Bookreview

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COMMUNITY STRUCTURE AND THE NICHE

Outline Studies in Ecology. Chapman and Hall, London and New York 1984, VII + 176 pp., 59 Figs. Price £ 6.35.

Like the previous titles in the series Outline Studies in Ecology this paperback booklet presents an up-to-date review on a restricted topic; the volume under review brings the complex answer to the question: What determines community structure?

The book contains ten chapters: 1. Introduction and definitions. 2. Niche theory. 3. Competition and the niche, the effect of niche width. 4. Competition and the niche, limiting similarity and differential niche overlap. 5. Predation and species diversity. 6. Competition and predation, complementarity of hypotheses. 7. Saturation of communities. 8. Species diversity trends — theories and hypotheses. 9. The relative abundance of species. 10. Community structure: the patterns and rules.

In the last chapter, the author presents a list of emerging community patterns and rules. They might be the basis for building a predictive theory of community ecology.

I have found very few apparent mistakes in this book. They are: p. 15 an error in the second formula (probably missing brackets); p. 56 — *Erodium botrys* is not a grass, but a grassland species; p. 140 — the relationships reported by McNAUGHTON (1978) and reprinted in Fig. 10.6 were shown to be a sampling artefact (see Nature 279 : 350—352). Some other points are controversial, e.g. the objectivity of the minimal area determination using the species-area curve (... "where the curve reaches its asymptote", p. 2), or the opinion that "... there is a repeatable convergence on the same climax community from any of many different starting points" (p. 87).

The book is written in a very concise, comprehensive, and thought-provoking manner. Various hypotheses explaining particular phenomena are listed first and then both supporting and contradictory field evidence and theoretical arguments are considered. The book reflects the state of the art in contemporary theoretical community ecology — the highly sophisticated speculations are often based on indirect evidence only — on the static data on the structure of communities, whereas the manipulative experiments needed for testing are usually lacking.

I have found the book very interesting and useful and I recommend it highly to both students and advanced scientists in community ecology. For students it presents the basic background of the subject, and for scientists thought-stimulating material and challenges for further research. The price of the book is reasonable and the book should not be lacking in any ecologically oriented library.

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