



Tectonic setting of the Late Triassic volcanoclastic series of the Luang Prabang Basin, Laos, and geodynamic implications from the Triassic to Jurassic in SE Asia

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The Luang Prabang Basin, located on the eastern margin of the Indochina block, is mainly composed of volcanoclastic continental deposits. The interpretation of U-Pb zircon geochronological dates shows that volcanism is contemporaneous with the sedimentation during the Late Triassic (c.a. 225 to 215 Ma; Blanchard et al., 2013, *J. Asian Earth Sci.*, 70-71; 8-26). At the same time, volcanism is also known along the Eastern margin of the Indochina block (present day Thailand).

There are currently two main contrasting interpretations concerning the tectonic setting related to these volcanic events: are they arc-related (e.g. Barr et al., 2006, *J. Geol. Soc. London*, 163; 1037-1046) or post collisional (e.g. Srichan et al., 2009, *Island Arc*, 18; 32-51)? We have performed geochemical analysis on both sedimentary and volcanic rocks of the Luang Prabang Basin in order to evaluate the relationships between the volcanic events and to propose a geodynamic interpretation.

The geochemical characteristics of the Luang Prabang Late Triassic volcanoclastic and volcanic rocks are compatible with a volcanic arc setting. The confrontation of these results with the stratigraphic evolution of the eastern margin of the Indochina block leads to reconsider the Late Triassic to Jurassic geodynamic evolution of this area. Arc-related volcanism seems to occur during nearly the whole Triassic, implying a subduction of the Paleotethys beneath the Indochina block. As the stratigraphic record of north-eastern Thailand and western Myanmar shows an important stratigraphic gap spanning from the Early to the Middle Jurassic, the collision between the Indochina and the Sibumasu blocks likely occurred at that period.