

Mucina, L., Pignatti, S., Rodwell, J.S., Schaminée, J.H.J. & Chytrák M. 1997. **European Vegetation Survey: Case Studies**. 238 pp. Opulus Press, Uppsala. ISBN 91-88716-14-7. Price: SEK 300.-.

Since 1992, a group of European phytosociologists has met each spring in Rome to encourage the development of an overview of the vegetation of Europe. This book is a compendium of selected papers presented at the 5th International Workshop held in Rome, Italy, 22-24 March 1996. The papers were first published in two issues of *Folia Geobotanica et Phytotaxonomica* (32/2: 113-220 and 32/3: 221-342). This work brings together in one soft-cover volume a significant contribution to the continuing effort to standardize the Braun-Blanquet classification approach in Europe.

Rodwell et al. in the introductory chapter state the primary purpose of the book: "Constituted as an official working group of the International Association of Vegetation Science, the European Vegetation Survey represents a new spirit in phytosociology... The realm of interest of the European Vegetation Survey is wider Europe, the Aegean and Canary Islands, Iceland and Svalbard, and its aims are to promulgate common data standards in phytosociology, to support national vegetation survey programmes and to develop compatible software and an electronic network for data exchange. Summaries of progress in this enterprise have been published from time to time..."

The key paper in the volume is a first approximation to a conspectus of the 73 classes of the European vegetation (Mucina). The detailed survey of European vegetation will only be possible within the framework provided by the Braun-Blanquet hierarchical system of classification, starting at the top level with the vegetation classes. The compilation by Mucina standardizes the nomenclature of the classes following the Code of Phytosociological Nomenclature. The classes are characterized by a brief diagnosis, a comprehensive list of diagnostic species, and a list of basic references. Several syntaxonomic problems are discussed as short notes. This is a key paper that has been accepted by the Working Group for the European Vegetation Survey as the framework for the classes and is being used to produce a draft of alliances for Europe.

The remaining papers in the volume address narrower or more local syntaxonomic issues, which are important in developing the European survey. Some papers are from regions where there has not been a strong tradition of using the Braun-Blanquet approach, such as Sweden (Diekmann's paper on the alliances of South Sweden) or Greece (Dimopoulos et al.'s presentation of the high-rank syntaxa of scree and rock-cliff habitats). Most of the other papers are from regions with a long tradition of using the Braun-Blanquet approach, where revision and unification of existing syntaxonomic concepts and nomenclature are essential to reconcile the decades of non-systematic applications of the Braun-Blanquet approach. Examples here include the studies of the forest fringes in Slovenia (Čarni), thermophilous oak forest in the Czech Republic (Chytrák), heathlands in the northern-central part of Spain (Loidi et al.) and calcareous alpine grasslands in the northeastern Alps (Grabner).

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Shugart, H.H. 1998. **Terrestrial Ecosystems in Changing Environments**. xiv + 537 pp. Cambridge University Press, Cambridge. ISBN 0-521-56342-9. Price (hardback): USD 99.-.

This is a good sized, 537 pages, well structured textbook. In the introduction the author states that, "the prime objective is to communicate an understanding of the prediction of the ceaseless motion of the Earth's vegetation: the large-scale dynamics of the terrestrial surface of the Earth in response to a changing environment." I think the book is at least partly successful in this regard. The author claims that the book is not solely intended for undergraduate teaching, however much of the content seems to have originated through teaching in some form or another.

The book consists of four parts and 14 chapters, and the reader progresses from the basic ideas of change, to basic concepts, examples of models and finally to examining global change. The first part consists of three relatively short chapters, and the first, the introduction, is more of a formality than particularly useful. Chapter 2 looks at time and the long term nature of change, through the Quaternary, including the Holocene and more recent times when anthropogenic changes have occurred. This chapter includes brief and fairly superficial descriptions of the evidence for increasing CO₂ and the greenhouse effect in the atmosphere. The concluding chapter in part 1 looks at the ecosystem as a concept and in terms of scale both temporal and spatial as well as ecosystem dynamics including succession. Generally I find that part 1, looking at change on a variety of time and space scales, covers subjects that would require a number of books to cover. However, I think I would prefer my students to look in greater depth at these subjects in the other books.

Part 2 is a review of basic concepts starting with ecological modelling in Chapter 4. I find this to be a very useful chapter at the correct level for an introductory text or as background to further reading. The following three chapters deal with some of the theories that can be found in models. Chapter 5 summarises well some of the basic ideas in niche theory including Grinnellian and Eltonian concepts, attempts to synthesise these approaches by Hutchinson and McArthur, the nature of communities and the continuum concept along environmental gradients. The author concludes this chapter with a very relevant and timely quote from Wilson (1990), "...it seems that all plant communities are always in a state of change in response to climate..." and from Zobel (1992) "the diversity pattern of real plant communities does not suggest that the competitive exclusion of similar species can be the basis for explaining coexistence." Vegetation and response to the environment are the subjects of Chapter 6. Grime's triangle, environmental gradients and global-environment relationships are discussed, including approaches through correlations between vegetation and climate to the idea of rules to predict vegetation under certain climates. Chapter 7 looks at landscapes and their patchiness in space and time and how the ideas of Watt (1947) and cyclic succession lead to the theories of gap dynamics in forests. I think this is the most useful section of the whole book as it gives a good overview of some of the recent ecological theories at a level of detail suitable for an undergraduate course.