

**Age and Provenance of Taipinglinchang  
Formation from late Mesozoic in  
Sunwu-Jiayin Basin of Northeast  
China: Implication for regional  
tectonic evolution**

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LA-ICP-MS U-Pb dating of zircons from the Cretaceous Taipinglinchang Formation in the Sunwu-Jiayin Basin, Northeast China, is presented in order to constrain the provenances. Most of zircons from the Taipinglinchang Formation are euhedral-subhedral in shape and display striped absorption or oscillatory zoning in CL images, implying their magmatic origin. The dating results indicate that detrital zircons from sandstone in the Taipinglinchang Formation yielded age populations of 98Ma, 101.3Ma, 185Ma, 217Ma, 490Ma, 500Ma. According to the above dating results, it can be determined that the Taipinglinchang Formation formed in Late Cretaceous of the Late Mesozoic. Based on the similarity of age populations of detrital zircons from sandstone in the Taipinglinchang Formation, it is suggested that provenance of the Taipinglinchang Formation is mainly derived from the Late Mesozoic geological bodies around the sedimentary basin and the Early Paleozoic granitic rocks in Jiamusi Range Massif is the secondary provenance. Additionally, the study of zircons chronology shows that there are many magmatic events in the study area from Early Paleozoic to Late Mesozoic.