

## **Falcons of North America, Second Edition**

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## BOOK REVIEW

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**Falcons of North America, Second Edition.** By Kate Davis with photography by Kate Davis, Nick Dunlop, and Rob Palmer. 2021. Mountain Press, Missoula, Montana, USA. 264 pp., 260 color photographs, index, glossary, references. ISBN 978-0-87842-701-7. Paperback. \$28.00.

*Falcons of North America* (Second Edition) is much enlarged, and in many respects, a completely new edition of this exciting, informative, and professionally written book. The book, authored by Kate Davis, provides a comprehensive account of the biology, behavior, and threats to the six North American falcon species. The text and photographs will appeal to most Raptor Research Foundation (RRF) members, including casual raptor enthusiasts and professional raptor biologists. *Falcons of North America* references a wide variety of scientific studies and is scattered with unique factoids and observations of falcon behaviors that one may be hard-pressed to find in scientific literature. The writing strikes a balance for easy reading that includes detailed scientific information while limiting jargon. *Falcons of North America* also does an exemplary job describing broad concepts in falcon ecology while accounting for species-specific exceptions and little details.

In contrast to the first edition, the second edition is physically larger with more pages and photos. The second edition has 264 pages with 260 photos from 17 different photographers. Each species account is longer, with more detail in the second edition than the first; for example, the account of the Merlin (*Falco columbarius*) comprises 8 pages and 9 photos in the first edition and 12 pages and 18 photos in the second.

The sequence, topics, and written material of the second edition are similar to the first edition but updated with current perspectives and recent published research. The book starts with an Introduction and Taxonomy, followed by Falcon Morphology and Physiology, Behavior and Feeding, Nesting and Breeding, Movements, Falcons and Human-kind, and Conservation, similar to the first edition. The book is improved with “Four falcon tales,” which highlight important conservation topics for four species. A chapter on Current Falcon Threats is followed by a new chapter titled Looking Forward, which emphasizes a renewed need for raptor education. These chapters are followed by six species accounts that include standard material such as description, range, habitat, behavior, flight, breeding, vocalization, movements, conservation, subspecies in North

America, etymology of the species name, and some interesting tidbits about the species.

A prime example of updates to the first edition can be seen in the chapter on taxonomy. This important chapter discusses updates to falcon taxonomy based on new evidence (e.g., DNA analyses) that has revolutionized how raptor researchers review genetic relationships within birds of prey. Falcons, at one time, were included within the other diurnal birds of prey, but new evidence shows that they are more closely related to parrots and the South American seriemas. Davis compares falcons to the three other orders of raptors: New World vultures; kites, hawks, eagles; and owls and places the six North American falcon species in context with other falcon species found worldwide.

Of particular interest in *Falcons of North America* (Second Edition) is the addition of “Four falcon tales” some of which will be familiar to readers. Davis provides a solid review of Peregrine Falcon (*Falco peregrinus*) recovery after populations were severely reduced by environmental contaminants. Next comes a discussion of climate change effects on the Gyrfalcon (*Falco rusticolus*) and their principal Arctic prey of ptarmigan and ground squirrels. Then comes the story of the Aplomado Falcon’s (*Falco femoralis*) extirpation and subsequent reintroduction into the USA. Last is a review of recent findings and concern about American Kestrel (*Falco sparverius*) population declines, especially in eastern North America.

The inclusion of small vignettes highlighting contemporary organizations and programs working with raptors is another compelling component of *Falcons of North America*. In the chapter titled Falcon Movements, for example, the Southern Cross Peregrine Project is spotlighted. Briefly, the Washington-based Falcon Research Group trapped and tagged North American breeding peregrines during migration and the nonbreeding season in coastal Chile in 2007 and 2008. Tagged birds were tracked to determine whether peregrines consistently used similar geographic locations each year for breeding and nonbreeding. A map included in the chapter shows two individuals with consistent use of breeding and nonbreeding areas between years. In the chapter titled Falcon Conservation History, our very own RRF receives a tight one-page description and encapsulation of its history. Regular readers of the *Journal of Raptor Research* (JRR) and members of the RRF may be aware of the more detailed history of the RRF over the past 50 yr (Parrish et al. 2019).

*Falcons of North America* has been extremely well and extensively edited, and we found few typographical errors. Not to nitpick, but we discerned one date listed as 1917, which should have been 2017 (p. 156). The book’s figures

are clear and effective, though in one instance, black arrows overlap black and white drawings (e.g., drawings of falcon topography), which could cause confusion for people less familiar with raptors or avian morphology. We also found an instance where terminology could be improved. Some among us may recall the late Brian Walton at an RRF meeting patiently explaining the difference between “historic” and “historical.” As the former Editor of JRR, I (CMW) have had to point this out as well. The term “historic” was used instead of “historical” in reference to a peregrine eyrie in Montana that went unused during the decline of peregrines then was reoccupied upon recovery. The eyrie should be considered historical, meaning “pertaining to the past,” as opposed to historic, which means “famous in history.”

