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Juliane Hennig, H. Tim Breitfeld, Robert Hall, A.M. Surya Nugraha

PII: S1342-937X(16)30433-6
DOI: doi: 10.1016/j.gr.2017.05.001
Reference: GR 1803

To appear in:

Received date: 29 November 2016
Revised date: 5 April 2017
Accepted date: 4 May 2017

Please cite this article as: Juliane Hennig, H. Tim Breitfeld, Robert Hall, A.M. Surya Nugraha , The Mesozoic tectono-magmatic evolution at the Paleo-Pacific subduction zone in West Borneo, (2017), doi: 10.1016/j.gr.2017.05.001

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Juliane Hennig*, H. Tim Breitfeld, Robert Hall and A. M. Surya Nugraha

SE Asia Research Group, Department of Earth Sciences, Royal Holloway University of London, Egham, TW20 0EX, UK

** Corresponding author (e-mail: juliane.hennig@rhul.ac.uk)*

Abstract

Metamorphic and magmatic rocks are present in the northwestern part of the Schwaner Mountains of West Kalimantan. This area was previously assigned to SW Borneo (SWB) and interpreted as an Australian-origin block. Predominantly Cretaceous U-Pb zircon ages (c. 80-130 Ma) have been obtained from metapelites and I-type granitoids in the North Schwaner Zone of the SWB but a Triassic metatonalite discovered in West Kalimantan near Pontianak is inconsistent with a SWB origin. The distribution and significance of Triassic rocks was not known so the few exposures in the Pontianak area were sampled and geochemical analyses and zircon U-Pb ages were obtained from two meta-igneous rocks and three granitoids and diorites. Triassic and Jurassic magmatic and metamorphic zircons obtained from the meta-igneous rocks are interpreted to have formed at the Mesozoic Paleo-Pacific margin where there was subduction beneath the Indochina–East Malaya block. Geochemically similar rocks of Triassic age exposed in the Embuoi Complex to the north and the Jagoi Granodiorite in West Sarawak are suggested to have formed part of the southeastern margin of Triassic Sundaland. One granitoid (118.6 ± 1.1 Ma) has an S-type character and contains inherited Carboniferous, Triassic and Jurassic zircons which indicate that it intruded Sundaland basement. Two I-type granitoids and diorites yielded latest Early and Late Cretaceous weighted mean ages of 101.5 ± 0.6 and 81.1 ± 1.1 Ma. All three magmatic rocks are in close proximity to the meta-igneous rocks and are interpreted to record Cretaceous magmatism at the Paleo-Pacific subduction margin. Cretaceous zircons of metamorphic origin indicate recrystallisation at c. 90 Ma possibly related to the collision of the Argo block with