

Preface to the second edition

The success of the first edition of this text was as much of a surprise to the authors as it was to both the publishers and its academic and scientific audience. The enthusiastic response demonstrated that there was a very clear need for a book that sought to simplify the complexities of vegetation description and multivariate analysis in the context of vegetation data and plant ecology. The first edition went through eight reprints and only went out of print in 2005. A second edition has been at the proposal stage for over ten years and it is only now, following retirement from mainstream academic life, that the author has found the time to develop the project further. Nevertheless, the need for such a text appears to be as great as ever.

In the 19 years since the publication of the first edition, a great deal has changed in the world of vegetation science and plant ecology. What is now one of the key journals in the subject, *Journal of Vegetation Science*, was only founded in 1990, two years before the publication of the first edition of this book in 1992. The sister journal *Applied Vegetation Science* only appeared in 1997. Numerous other journals relevant to the subject have evolved during the intervening years and the whole field of multivariate analysis has extended its application across the full range of ecological sciences. While actual methods and techniques have evolved only relatively slowly over this time, far more significant changes have occurred in the world of computer hardware and software. As the review of software in Chapter 9 of this new edition demonstrates, there are now numerous quite sophisticated packages available for vegetation data analysis, and a whole new approach has emerged at the research frontier using the R language and related packages.

Over the past 20 years, the use of methods of vegetation description and analysis has extended globally. Originally the province of a relatively small group of academics in the United Kingdom, Europe, North America and Australia, examination of the range of research locations of scientific papers published in *Journal of Vegetation Science* and *Applied Vegetation Science* clearly demonstrates that the scope and application of vegetation description and analysis by scientists and academics is now truly worldwide. One of the paradoxes of this is that during that same period, both plant ecology and vegetation science can only be described as having taken a back seat in the author's home country of the UK. This is partly because many of the most exciting avenues for research and exploration in vegetation science lie elsewhere on the globe, particularly in the tropics. A key theme of the new edition is to demonstrate and foster this worldwide perspective of the subject. This is a perspective that is all the more important because of the universal threats to biodiversity and the limited success of the numerous valiant efforts at biological conservation across the globe in the face of human exploitation and so-called development.

Lastly, the author would like to thank all those students, particularly those who have completed his Masters course in ecology and multivariate analysis at the University of Plymouth over the past 12 years, for their enthusiasm for and commitment to this subject. While the greater range and complexity of methods and of computer software today means that this text cannot possibly cover every aspect of the subject of vegetation science at the research level, ultimately, the purpose of this book is to introduce, simplify and explain quite complex things for the improvement of

understanding and to assist with learning. I have never forgotten the comment of a very well-known vegetation research scientist, who came up to me at a conference after the publication of the first edition and told me in no uncertain terms that *'you should never have published that book – it makes things too easy for students and removes the mystique'*!! I knew from that moment onwards that the book had every potential to achieve its objectives and it is my fervent hope that this second edition manages to build even more successfully upon that achievement.

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