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# Pyroclastic deposits around the southern base of Kurikoma volcano - stratigraphy of Onoda Formation and Kitagawa Dacite-

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There is a caldera cluster around southern base of Kurikoma volcano, and their eruptive products are exposed there. Four tuff members divided from Kitagawa Dacite, Ikeduki, Shimoyamazato, Nizaka and Yanagisawa Tuffs, are well determined their origin and age. Ikeduki and Shimoyamazato Tuffs are pyroclastic deposits derived from Onikobe caldera, and Nizaka and Yanagisawa Tuffs are those from Naruko caldera. According to previous studies, eruptive ages of Ikeduki Shimoyamazato, Nizaka, and Yanagisawa Tuffs are ca.0.25Ma, ca.0.21Ma, ca.70Ka, ca.4 0Ka, respectively. On the other hand, their underneath pyroclastic layers have not been well determined their origin or eruption age. Most of them have been regarded as members of the Neogene Onoda Formation. In this study, stratigraphy, distribution of these pyroclastic deposits in Onoda Formation are examined along with petrology of the eruptive products.
Onoda Formation contains three tuff members, Yubama, Chijimisawa and Modume Tuffs, in stratigraphic order. These three tuffs are composed mainly of pyroclastic flow deposits, and Modume Tuff is accompanied by the lower fall-out deposit. Distribution of Modume Tuff is restricted only around Modume that is the type locality, whereas Yubama Tuff can be traced to some extent around the location. Chijimisawa Tuff is continuously exposed along southern cliffs of Eai River.
The key bed tuff Ot6 (Kitamura et al., 1981) in Onoda Formation distributed in Iwadeyama area is correlated with Ikeduki Tuff based on the petrologic features. The newly defined Toshojisawa and Shiroyama Tuffs, which were considered as members of Onoda Formation, are stratigraphically located between Ikeduki and Nizaka Tuffs. These two tuffs and Shimoyamazato Tuff can be not correlated, because the mineral assemblages of these two tuffs are different from that of Shimoyamazato Tuff. Therefore, the upper Onoda Formation around this area is younger than the age that used to be considered and actually belongs to upper Pleistocene.
Whole-rock chemical composition analysed with XRF revealed that Toshojisawa Tuff belongs to dacite, and other tuffs belong to rhyolite, according to IUGS classification. Pumice fragments from each tuff member have similar chemical compositions and can be distinguished from other members, especially on the SiO2 vs FeO*/(FeO*+MgO) diagram. The pumice from each tuff member has its own mineralogical feature, including their assemblage and proportion. Therefore, each tuff member can be petrologically distinguished each other and those distributed in distal areas can be correlated with those from the studied area by petrologic observation.

Keywords: Southern base of Kurikoma volcano, caldera cluster, pyroclastic deposits, stratigraphy, distribution, petrologic features