

## Book Review

MARINE MAMMALS OF THE NORTH ATLANTIC. Carl Christian Kinze, illustrated by Birgitte Rubæk, translated by David A. Christie. Princeton University Press. 2003. ISBN 0-691-11307-6, Cloth: 45.00 USD; ISBN 0-691-11308-4, PBK: 18.95 USD.

*Marine Mammals of the North Atlantic* is an English translation of *Havpattedyr i Nordatlanten*, published in Danish in 1994 and 2001. Princeton University Press has issued it as one in their series of "Princeton Field Guides." This requires me to make a confession right up front. I have been a more-or-less serious birder for about three decades. Birders are notorious for their loyalty to a particular field guide. I have no doubt that if dueling were still fashionable, there would be a significant rate of mortality among birders resulting from "discussions" over the merits of one field guide over another. I say this only to be clear that I have very definite expectations for a volume that is called a "field guide."

Most of the book (157 pages) is comprised of species accounts for 53 species of marine mammals known to inhabit the North Atlantic—32 toothed whales (dolphins, porpoises, and larger species), eight baleen whales, seven seals, walrus, two manatees, polar bear, and two freshwater otters that sometimes occur coastally. Each species account lists the scientific name and common names (in English, French, German, and Spanish); includes separate sections entitled "Description," "Behavior," "Reproduction," "Food," "Natural Enemies," "Relationship with Man," and "Similar Species"; and also includes an illustration, a range map, and one or more color photographs. There are introductory sections about the general biology and characteristics of each order, family, and subfamily. The species accounts are preceded by two sections—a three-page introduction to the structure of the book and how to use it, and an 11-page review of the geography and oceanography of the North Atlantic Ocean. Following the species accounts are a one-page glossary, a one-page bibliography, a page listing helpful websites and photo credits, and an index of just over six pages.

I found the book to be well-written, designed, and edited, and it was quite enjoyable to read. I was able to find fewer than ten spelling or editing errors. Some apparent errors were likely due to imprecise translations from the original Danish. For example, "codfish" as a major prey of white-beaked dolphins

and harbor porpoises may have been more correctly translated as "gadids." As a concise and readable introduction to North Atlantic marine mammals for the general public, this book would serve well.

As either a field guide or a scientific reference, however, I found the book to be inadequate. A good field guide should focus on identification, with very realistic illustrations and complete descriptive information about the characteristics used to identify a species and, particularly, to differentiate it from similar species. The book's introduction includes a one-page key to families that is of little value, using characteristics that would be difficult or impossible to see in living animals at sea, especially at any distance (e.g., teeth vs. baleen, one vs. two blowholes, fluke notch present or absent, spatulate vs. conical teeth). The information included is sometimes insufficient. In discussing the potential difficulty of differentiating stranded belugas from other species after the skin is gone, it states, "The Beluga, however, will always be identifiable by its lack of a dorsal fin and by the particular shape of the flippers and tail flukes" (p. 96). Nowhere in the text is there any description of what is unique about the flukes. While many of the illustrations are quite good, at least to my non-artist's eye, some seem to have a "cartoon-like" quality that make them insufficiently realistic. Comparing the illustrations here to those by Pieter Folkens in Jefferson et al. (1993) and Wynne (1997) or by Garth Mix in Wynne and Schwartz (1999), the former are consistently "fatter" and not as sleek and streamlined as the living animals with which I am familiar. The sections on "Reproduction," "Food," "Natural Enemies," and "Relationship with Man" add little to the book's usefulness for species identification. In particular, the "Natural Enemies" sections are nearly identical across all species (with some variation on "presumably killer whales and large sharks") and therefore add no real information.

