New book: *Ecology: From Individuals to Ecosystems* by Michael Begon, Colin R. Townsend and John L. Harper, 4th edition. 2005. 738 pages. ISBN 1-4051-1117-8. Blackwell Publishing. Paperback. US$89.95.

Mongolian biologists literate in Russian were well acquainted with the first edition of this comprehensive textbook in ecology as it was translated and published in two volumes in the late 1980s. Now in its fourth edition, published 19 years since its first edition and 9 years since the third edition, *Ecology* still maintains its widely acknowledged status as an advanced-level comprehensive ecology text at universities all over the world. Many refer to it as the "Bible" of ecology.

There have been several changes from its previous edition and these changes certainly reflect the dynamics of the science of ecology in recent years. For example, island biogeography theory is only a part of the chapter on patterns of species richness in the current edition, whereas a whole chapter was devoted to it in the third edition. A brief discussion about macroecology is now provided. Time series analysis is introduced in much greater detail than before. Detecting population cycles by using autocorrelation analysis on time series data is discussed. Newly incorporated in this edition are basic matrix population models, with introductions to linear algebraic operations, and sensitivity and elasticity analyses which were absent in the previous edition.

Probably the most profound change is the restructuring of parts and chapters. With this reshaping, the number of chapters has decreased from 25 to 22. Each chapter now ends with a summary of main points which recapitulate what was discussed in that chapter. Three new chapters are fully devoted to robust scientific approaches to a wide range of applied aspects of individual, population and community-level ecology. All these changes were made while assuring the foremost goal of the book remained intact: not only to introduce readers to fundamental ecological theories, but also to convince readers that ecological systems are not entirely free of human influences and interference. Demonstrating how ecological knowledge could be used for issues including conservation of endangered species, pest management, sustainable harvest, design of nature reserves, ecosystem restoration and so on in the face of global environmental changes such as climate warming, is also a key aim of the book. In this sense, our understanding of ecological concepts in the present day have been shaped by the basic ecological principles in this book.

The volume of the book is reduced by approximately 15 % from the third edition. But the decreased volume did not mean less coverage in this case. An extensive update was made by incorporating results of about 800 recent new studies. A support website (www.blackwellpublishing.com/begon) was created so that some learning tools such as artwork, glossary and most importantly interactive mathematical models are available for students. Since the third edition of the "big book", the authors also produced an introductory text, the *Essentials of Ecology* (now in its second edition, Townsend *et al.,* 2003). Because the *Essentials* is aimed at an introductory level audience, it really allowed the authors to cover ecological concepts in much more depth and in a more up-to-date fashion in the fourth edition of *Ecology*.

There are however some shortcomings. First of all, it would have been useful to produce a detailed table of contents to make it easier to find where a certain concept is covered, as some concepts can be discussed anywhere in the book. Unfortunately, the book still has a short table of contents as with the earlier editions. Quality of some of the black-and-white photographs was not great and turned out to be fuzzy (e.g., Fig. 11.15a). There are some advanced topics that should not have been missing and/or lacking in-depth introduction, especially when the book is designed for an advanced level audience. For example, the fourth edition does not have coverage on stochastic modeling. Stochastic models are useful because arguably most, if not all, ecological systems are not deterministic, therefore are unpredictable, and stochastic models can provide probabilistic estimates for certain events happening (Gurney & Nisbet, 1998). It lacks an introduction to individual-based population models as well. The fundamental unit of ecology is an individual, and individually-structured models have been an important frontier of ecological research since the mid 1980s (McDade, 1999). Also lacking is discussion about unified neutral theory in community ecology, which has been a hot topic