The Neoproterozoic magmatic evolution in Northern Guangxi, China

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As a Neoproterozoic giant intrusion, Motianling Pluton in North Guangxi remains a long-standing controversy in the diagenetic age. Based on a series of U-Pb dating in the Motianling Granites, the study of volcanic rocks in the study area mainly aims at retracing the tectono-magmatic evolutionary history in Jinningian epoch of Northern Guangxi. However, the relationship between the Danzhou Group and the Motianling Granites is still in great dispute [1]. This paper attempt to clarify the relationship between Danzhou Group and the Motianling Granites.

With long elongation time in the diagenesis, the Danzhou Group and the Motianling Granites have the time-overlap part and are formed within nearly 100 million years. And the main granite body is formed in the middle-late period of sedimentation of the Danzhou Group, with the later persistent granitic magmatic activity even after the deposition epoch during the formation period of the patched granite body in the Motianling Granites. The severe subsidence of earth surface is resulted from the orogenic extension, which results in the formation of the fine clastic sedimentary of the Danzhou Group (part of Sibao Group can be included). And the partial melting of the crust is resulted from the lithospheric delamination accompanying with the granitic magmatic activity. Through combining the U-Pb dating results with the element geochemistry, the main granite body and the diabase bodies/veins are formed after the Bendong granodiorite, then display the increasing tendency in acidity (SiO_2) and decrease tendency in alkali (Na_2O+K_2O) in the patched granite bodies.

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The Triassic Igneous rocks in the Northeastern part of the South Korea

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The Triassic igneous rocks, gabbroic to granite in composition, occur scattered throughout the Yangyang and Gangneung areas in the northeastern part of the South Korea. The total alkali versus silica composition of these igneous rocks shows a series of differentiation well and large variation from gabbro to alkali granite. So these igneous rocks can be classified to the Yangyang suite on the concept of granite suite.

The Yangyang suite is consist of gabbro, two mica granite, biotite granite, the Namhangjin diorite, the Yangyang syenite, the Yangyang granite and the Hajodae granite. The Yangyang suite is divided into two groups by whole-rock geochemistry analysis, alkali and subalkali rocks group. These means the Yangyang suite is consist of two subsuite. The geochemistry and isotopic composition of these two subsuites indicate that these are thought to be derived from the different granitic magma source. Alkali rocks group contains gabbro, the Namhangjin diorite, the Yangyang syenite and the Yangyang granite, subalkali rocks group contains two mica granite, biotite granite and the Hajodae granite.

The SHRIMP zircon U-Pb ages of the Yangyang suite range from 234±2.9 to 226.5±1.8 Ma.

This Yangyang suite is very important to understand and explain the indentation model which the South China Blocks had collided into the North China Blocks in the Korean peninsula as a wedge-shaped.

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