

GEOCHRONOLOGY OF CARDOSO ISLAND, SOUTHEAST OF SÃO PAULO STATE.

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The aim of this work is the geological and geochronological study of rocks cropping out on Cardoso Island, on the southeastern coast of Sao Paulo States, close to the boundary with Paraná State. The terrains which compose the island are mainly na igneous complex with light grey leucocratic, inequigranular, medium - to coarse-granied syenites. The predominant Três Irmãos Syenite (STI), composed of pyroxen, hornblende, and perthitic to mesoperthitic microcline, has a magmatic flow structures, and is cut by the Cambriú alcali-feldspar Granites (GC), which is pinkish grey, leucocratic and medium-grained Geochemical analysis of STI and GC demonstrate their metaluminous alkaline nature and late-orogenic to anorogenic character. The geochronological results suggest that the bodies were formed between 620 and 570 My according to the U-Pb method in zircons, with cooling between 597 and 531 My (K-Ar in amphiboles). Whole rock Sm-Nd analyses yield TDM ages in the Meso and Paleoproterozoic (1.200 - 2.200 My). A belt of low grade metasedimentary rocks occurs in the northern part of the island. Quartz schist, quartz-mica schist and mica-quartz schist, often containing andaluzite and cordierite, predominate. The geochemical and geochronological data suggest that the sources of the metasediments were andesites of continental arc whose protoliths separated from the mantle during the Paleoproterozoic, between 1.800 and 2.200 My. These metasediments probably continue on the continent in the Taquari region and extend southwards in narrow strips between the granitoids of the Paranaguá Domain.