

## 十和田火山，御倉山溶岩ドームの形成時期と噴火推移

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Eruption Age and Sequence of Ogurayama Lava Dome  
at Towada Volcano, Northeast Japan Arc

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Towada volcano is an active volcano located in the northern part of the Northeast Japan arc. Ogurayama Lava Dome (OLD), which is a dacitic lava dome located near the center of Towada volcano, has been regarded as a product of the latest eruptive episode A. In this paper, the author reports that the OLD is older than previously thought and that it was formed at the end of eruptive episode D'.

The OLD overlies pyroclastic deposits of the eruptive episode E and is overlain by pyroclastic deposits of the eruptive episode C. These stratigraphic relations restrict the eruption age of the OLD to 9.2–6.2 cal kyr BP. Within this time interval, two eruptive episodes (D' and D) are recognized as tephra fall deposits in the distal area. The distribution of Herai Ash from the eruptive episode D' shows that the source vent is located in the vicinity of the OLD. Furthermore, the petrological features of the OLD closely resemble those of the Herai Ash. These observations indicate that the OLD is the product of the eruptive episode D' (7.5 cal kyr BP).

The probable eruption sequence of the eruptive episode D' is as follows. Intermittent phreatomagmatic eruptions occurred in the earliest stage. These eruptions produced the lower part of the Herai Ash. Subsequent lava eruptions formed the OLD and accompanied intermittent vulcanian eruptions produced the main part of the Herai Ash.

The source vent of the eruptive episode A is not the Ogurayama, because the Ogurayama was formed before this episode. Since the only crater topography currently recognized in the Towada volcano is the Nakanoumi crater (NC), the source vent of the eruptive episode A is considered to be the NC.

Since the NC has been the main crater throughout the post-caldera stage, future eruptions will probably occur in the NC. There is the current NC at the bottom of the lake of 320 m in depth. A detailed examination of probable eruption style in the future will be required for predicting volcanic hazard of Towada volcano.

**Key words:** Towada volcano, Ogurayama Lava Dome, stratigraphy, eruption age, eruption sequence, eruptive episode D', eruptive episode A

## 1. はじめに

十和田火山は東北日本弧北部に位置し、直径約 11 km のカルデラを有する活火山である (図 1a, b)。十和田火山の噴火活動史は Hayakawa (1985), 松山・大池 (1986), 中川・他 (1986) などによって、その詳細が明らかにされている。これらの研究によれば、十和田火山の噴火活動史は、先カルデラ期 (55 ka 以前)、カルデラ形成期 (55–15.5 ka)、後カルデラ期 (15.5 ka～現在) の 3 つのステージに区分される。また、個々の噴火イベントは噴火休止

期を示す土壌層を境として「噴火エピソード」毎に区分され、上位から A, B, C の順にアルファベットを用いて命名・整理されている (Hayakawa, 1985)。

本論で対象とする御倉山溶岩ドーム (Hayakawa, 1985) は、十和田湖中心付近の御倉山半島突端部を構成するデイサイト質の溶岩ドームである (図 1a, c)。十和田火山の地質学的研究はこれまで数多く行われてきたが、そのほとんどは御倉山溶岩ドームを十和田火山最新の噴出物であると考えている (Hayakawa, 1985; 井上・蜂屋, 1962;

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