



*Florianópolis, Brazil, September 20-25<sup>th</sup>, 2015*

*The 8<sup>th</sup> Hutton Symposium on Granites and Related Rocks*

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**PT.117**

**New geochemical and geochronological data from Ediacaran magmatism in Central Ribeira Belt, southeastern Brazil: implications for the assembly of West Gondwana**

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Widespread Ediacaran magmatism of the Ribeira Belt is generally interpreted in terms of successive generation of magmatic arcs and accretion of terranes during the evolution of the Neoproterozoic fold-and-thrust belts in southeastern Brazil. This voluminous magmatism includes large high-K calc-alkaline porphyritic batholiths, elongated peraluminous granitic plutons and A-type alkaline to subalkaline plutons. The high-K calc-alkaline batholiths are mostly composed of Bt±Hbl porphyritic granites and granodiorites and occur as large bodies elongated along major shear zones in the entire Ribeira Belt. Syn-tectonic Bt and Ms-Bt granites represent the peraluminous granitic plutons that occur wrapped by the strike-slip shear zones. Two roughly linear belts of A-type subalkaline to alkaline plutons, closely associated with coeval high-K calc-alkaline granitic rocks, characterize the post-orogenic magmatism (Itu and Graciosa provinces) that also includes the Ubatuba Charnockite. Based on new geochemical data and a large compilation of data available for granitoids and mafic rocks of Embu and Costeiro domains, we interpret the S-type magmatism as extensive melting of the middle-upper crust during decompression, as documented by migmatites, while generalized geochemical evidences for hybridization in Hbl granitoids and associated mafic rocks indicate mixing of deeper crustal and mantle-derived magmas. Both magmatic processes occurred simultaneously at 585–575 Ma (new U–Pb SHRIMP zircon data), coeval with A-type and high-K calc-alkaline magmatism of Graciosa and Itu Granite provinces. This timespan was associated with extensional and wrench tectonics characterized by migmatite-cored gneiss domes and wide strike-slip shear system in the Costeiro and Embu domains, respectively. We hence interpret that the widespread magmatism in the whole Ribeira Belt is related to a post-thickening (or post-collisional) extension-related partial melting event affecting the lithospheric mantle and crust, and not to successive accretion events of magmatic arcs. This new interpretation is in agreement with the late Ediacaran-Cambrian Rift System of the southeastern South America.