Serra do Itaberaba Group: A Mesoproterozoic volcano-sedimentary unit at São Paulo State, Brazil

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The Serra of Itaberaba Group is composed by three different formations: Morro da Pedra Preta Formation (MPPF), a basal volcano-sedimentary sequence, with n-morb type tholeiites, intrusive meta-andesites, tuffs, metapelites, silicate and oxides iron formations and metahydrothermalites with cordierite-anthofilite; Nhanguçu Formation (NF), deposited over MPPF in compressive regime, with fe/mn-rich schists, lenses of calcareous and andalusite schists on the top, and small metarhyolites intrusions and; Pirucaia Formation (PF), composed of rhythmic quartz schists and quartzites, representing sedimentation of continental influence. These rocks were affected by greenschist to amphibolite facies metamorphism under intermediate pressure.

Dark coloured translucid prismatic zircon crystals of a MPPF meta-andesite yield a U/Pb age of 1397 ± 18 Ma (defined by five points close to the upper intercept), and is interpreted as the crystallization age of the rock and, consequently, the maximum age of the MPPF sedimentation overlying morb rocks.

The metarhyolites have two zircon populations, one which is colorless to pinkish, with 1449 ± 3 Ma, and is interpreted to represent xenocrystic zircons and the other which is colorless prismatic, with a U/Pb age of 618 ± 3 Ma and are interpreted to be magmatic zircons. The data indicate that the oceanic crust formation was previous to 1.4 Ga and rhyolite intrusions related to the deposition of São Roque Group occurred in the Neoproterozoic.

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