

from the book. Tropical rainforests are the most productive ecosystems, at a scale of 1 m<sup>2</sup> and for the entire globe. Production across all these areas sums to a total net primary production of 62.6 Pg of carbon per year. This is strikingly similar to von Liebig's extrapolation from his garden, but the book notes that current production of our planet may be notably greater than it was in von Liebig's time, perhaps by 10–20%, as a result of human-related changes in atmospheric carbon dioxide and land use. But then again, von Liebig used a garden as his basis for extrapolation, which may be increasingly appropriate for our changing planet.

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#### Conservation of the Common Chameleon

**El Chamaleón en Andalucía: Distribución Actual y Amenazas para Su Supervivencia.** Mellado, J., L. Gimenez, J. J. Gomez, and M. Sanjuan. 2001. Fundacion Alcalde Zoilo Ruiz-Mateos. Rota, Cadiz. 147 pp. 15.02 Euro. ISBN 8487960-31-6.

*El Chamaleón en Andalucía* offers a multidisciplinary examination of the biology and conservation of the common chameleon (*Chamaeleo chamaeleon*) in southern Spain. The primary goal of this book is to quantify the effects of human activities on this species. The authors combine cultural, historical

and scientific information to place this relatively narrow topic within a broad perspective. The book is motivated by the widespread decline of the common chameleon throughout southern Spain, primarily as a result of habitat loss. The authors are frank about one limitation of this book, the relatively narrow portion of this species' European range in which the work is centered. Moreover, large portions of the book are dedicated to the methods used to quantify distribution and abundance and the factors responsible for population declines in this species.

The chapters are organized into three main sections. The authors start with a detailed account of methodology that may be useful for students. They then move onto movement patterns and distribution, a highlight of the book because of the high-quality maps and graphics. The discussion of the dispersal capability of this species and its consequences was particularly interesting; so much for chameleons spending their entire lives hiding in trees! The final section focuses primarily on the conservation and sources of mortality of this species. First, the authors provide a detailed account of mortality resulting from road traffic, which ties in well with the previous discussion of movement patterns. Second, an analysis of habitat loss through time places the conservation of the common chameleon into a historical perspective.

While the book is loaded with useful and appealing maps and figures, good photographs or illustrations of the common chameleon are lacking. I would also have appreciated more from the conclusions, in particular a consideration of the future of the chameleon of Andalucía. Further, the book would have been enhanced by the inclusion of more ecological information. For example, very little is mentioned about either predation or diet of the common chameleon. These two factors can be important determinants of persistence in fragmented landscapes. The authors effectively summarize their findings in the conclusions, but I would have also

liked a broader synthesis. How can all of this information be applied, and what can it potentially tell us about other species? Are there generalizations concerning the region, or chameleons as a group, that can be gleaned from this compilation of data?

On a stage set by concern for vanishing species, this book compiles and interprets a great deal of information. At a time when the single-species approach to conservation has been replaced with community-based conservation efforts, this book reminds us of the wealth of information (and time) needed to accurately assess a species' status and empirically decide what (if anything) can be done. Although focused on a single species, this book offers a great case study of the history and current status of the chameleon of Andalucía. It is a welcome addition to a growing body of work on the conservation status of reptiles.

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#### Biological Invasion: a Case Study

**Global Invader: the European Green Crab.** S. Behrens Yamada. 2001. Oregon State University, Corvallis, OR. 123 pp. \$15.00 (paper). ISBN 1-881826-24-4.

*Global Invader: the European Green Crab* is a concise case study of a well-known invasive species, *Carcinus maenas*. During the last 200 years this crab, native to the eastern shores of the Atlantic, the North Sea, and the western Baltic, was introduced and established on both coasts of North America as well as in Australia, Tasmania, and South Africa. While not as geographically impressive as the world-wide spread of black and brown rats (*Rattus rattus* and *R. norvegicus*, respectively), the global invasion of the European green crab has been ar-

guably more carefully documented and better studied, especially along the west coast of North America.

In veterinary medicine and other disciplines, case studies are used to highlight certain aspects of a disease or process. They do not tell everything, and their specifics cannot always be extrapolated to other cases, yet they serve as important teaching tools. As written, Behrens Yamada's book on the European green crab is more than a reference text; it is a case study on biological invasion and serves as an important teaching tool for all students of ecology and invasive species, not just those interested in marine ecosystems.

