

---

## Preface

Mammoth Cave has figured large in the American consciousness, not only because of the rich cultural history of the cave but also due to its enormous size and attendant biological diversity. The history of its human use includes Native Americans, who explored the cave and mined its sulfate minerals. Later, African-American slaves, including Stephen Bishop and Mat Bransford, extensively explored and drew a map of the cave. Slaves also played a critical role in the mining of saltpeter for gunpowder. More recent stories include “wars” between commercial cave owners, the death of Floyd Collins in Sand Cave, epic exploration trips by modern cave explorers, and of course two centuries of tourism. The presence of a sandstone caprock over the cave has preserved the history of the geological development of the cave itself as well as providing a large variety of habitats. This has allowed earth scientists to unravel many of the basic, universal principles of cave formation (speleogenesis). The unprecedented length of the cave (now at more than 400 miles–640 km) led to the development of new exploration techniques and innovative methods of organizing expeditions. Mammoth Cave has also played an important role in the natural sciences. It was one of the first caves in North America visited by biologists; the first animals specialized for cave life in North America, including beetles, spiders, crayfishes, and fish, were described from Mammoth Cave in the 1840s.

As befits its importance, a number of books have been written about Mammoth Cave. Perhaps the earliest book is *Peter Pilgrim* by Robert Montgomery Bird in 1839 soon followed by *Rambles in the Mammoth Cave* in 1844 by Alexander Bullitt. The saga of exploration has been the subject of several books, including *The Caves Beyond* by Joseph Lawrence and Roger Brucker (1955), *The Longest Cave* by Roger Brucker and Richard Watson (1987), and *Beyond Mammoth Cave* by James Borden and Roger Brucker (2000). The death of Floyd Collins in Sand Cave was the focus of *Trapped* by Robert Murray and Roger Brucker (1979) and the fictional account *The Cave* by Robert Penn Warren (1959). A historical fiction treatment of Stephen Bishop, *Grand, Gloomy, and Peculiar*, by Roger Brucker, was published in 2009. On the scientific side, Mammoth Cave was the subject of *A Geological Guide to Mammoth Cave National Park* by Arthur N. Palmer (1981), *Karst Hydrology: Concepts from the Mammoth Cave Area* edited by William B. White and Elizabeth White (1989), and *Archeology of the Mammoth Cave Area* by Patty Jo Watson (1974). While no books have been devoted specifically to the biology of Mammoth Cave, cave life of Mammoth Cave has figured prominently in every English language textbook on cave biology. Additionally, thousands of newspaper and magazine articles, maps, and scientific publications concerning Mammoth Cave in south-central Kentucky have appeared since the early 1800s. It is certainly no wonder that this cave has been the recipient of such attention since, for no other reason, it is the longest known cave in the world.

What is missing in the 200-year history of study is any comprehensive treatment of Mammoth Cave that covers the full spectrum of disciplines that intersect with the world's longest cave. We assembled 16 of the leading experts in fields ranging from archeology to cultural history to life science to geosciences. Not only does this provide a convenient source of up-to-date information on Mammoth Cave, but also it allows for synergies among disciplines that intersect in Mammoth Cave. The audience for this book includes anyone interested

in caves in general and Mammoth Cave in particular, experts in one discipline seeking information about other areas, and especially researchers and students interested in the many avenues of pursuit possible in Mammoth Cave. Technical jargon is kept to a minimum, and terms are explained carefully where they appear.

This book has four main sections divided into 18 chapters. The first section is an extensive description of the cave, its basic structural pattern, and how it relates to the surface landscape. This is designed to give the reader a word and visual (maps, photos) picture of the cave and provide orientation to this very complex, multi-level cave. The second section covers the human history of utilization and exploration of the cave. The time frame ranges back 5000 years, the date of the earliest charcoal fragments. Human uses include mining, tourism, and medical experiments in addition to exploration and cartography. Cave science is the topic of the third section, including geology, hydrology, mineralogy, meteorology, paleontology, ecology, biodiversity, and microbiology. The fourth section looks to the future, with an overview of environmental issues facing Mammoth Cave managers.

Springfield, OH, USA  
Cave City, KY, USA  
Bowling Green, KY, USA  
Washington, DC, USA

Horton H. Hobbs III  
Rickard A. Olson  
Elizabeth G. Winkler  
David C. Culver

Mammoth Cave

A Human and Natural History

Hobbs III, H.H.; Olson, R.A.; Winkler, E.G.; Culver, D.C.

(Eds.)

2017, X, 275 p. 179 illus., 136 illus. in color., Hardcover

ISBN: 978-3-319-53717-7