

GUARAPARI SHEAR ZONE: CORRELATIONS WITH LUANDA SHEAR ZONE AND CONCERNS FOR RIBEIRA-ARAÇUAÍ-WEST CONGO OROGEN SYSTEM

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RESUMO: This paper presents the structural characterization of Guarapari Shear Zone (GSZ) which is located at the southeastern part of Espírito Santo State, Brazil and the correlation with its possible matching in the African counterpart: the Luanda Shear Zone (LSZ). The GSZ is an east-west-striking ductile shear zone that crops out through rocks of Nova Venécia Complex, Araçuaí Orogen and is characterized by a well-marked mylonitic foliation, steeply dipping to south and dextral sense of shear in a transcurrent/slight thrust tectonic. This structure is related to Late-Neoproterozoic tectonic evolution through this section of West Gondwana framework between Ribeira and Araçuaí Belts. Structural studies carried out in the mentioned area reveals that the GSZ could had acted as an element of approaching between São Francisco and Congo microplates and their arc-related terrains. Paleogeographic reconstructions and structural correlations between the basement rocks from both South America and Africa in this segment of Atlantic Ocean suggests the lateral continuity of Guarapari Shear Zone along the Luanda Shear Zone in the African counterpart. The Luanda Shear Zone is one of the major tectonic boundaries of southwestern of Africa. It is also a Neoproterozoic east-west, ductile shear zone that crops out at the northern part of Angola through parallel 9°. It shows a strike slip dextral sense of shear and overrides laterally two crustal blocks: at northern rift and sag Neoproterozoic stratigraphic successions from West Congo Belt and at southern Archean terrains from Angolan Central Shield. Although the Guarapari Shear Zone doesn't put together laterally two different stratigraphic units, its defines the south-to-north continuity of two different sectors of tectonic framework in the Ribeira-Araçuaí Belts: at southern, Cryogenian-Ediacaran arc related rock association of Rio Negro Complex that crops out at the Costeiro Domain of the Oriental terrain in Ribeira Belt. At northern, the Araçuaí Orogen, a confined orogenic system with Ediacaran arc related rocks and it's metasedimentary succession. Guarapari Shear Zone and Luanda Shear Zone were coeval in time during Late Neoproterozoic. Also, they are similar in their structural patterns as geometry and kinematics. Tectonic reconstructions for the Espírito Santo-Campos-Santos/Kwanza-Benguela-Namibe conjugate margins and comparison between the onshore basement structures of Espírito Santo and Luanda put both GSZ and LSZ laterally together. Tectonic models for this segment estimate large structural discontinuities as GSZ and LSZ. This paper proposes that the Guarapari Shear Zone and Luanda Shear zones could have been acted as an unique arc-arc transform/transcurrent zone until the Late Neoproterozoic and their occurrence combined with another similar transform shear zones could have accommodated part of deformation and the approaching between São Francisco and Congo microplates and their arc-related terrains during the development of Ribeira-Araçuaí-West Congo Orogen System.

PALAVRAS-CHAVE: GUARAPARI SHEAR ZONE, LUANDA SHEAR ZONE, RIBEIRA BELT, WEST GONDWANA, RIBEIRA-ARAÇUAÍ-WEST CONGO OROGEN SYSTEM.