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Ecology in Africa: a view from the past for informing the future

African Ecology – Benchmarks and Historical Perspectives. Clive A. Spinage, 2012, Springer.

1562 pp. £180 (hardback) / £180 (ebook). ISBN 978-3-642-22871-1. <http://www.springer.com/>

“Africa’s natural habitats are disappearing at a rapid rate accelerating markedly since the 1970s. A continent outstanding for its exuberance of life, both in numbers and variety of flora and fauna, this largely historical treatment provides benchmarks against which change can be assessed and man’s role in shaping the ecology of Africa...”. These opening sentences from the preface to Spinage’s grand synthesis of African ecology hint at the scope and breadth of material covered in this book. It is one of the best recent synthetic works, drawing widely from the historical literature, and presents a wealth of past and current information in an accessible and highly readable format.

This book is an incredible feat and brings together decades of work in a superbly well-written and thoroughly researched volume. The book is built around major themes, including climate, fire, vegetation, populations of animals (such as elephants or locusts) and a stunning review of diseases and their ecological roles, including both zoonoses and epidemics that have affected humans over time. The book builds on the previous works by the author that focus on ecology and disease, such as *Cattle plague: a history* (Spinage, 2003), which is a synthesis of the history and ecology of rinderpest.

It is the inclusion of disease and vector biology that makes this an innovative and timely work. Traditionally, most African ecology has been focused on the charismatic mega-fauna (Shorrocks, 2007), which is an important conservation focus, but also part of a complex and dynamic system. Given the rapid ecological changes being experienced across Africa through both direct anthropogenic disturbances and global climate change, the chapters examining disease ecology are timely and should stimulate scientists to take a closer look at these issues. With the synthesis of information on specific ecological patterns, this work sets a valuable historical baseline for those interested in regional biogeography and especially for those currently working in this

area—developing new range maps, distributional analyses or other studies.

Each chapter in this book could stand as a work on its own; the breadth of material covered in each one is substantial. At the same time, the vast amount of technical information, biogeographical datasets, historical accounts and biological details, including the details of life-history strategies of many less well-known or researched organisms, is presented in a clear and accessible style. This book therefore will be of use not just to students and scientists in the field of ecology, but to anyone interested in African history, wildlife conservation and development.

The author has very thoroughly researched all the topics covered and presents a balanced historical perspective, including when discussing potentially controversial issues, such as the use of fire as a management tool, or the control (or lack thereof) of populations of elephants. Wherever these topics are discussed, the author has been careful both to document the historical aspects of the issue and to present different points of view. This is especially important because many conservation issues today have far-reaching impacts in social and political spheres beyond the basic science. Given that conservation is ultimately about populations and interactions, sustained within landscapes, the historical works reviewed by Spinage are an important reference for current decision-makers in the field of conservation biology in Africa.

One example discussed in detail in the book is that of the biology, impact and control of the tsetse fly. Today the ecological consequences of these interventions continue to have ramifications for both conservation and livestock management across Africa. The chapters looking at diseases and epidemiology are perhaps the most poignant in the book; the author points out that many of the data are historical, yet new information is not being generated as rapidly, for reasons ranging from lack of support for basic research to political insta-

bility in affected regions. In bringing together this vast body of knowledge, and putting it in an ecological context, one of the major achievements of this book is in demonstrating that there are crucial gaps that remain to be researched, including some pressing questions regarding the basic biology of vectors.

The last section of the book is an overview of human history and our impacts on the ecology of Africa. This is approached from the historical perspective, but is one of the most up-to-date discussions of this material available. One important accomplishment of this section is the vast amount of historical data, from reports, government documents and other sources that are not typically accessed by many researchers today. This is a real strength and I believe highlights a very important aspect of research in the digital age: as more and more sourcing of literature is done online, it is imperative for scientists and students alike to keep in mind that relevant materials may not have made it into searchable digitised formats, and yet these 'obscure' documents and the data they contain could provide important insights into patterns or crises being faced today.

With the trend towards ever shorter scientific publications it is important that works like this continue to be produced because they reveal the complexities that make up a field such as ecology, which is deeply connected with so many other areas in both the social and natural sciences.

Africa today is one of the fastest-growing and developing parts of the world. Growth rates in Africa currently surpass those of more developed economies, and almost everywhere in the continent there are massive investments being made in agriculture, infrastructure and other areas of socioeconomic development. At the same time, Africa holds some of the world's hungriest nations (IFPRI, 2012), and these hunger-afflicted regions include some of the most biodiverse of the planet, such as the Central African Republic and Ethiopia.

All of this is taking place against a background of rapid human population growth. For example, my own country of Kenya currently adds 1.4 million people a year, and our population has quadrupled over the past four decades. This trend is typical for sub-Saharan Africa and is not expected to change in the near future (UNFPA, 2010). This is the scenario and challenge that conservation in Africa will face during this century: maintaining diversity and ecology while supporting the development of sustainable human livelihoods.

As students and scientists continue to explore these themes in relation to biogeography and ecology, learning from the past while looking to the future will be important. With a work of such scope, it would be immensely useful if this work could be made open access (it is available in a digital format) so that even larger numbers of students and scientists could access and benefit from it.

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References

- IFPRI Global Hunger Index (2012). IFPRI, Concern Worldwide, Welthungerhilfe and Green Scenery. Bonn / Washington, DC / Dublin.
- Shorrocks, B. (2007) *The biology of African savannahs*. Oxford University Press, Oxford.
- Spinage, C.A. (2003) *Cattle plague: a history*. Springer, London & New York.
- UNFPA, 2010. *World population to reach 10 billion by 2100 if fertility in all countries converges to replacement level*. United Nations, New York.

Edited by Markus Eichhorn