

## マラウイ南部の基盤岩類にみられる原生代火山弧火成作用と高度変成作用 Neoproterozoic arc magmatism and high-grade metamorphism of the basement rocks in southern Malawi

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The basement rocks in southern Malawi form part of the Mozambique Belt (or the southern Irumide Belt) that correspond a typical example of Neoproterozoic collisional orogens in southeastern Africa. The dominant lithologies in Lilongwe-Zomba-Blantyre area in southern Malawi are biotite gneiss (biotite + quartz + microcline + plagioclase), charnockite (orthopyroxene + K-feldspar + quartz + plagioclase + ilmenite + magnetite), and mafic granulite (plagioclase + clinopyroxene + garnet + calcic amphibole + quartz + orthopyroxene + ilmenite) which are intruded by syenite (K-feldspar + calcic amphibole + biotite + quartz + clinopyroxene) and granite (quartz + K-feldspar + plagioclase + biotite). Garnet in the mafic granulite is often mantled by plagioclase + orthopyroxene coronae, suggesting post-peak decompression. Phase equilibria modeling of the mafic granulite in the system NCKFMASHTO yielded the peak metamorphic condition of 800-920 °C and ~10 kbar with a clockwise *P-T* evolution. Major, minor, and REE geochemical data for selected felsic orthogneisses suggest arc-magmatic signatures of the rocks. The results of this study suggest that the orthogneisses in southern Malawi corresponds to a Neoproterozoic magmatic arc unit that was probably metamorphosed at high- to ultrahigh-temperature conditions during the latest Neoproterozoic East-African and Kuunga orogens.

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