THE EARLY NEOPROTEROZOIC MAYUMBIAN AND ZADINIAN SUPERGROUPS OF THE WEST CONGOLIAN (PAN AFRICAN) BELT: WITNESS FOR RODINIA BREAK-UP BETWEEN THE SÃO FRANCISCO AND CONGO CRATONIC BLOCKS.

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Relative positions of pre-existing cratonic blocks in the Mesoproterozoic continental assembly and subsequent break-up of the Rodinia supercontinent remain controversial. SHRIMP emplacement ages of magmatic rocks and other isotopic measurements shed new light on the Neoproterozoic history of an area located between the São Francisco (SF) and Congo (C) cratons (West Congolian belt). The internal domain of the West Congolian belt includes polycyclic Palaeoproterozoic basement (Kimezian Supergroup) unconformably resting on the Zadinian Supergroup (plateau-type basalts associated with continental sediments), itself thrusted onto the Mayumbian Supergroup (rift-related felsic volcano-plutonic sequence). With the overlying youngest West Congolian Supergroup, they have been deformed and metamorphosed during the Pan African orogeny.Using limited bulk zircon dating, the Mayumbian and Zadinian Supergroups were previously considered as Mesoproterozoic Kibaran segments at the western edge of the Congo craton. SHRIMP data now indicate that the Mayumbian Supergroup was emplaced at ca. 920 Ma and some arguments point to slightly older early Neoproterozoic ages for the Zadinian Supergroup. This shows that, between SF and C cratons, no Mesoproterozoic geodynamic activity was recorded, indicating a united and single behaviour of both cratons in the Rodinia configuration.The Mayumbian and Zadinian Supergroups are thus evidence for an early Neoproterozoic rifting phase with bimodal magmatism, which preceded deposition of the West Congolian Supergroup sedimentary sequences followed by the Pan African orogeny, without any implication of Mesoproterozoic juvenile oceanic crust. Palaeoproterozoic and Pan African belts without Mesoproterozoic belts also occur elsewhere (eg. northern edge of C craton and West Africa).