

## **ACCRETION OF A CALC-ALKALIC MAGMATIC ARC IN THE ARAÇUAÍ MOBILE BELT: EVIDENCE FROM TEÓFILO OTONI REGION, MINAS GERAIS, BRAZIL**

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The Araçuaí Belt (eastern Brazil) is the counterpart of the West-Congo Belt (southeastern Africa). These belts evolved in the cratonic embayment outlined by the São Francisco and Congo cratons, during Neoproterozoic time. Six granitic suites were regionally identified in the Araçuaí Belt (G1, I-type, 625-575 Ma, pre to syncollision; G2, S-type, 591-575 Ma, syncollision; G3I, I-type, 585-570 Ma, late to postcollision; G3S, S-type, 580-560 Ma, late to postcollision; G4, S-type, 530-520 Ma, postcollision; G5, I-type, 520-500 Ma, postcollision). The G1 suite (locally called Galiléia, São Vitor, Brasilândia, Estrela) comprises tectonically foliated tonalite to granite. In the last few years, many evidences of a calc-alkalic magmatic arc have been presented by our research group and other authors. We studied large plutons located in the Teófilo Otoni region, northern Araçuaí Belt. These rocks are mainly granodiorite and granite, with minor tonalite, which display a striking tectonic foliation trending NNE. Signs of migmatization may be observed in some outcrops. Mafic to intermediate enclaves are usually stretched along the gneissic foliation. These orthogneisses have a calc-alkalic, slightly peraluminous to metaluminous geochemical signature. Trace element patterns indicate crystallization in deep levels of a volcanic arc. Zircon Pb-Pb (evaporation method) ages constrain the epoch of magmatic crystallization from 595 Ma to 575 Ma, in agreement with zircon U-Pb ages obtained from rocks of the same suite located southward from the study region. The presence of a calc-alkalic magmatic arc and slivers of a Neoproterozoic oceanic lithosphere indicates that the Araçuaí Belt evolved as a B-subduction-controlled orogen.