INTERNATIONAL GEOLOGICAL CORRELATION PROGRAMME (IGCP) PROJECT 315

CORRELATION OF RAPAKIVI GRANITES AND RELATED ROCKS ON A GLOBAL SCALE

SYMPOSIUM ON RAPAKIVI GRANITES AND RELATED ROCKS

AUGUST 2 - 5, 1995

Belém - Brazil

ABSTRACTS VOLUME

Edited by
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Center for Geosciences
University Federal of Para

Belém 1995

552.3211
S989
1995.a

STRUCTURAL AND GEOCHRONOLOGICAL DATA BEARING ON THE PALEOPROTEROZOIC G_2 GRANITOIDS IN THE SERIDÓ BELT, NE BRAZIL: SYNOROGENIC OR RAPAKIVI-TYPE ANOROGENIC INTRUSIONS ?

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The Seridó Belt (**SB**) belongs to the Brasiliano/ Pan-African Borborema/Trans-Sahara orogenic chain (**BTSB**). It is considered as part of a continental microplate, preserving a controversial record of Paleoproterozoic crustal evolution. Granitic augen gneisses dated at 2.0-1.9 Ga (the *G_2 granitoids*) have been interpreted as anorogenic intrusions contemporaneous with deposition of the Seridó Group lower supracrustals, later deformed in the Brasiliano orogeny (Caby *et al.* 1991). Together with other, slightly younger (1.8-1.7 Ga old) assemblages in NE Brazil and Africa, they were compared to rift-related or to classical rapakivi-type suites. On the other hand, these plutonic suites are regarded as synorogenic intrusions (Jardim de Sá 1994 and references therein), defining a polycyclic evolution in the **SB**.

The G_2 plutons display a S+L, originally flat-lying fabric correlated to the D_2 event in the **SB**. The contractional, crustal thickening nature of this deformation is evidenced by stratigraphic inversions which may involve the gneiss-migmatite basement of the Seridó Group. Furthermore, medium pressure, relict kyanite-bearing paragenesis occur in the supracrustal country rocks. The D_2 fabric in the G_2 plutons is systematically of high temperature type, with very penetrative, homogeneous S-C structures (dominantly asymmetric tails of the K-feldspar augen) defining a simple or general shear flow pattern with top to the south. Occasionally preserved viscous flow criteria record the same shear sense. Such a fabric is typically developed following the cooling path of syntectonic intrusions.

Other field relations and radiometric data relevant to the tectonic setting of the G_2 plutons include: a) the subhorizontal, sheet-like shape of the intrusions, consistent with their control by the D_2 tangential deformation; their interpretation as syn-sedimentary sills is discarded in view of the absence of associated volcanic or subvolcanic facies; b) in some cases, D_2 structural inversions pre-date the emplacement of the G_2 plutons; c) besides intruding the lower metasediments of the Seridó Group (the Jucurutu Formation) and the gneiss basement, a few plutons are hosted by the upper, flysch-type Seridó micaschists; one of these has been dated at 1.99±0.01 Ga by the Pb/Pb zircon evaporation method; d) metric-sized apophyses, aptitic and pegmatitic sheets intrude alongside the axial planes of D_2 folds; metapegmatites with such structural relations have been dated at 1.80±0.03 Ga (I_{Sr} = 0.7063±4) by a Rb-Sr whole rock isochron; e) a 1.94±0.06 Ga Rb-Sr whole rock isochron (I_{Sr} = 0.7067±14) was calculated including augen gneisses (dated at 1.93±0.01 Ga by the U-Pb zircon method; Legrand *et al.* 1991) and some of their mylonitic to ultramylonitic equivalents sampled along a D_2 shear zone.

Such data support our interpretation of the G_2 suites as synorogenic intrusions and define the time interval 1.9±0.1 Ga (probably, 1.95±0.05 Ga) for the coeval D_2 event.

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