role of conservation genetics and its contribution to a synthetic theoretical basis of conservation biology is timely and useful. therefore, it seeks to identify the progress made in this field during the last decade.

The editors have focused on genetic issues of conservation biology from an empirical and theoretical perspective and considered both plants and animals. In part I, the utmost importance of preserving genetic diversity in a changing world is discussed. Part II is concerned with the relationship between genetic variation and fitness and its implication for conservation. Examples are presented in pines and fish. Furthermore mutation load and synergetic effects between population regulation and genetic drifts are studied. Part III reflects upon inbreeding, population structure, and social interactions. Genetic structures of metapopulations and populations with social structure and migration are investigated with respect to conservation. Effects of inbreeding in small populations, interactions of inbreeding depression and environmental stochasticity, and bottleneck experiments try to back down conservation guidelines. In part IV, molecular approaches to conservation are presented. Current informa-

tion on the major histocompatibility complex as a well studied multiallelic system is reviewed., molecular data are used for species differentiation, and procedures are discussed for setting of conservation priorities in the sampling of endangered species on the basis of phylogenetic relationships. In the following part, case studies on natural and endangered natural plant populations and artificial gene flow is discussed in trout populations as well. Finally part VI gives some contributions to genetic resource conservation. Sampling strategies, the role of botanical gardens, and conservation genetics in context to the preservation of rare animal breeds are discussed. Furthermore, five scenarios are described to illustrate a few highly significant topics in conservation practice. These include population monitoring in social organisms, restoration of habitat, genetic resource collection, host-pathogen coevolution, and plant-pollinator mutualism.

This book is an important textbook for graduate and undergraduate students, and an additional key reference work for both geneticists and conservation biologists.

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