NEW CONSTRAINTS ON THE MAE PING CORE-COMPLEX, NW-THAILAND: IS IT AN INDOSINIAN RELICT?

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The Mae Ping fault zone is seen as one of the major strike-slip shear zones in SE-Asia trending NW-SE over 500 km across Thailand. Within this fault zone, a 150 km long and 5 km wide core-complex with ductile deformation of amphibolite-facies rocks containing lenses of an older high-grade px-amph-pl paragenesis occurs. These so called Lan Sang Gneisses are named after the outcrops situated in the Lan Sang National Park. Despite several former investigations (LACASSIN et al., 1997) some aspects concerning the time, regime and cause of exhumation remain unclear. Further on, the old granulite-facies paragenesis has never been studied in detail. Older models constitute a restraining bend within a left-lateral regime as the origin of the exhumation. New detailed structural, petrographical and geochronological investigations were undertaken to develop different PTt-paths for different rock types with special emphasis on the lenses of old high grade rocks. We use detailed field investigations on a profile in Lan Sang National Park, thin sections, electron microprobe analyses, geothermobarometry as well as zircon and monazite ages of three different rock types. On the basis of our observations and measurements, we try to reconstruct the different PTt paths.
First results now question the model of a restraining bend and lead us to the conclusion that the origin of the amphibolite-facies deformation may lie in the late Triassic Indosinian Orogeny.

LACASSIN, R., MALUSKI, H., LELOUP, H., TAPPONNIER, P., HINTHONG, C., SIRIBHAKDI, K., CHUAVIROJ, S., CHAROENRAVAT, A. (1997): Journal of Geophysical Research, 102 B5, 10013-10037.