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Austria and Switzerland

Basic and Applied Ecology 13 (2012) 390–394

Basic and
Applied Ecology

www.elsevier.com/locate/baae

BOOK REVIEWS

Quantifying Functional Biodiversity, F. Pla, F. Casanoves, J. Di Rienzo. Springer, Berlin (2012). 98 pp., € 49,95, ISBN: 978-94-007-2647-5

A book review need not lead to a clear recommendation on whether a book is worth purchasing. For the brief booklet of Pla et al., however, there is no avoiding the conclusion that this book should remain in the publishers darkest storage rooms, safely wrapped up! This first instalment of Springer's new "Briefs in Environmental Science" is an uninformative, poorly written, incomplete piece of merchandising for a redundant software, a book which has clearly never been seen by any of the publisher's lecturers. Given its price, it is a clear rip-off. (Springer, can you hear me?)

This 98-page booklet comprises four chapters, including an uninspired "Introduction" to what functional diversity means and where it can be useful; a strangely unfocussed chapter "Functional Groups" discussing what functional groups are and which clustering algorithms exist; a review of "Functional Diversity Indices", which would be useful if there were not better ones; and a final software user guide explaining "How to Estimate Functional Diversity Indices", using dozens of screenshots and two examples.

With this book, the authors want to achieve three aims: highlight the importance of analysing functional aspects of diversity in ecological studies; review which functional diversity metrics exist; and provide an introduction to the use of their software. However, the book lacks all aspects that justify a book-length treatment of the topic: thoroughness, competence and conviction. With respect to thoroughness, this book presents the diversity indices also reviewed so well in Magurran and McGill (2010, *Biological Diversity*, Oxford University Press), but in their interpretation and skeletal discussion fall far behind the nice review by Mouchet et al. (2010, *Functional Ecology* 24, 867–876). Given that the authors have implemented their simultaneous computation in FDiversity, it would have been easy to add an updated comparison using simulated data. Or, taking a different example, while they recommend standardising trait values before the analysis, they fail to explain any of the 23 (!) available options.

With respect to competence the authors fail because information is patchy and occasionally wrong (such as on page 35, 36 and 38, where the subscript "1" instead of "i" is used). When the authors use technical terms in a vain attempt to display ecological street credibility, they fail, as in their list of

dispersal types, which comprises "Hydrochory, Autochory, Zoochory and Wind" (instead of anemochory; p. 11, their capitals).

With respect to conviction, enthusiastic functional diversity scientists (if such persons exist) would choose case studies that show how useful its quantification can be. Instead, the few examples are stale (such as clustering bird species according to beak, wing and body size) and remain without ecological interpretation of the results. What is worse, most examples spend more time with classical strategies such as PCA and clustering than computation and visualisation of functional diversity indices, and if they do, the additional information is not elaborated upon. Indeed, the authors seem to have decided to let each chapter end when the reader is most expectant, without any discussion, wrap-up or conclusion.

Which leaves us with the authors' third objective, introduction to their software, which they have already published in *Methods in Ecology and Evolution*. If there was need for an additional introduction, chapter 4 would not be it. It does not inform the reader which parts of the computations are to be carried out in other software and instead promotes another statistical software packages of the authors, which regrettably is not free. Also, the book fails to mention that FDiversity is a Windows-only software. That is no great loss, however, since FDiversity builds on R and all functionality is already available (in ade4 and FD).

A positive thing to say about this booklet is that it is so short that the reader is likely to read it cover to cover. Unless, that is, he or she will be repelled by the English, which is a grammatical and typographic catastrophe throughout, in some places simply incomprehensible. Who understands what "an analysis using real data sets with small random modifications to allow data files availability for unpublished databases." (p. 53) may be? Let me finish with a representative quote that sums it all up (p. 58): "When click OK the selector statistics appear."

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doi:10.1016/j.baae.2012.01.002