論　説

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K-Ar年代測定に基づく両白山地の鮮新—更新世火山活動の時空分布

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Temporal-spatial variations of Plio-Pleistocene volcanic activity in the Ryohaku Mountains, central Japan: evidences from K-Ar ages.

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Temporal and spatial variations in Plio-Pleistocene volcanism in the Ryohaku Mountains, central Japan, have been investigated by newly obtained K-Ar ages on 38 groundmass samples separated from volcanic rocks. The obtained groundmass ages show small variations and errors and are relatively younger than K-Ar ages from bulk rocks reported by previous studies indicating lesser effect of excess argon from phenocrysts. Based on the newly obtained ages and volcano stratigraphic data, we identify activity periods of 1.0–0.8 Ma for Kyogatake Volcano, 0.8–0.7 Ma for Hoonji Volcano, 1.0–0.8 Ma for Toritateyama Volcano, 0.8 Ma for Akausagiyama Volcano, 3.1–2.9 Ma and 2.5 Ma for Gankyoji-Sannomine Volcano, 1.5 Ma for Choshigamine Volcano, 0.3 Ma for Bishamon Volcano, and 1.2 to 1.1Ma for Eboshi-Washigatake Volcano. The volcanoes in the Ryohaku Mountains form two volcanic rows of the Kuzuryu and Hakusan Volcanic Chains which have ESE-WNW and N-S alignments, respectively. Early volcanic activity occurred intermittently from 3.6 Ma to 1.5 Ma, and the volcanoes near the junction of the two volcanic chains were active. The volcanic activity in the ESE-WNW trending Kuzuryu Volcanic Chain was restricted in the age range from 1.2 Ma to 0.7 Ma with migration from Eboshi-Washigatake Volcano (ESE end) to Hoonji Volcano (WNW end). The N-S trending Hakusan Volcanic Chain was active from 0.4 Ma to the present.

Key words: Ryohaku Mountains, Kuzuryu Volcaic Chain, Hakusan Volcanic Chain, K-Ar age

1. はじめに

島弧の火山活動はプレートの沈み込みによって引き起こされているため，その時空間分布を明らかにすることはプレートの沈み込みがどのようにマグマ発生にかかわっているかの制約条件となりきわめて重要である（例えば，Kimura *et al.,* 2005，Shimizu and Itaya, 1993；宇都，1995）．中部日本の地下には，沈み込んだ太平洋プレートの上にフィリピン海プレートが沈み込み，スラブが地下

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