

## "Older Ryoke granite" and "Younger Ryoke granite" revisited

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Recently, a hypothesis that the Older Ryoke granite was the heat source of the Ryoke regional metamorphism has drawn attention. It implies that the Younger Ryoke granites were local small bodies which intruded after regional thermal structure was established by the Older Ryoke granites and gave negligibly small heat budget to the host metamorphic rocks, that is equivalent to the San-yo granites.

Well-known two-mica granites and garnet-bearing granites, which are not the main lithology of the Ryoke granite, belong to the Younger Ryoke granite. Moreover, some high-strontian adakitic-rocks are included in the Younger Ryoke granite. The Older/Younger Ryoke granite problem is worth revisiting to understand the general scheme of the Cordilleran plutonometamorphism.

The "Older Ryoke granite" and the "Younger Ryoke granite" were defined in the Chubu district as the granite which is covered by the Nohi rhyolite and the granite which intrudes the Nohi rhyolite, respectively. It was applied to the similar Cretaceous acidic volcanics in other districts in Japan, such as the Takada rhyolite in the Chugoku district and the Koto rhyolite in the Kinki district. The Older Ryoke granites intrudes host metamorphic rocks concordantly to the structure and have foliation more or less, while and the Younger Ryoke granites intrudes cross-cutting the bedding structure of the host rock, and are free from foliation.

But the Cretaceous volcanics are exposed mostly in the San-yo granitic province instead of the Ryoke granitic province, and we have scarce chance to observe the field relationship between the volcanics and the Ryoke granites. So those granites have been discriminated practically with the foliation and intrusion geology.

The San-yo granite is characterized with discordant intrusion and free from foliation as well as the Younger Ryoke granite. Their discrimination is often difficult in the field, too.

Recently, a hypothesis that the Older Ryoke granite was the heat source of the Ryoke regional metamorphism has drawn attention. It implies that the Younger Ryoke granites were local small bodies which intruded after regional thermal structure was established by the Older Ryoke granites and gave negligibly small heat budget to the host metamorphic rocks, that is equivalent to the San-yo granites.

Then, what is the identity of the Younger Ryoke granite? Well-known two-mica granites and garnet-bearing granites, which are not the main lithology of the Ryoke granite, belong to the Younger Ryoke granite. Moreover, some high-strontian adakitic-rocks are included in the Younger Ryoke granite. The Older/Younger Ryoke granite problem is worth revisiting to understand the general scheme of the Cordilleran plutonometamorphism.