MIDDLE MIOCENE SUBMARINE VOLCANO-PLUTONIC COMPLEX IN THE SUSA AREA, SW JAPAN

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In the Susa area, SW Japan, marine sedimentary rocks of Susa Group, Yamashima andesites, Koyama gabbros and synplutonic porphyrite dykes of Middle Miocene age occur in close relation. The Susa Group and the Yamashima andesites have partly undergone contact metamorphism by the Koyama gabbro mass. The Yamashima andesites consist mainly of submarine massive lava, hyaloclastites and feeder dykes of basaltic andesites and their reworked deposits. The Koyama mass comprises two suites of rocks: Inner cumulate suite of main plagioclase cumulates and minor pyroxene - olivine cumulates which occur exactly as plagioclase-bearing pyroxenite, mela-gabbronorite, olivine leuco-gabbronorite and anorthosite, and Outer differentiated suite characterized by a wide range of super-cooled gabbroic, dioritic and tonalitic rocks and small amounts of potassium-rich rocks such as granodiorite and granite. Their geochronological and geochemical data and the field evidences revealed a Middle Miocene igneous activity related to the opening of the Japan Sea marginal basin of Japan arc, which resulted in a volcano-plutonic complex in SW Japan. The Yamashima andesite volcanism took place actively on the Susa Group in 16-15 Ma. Its host magma of basaltic andesite composition emplaced into the Susa Group at 15Ma and crystallized to form the Koyama gabbro mass as a bell-jar intrusion at about 14 Ma. The igneous activity continued to produce minor porphyrite dykes until 13Ma or the end of clockwise rotation of SW Japan sliver related to the Japan sea opening.