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## Preface

In a series documenting the important cave and karst systems of the world, one could hardly overlook the karst of the Greenbrier Valley in West Virginia, USA. The valley exposes the Mississippian Greenbrier Limestone, and in the Greenbrier Limestone are developed some of the most extensive caves in the USA. Within a three-county area, there is a pattern of karst drainage basins, each with one or more associated long caves. There are more than 2000 caves so far discovered, and of these, there are 24 caves with surveyed lengths greater than 5 km, adding up to 508 km of cave passage. Because of the similarity of geologic setting and the similarity of the processes of cave development, it seemed reasonable to base the book on a series of descriptions of the long caves and to show how they fit into a pattern of cavern development dictated by the local geology.

The structure of the book is as follows: Chaps. 2–4 lay out the geology, hydrology, and geomorphology of the region in broad terms as background for the more detailed cave descriptions and interpretations that follow. Cave exploration in the Greenbrier Valley has a rich history, and this is the subject of Chap. 5. Then, follow Chaps. 6–17 that describe in detail the individual drainage basins and their associated caves beginning with Swago Creek on the north and proceeding southwestward to the Laurel Creek Basin in the southernmost exposure of the cavernous limestone. The final three chapters address the biological and paleontological aspects of the cave systems.

The authors for the chapters were chosen for their detailed knowledge of the cave systems that they were describing. However, quite different approaches were used. Some authors chose to write a scientific treatise on their assigned cave. Others provided highly detailed passage-by-passage descriptions, most profusely illustrated. Both approaches have advantages and disadvantages, so it seemed inappropriate to attempt to force the discussion into some re-determined template. Those readers who want a very close-up-and-personal feel for the inside of a Greenbrier Valley cave are urged to read Chap. 10 with its detailed description of the Culverson Creek System.

In describing the history of cave exploration and in following the exploration history of individual caves, there is a considerable text devoted to who did what, when. The authors and the editor offer no apology. The exploration and survey of these long and sometimes difficult caves require skill, time, and dedication. Those who pursued these tasks deserve at least the small recognition that they receive in this volume.

There is an inconsistency in the units used in the chapters. Some authors converted all measurements into metric units; some did not. However, it must be remembered that some of the cave surveys and cave descriptions date back as much as 60 years to the early 1950s. All such maps and descriptions were in the English units of feet and miles, not meters and kilometers. Much of the surface topography is described from the US Geological Survey's series of 7.5-min quadrangle maps. These are scaled in both miles and kilometers, but the

essential parts of the maps, the contour lines that describe elevation, are in intervals of 20 or 40 ft. The editorial decision—which is likely to satisfy nobody—was to allow authors to choose their own units. Those who felt comfortable in metric wrote in metric. Those who felt comfortable in English units used English units.

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