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Himalayan Biodiversity in the Changing World

Author(s): Shonil A. Bhagwat

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Himalayan Biodiversity in the Changing World

Edited by Pavel Kindlmann. Berlin, Germany: Springer, 2012. x + 226 pp. € 139.95. ISBN 978-94-007-1801-2.

Conservation of global biological diversity is severely compromised by the so-called Wallacean shortfall. Named after Alfred Russel Wallace, one of 19th century's leading experts on the geographical distribution of species, this shortfall refers to a lack of complete understanding of the distribution of many taxa. The Wallacean shortfall poses a serious challenge for biodiversity conservation planning and management because, without the understanding of the distribution of a species, decisions about where to target efforts for its conservation are hard to make. A knowledge gap of this kind is particularly severe in remote mountainous regions of the Himalaya where high species richness is combined with intricate topography and inaccessibility, which means that species assemblages of some groups and from some regions still remain relatively unexplored.

Himalayan Biodiversity in the Changing World not only makes a contribution to filling this knowledge gap but also identifies challenges and attempts to chart the way forward for conservation of Himalayan biodiversity. The book focuses on Nepal, a country at the heart of the Himalayan mountain range, which occupies nearly a third of its west-to-east length. This is a significant contribution to understanding the Himalaya-wide distribution of many species, their threat status, and key issues in their conservation. The book is a compilation of chapters, many written collaboratively by Czech and Nepalese authors. All have substantial experience of working in Nepal and acute understanding of the issues and driving forces in this

country, a country that is experiencing rapid change in land use and resource use, while facing severe effects of global climate change. The book is well illustrated with maps, color photographs of ecosystems and landscapes, fauna and flora, and the people in Himalaya, which makes it successful in communicating scientific information in ways that are easily accessible to the lay reader. A compilation of species indexes at the end of the book makes a useful addition for experts who are interested in specific taxa. Therefore, the book has elements that appeal to both a general audience and subject specialists.

The first chapter introduces the region and provides an overview of biodiversity in Nepal. The chapter also familiarizes the reader with the country's 6 biogeographic zones or ecoregions, each characterized by its own vegetation types, fauna, and flora. The second chapter identifies challenges for conservation of biodiversity in Nepal, with particular focus on threatened species. It describes the setting of the country's protected area network, which has been successful thus far in offsetting effects of land use change, as well as illegal logging and poaching; but challenges remain as the population on the periphery of protected areas continues to grow. The chapter identifies the tension between conservation and development as the main challenge for conservation of biodiversity in Nepal. Although this is a reasonable conclusion, tackling this challenge is likely to require concerted regional policies that address both biodiversity conservation and poverty alleviation.

The following chapters focus on specific taxa and attempt to compile information on their geographical distribution in various ecoregions of Nepal. The third chapter takes on orchids, a group of plants characterized by high species richness and endemism, alongside considerable knowledge gaps in the geographical distribution of many species. The

chapter reports findings of an extensive survey of orchids in a district in the foothills of Himalaya and describes the orchid composition of each vegetation type, and is supplemented by a useful matrix of the presence or absence of each orchid species across vegetation types within this region. Subsequent chapters focus on a variety of other taxa, storks, wild ungulates, Himalayan tahr, snow leopard, and tiger, and explore ecologies of these taxa or their groups at habitat and landscape scales. These chapters also examine the interaction of these taxa with vegetation, other wild species and, often, the livestock or people with whom they cohabit the Himalayan landscape. However, the chapters do not stop just there; they identify challenges for conservation and make precise recommendations based on empirical evidence from the research. The challenges tackled by these chapters include widespread hunting in Nepal's national parks and the need for conservation beyond the protected areas, within the densely populated agricultural landscape mosaic.

Although *Himalayan Biodiversity in the Changing World* has an all-encompassing title, in reality the book focuses only on a selection of taxa in which the authors have expertise because the work presented has been conducted by a relatively small group of researchers, so the choice of taxa is somewhat eclectic. For example, although orchids, storks, wild ungulates, or large carnivores are well covered, some of the critical knowledge gaps, notably in lower plants or invertebrates, are not addressed. However, the data presented are based on fairly long-term studies carried out by graduate students under supervision of researchers dedicated to understanding the distribution of Himalayan biodiversity for more than a decade. This temporal perspective, therefore, makes these data very useful for those interested in understanding the effects of environmental or anthropogenic changes on the presence and distribution of species in the Himalaya.

The book is well referenced throughout and exposes the reader to literature beyond what is presented in the empirical case studies. The reference lists at the end of each chapter are useful, should the reader wish to undertake further reading. Also useful are numerous good-quality photographs and maps, which allow the reader to put the case studies into appropriate context. Another useful feature is commentary at the end of each chapter that

identifies conservation issues and the way forward, by providing policy makers with useful summaries of the issues at stake. This book, therefore, appeals to multiple audiences, but, most importantly, it is a useful starter and a suitable text for undergraduate or postgraduate students. By appealing to this latter audience, who might well conduct further research on Himalayan biodiversity to fill the pressing knowledge gaps, this book will, it is hoped, make a lasting

contribution to conservation of Himalayan biodiversity in the face of rapid change.

AUTHOR**Shonil A. Bhagwat**

shonil.bhagwat@ouce.ox.ac.uk
School of Geography and the Environment,
University of Oxford, Oxford OX1 3QY,
United Kingdom

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