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BOOK REVIEW

Raptors: The Curious Nature of Diurnal Birds of Prey

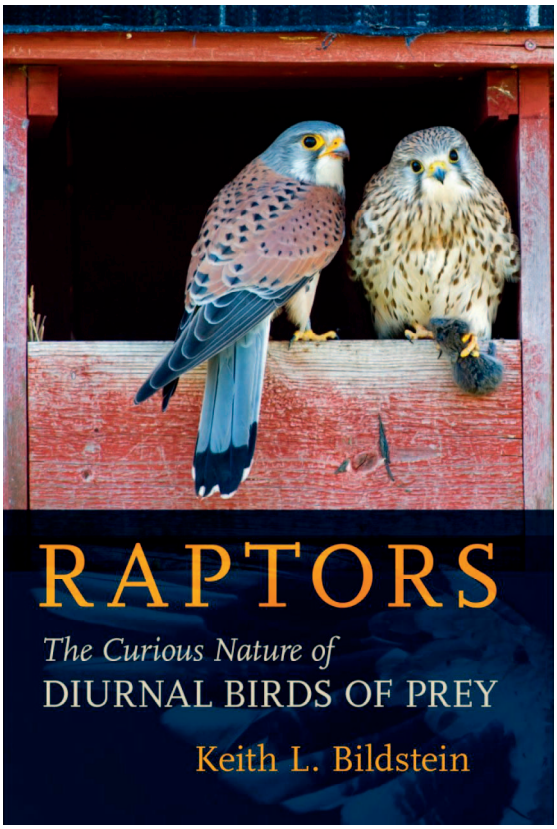
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Raptors: The Curious Nature of Diurnal Birds of Prey by Keith L. Bildstein. 2017. Cornell University Press, Ithaca, NY, USA. xi + 324 pp., 20 color plates, 6 text figures, 11 tables. $25.89 (hardcover). ISBN 978-1-5017-0579-3.

Across the globe there exist more than 300 species of diurnal raptors, birds of prey that specialize in daytime hunting. These species occur on nearly every continent, as well as on various island systems. Many of the members of this group provide essential ecosystem services, some of which are beneficial to human well-being, including indirect-use value through their roles in nutrient cycling and the prevention of disease outbreaks.



Humans tend to be interested in raptors less for their utility than for their aesthetic or cultural value. We admire their intelligence and ferocity, and we have a tendency to relate to them on a more personal level with regard to the worldly struggles of life. To date, relatively few authors have attempted to synthesize and integrate what we know about this remarkable group of birds. It is a formidable challenge, but Keith Bildstein has embarked on it in his new volume, *Raptors: The Curious Nature of Diurnal Birds of Prey*. This book contains a synopsis of the current knowledge available on diurnal raptors, while also incorporating major highlights of the technical raptor literature. The author intends this work to be a valuable introduction that provides a biological overview of this group and the functional role these birds play in their respective ecosystems. The material is presented in a manner that should appeal to the interested layperson and help instill an appreciation of these marvelous predators, but the book will likely be enjoyed by both bird experts and novices alike.

Bildstein provides essential background and contemporary research information on all aspects of raptor life history and conservation issues. The material is organized into eight chapters, covering various topics such as form and function, senses and intelligence, distribution and abundance, breeding ecology, feeding behavior, migration, and the ever-changing relationship between raptors and people. Each chapter also includes information boxes that contain additional anecdotes or research studies that help reinforce each overall theme. Furthermore, readers will find that the book's figures efficiently accomplish the same task, while also providing a visual representation of the topic being discussed. In addition, the inclusion of stunning photographs of raptors from around the world also helps capture the reader's interest by "putting a name to a face" from the case studies mentioned in the text. Finally, the conclusion of each chapter also contains a numbered list of the main summary points of the topics covered.

The first chapters consider the various adaptations in raptors over the course of evolutionary history that shaped them into the specialized predators they are today. Some of

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these adaptations include the use of feathers in efficient gliding and soaring, as well as in thermoregulation. Other adaptations involve sensory structures, such as eyesight and hearing (that are far superior to those of humans), which allow raptors to hunt by both sight and sound.

Additionally, Bildstein examines the capacity of raptors to engage in observational and trial-and-error learning. He then discusses raptor distribution and abundance, elaborating on how species migration, particularly from the Northern to the Southern Hemisphere, influences these patterns on a global scale. He also examines why some species are rarer than others, specifically in terms of geographic and habitat-specific rarities. The subsequent chapters reviewing breeding and feeding ecology are also of great interest to most raptor biologists. In these passages, Bildstein discusses typical raptor mating systems as well as the patterns of parental care these birds invest in their offspring. He also examines the mechanisms by which raptors hunt, along with the various prey items both dietary specialists and generalists capture and consume.

Some of the most intriguing topics in this book are discussions on raptor migration and conservation science. Much of the information presented on migration draws upon Bildstein's previous book entirely devoted to those subjects. In particular, the inclusion of information regarding recent research using GPS and GIS technology, specifically in North American vultures, provides the reader with a valuable example of the application of satellite technology in this field.

Furthermore, the discussion of raptor conservation issues is especially relevant. Raptors are particularly vulnerable to anthropogenic threats from increased land use, contaminants, and direct persecution. Bildstein paints a more optimistic picture for the future of raptors on the planet, with increased knowledge of raptors overall, local education, global relationships among raptor biologists, and the resilience of the birds themselves in the face of these threats.

As a technical text, *Raptors* presents an in-depth synthesis of diurnal raptor literature. While some of the chapters may be a bit lengthy and review material at a level of detail greater than what an average reader might expect, Bildstein nicely organizes the main points at the end of each chapter with a list of key points. Readers will appreciate his approachable, conversational writing style, as well as his charming wit. This style should satisfy experienced biologists while not alienating the layperson less familiar with raptors. The book will have accomplished its goal of instilling a deep admiration for these species if it changes how a layperson would generally regard a hawk or vulture. Overall, it should appeal to anyone with an interest in the natural world and will give any reader a greater appreciation of these unique and spectacular species of birds.

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