In addition to these minor technical issues, we found a few instances where content in *Falcons of North America* could be revised or updated. In Falcon Morphology and Physiology, it was stated that “birds have an automatic locking mechanism in their legs and feet” (p. 14), which is widely published in the scientific literature but has recently been questioned. Research from Galton and Shepherd (2012) provide evidence that refutes an automatic perching mechanism in starlings, which may apply to other birds. Similarly, *Falcons of North America* states that kestrels use ultraviolet (UV) light from urine trails of small mammal to locate prey, but Lind et al. (2013) suggest that UV cues are unlikely to be important foraging cues for raptors, including the Common Kestrel (*Falco tinnunculus*). We recommend that future editions of *Falcons of North America*, and other publications, reexamine the evidence for the claims of automatic perching and UV vision in falcons.

*Falcons of North America* calls attention to population declines of the American Kestrel, a timely and important topic throughout its historical range. The “Falcon Tale” for kestrels thoroughly documents the complex and multiple possible causes for population declines. Although causes of American Kestrel declines are still not understood and input by multiple researchers is published annually, we feel this section could include additional recent evidence supporting or refuting hypotheses for declines. For example, an increase in the Cooper’s Hawk (*Accipiter cooperii*) is listed as a possible hypothesis, though Smallwood et al. (2009) suggest evidence contradicting this hypothesis from nest box studies. Similarly, newer research suggests declines are unlikely to be caused by low reproductive rates (McClure et al. 2021, albeit published after *Falcons of North America* Second Edition was printed) or lack of suitable nesting sites (McClure et al. 2017). Instead, declines may be the result of low fledgling or adult survival, mortality outside of the breeding season, or population differences in immigration and emigration (McClure et al. 2021). Much work remains to be accomplished and debated to discern why American Kestrels have declined, but we feel that the book fairly reviews possible causes of declines.

In terms of taxonomy, the species account of the Prairie Falcon (*Falco mexicanus*) claims that the specific epithet

*mexicanus* was given because the first specimen known to science was collected in Mexico. However, in much digging, I (CMW) found there is nuance to the name, because the type specimen was initially thought to be from Monterrey, Nuevo León, Mexico but was actually collected near Monterey, California, USA, before Mexico ceded California to the United States in 1848 (Palmer 1988). Origin of the epithet was examined in detail by renowned German ornithologist Erwin Stresemann; however Palmer (1988) wrote a history of Ferdinand Deppe (the first collector) and found that Deppe worked briefly in California in the vicinity of Monterey. Deppe never collected near Monterey, Mexico. Stresemann concluded that the specimen was collected in California in the vicinity of Monterey and not the present-day country of Mexico.

This naming confusion is like that of another North American falcon subspecies, *Falco peregrinus pealei*. Much of the ornithological literature states that one of the two co-types was collected in Oregon. In fact, the co-type was collected in the Puget Sound area of Washington during a government exploration in which Titian Ramsay Peale, after whom the taxon is named, took part. During that time frame, however, Washington, Oregon, Idaho, and a small part of Montana were considered the Oregon Territory.

The written content of *Falcons of North America* is impressive, but the photography is fantastic. It is easy to conclude that Nick Dunlop and Rob Palmer are among the best contemporary photographers of birds of prey. They provide vivid documentation of falcons in the wild; indeed many members may have seen their photographs displayed at many recent RRF in-person meetings. Some of our personal favorites show murmurations, e.g. swirling clouds, ribbons, funnels, and figure eights of flocks containing thousands of European Starlings (*Sturnus vulgaris*) under attack by peregrines. Other spectacular photos depict peregrines attacking or following flocks of shorebirds along ocean beaches, with one especially spectacular photo on a two-page spread showing a peregrine among storm-driven, white-capped waves that are hitting the beach. One intriguing photo shows an adult peregrine standing on a gull with three fledged young standing, front to back in a row behind her, waiting patiently to be fed. As noted by Nick Dunlop, his photo of an adult male peregrine taking a tidbit of food from its apparent female mate, may be the first such behavior to be seen and certainly to be photographed. Other falcon species are amply covered in stunning photographs by other professional and amateur photographers with descriptive captions. Davis selected outstanding photos to represent aspects of falcon ecology and biology; the photographers all receive credit for their contributions, which is important for publication and exposure in books with multiple artists.

Overall, *Falcons of North America* is a great and informative book that will appeal to a broad audience, and will stand up as a readable, credible, and colorful source of material and inspiration for experts, raptorphiles, and interested laypeople alike. The photos are top-of-the-line and combined

with Davis' professional research and writing, *Falcons of North America* is a book everyone should have in their bookshelf and broadly share with family, friends, and cooperators.—**Alexandra M. Anderson (email address: aande763@gmail.com), Mono, ON, Canada, and Clayton M. White, 1146 South 300 West, Orem, UT, USA.**

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