

Owls of the United States and Canada: A Complete Guide to Their Biology and Behavior, by Wayne Lynch

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Owls of the United States and Canada: A Complete Guide to Their Biology and Behavior.—Wayne Lynch. The Johns Hopkins University Press, Baltimore, MD. 242 pp., 194 color photographs. ISBN-13: 978-0-8018-8687-4; ISBN-10: 0-8018-8687-2. \$39.95.

Because books on owls are almost as numerous as owls themselves, a new one must separate itself from the pack if it is to sell. *Owls of the United States and Canada* makes its case through numerous excellent photographs taken by the author. I found it a bit hard, though, to categorize this book. It is more than a coffee table book but less than a serious reference to owl biology and will appeal mostly to those who appreciate fine wildlife photography and those who have a more than casual interest in owls. However, despite its title, the book was not meant to be and will not serve as a comprehensive reference to the biology of North American owls. The 194 photographs (all but one by the author) are the heart of the book. One hundred fifty-three of the photographs are of owls, but the species coverage is not even—e.g., Great Horned Owls (*Bubo virginianus*) are pictured in 27 photos, Snowy Owls (*B. scandiacus*) in 21, while four species appear only in one or two photos each. The remaining photographs illustrate a wide variety of other species of wildlife, various habitats, and other things related to the book's theme.

Lynch's many other books range in subject from owls, hawks, loons, penquins, and vultures, to bears, seals, mountain sheep, sloths, and wilderness. Here he ventures again into what is apparently one of his favorite animal groups. His writing style is smooth and conversational, and he seamlessly interweaves his

personal experiences with results discovered by owl researchers on a wide range of owl biology. Although he does not cite the sources of material gleaned from the scientific literature, occasionally he mentions the names of researchers in connection with specific pieces of information. But this referencing is not consistent—results are often presented without connection to the person(s) who generated them, leaving the reader with no way to pursue that particular aspect of owl biology. A reference section at the back lists a selection of publications mostly from the scientific literature and grouped according to the chapters in this book. Because they are grouped by chapter, some references are repeated in two or more chapters, and many potentially useful references are not included.

The book begins with acknowledgments and an introduction where Lynch reveals his own owl addiction, and segues into a short history of humankind's fascination with owls. Eight chapters and an appendix listing the scientific names of all plants and animals mentioned in the book follow the introduction. The list of references and an index conclude the book. An identification guide inserted, rather unexpectedly, between chapters one and two, includes the 19 species of owls inhabiting Canada and the United States. Each is given brief coverage including a color photograph, range map, field identification characteristics, habitat, diet, life span, and status. Some of the range maps are detailed (e.g., Spotted Owl [*Strix occidentalis*]), but most merely show the broad boundaries encompassing where the species exists (e.g., Short-eared Owl [*Asio flammeus*]). Chapters one and two both deal mainly with anatomy and physiology, but not in a comprehensive manner. For example, digestion, excretion, and circulation are not covered.

Chapter one also covers the evolutionary history of owls along with aspects of owl anatomy concerned with flight and prey capture. In light of current world events, I was amused with the section heading labeled, "WMDs: Weapons of Mouse Destruction." A table of owl weights and wingspans in this chapter is only slightly useful, mainly for understanding the relative size of owl species, because it does not account for sexual dimorphism, even though the often considerable difference in size between the sexes in owl species is discussed in chapter five. For example, the mean weight given in the table for the Great Horned Owl is 1453 g. Female Great Horned Owls average 1706 g, and males 1304 g (Houston et al. 1998). For Barn Owls (*Tyto alba*), the table lists 454 g as the mean weight, when females actually average 568 g, and males 474 g (Marti et al. 2005).

Chapter two continues with anatomy and physiology focusing on hearing and vision. The capabilities of these sensory modalities in birds in general and owls in particular are reviewed, but I was disappointed to find so little on the hearing of Barn Owls, the species whose hearing and sound locating abilities have been the most intensively studied. R. S. Payne's pioneering studies are included in the reference section but not mentioned in the text, and the extensive studies of Knudsen and Konishi on Barn Owl hearing are noted very briefly. Lynch does a good job of tying together low-light vision, hearing ability, spatial memory, and behavior to explain the effectiveness of owls as nocturnal animals. He concludes, however, that owls aren't much better at seeing in low light and locating the source of sounds than humans, but can you imagine yourself flying through total darkness to capture a mouse by the sounds it makes moving through dry leaves or locating and catching a vole burrowing under deep snow?

