

Rozema, J.: **Stratospheric Ozone Depletion. The Effects of Enhanced UV-B Radiation on Terrestrial Ecosystems.** - Backhuys Publishers, Leiden 1999. 355 pp. NLG 200.00. ISBN 90-5782-047-1.

This book is a contribution to a quite widely investigated and discussed field that concerns the whole planet and its future. The elevated UV-B radiation has a cause in still growing human production. The global climate changes are a result of elevated CO₂ and air pollution content that inevitably increased along with industrial progress. The consequence is a depletion of stratospheric ozone layer and this, in turn, induces an increased amount of ultraviolet irradiation A and B approaching the Earth. As it is absorbed by DNA, it may influence and even threaten all living organisms.

The book is divided into four main parts containing together 17 articles. The complexity of increased UV-B radiation effects on plants, and in turn plant adaptation and defence against it are discussed. The enhanced UV-B represents a stress for plants. At the beginning the plant responses are described at the organism and molecular level. The articles in the second part deal with relationship between solar UV-B and photosynthesis as well as plant growth. The ability to synthesize screening pigments, an important protection against this condition, plays the role in these processes. Apparently, the effect of enhanced UV-B is not limited only to higher plants, but all organisms are influenced. Next section is focused on impacts of increased UV-B at ecosystem level. It implies

interactions as biogeochemical cycling, interactions between plants and microorganisms. Also model for plant material degradation as microorganisms acting in litter decomposition are affected by solar UV-B as well. Further, individual ecosystems are discussed separately, *i.e.* arctic and subarctic, grassland, mediterranean, South American and Antarctic. It is important to take into account also other additional co-occurring changing factors of environment such as temperature, precipitation, and elevated CO₂.

Each chapter is introduced with a nice illustrative photograph. Many graphs, charts, tables as well as coloured pictures supplement the text. The book is really important contribution to our understanding and predictions of the hot topic of changes in global climate with their implications. It is worked out by experts investigating carefully many aspects of impact of enhanced solar UV-B radiation at different levels. Various approaches, methodologies and results from different laboratories are compared and explained, because there are still some discrepancies among individual studies. The book can be recommended to all scientists aimed at the research on increased UV-B impact and interested in global events.

N. WILHELMOVÁ (*Praha*)