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Biological Conservation

journal homepage: www.elsevier.com/locate/biocon

Book review

Rhinos of the World: Ecology, Conservation and Management, Mario Melletti, Bibhab Talukdar, David Balfour (Eds.). Springer, Cham (2025). (423 pp., EUR 93.08, ISBN 978-3-031-67169-2 (eBook))

The book, *Rhinos of the World: Ecology, Conservation and Management*, edited by Mario Melletti, Bibhab Talukdar, David Balfour, is a vital and comprehensive resource that offers an in-depth exploration of rhino biology, their ecological significance, and the various conservation strategies and management practices employed to protect them. The central aim of the book is to provide a thorough documentation of the current state of rhino conservation, with a focus on the urgent need to prevent five extant species from the looming threats of poaching, habitat destruction, and illegal wildlife trade. By reviewing both the successes, such as the recovery of Southern White Rhino, and the ongoing challenges faced by critically endangered species like Northern White Rhino, this book provides valuable insights into how conservation practices can be tailored to the specific needs of each species. The book not only contributes to the field of biological conservation, but also emphasizes the importance of combining species-specific management approaches with broader global strategies that include international policy, habitat restoration, and local community involvement. Ultimately, this book provides essential knowledge and a call to action for continued efforts across disciplines and regions to ensure the survival of rhinos and the protection of population and ecosystem.

The book is organized into three distinct parts, each providing a different interconnected aspect of rhino biology, conservation, and management. This clear structure allows the readers to gain a comprehensive understanding of rhinos from both scientific and conservation perspective, making it accessible for researchers, conservationists, and interdisciplinary scholars.

Part I, Systematics and Evolution, provides fundamental background information by going through the evolutionary history of the rhinoceros family. This starts off by dissecting the even larger group containing all rhinoceroses and discussing the morphological and molecular differences of the five extant species from their ancestral state. It investigates the fossil record, hence the multitude of rhino species that ever existed and why perished; these are the very issues that make that fact important for understanding where the modern family came from. The systematics chapter helps readers grasp the complexity of rhino evolution, and each fossil-focused chapter ends by explaining how extinct species' survival strategies inform today's conservation efforts. Here, the emphasized part stresses that the evolutionary history of an extinct lineage should be studied for more effective conservation and to preserve the genes of surviving species. Part II, Species Accounts, examines comprehensive base information in Rhinoceros biological characteristics, the threat, and the extinction problem, and some conservation solutions to enhance the rhino population. Specific species accounts from Southern White Rhino

(*Ceratotherium simum simum*), Northern White Rhino (*Ceratotherium simum cottoni*), Black Rhino (*Diceros bicornis*), Greater One-Horned Rhinoceros (*Rhinoceros unicornis*), Javan Rhinoceros (*Rhinoceros sondaicus*), and Sumatran Rhinoceros (*Dicerorhinus sumatrensis*) provide with very clear and systematic in this section highlighting their specific habitat needs, feeding behaviors and reproduction patterns. Biological information is very important for the implications of conservation can be applied with high accuracy; this is connected with the basic conservation science, which has a scope among human activity, biodiversity, and the habitat profile. Human conflict, the hunting trend (especially for the horn), habitat fragmentation, and degradation are always present in the population problems of the rhinos. A conservation strategy has been implemented in all the rhinos, where the main focus is ex-situ conservation. Not all conservation strategies succeed, because existing threats remain while new ones, such as invasive species, continue to emerge. These challenges demand innovative approaches tailored to rhinos' biological profiles, opening fresh possibilities for future conservation efforts.

Part III, Conservation and Management, analyses conservation trends, the rhino population recovery across Africa and Asia, and the efforts to preserve the critically endangered rhino effectively. It also discusses the successful recovery of the southern white and black rhinos in Africa, the northern white rhino's critical status, and the threats of habitat loss and poaching. This section also highlights the socio-political complexities related to rhino horn poaching and trade, providing insights into international efforts to restrict illegal wildlife trade and demand for rhino's horns. Moreover, it explores the fluctuating population of the greater one-horned, Sumatran, and Java rhinos with the efforts to restore their population. The chapter also explores the vital role of ex-situ conservation in zoos, global initiatives such as the IUCN-SSC One Plan approach, and ongoing threats like poaching and the illegal horn trade. It concludes by weighing whether the horn trade should be legalized and underscores the need for sustainable funding and local-community involvement in conservation.

This book is an invaluable resource for researchers, conservationists, policymakers, and interdisciplinary scholars interested in the conservation of rhino species. One of the book strengths is multidisciplinary approaches, combining scientific research, field reports, and conservation strategies to tackle the complex issues of rhino conservation. The book provides in-depth coverage of both biological aspects and socio-political challenges that influence conservation efforts.

Overall, this book is a timely and essential work that underscores the ecological, conservation, and management importance of rhino. It stands out for its ability to provide detailed species biological accounts alongside practical conservation strategies, offering a comprehensive guide for rhino or wildlife conservationists. By providing in-depth discussions supported by scientific research and conservation strategies,

<https://doi.org/10.1016/j.biocon.2025.111294>

Received 14 April 2025; Received in revised form 31 May 2025; Accepted 2 June 2025

Available online 6 June 2025

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the book not only enhances scientific understanding but also serves as a call to action for rhino conservation. The book is a vital resource for advancing the science and practices of rhino conservation, providing new innovation to enhance rhino conservation strategies for future generations.

CRediT authorship contribution statement

Ivan Jeremy Jethro Palege: Writing – review & editing, Writing – original draft, Conceptualization. **Rista Lidia Serafika Kmurawak:** Writing – review & editing, Writing – original draft, Conceptualization.

Acknowledgment

We are grateful to the Indonesian Ministry of Finance's Lembaga

Pengelola Dana Pendidikan (LPDP) for providing financial support to publish this article and for sponsoring the author's postgraduate education.

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