

長野県大門峠地域に分布する流紋岩質溶岩ドームの K-Ar 年代:  
諏訪-八ヶ岳火山地域の流紋岩類の活動時期について西来邦章\*・及川輝樹\*・太田 靖\*\*\*・松本哲一\*  
宇都浩三\*\*\*・三宅康幸\*\*\*\*

(2008年8月8日受付, 2009年3月9日受理)

K-Ar Ages of the Rhyolitic Lava Domes in the Daimontoge Area in Nagano Prefecture, Central Japan:  
Duration of the Rhyolitic Activity in Suwa-Yatsugatake Volcanic ProvinceKuniaki NISHIKI\*, Teruki OIKAWA\*, Yasushi OHTA\*\*\*, Akikazu MATSUMOTO\*,  
Kozo UTO\*\*\* and Yasuyuki MIYAKE\*\*\*\*

The voluminous Quaternary volcanic rocks in the Suwa-Yatsugatake volcanic province (SYVP) of central Japan are known as Enrei volcanic rocks, Yabashira and Yatsugatake volcanic products. These volcanic rocks consist mostly of basalt and andesite, with a small amount of rhyolite. We report on the revised stratigraphy and K-Ar ages of rhyolitic lava domes in the Daimontoge area of the central part of the SYVP, and discuss the duration of rhyolitic volcanism in the SYVP. Our work clarifies the fact that the two rhyolitic lava domes studied were formed independently, ca. 0.24 Ma (Utsukushimatsu lava dome) and ca. 1.07 Ma (Daimontoge lava dome), and the age of the basement volcanic rocks predates ca. 1 Ma. The duration of rhyolitic volcanism in the SYVP is divided into 1.2–0.6 Ma and 0.3–0.2 Ma, based on the findings of previous studies and this study. The previous studies show that volcanic activity had not occurred post-0.6 Ma in the central part of the SYVP. However, our data show that the rhyolitic lava dome (Utsukushimatsu lava) was formed much later, ca. 0.24 Ma. The spatiotemporal distributions and whole-rock composition of the rhyolite suggest that rhyolitic volcanism prior to 0.6 Ma was related to the formation of Oiwake volcanic graben in the central SYVP. At the time of the effusion of the Utsukushimatsu lava dome, the activity of the Yatsugatake volcanoes that adjoined the eastern side of the Daimontoge area was the most vigorous in their history. Therefore, we suggest that the formation of the Utsukushimatsu lava dome in the Daimontoge area resulted from the increment and expansion of activity of the Yatsugatake volcanoes.

**Key words:** Rhyolite, K-Ar ages, Oiwake volcanic graben, Suwa-Yatsugatake volcanic province, Enrei Volcanic Rocks and Yatsugatake volcanic products

\* 〒305-8567 茨城県つくば市東 1-1-1 中央第 7  
産業技術総合研究所地質情報研究部門  
AIST, GSJ, Institute of Geology and Geoinformation,  
Tsukuba Central 7, 1-1-1 Higashi, Tsukuba, Ibaraki  
305-8567, Japan

\*\* 現在 〒031-8617 青森県八戸市河原木遠山新田 5-2  
大平洋金属株式会社鉱石部  
Ore Purchasing & Mining Engineering Department,  
Pacific Metals Co. Ltd., 5-2 Toyama-shinden, Kawara-  
gi, Hachinohe, Aomori 031-8617, Japan

\*\*\* 〒305-8568 茨城県つくば市梅園 1-1-1 中央第 2  
産業技術総合研究所国際部門

AIST, International Affairs Department, Tsukuba Cen-  
tral 2, 1-1-1 Umezono, Tsukuba, Ibaraki 305-8568,  
Japan

\*\*\*\* 〒390-8621 長野県松本市旭 3-1-1  
信州大学理学部 地質科学科  
Department of Geology, Faculty of Science, Shinshu  
University, 3-1-1 Asahi, Matsumoto, Nagano 390-  
8621, Japan

Corresponding author: Kuniaki Nishiki  
e-mail: k-nishiki@aist.go.jp