



## **Nanpanjiang basin: a window on intracontinental tectonic development of South China during Triassic assembly of the southeastern Asia**

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Triassic set the stage for the southeastern Asia behaved as a huge composite continent mainly built-up by the South China, Indochina, Qiangtang, North China and Tarim blocks and the Songpan-Ganzi terrane through closure of eastern branches of Paleo-Tethys Ocean. During the amalgamation, the tectonic development of South China is featured by the huge scale intracontinental deformation and associated magmatism. Models have been proposed for describing the mechanics include that involving far-field effect of marginal collisions with the North China and Indochina blocks, flat subduction of Paleo-Pacific plate and intracontinental orogenesis. As the sink hosting the lion's share siliciclastic accumulation exposed in South China, the Triassic Nanpanjiang basin is generally thought of as a foreland basin related to closure of eastern branches of the Paleo-Tethys and subsequent Indosinian collision or flat subduction of the Paleo-Pacific plate. Basin analysis, spanning a seven years period, provide details of Lopingian to Middle Triassic stratigraphic fill and tectonic subsidence of the basin. The field observations and detrital zircon provenance data suggest that the sediments were not derived from the hypothesized collisional orogen, but came from a poorly preserved arc associated with the convergent plate boundary of southern China. Lower to Middle Triassic stratigraphic fill of southern basin is manifested by mafic and felsic volcano-sedimentary strata. Backstripping of two established 2-D cross sections, roughly perpendicular to the strike of intrabasinal faults, document the subsidence rate and magnitude attenuates northeastward and the "horst and graben" tectonic subsidence pattern. The development of this large transtensional basin contrasts the eastern compressional counterpart, along the strike of scared lithospheric fabric of South China. Our preferred interpretation is Triassic intracontinental tectonics of the South China possibly has a strong bearing on the interplay of horizontal decoupling of the South China block and subduction of the paleo-Pacific, and requires a reevaluation of the existing tectonic reconstructions of South China during Triassic assembly of the southeastern Asia.