

Proterozoic metamorphic rocks in the northeastern Queensland, Australia: A problem of the break up of Rodinia

Tatsuo Nishiya[1], Teruo Watanabe[2], Toshiaki Tsunogae[3]

[1] Earth and Planetary Sci., Hokkaido Univ, [2] Earth and Planetary Sci., Hokkaido Univ., [3] Fac. Edu., Shimane Univ.

The Greenvale Subprovince, Queensland, consist of Proterozoic rocks (mafic/ultramafic rocks and quartz-feldspathic schist) and Early Paleozoic metavolcanics which occur in N-S trending zones with fault boundary. This occurrence may indicate complicated tectonic evolution around the Greenvale Subprovince after the break up of Rodinia.

Hornblende from amphibolites gave Ar-Ar minimum ages ranging from ca. 1300 to 460 Ma. Black et al. (1979) suggested that these age differences indicated polydeformation of a geological unit.

Our research reveals; 1. amphibolites are blocks surrounded by quartz-feldspathic schist and they both may not indicate the same ages. 2. At least two different lithologies are discriminated in the quartz-feldspathic schist. Their metamorphic history may have not been the same.