Another necessity for an effective field guide is accurate range maps. The range maps here are on too large a scale (the entire North Atlantic on an 8x6 cm map) to show useful detail. There is no indication of seasonality for known migratory species. Nearly every species is shown as distributed continuously across the basin from North America to Europe, when in truth we know very little about distributions in the open sea beyond the continental shelves. For example, the range of the harbor porpoise is shown

to be continuous from North America to Europe, including many offshore regions (p. 92), while Read (in Ridgway & Harrison, 1981-1999) shows a clearly coastal and discontinuous distribution. In species where I have some personal knowledge about distributions along eastern North America, the maps were frequently inaccurate and sometimes did not even agree with what was written in the accompanying legend. For striped dolphin, the legend states, "On the American east coast, the species is distributed north to Newfoundland" (p. 65), but the range on the map ends at Cape Cod. A nearly identical disagreement between range map and legend is also present for Risso's dolphin (p. 90).

As a scientific reference, the book is similarly weak. Some of this is no doubt simply a result of scientific progress since the publication of the original Danish edition in 1994, although the bibliography of 27 books includes 16 published after 1994. The taxonomic and systematic information was obsolete and failed to incorporate the changes published by Rice (1998). For example, Kinze included the seals in the "traditional" order Pinnipedia, despite a broad consensus that the pinnipeds comprise a clade of much lower rank within the order Carnivora, suborder Caniformia (the phylogenetic diagram presented on page 25 showing mammalian relationships inconsistently follows the more recent classification). In my experience, most nonscientists find taxonomy confusing and boring, so it would be better to omit completely rather than include obsolete, incorrect, or "traditional" information.

In my opinion, a major weakness is a complete lack of reference to the primary literature (appropriate for a general-readership book but not for a scientific one). The bibliography consists primarily of similar "field guides" and other volumes written for the general public, along with some more scientific general marine mammal texts and reference volumes. I insist that my students cite from the primary literature, rather than secondary sources in their term papers, therefore, this book would be of no use to them for research. The lack of cited sources also makes it difficult to verify statements that seem questionable—for example, for white-sided dolphins, "groups of up to several thousands are observed in the middle of the North Atlantic" (p. 47).

It seems that Kinze has attempted to fit this book into three categories: an introduction to marine mammals for the general public, a field guide, and a scientific reference; however, one outcome of trying to accomplish too many things at one time is that none of them is done well. He has succeeded most as a general guide, but even in that regard a substantial number of errors detracts from the overall value. Many of these are relatively minor, but some are significant. Only a

few examples are included below (in every case where I needed to look up something that I did not already know for certain, I was able to find it using only two sources, both included in Kinze's bibliography—Ridgway & Harrison, 1981-1999 and Perrin et al., 2002):

- "The gullet's lowermost section [in cetaceans] is transformed into a powerful muscular grinder" (p. 30).—The forestomach is not derived from the esophagus, but is homologous with the forestomach of ruminants. While muscular, it is used for storage, not grinding.
- Referring to beluga vocalizations: "The lips can be formed into various shapes and produce a rich repertoire of sounds" (p. 94).—I am aware of no evidence that the mouth is involved in sound production in any cetacean. "Because of its wide vocal repertoire, the beluga is also called the sea canary. The sounds are not audible to the human ear without special equipment" (p. 96).—It is illogical that people who could not hear them would call them "sea canaries."
- "Matings (and births) [of right whales] occur in winter off the Georgia and Florida coasts" (p. 123).—We do not know where successful mating occurs in western North Atlantic right whales. Adult females are not seen in the Georgia-Florida calving ground during the winter one year prior to calving, and adult males are rarely seen there in any year.
- "The fin whale lives in the open sea, but also at times in inshore areas with deep fjords" (p. 133).—Off the eastern USA, the fin whale is clearly a continental shelf species.
- "The seals utilise sense of smell in the same way as do land mammals, which includes recognition of young and presumably other forms of communication. This is because seals, like land mammals but unlike cetaceans, possess sebaceous glands" (p. 149).—The proximate reason is the cetaceans' total or partial lack of an olfactory sense, not their lack of sebaceous glands. A discussion of the evolutionary reasons would take much more than one sentence.
- Fish is included as a prey item for both West African (p. 175) and West Indian manatees (p. 177).—One paper reported that manatees opportunistically scavenged on fish in gillnets in Jamaica, but there is no evidence for predation on live fish.

Since there are so many other marine mammal books available today, I could not recommend this one as a good choice as either a general-interest information source, a field guide, or a scientific reference.

### Literature Cited

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