Abstracts: In the Longhushan (Mt. Longhu) UNESCO Global Geopark there exposed amount of Danxia landforms with a rich and colorful red layer, which is an extremely important geological relic landscape and has extensively developed polygonal cracks in thick fine sandstone, or siltstone, or conglomerate. According to the morphological characteristics, it can be divided into quadrilateral polygonal cracks and irregular polygonal cracks. Quadrilateral polygonal cracks are mostly developed on flat rock layers, while the irregular polygonal cracks are mainly developed on convex rock layers, and is dominated by pentagons and hexagons. Basis on field investigation, there are polygonal cracks exited on the sandy hillock without or few plants (figure 1), and the depth of cracks ranging from millimeters to centimeters. These cracks are disappeared in the path by human or animals footprints, while nearby the path cracks are still obvious. Therefore, it is cleared that life activities have an important effect on the disappearance of geological relics. It is a considerably long process for the formation of geological relics. Once relic destroyed, it would be hard to recovery, meanwhile, it would directly result in the loss of relevant geological research data. The research on the polygonal crack is beneficial to better understand and conserve the Danxia landform, it also provides some supports for the future development of the Danxia landscape. Based on the actual situation, the protection measures and specific suggestions for cracks in the Longhushan area were proposed.

Key words: Longhushan (Mt. Longhu) UNESCO global geopark, geological relics, polygonal cracks, Danxia landform, conservation

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References

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