

Lysno 1.717.792

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The Ribeira belt, the major tectonic unit of the Mantiqueira Province, southeastern Brazil, records the interface between the Congo-So Francisco, Kalahari, La Plata cratons and the Paranapanema cratonic block. The belt is made up of many terrains of different nature, and was generated and affected by the tectonomagmatic episodes of the Brasiliano orogenic cycle, the South American equivalent of the Pan-African Orogeny.

Aiming at the characterization of the thermal history of Pre-Cambrian terranes of the southeastern of São Paulo state, specific geochronological studies were carried out on mylonitic and granitic rocks. This sector of Ribeira Belt consists of four major tectonic domains limited by significant shear zones, associated with Neoproterozoic events.

The Embu Domain, north of the Cubatão Shear Zone (CSZ), is composed of metasedimentary rocks, and peraluminous granites. Gneiss-migmatite rocks and related granites predominate in the Mongaguá Domain, which is limited by Cubatão and Itariri shear zones. The Registro Domain, between Cubatão - Itariri Shear System (CISS) and the Serrinha Shear Zone (SSZ), is formed by metasediments and granitic rocks with migmatitic features. Rocks of the Iguape Domain, limited to the north by the SSZ, include granites and low grade metasediments.

The Itariri and Cubatão mylonites occur as high- and low-temperature varieties, formed in amphibolite and greenschist facies conditions, respectively, and the Serrinha mylonites developed under amphibolite facies.

U-Pb zircon and monazite geochronological evidence indicates a short time interval at the end of Neoproterozoic for the blocks juxtaposition.

From the compilation of geochronological data, a temperature vs time correlation diagram was obtained and both sequences of processes with slower and faster cooling rates along the geological history could be identified.

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