

Geology of the north body of the Kumano Acidic Igneous Rocks and its formation process

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Miocene Kumano Acidic Igneous Rocks (KAIRs), considered that formed with large-scale caldera, are distributed over the southeastern part of Kii Peninsula. The KAIRs are divided into two major units, north and south body, based on the distribution of granite porphyry masses. The north body is distributed from the Owase city to the Kumano city.

The KAIRs are underlain by or intrude into Cretaceous sedimentary rocks (Shimanto accretionary complex) and Miocene sedimentary rocks (Owase Group and Kumano Group). In the Owase area, KAIRs consist of three lithologic members: Owase-Shirahama Pyroclastic Flow Deposit (OSP), Kumano Granite Porphyry (KGP), and Fudodani Granite. In the Kumano area, KAIRs consist of five lithologic members: Kanayama Pyroclastic Rocks, Konoki Rhyolite, Fudatetoge Pyroclastic Flow Deposit (FPD), and KGP. The KGP intrudes into the OSP, FPD, Owase Group, Kumano Group, and Shimanto accretionary complex but is in turn intruded by the Fudodani Granite.

The faults (Fudatetoge-Akakura Faults belt), intruded by KGP, occur in the southern part of Kumano area. In the Owase area, the KGP has an arcuate intrusive body at its outer margin. To the Kumano area from the southern part of Owase area, the KGP is considered as the sheet shape intrusion into the intracaldera. By the distribution of the inferred faults, the KAIRs have possibilities with which at least two calderas are compound in the Kumano and Owase area.