

## The characteristics of the geoheritage in Dali global geopark

Junming LI <sup>1</sup>, Andong CHEN <sup>2,3</sup>, Zhiming LI <sup>1</sup>, Qing ZHANG <sup>1</sup>,

Zhizhong ZHAO <sup>3</sup>

<sup>1</sup>Dali Mount Cangshan Global Geopark Administrative Office  
< E-mail: yndlcsdzgy@163.com >, <sup>2</sup> School of Earth Sciences and Resources,  
China University of Geosciences, <sup>3</sup> Center of National Geopark, CAGS

Dali is located in the south part of Hengduan Mountains, southeastern margin of the Tibetan Plateau. Dali experienced complex geological history, with rich diversity in paleontology, rocks, tectonic movements, metamorphic mechanism and topography. The geological resources are abundant in this park, mainly Quaternary glacier remains, Cangshan metamorphic rocks, tectonic movement remains.

Dali is the birthplace of Dali Glaciation, which is synonyms with the Last Glaciation in China. Glacial landform are mainly distributed above 3600m asl., mainly arêtes, horns, cirques, cirque lakes, glacial depressions, U-shaped valleys, and glacial depositional landforms. The peaks which above 3800m are mainly horns. There are three cirque lakes named Ximatan, Huanglongtan and Shuanglongtan. Glacial depositional landforms are mainly distributed between 3200-3800m asl.

Diancang Mountain is composed of metamorphic rocks, in the central and east flank of the mountain there are deeply and moderately metamorphic rocks, in the west and south part of the mountain there are Mesozoic metamorphic rocks, on the north part there are Paleozoic sedimentary rocks and granite. The mountain has experienced several metamorphism and deformation. The most famous is Dali rock, also known as marble.

Tectonic remains in Dali geopark. Diancang Mountain is located in the bordering part of the Tibetan Plateau and the Yungui Plateau, in this area there developed several shear zones, deep faults, metamorphic belt, high mountains, deep valleys, plateaus, planation surface. The forming of Diancang mountain and Erhai basin is the result of Himalayan tectonic movement, making the uplift of Diancang Mountain and relative subsidence of Erhai Basin.