

**NEOPROTEROZOIC SUPRA SUBDUCTION ZONE (SSZ) OPHIOLITIC ROCKS
FROM PIÊN (PR), SOUTHERN BRAZIL**Harara, O. M. M.^{1*}; Basei, M. A. S.¹; Siga Júnior, O.¹; Campos Neto, M. C.¹¹*Post-Doctoral Researcher, ¹ Instituto de Geociências, Universidade de São Paulo.

Several geological units in the Upper Rio Negro Region (PR-SC) have been re-defined based on recent geological mapping data (Harara 2001). The main geological units are: the Luis Alves Gneiss-Granulite Terrane (GGT), the Piên Mafic-Ultramafic Suite (PMUS), the Piên-Mandirituba Granite Belt (PMGB), and the Palermo, Agudos do Sul and Rio Negro Granites.

The GGT is constituted by mafic and felsic orthogranulites metamorphosed to granulite facies at 2060 ± 6 Ma (U-Pb rounded zircon ages) and remained cool from 1800 Ma until Neoproterozoic times, when was reworked by tectonic and metamorphic events.

Three high K calc-alkaline I-type granite suites compose the PMGB which is formed between 620 and 595 Ma (U-Pb zircon ages). The adjacent Palermo, Rio Negro and Agudos do Sul A/PA-type granites, were formed between 595 and 585 Ma (U-Pb zircon ages).

Two mafic-ultramafic bodies, tectonically emplaced between the GGT and the PMGB and as a klippe on the TGG, compose the SMUP, 11-Km long and N40-50E-trending. The SMUP is composed by deformed and serpentinized peridotites, pyroxenites, gabbros and magnesian schists. Based on the ophiolite typology determined by chemical compositions of their mafic and ultramafic rocks and on its tectonic position, the SUMP is considered as an incomplete SSZ (Supra Subduction Zone) ophiolite with mainly the mantle section.

The U-Pb (SHRIMP) data obtained on prismatic magmatic zircons of the gabbros yielded concordant crystallization age around 630 Ma interpreted as the age of the SMUP. The rare rounded zircon ages of the gabbros and the Sm-Nd (whole rock) isochronic ages of the peridotites and pyroxenites suggest Paleoproterozoic infracrustal contaminations of the SMUP.

The PMGB is a NW subduction-related magmatic arc formed between 620 and 595 Ma. As a consequence of oceanic crust consuming and the continental collision between the GGT and PMGB, the PMGB was deformed and the SMUP obducted between 605 and 595 Ma. The SMUP is interpreted as Neoproterozoic oceanic crust remnant, obducted in fore-arc setting during the collision between the PMGB (arc) and the GGT (continental margin). The adjacent Palermo, Rio Negro and Agudos do Sul granites, were emplaced, between 595 and 585 Ma in late to post-collisional extensional setting.

REFERÊNCIA BIBLIOGRÁFICA

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ACNOWLEDGMENTS

To FAPESP (Research Support Foundation of the State of São Paulo) for the post-doctoral scholarship (Grant 02/01014-0) and financial support of geological research in the southeastern Paraná and northeastern Santa Catarina states (Grant 02/10568-0).