

## Stratigraphy and correlation of rhyolitic tephra beds since the Late Quaternary in the Toshima, northern Izu Islands

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Toshima is a cone-shaped volcanic island which is consisted of andesite and basalts, and locates in the northern Izu Islands. Revealing tephrostratigraphy in the Toshima is important for reconstructing the eruptive history in the whole Izu Islands, however, the progress of the identification of tephra beds in the Toshima has been limited. We have proceeded with researching the eruptive history in the Niijima and Kozushima volcanoes, and the tephrostratigraphy of the drilled core off the Boso Peninsula. This study correlates the rhyolitic tephra beds in the Toshima with these known tephra beds in the northern Izu Islands on the base of refractive index and chemical composition of glass shards, and reconstructs the tephrostratigraphy in the Toshima.

We found four rhyolitic tephra beds in the Toshima, and named them Tos1 to Tos4 in ascending order. Tos1 is a 5 cm thick rhyolitic white ash layer containing biotite, and is directly covered by a reddish-brown scoria bed with a thickness of 10 cm. Tos2 is consisted of 2 units; the upper unit is rhyolitic white ash patches with a thickness, containing cummingtonite; the lower one is a 10 cm thick gray ash layer containing orthopyroxene, clinopyroxene, and coarse blue-gray-colored lapilli. Tos3 and Tos4 are layers of yellowish-white ash containing orthopyroxene and amphibole.

The results of determination for refractive index and chemical composition of glass shards indicate that Tos1, Tos3, and Tos4 are correlated with Kozushima Chichibuyama A tephra, Niijima Akasakimine tephra, and Niijima Miyatsukayama tephra, respectively. Tos2 is apparently distinguished from known tephra beds from Niijima, Kozushima, Omurodashiki volcanoes on the basis of chemical composition of glass shards. The source volcano of Tos2 is unclear, however, we have found a tephra bed, whose chemical composition of glass shards is similar to that of Tos2, collected from the drilled core C9010E off the Boso Peninsula. It is required to search Tos2 tephra in the surrounding (sea) area.

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