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四川攀枝花昔格达组下伏砾石层成因和时代探讨与古金沙江河谷发育

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中文摘要:本文主要描述和讨论了四川省攀枝花市沿金沙江分布、并以炳草岗地龙箐剖面为代表的昔格达组湖相沉积下伏的砾石层的沉积特征及其河流相成因·根据前人对昔格达组湖相 沉积的磁性地层学研究结果,为4.2/3.28~2.6/2.12/1.78 MaBP的上新世中、晚期或至早更新世早期,表明其下伏厚达50 m的砾石层的形成时代约为4.2~4.5/5 MaBP的上新世早期.早上新 世金沙江河流相砾石层在接近金沙江谷底位置的发现,表明金沙江很早就已经从青藏高原主夷平面下切了2000 m以上、已在接近其现今谷底的位置上存在.这对于探讨古金沙江的河谷发 育及其与青藏高原隆升的关系,具有重要的指示意义.

中文关键词:攀枝花市 上新世 河流相 砾石层 金沙江河谷发育 青藏高原隆升

Genesis and Age of the Gravels underlying the Xigeda Formation of Panzhihua, Sichuan, China, and Valley Development of the Ancient Jinsha River

Abstract: Problems concerning valley development and river capture of the Jinsha River has been studied for one hundred years. Based on lacustrine sediments of the Xigeda Formation and alluvial terrace sediments distributed along the Jinsha River and its tributaries as well as the Dadu River, some researchers proposed that the Jinsha River drainage basin was an inland drainage network formed by a series of fault basins in a period from 3.4 MaB.P. to 2.0 MaB.P.After that owing to headward erosion of the Yangtze River in Sichuan, an adjustment from the inland drainage system to the external drainage system occurred during 2.0 MaB.P.to 1.54 MaB.P., and then the Jinsha River upstream of Panzhihua City, Sichuan Province was formed after 1.87 MaB.P. and the deposition of Xigeda Formation ended. There are three types of sediments along the Jinsha River valley in Panzhihua City. One is the alluvial terrace sediments (there are 11 levels of terraces found in the Panzhihua area) consisting mainly of gravels. The second is lacustrine sand, silts and clays of the Xigeda Formation. The third is gravels with interbedded sand layers buried by the Xigeda Formation. This paper described the sedimentary characteristics of the 50 m thick gravels buried by the lacustrine sediments of the Xigeda Formation and discussed their genesis. The gravels are distributed along the Jinsha River valley and are typically seen in the Dilongqing profile of Bingcaogang, Panzhihua. They were previously recognized to be the Early Pleistocene glacial and fluvioglacial deposits, and the "Jinsha Glaciation" was thus named. The thick gravels with some sand interbedded layers are characterized by good sorting, very high roundness and complicated lithological components of gravel. According to these characteristics, this paper proposes that the gravels are alluvial sediments, mainly river bed sediments, which were transported by the ancient Jinsha River for a long distance. As dating results of the gravels cannot be obtained now, this paper can only refer to the results of the magneto-stratigraphic research of the Sigeda Formation for their accumulation age. The Sigeda Formation was formed in Middle-Late Pliocene or even Early Pleistocene, from 4.2/3.28 MaB.P. to 2.6/2.12/1.78 MaB.P., so the age of the gravels is inferred to be Early Pliocene, approximately in a period from 4.2 MaB.P. to 4.5/5MaB.P. The discovery of the Early Pliocene alluvial gravels near the Jinsha River valley bottom shows that the Jinsha River channel was near the modern valley bottom in it very early period. This suggests that the Jinsha River has downcut over 2000m from the main planation surface of the Qinghai-Xizang(Tibet)Plateau. This paper proposes that if the capture of the Jinsha River did occur, it could not have happened at the deep incising valley stage. Capture remains therefore must be sought on the main planation surface.

keywords:Panzhihua City Pliocene alluvial gravels valley development of the Jinsha River uplift of Qinghai-Xizang Plateau

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