ZOOLOGY

Wildlife of the Arctic

By Richard Sale and Per Michelsen. 2018. Princeton University Press. 304 pages, 19.95 USD, Paperback.

Wildlife of the Arctic provides a good overview of the Arctic environment and many of the animals that live there. The authors are both explorers of the Arctic, with decades of combined experience in the region, which has provided them with unique perspectives on Arctic wildlife. Richard Sale has written multiple books about exploring different parts of the world, including a few



about Arctic wildlife. Per Michelsen is an outdoor photographer who has focussed mostly on the Arctic and sub-Arctic. The preface to the book offers a good glimpse into the intended audience of the book: the authors discuss early Arctic explorers and how the Arctic continues to inspire adventurers. The intended audience is for those interested in exploring the Arctic, from first-time visitors to people exploring new areas of the Arctic. This book will likely not be sufficient for ecologists and more advanced naturalists. Individual species accounts are quite general, the list of species and species accounts is not exhaustive, and no range maps are provided (species accounts typically contain a single sentence about the species range). More taxa-specific guides are recommended for people requiring detailed accounts of species in the Arctic.

The authors begin by describing the physical environment of the Arctic and how animals have adapted to living there. The authors also spend a few pages defining what they consider to be Arctic. The definition of the Arctic can be ambiguous, sometimes being defined by the Arctic Circle (66.56°N), other times by the tree line, and still other times based on average temperature. These authors decided instead to use their own definition, which they feel the average person would likely agree with. This definition of the Arctic uses the average temperature, but also includes areas that the average person would consider to be Arctic, such as Churchill, Manitoba, and the entirety of Iceland, which are not included by the standard temperature definition.

After setting the stage, the authors then spend most of the book describing Arctic wildlife with species accounts of birds and mammals, including marine mammals, illustrated by many very nice photographs, followed by a small section describing the general variety of ecosystems, invertebrates, fungi, and plants found in the Arctic. Within the species accounts, the authors typically provide nearly a page of information about each group of species (e.g., ducks, eagles, rodents, ungulates), but then vary the amount of information that they provide for individual species. Some species accounts are only a couple of sentences (e.g., Siberian Brown Lemming [Lemmus sibiricus]), while others span a half page (Arctic Ground Squirrel [Urocitellus parryii]) or more than a page (Reindeer/Caribou [Rangifer taran*dus*]). The amount of information provided for each species is not a function of what is known about the species, but more likely related to how familiar the authors are with these species or to the more "iconic" species that Arctic travellers are likely to encounter and possibly care more about. For example, raptor species (e.g., eagles, hawks, and falcons) have nearly a page devoted to each of them, whereas waterfowl have a quarter of a page. Some species of mammals didn't receive species accounts: there is a single page on shrews, but no individual species accounts, unlike with other groups.

The authors do not provide species accounts for amphibians, reptiles, and fish, although they mention amphibians and reptiles found in the Arctic in the section on how wildlife have adapted to cold environments, and they mention fish when discussing Arctic ecosystems. There is no explanation provided for why these species are excluded, but it is likely related to which species will be seen most by Arctic explorers. However, a section on fish species that are important to Arctic people, such as Arctic Char (*Salvelinus alpinus*), would have been useful for first-time visitors of the Arctic.

The common names used for species are generally European, which may be confusing for readers from North America. The authors usually list the European name first with the North American name in parentheses (e.g., "Red-throated Diver (Red-throated Loon)"). In some cases, however, they don't acknowledge the North American name this way; for example, "Common Merganser" is listed simply as "Goosander", with a statement in the description that it is "occasionally called Common Merganser". In other cases, the authors first state the North American name with the European name in parentheses (e.g., "Moose (Elk)"). More consistency in the treatment of European versus North American names is needed, and a few sentences in the introduction describing how different names are denoted would have been useful.

Overall, this book will be a useful general introduction to Arctic wildlife for travellers who have an interest in the topic. However, for details about specific groups of species, readers should look to taxa-specific guides.

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