

south of Quinton and 3 miles north of the park (fig. 13). Both Tucker Knob and Panther Mountain, which is 2 miles west of the highway, are composed of the Bluejacket Sandstone, the basal unit of the Boggy Formation.

The topography of the park area consists of high, rugged escarpments or bluffs and enormous blocks of sandstone. The force of gravity has gradually pulled large blocks of sandstone downslope from their original position, and many slump blocks have formed interesting features. In some cases the gradual downslope movement resulted in sandstone layers sliding along smooth bedding planes and giving rise to features such as the steep crevice called Devils Slide.

The high sandstone ridges are separated by valleys that have been cut into the shale layers by streams. Thus the topography of the park area has resulted from selective erosion of rock strata. The height of topographic features is related to the dip (the slope of bedding planes), hardness, and thickness of rock strata. The thicker and more resistant layers form large hills and ridges. Ridges are formed by the folding of the strata forming the Sansbois Syncline, and they are called either hogbacks or cuestas, depending on the slope of the two sides. Hogbacks have slopes that are about the same on both sides; cuestas have one gentle slope and one slope that is much steeper because erosion has cut across the strata. Ridges are well illustrated on the block diagram in figure 12.

Robbers Cave has formed in one of the sandstones of the Savanna Formation (IPsv-11, pl. 1). The sandstone's resistance has caused it to form a cuesta that dips gently to the southwest, into the Sansbois Syncline. On the escarpment side of the cuesta a series of bluffs has formed, attaining a total height of approximately 140 feet (fig. 14). In addition to the folding, the sandstone contains joints and has been faulted. Weathering and erosion have enlarged some of the joints from a few inches to more

than a foot (fig. 15). In some places intermittent streams have sculpted a rounded appearance near the bottom of enlarged joints. On top of the bluff, joints along the bedding plane have the appearance of a checkerboard. Some of the slump blocks have broken away along joint planes (fig. 16). Jointing is responsible for features like the Stone Corral (one of the popular tourist attractions in the park), and some of the narrow passes are also the result of enlarged joint planes.

The sandstone units contain several strata, and smaller cuestas have formed in places on the flanks of the main cuesta (fig. 17). One such cuesta can be seen from near the entrance to Robbers Cave.

The park's tourist cabins have been built along the same cuesta as Robbers Cave but are on the south side of the axis of the Sansbois Syncline, with beds dipping to the northwest. The erosion side of the ridge forms a steep cliff about 200 feet high that descends to Coon Creek, which has formed a valley in the underlying shale (IPsv-10, pl. 1).

The waters of Lake Carlton (fig. 18) cover mainly shale (IPsv-14, pl. 1), but the lake is dammed where Fourche Maline Creek cuts across the sandstone and flows south across other units. The high bluff along the west side of the lake is the erosion side of a cuesta in the Bluejacket Sandstone, which is the basal member of the Boggy Formation.

It is hoped that this guidebook will help visitors to Robbers Cave State Park appreciate the scenic points of interest by encouraging them to look at rocks more closely and to see their makeup. The visitor will gain an even better understanding of geology by thinking about the long period of time and varied environments in which the rocks were formed, and the intense forces that bent the rocks into folds and even caused them to break into faults.

The Earth's surface is not static, and even today dynamic processes are continuing to make changes in Robbers Cave State Park.