THE DOM FELICIANO BELT, SOUTHERN BRASIL AND URUGUAY

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The Dom Feliciano Belt (DFB) is the largest Neoproterozoic-Cambrian tectonic unit in the eastern part of South Brasil and Uruguay and is composed of three major parallel belts: Granite Belt (ranging from deformed arc-related calc-alkaline to late isotropic alkaline granitoids); Schist Belt (metavolcano-sedimentary sequences, intrusive granitoids and paleoproterozoic basement inliers) and Foreland Basin (anchimetamorphic sedimentary sequences with minor igneous rocks). Considering the different geological histories of each belt it is here proposed that the present configuration of the DFB be achieved only after collision between the Granite and the Schist belts. This collision at around 600Ma generated the foreland basins as a response to the Granite Belt compression towards NW. The available geochronological and isotopic data points to the following evolution for the DFB: 1) 800Ma - deposition of the volcano-sedimentary sequences; 2) 750+/-50Ma - main deformational and metamorphic episodes in the Schist Belt which evolved in the late stages to NW nappes; 3) 620 +/-20Ma - generation of arc related granitoids in the Granite Belt; intrusive granitoids in the Schist Belt; 4) 600+/-10Ma - transpressive collision between Schist and Granite belts, begin of foreland basin sedimentation; 5) 585+/-10Ma - post collision magmatism in the Granite Belt, important movements parallel the DFB trend 6) 535Ma-deformation of foreland basin and reactivation of previous shear zones.The Granite belt was produced by subduction towards SE, which suggests that the Coastal branch of the Damara (Kaoko/Gariep Belts) could be a back arc basin for this magmatic arc.