

## MINNESOTA MAMMALS

*The Mammals of Minnesota*. Evan B. Hazard. 1982. University of Minnesota Press, Minneapolis. 280 pages. \$39.50 (cloth), \$15.95 (paper).

The publication of Evan Hazard's account of the mammals of Minnesota has been anticipated by naturalists for some time. Earlier accounts over the past century significantly contributed to knowledge of the regional fauna, but all are out of print and in serious need of updating. The pressures of human population and changing land use have had their impact on the mammalian fauna of Minnesota, especially over the past 30 years. The resulting successional changes in northern forests, loss of hardwoods, drainage of wetlands, and agricultural encroachment on the sharply defined prairie-forest ecotone have had significant faunal consequences.

In general, the book is well-written in a clear and lucid style. Anecdotes and a reasonable level of humor add to the interest of the lay reader. Use of technical terminology is extensive, and may discourage the non-professional. However, the glossary is equally extensive, and terms are clearly defined. Illustrations in the text are somewhat disappointing. The line drawings of lateral views of skulls aid little in identification, and many of the scratch-board figures appear unrealistic or are too dark.

Technically, the book is quite accurate. With few exceptions, nomenclature is up to date (chipmunks of the genera *Tamias* and *Eutamias* have been more recently lumped into one genus, *Tamias*). Measurement data are inconsistent with regard to citation of the source; for some species the source is cited, but not so for others. It also appears that recorded measurements were solely from Minnesota specimens, or from limited numbers of specimens in Minnesota collections. It may have been advisable to utilize a broader base of specimens from other museums if data available within the state were limited.

The taxonomic keys are useful, and it is gratifying to find separate keys for skins and skulls. Illustrations in the keys are good, but the author should also have provided a drawing of the principal bones of the mammalian skull.

A book intended for a broad-based readership should have included a section on specimen collection and preservation. References are cited in the text, but may not be available to the student, amateur naturalist, or isolated field biologist.

Hazard's *The Mammals of Minnesota* is a noteworthy effort, and will be a useful addition to the libraries of midwestern naturalists. It will no doubt stand as the basic reference on Minnesota mammals for many years to come.

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