

NEW EVIDENCE OF RECURRING CONVERGENT MARGIN MAGMATISM IN THE EASTERN CENTRAL RONDÔNIA, BRAZIL

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The Rio Negro-Juruena Geochronological Province (Amazonian Craton) has been regarded as a single unit extending from 1.80 to 1.55 Ga. Preliminary new U-Pb zircon ages record a previously undocumented major accretion arc-related magmatic event within the time interval, 1.65 and 1.63 Ga, thus constraining a probable north-northeastward trending recurring subducting zone (present-day coordinates). U-Pb ages were determined for two samples: 1) sample 98-JWB-10/A has its zircons separated from a mafic charno-enderbitic gneiss paleosome of a migmatite, and four zircon fractions define a discordia line which yields an upper intercept of 1655 ± 11 Ma, and 2) sample 98-JWB-3/A is a gray well-banded tonalitic orthogneiss, and four zircon fractions define an age of 1631 ± 8 Ma which is interpreted as the time of emplacement of the tonalitic protolith.

A balance of recent achieved U-Pb geochronological data suggests successive westward growth including, at least, three separate orogenic events. They are: 1) northern Rondônia segment and western Mato Grosso calc-alkaline arc-accretions at 1.76 and 1.72 Ga, and the recognized counterpart termed Jauru Orogen at 1.79 and 1.74 Ga, 2) the herein proposed eastern central Rondônia arc-accretion at 1.65 and 1.63 Ga, and 3) Cachoeirinha Orogen (southern Mato Grosso) at 1.57 and 1.52 Ga.

Similar, time-correlative events also occur in eastern Laurentia and western Baltica during Labradorian and Gothian orogenesis, respectively, which reinforce recent models which postulate Laurentia – Baltica – Amazonia alignment along a continuous southern margin of a supercontinent, as previously postulated.