The book is divided into two sections — a comprehensive review of the life history and biology of the green crab, and a historical overview of green crab invasions with emphasis on their recent introduction on the west coast of North America. The text is well referenced and serves as a valuable resource for marine biologists. The well-written prose, glossary of terms, and appendices also make it easy to read and understand for people who do not have a marine science background.

Studying the introduction and expansion of an invasive species without knowing its basic biology and life history is like reading the cover of a book and pretending you know the story. You may know the story line, but you don't know the story. Behrens Yamada recognized this and dedicated chapter one to making the reader a student of the green crab. The reader is first introduced to green crab taxonomy and life history, including its reproduction, early development and life stages, as well as postlarval development and growth. After this, Behrens Yamada compares green crab life history patterns around the world, then goes into detail about special features of green crab biology that make it a successful invader (i.e., tolerance to temperature extremes and salinity, distribution patterns, and predation). Predators and pathogens, of

ten overlooked implications of invasion by non-native species, also are discussed. Chapter one ends with a short section on potential ecosystem impacts of green crab introduction.

By the time the reader begins chapter two, "Case histories of Green Crab Invasions," she or he has the tools necessary to evaluate common green crab invasion patterns and the ability to understand and predict potential impacts. The sections on the ecological and economic impact of green crab invasions and invasion mitigation measures are biased strongly toward the west coast of North America. This is probably a result of the large amount of research that has been conducted on this coast since the green crab was first discovered in the San Francisco Bay in August of 1991.

By reading just the cover of this book, people could falsely think that only marine biologists would find it appealing. The truth is that this book, a well-written case study on an invasive species, has broad appeal. Invasive species, be they viruses, plants, invertebrates, or vertebrates, cause economic or environmental harm and even harm to human health. Conservation biologists need well-studied examples of invasive species for understanding and teaching the general principles of biological invasion. Behrens Yamada's book *Global Invader: the European Green Crab* is one of these examples.

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### Biodiversidad y Su Cuantificación

**Métodos para Medir la Biodiversidad.** Moreno, C. E. 2001. M & T- Manuales y Tesis SEA, vol 1. Zaragoza, España. 84 pp. 9 Euros. ISBN 84-922495-2-8.

*Métodos para Medir la Biodiversidad* es el primer volumen de la colección de Manuales y Tesis de la Sociedad Entomológica Aragonesa (<http://entomologia.rediris.es/sea>), Zaragoza (España). Está escrito en español, ya que según su editor (Antonio Melic) el número de hispano parlantes alcanza ya a 350 millones de personas (es decir, >5% de la población mundial, según mis cálculos).

Su autora, Claudia E. Moreno está adscrita al Centro de Investigaciones Biológicas de la Universidad Autónoma del Estado de Hidalgo, México. El objetivo de ella fue recopilar y ejemplificar los diferentes métodos propuestos para medir la biodiversidad al nivel de especies y el manual está dirigido a estudiantes y profesionales involucrados en estudios de ecología y/o evaluaciones ambientales sobre la biodiversidad de los ecosistemas y el impacto de los diferentes factores que inciden sobre ella. Para ejemplificar (manual y computacionalmente) el uso de los diferentes métodos compilados en el texto utiliza sus propios datos de capturas de especies de murciélagos presentes en comunidades de selva mediana y cultivo de maíz de Jalcomulco, Veracruz (México).

El manual, de una excelente calidad de impresión, está dividido en cinco capítulos y presenta un prólogo (escrito por Jorge M. Lobo del Museo Nacional de Ciencias Naturales, Madrid, España), un índice, una presentación y una conclusión, literatura citada (71 referencias actualizadas y pertinentes, incluyendo direcciones de Internet en el caso de programas computacionales), un índice de índices, resúmenes en español e inglés, siete cuadros y cuatro figuras. El primer capítulo es muy breve y está dedicado a los "Métodos de medición a escala genética". En realidad, es sólo una presentación de las técnicas moleculares actuales para estudiar la variación genética dentro de las especies. El segundo capítulo, "Métodos de medición a nivel de especies" (44 páginas), constituye lejos el tema central de este compendio y finaliza con una muy sucinta introduc-