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Figures at the end of the issue

BOOK REVIEW

WALTER, H.: *Die ökologischen Systeme der Kontinente (Biogeosphäre)*. — (Prinzipien ihrer Gliederung mit Beispielen). Gustav Fischer Verlag, Stuttgart, New York 1976, 131 pp., 63 figs., 20 tab., 29,00 DM.

The book is based on the author's zonal classification of vegetation units depending on the zonal distribution of climatic types. One of the main aims of the publication has been — according to the author's introduction — to make recent significant results of Soviet ecologists (which are used as examples) available to the western readers, as they deserve great attention.

The content of the book may be divided into three parts, the first being devoted to the principles of the classification of the vegetation units of terrestrial ecosystems, their definitions and size.

The second part concerns the description of the ecological characteristics of the transitional vegetation zones (zono-ecotons) which have — from the ecological point of view — a special position resulting from the joined influence of both neighbouring climatic types. Results of the study of the following ecotons are introduced: forest-tundra, forest-steppe, Pannonic ecoton, East European semi-deserts, savanna zono-ecoton and subalpine oro-ecoton (= ecoton based on the height level). Extremely rich practical field experience and broad theoretical knowledge enabled the author to formulate a very synthetic conception. Individual examples are taken mostly from the Soviet literature. In the chapter on the forest-steppe ecoton results from the IBP project of the Leningrad University are dealt with.

In the third section of the book the author concentrates his interest on the results of detailed analyses of relatively very small units of the ecosystems which are the biogeocenoses. The results from the above IBP project of Leningrad University are cited again as examples. Field measurements of photosynthesis, biomass determinations of individual synusia, measurements of litter decomposition in so-called short cycle and destruction through the herbivore chain are given as examples of detailed description of individual biogeocenoses. Second example of biogeocenose analysis is from the sand desert of Karakum, Central Asia. Here water balance, root systems and autecology of psammophytes and halophytes, zoocenotic component and destruent are discussed in detail, including production data of most significant psammophytes and their stands.

Several new terms are introduced in the book, being derived and defined on the basis of ecological characteristics, e.g. zonobiome (biome determined by the zonal distribution), orobiome (biome resulting from the vertical zonation), pedobiome (biome induced by edaphic conditions). Nevertheless, the question remains if it is necessary and useful to coin new terms in the anyhow complex and rather confused existing terminology. Perhaps it would be satisfactory to add complementary attributes to the known terms. The term biogeocenose is defined by mistake (p. 48) as a unit corresponding to a plant association only i.e. to a phytocenose, while in other parts of the text it is used properly as including the zoocenotic components as well.

Like other books by Walter this publication is supplemented by many instructive schemes and figures. It brings detailed examples of the ecological analyses of the vegetation units of different classification level and size. It may be strongly recommended to anybody interested in plant ecology and in the classification of terrestrial ecosystems in general and in forest steppe and semi-desert conditions in particular.

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