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la science et la culture

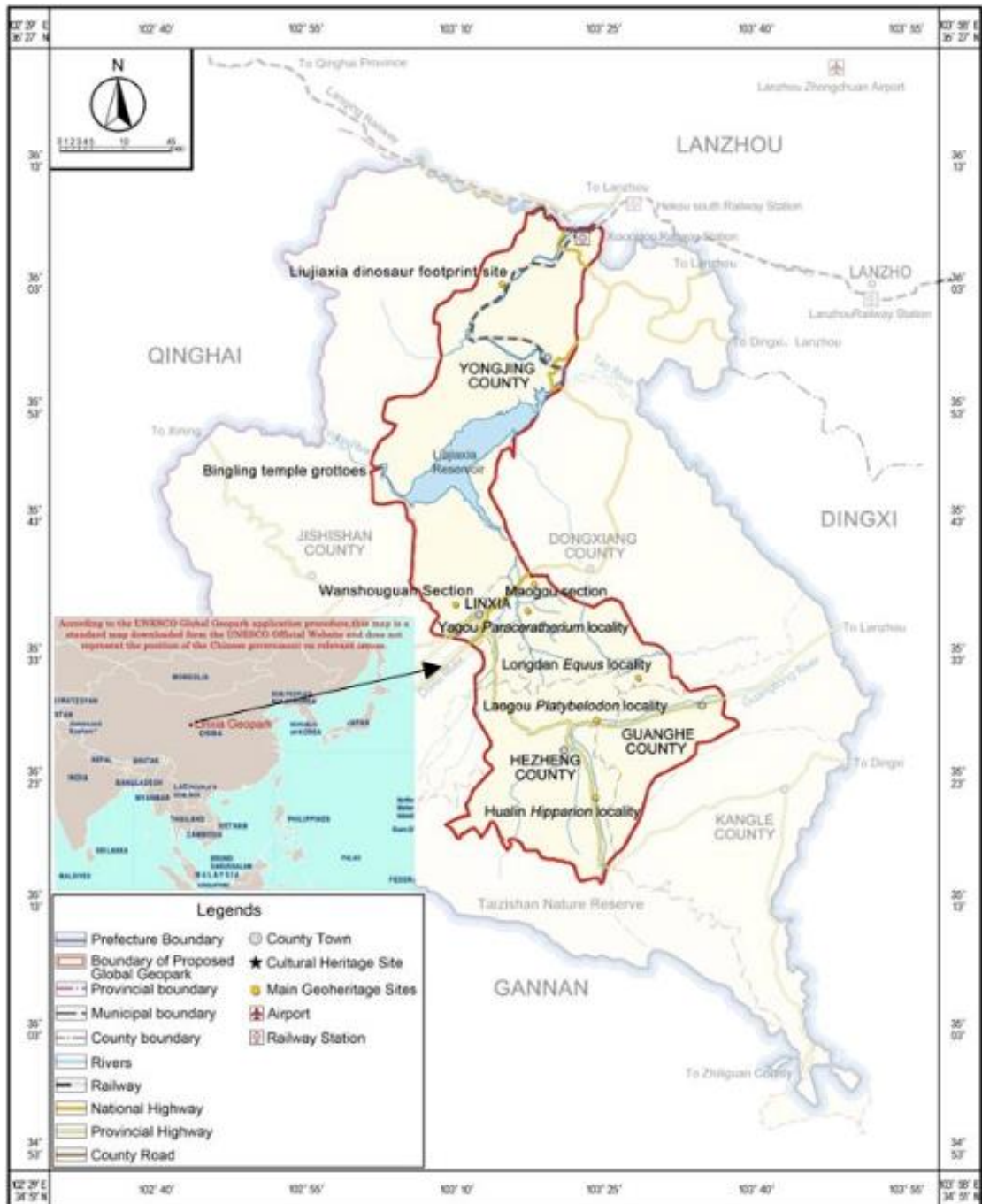


Géoparc
mondiaux
UNESCO

Applicant UNESCO Global Geopark

Linxia, People's Republic of China

Geographical and geological summary



1. Physical and human geography

Linxia Geopark is situated in Linxia Hui Autonomous Prefecture, Gansu Province, People's Republic of China. The geographical coordinates are 103°02'19.08"-103°38'21.06"E; 35°14'37.43"-36°09'10.87"N, with a total area of 2120 km². Linxia Geopark stretches across two natural regions, that is, the arid area of the Loess Plateau in Northwest China and the alpine humid area of the Qinghai-Tibet Plateau. The Geopark, high in the southwest and low in the northeast, is in the shape of a sloping basin with an average elevation of 2000m. The Geopark is in a temperate continental climate zone with annual average temperature of 5.0-9.4°C. The annual precipitation is 260-660mm, and the rainfall is mostly concentrated between June and September. The Geopark is located in the upper reaches of the Yellow River basin and has abundant surface water. Most parts are covered with aeolian loess parent material. The distribution of natural vegetation varies widely with very prominent zonality.

The Geopark involves six counties (cities) including Yongjing County, Hezheng County, Dongxiang County, Linxia City, Guanghe County, and Linxia County in Linxia Hui Autonomous Prefecture, and 66 townships. The Geopark has a population of 1.166 million, with 31 nations including Hui, Han, Dongxiang, Baoan, Salar, and so on. In the north of the Geopark, Yongjing County is 74km away from the provincial capital Lanzhou, and in the south, Hezheng is 116km away from Lanzhou. The main regional economy is characterized by agriculture, agro-processing and tourism. Linxia is one of the important origins of Chinese civilization. There were ancestors living along the Yellow River more than 5000 years ago. It is one of the most concentrated areas of neolithic culture and the most archaeological excavations in China, known as the "Hometown of Chinese Painted Pottery". The Qijia cultural relics are of great significance in exploring the origin of Chinese civilization and the origin of commercial circulation. This area was once the key point of the southern road of the ancient Silk Road and is known as the "Western Dry Wharf". The Bingling Temple Grottoes in the Geopark is a world cultural heritage. This place is also an important birthplace of the world intangible cultural heritage, the folk song "Gansu Huaer".

2. Geological features and geology of international significance

