Petrological feature of Nakanodake intrusion from Yoneyama area, northern Fossa Magna, Central Japan

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Early Pleistocene Nakanodake intrusion, 1.2-1.6 km diameter, is located in northern Fossa Magna. The intrusion, composed of inner gabbro and outer hornblende andesite, is intruded in the Yoneyama Formation. On the basis of petrography and geochemistry, the intrusion is divided into Opx-Cpx gabbro, Hor-Opx-Cpx andesite, and Hor-Cpx andesite. The rocks of the Nakanodake intrusion have high K content and tholeiitic characteristics, indicating a similar geochemical trend to that of the Yoneyama Formation. Mg value (100*Mg/(Mg+Fe)) of Opx and Cpx, and An content of plagioclase in gabbros are lower than those in hornblende andesites, which suggests that the rocks from the intrusion were not originated by fractional crystallization from the common source magma.

Keywords: Northern Fossa Magna, Yoneyama, Nakanodake intrusion, Crystallization differentiation, Tholeiitic rock series

