The Jinggu Strike-slip Basin of Tertiary in SW Yunnan, China: An Effect of Collision between Indian and Asian Continents

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Along with the collision between the Indian and the Eurasian plates and afterward deformation, the Jinggu strike-slip basin was formed in SW Yunnan, China, which can be reconstructed with two stages: early transpressional basin and late pull-apart basin.

In Middle Eocene-Oligocene, the collision between the two plates led to oblique compression and dextral strike-slipping in SW Yunnan, inducing formation of a transpressional basin. The basin was filled with alluvial-fluvial deposits. On its west, the boundary faults thrust successively to NEE. And on the east, strike-slipping of the Wuliangshan fault dislocated deposits and their source area about 50km.

In Neogene, due to a large-scale strike-slipping in west Yunnan and adjacent regions, the movement of the Wuliangshan fault caused the formation of a S-shaped pull-apart basin along a releasing bend of the fault. The basin was filled with alluvial fan-fan delta, lacustrine and fluvial deposits. Its developing history has been reconstructed with 4 stages: pre-pull-apart at the beginning of Miocene, pull-apart in early Miocene, depression in middle-late Miocene and shrinking in early Pliocene.

The development of the basin is closely related to tectonic evolution of Tibet and Southeast Asia, resulting from the collision between Indian and Eurasian plates and afterward deformation.