Linxia Geopark is in the Linxia Basin between the two major orogenic belts of Qilian Mountains and Qinling Mountains, across Qinling fold belt in the south and in the vicinity of Qilian fold belt on the north. The geological formation and structure in the area are relatively simple. Linxia Geopark is characterized by diverse fossils and fossil-bearing strata, Danxia landform, Yellow River landform and other geoheritage. Among them, the assemblages of dinosaurs, pterosaurs and birds tracks at the geosite of Liujiaxia footprints group, Hezheng Cenozoic mammalian fossils and their strata are of international significance.

More than 30,000 pieces of Cenozoic mammalian fossils have been discovered from about 100 sites in Hezheng, Linxia Geopark. The mammalian fossils of the Geopark can be divided into four mammalian faunas respectively representing 4 bioevolutionary stages on the northside of the Qinghai-Tibet Plateau. They are, the Late Oligocene Indricotherium fauna including primary predatory animals, the Middle Miocene Platybelodon fauna different from the fauna of the same period on the southside of Qinghai-Tibet Plateau, the Late Miocene Hipparion fauna representing the earliest Hipparion migrating from North America to Asia across the Bering land bridge, and the Early Pleistocene Equus fauna characterized by few small mammals but many predatory animals. The fossil-bearing strata almost recorded a continuous sedimentary sequence since the late Oligocene. Therefore, Linxia Geopark's mammalian fossils provide key evidence for studying the classification, ontogenesis, heteromorphosis, phylogeny, geologic age and paleoecology of the Cenozoic mammals. And the late Cenozoic stratigraphic sequence is one of the most complete late Cenozoic terrestrial sections in Eurasia, which evidence the uplift history of the Qinghai-Tibet plateau. Diverse (nine vertebrate ichnotaxa) and well-preserved assemblages of dinosaur (theropod, sauropod and ornithopod), pterosaur, and bird tracks from the Hekou Formation (Lower Cretaceous) in Liujiaxia within the Geopark represent the most diverse vertebrate track site known from the Mesozoic of Asia. A pterosaur trackway (cf. *Pteraichnus*), the first reported from China, consists of 24 consecutive footprints, and is the longest, well-preserved trackway on record, and a possible manus only ornithopod trackway may be the first on record. The sites are large, visually spectacular, and well-exposed thanks to labor-intensive hand excavation, which provide valuable materials for studying physiological and living habits of dinosaurs and other vertebrates of that time.