Owl habitats are discussed in chapter three, and overall, the material gives a reasonably good picture of where owls live—i.e.,

in almost all terrestrial habitats from tundra to tropical rain forest to desert. I think, however, that the dichotomy made between dwelling in forests and nonforests is overdone. Lynch states that only six of the 204 species of owls in the world live in nonforest habitats, including the Snowy, Burrowing (*Athene cunicularia*), and Short-eared Owls in Canada and the U.S. What about the Barn Owl? It can't be considered a forest species; several others (e.g., Great Horned and Long-eared Owls [*Asio otus*]) may use forests for nesting but hunt mainly in open areas, and Elf Owls (*Micrathene whitneyi*) primarily occupy desert environments. Chapter three also includes more on anatomy and physiology—a discussion of thermoregulation—and winds up with migration and irruptive movements.

Chapter four deals with food habits, touching lightly on a variety of issues associated with foods and feeding. Owl diets are presented mostly in a qualitative way, and some quantitative information, when provided, is exaggerated. Barn Owls are said to be able to consume 11 000 mice in their lifetime, but this assumes a lifespan of 10 years, about five times the average lifespan of a Barn Owl. Barn Owls are also alleged to regularly eat Norway rats (*Rattus norvegicus*), which are, in reality, generally uncommon in Barn Owl diets and when included, are mostly juveniles. Other topics in this chapter are dangerous prey, regurgitated pellets, hunting techniques, and caching of excess prey.

Chapters five and six cover reproduction. Chapter five deals with the early stages of the reproductive cycle—courtship behavior including vocalizations, nest-site selection, copulation, egg laying, and incubation. A table portraying clutch size and incubation periods for the 19 owl species presents the mean clutch size for most species as a range and the clutch range as a wider range. For example, for the Snowy Owl, mean clutch size is given as 3–5, and clutch size range is given as 2–11. Both values given for the Barn Owl are too low. A discussion of sexual dimorphism concludes this chapter in which the main explanations for why females are larger than males are briefly summarized. Chapter six covers what happens from when the eggs hatch until the young disperse. The process of hatching is described along with coverage of the fact that owl eggs do not hatch at the same time and the benefits that might arise from such a strategy. The parental behavior of the adults as well as what nestlings do while in their nests and what drives them to eventually leave the nest are topics given considerable space in this chapter. In contrast, the final topic, natal dispersal, is not covered in enough detail corresponding to its importance.

Chapter seven contains three topics that are not closely related, and only one of them, predation on owls, has real consequence

to owls. Predation is largely on eggs and nestlings of owls and mostly by mammalian predators and other birds, and it occurs despite the aggressive defense that even small owls direct toward nest predators. Predation on adult owls is mostly by raptors including other owls. The second topic of this chapter, kleptoparasitism (stealing of food from another species), is apparently so rare in owls that it hardly merits coverage. The final topic is the harassment of owls by other birds. Several pages are devoted to this, but a strong case is not made that the mobbing owls receive has much effect on their survival.

The concluding chapter discusses issues of vital concern for the survival of owls—the mega-impacts of humans on the Earth's environment. If anything, this chapter could have been longer to adequately characterize these threats. The ever-increasing human population drives several factors that have negative impacts on other species including owls. Of the various human activities creating problems for owls, habitat alteration and increasing their mortality are probably the worst. Some owls suffer high mortality rates through colliding with vehicles on roadways. It appears that owls have not felt such severe impacts from chemical contamination as have some other predatory birds. Lynch also includes mention of some help that humans give owls such as providing artificial nest sites. Chapter eight concludes with a short, useful section on tips for seeing owls, but which seems out of place. Maybe in a future edition of the book, this section could be combined with the other orphan section—the identification guide—and given chapter status.

I recommend this book highly for community and high school libraries. Collectors of fine wildlife photography will want it, as will individuals who have a moderate-level interest in owls.—CARL D. MARTI, Raptor Research Center, Boise State University, Boise, ID 83725. E-mail: cmarti@spro.net

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