

## Two Early Pleistocene tephras detected within the Kazusa Group in the Kanto Plain: Recognition and its significance of Ob3-Kd31B and SYG-Kd29

\*Takehiko Suzuki<sup>1</sup>, Tatsuki Watanabe<sup>1</sup>, Mayu Hashimoto<sup>1</sup>, Mioko Kawabata<sup>1</sup>, Nanami Jimba<sup>1</sup>, Daiki Sugasawa<sup>1</sup>, Shinichi Kawashima<sup>2</sup>, Kuniki Kokubun<sup>2</sup>, Masabumi Kawai<sup>2</sup>, Toshio Nakayama<sup>2</sup>

1. Faculty of Urban Environmental Sciences, Tokyo Metropolitan University, 2. Tokyo Metropolitan Government

The Kazusa Group distributed in the Kanto Plain plays a significant role for establishment of the standard Quaternary stratigraphy, development history of the plain and Quaternary paleoenvironmental changes. Especially, tephras included within the Kazusa Group provide reliable datum plains in formations defined in each area. In addition, they can indicate occurrences of huge explosive caldera-forming eruptions ranked at VEI= of 6-7 in the whole area of the Japanese Islands. Terphrostratigraphical studies have been carried out in each area of the Kanto Plains such as the Boso Peninsula, hills along the west margin of the plain, north part of the Miura Peninsula, underground of the plain, Choshi area, and correlations of those tephras have been attempted since 2000s. This results in reliable correlation of the formations in Kazusa Group among areas.

In this study, we newly identified a couple of Early Pleistocene tephra named Ob3-Kd31B and SYG-Kd29 in representative areas in the Kanto Plain. Here, we describe these tephras and show its implication in Quaternary study.

Ob3-Kd31B: Ob3 positioned between well-known Kd38 (Ob2) and Kd25 (Ob4a) in the Obama Formation in the Inubo Group, Choshi area, is a white vitric tephra layer composed of sponge to fiber type of volcanic glass shards (n: 1.505-1.507, SiO<sub>2</sub>: c.75 wt%, K<sub>2</sub>O: c.4.2 wt%) and opx (g: 1.724-1.728) and cpx. This tephra already reported under the Musashino Uplands has been newly correlated to Kd31B in the Kiwada Formation (Boso Peninsula) and OFT-30 in the Ofuna Formation in north Miura Peninsula. Here, we define this tephra as Ob3-Kd31B.

SYG-Kd29: SYG was defined in the Sayama Formation in the Sayama Hills in west Kanto Plain by previous study, correlated to the Tsuike Volcanic Ash in the Niigata region. This tephra is characterized by fiber type of volcanic glass shards (n: 1.508-1.511, SiO<sub>2</sub>: 75.6-75.9 wt%, K<sub>2</sub>O: c.1.3 wt%). SYG already described in underground of the Muashino Uplands and the Tama Hills. In addition, we found this tephra between Kd38 (Ob2) and Kd25 (Ob4a) (above Ob3-Kd31B) in the Obama Formation. Moreover, this tephra has been newly correlated to Kd29 in the Kiwada Formation and OFT-38 in the Ofuna Formation. Here, we define this tephra as SYG-Kd29.

According to the estimated ages and stratigraphic positions in marine isotope stages for Ob3-Kd31B (OFT-30) and SYG-Kd29 (OFT-38) in the Ofuna Formation by Nozaki et al. (2014), the former is 1.664 Ma (transition from MIS 59 to 58) and the latter 1.634 Ma (around the peak of MIS 57). The significance of results for these tephra identifications will be discussed in the presentation.

Keywords: Kanto Plain, Kazusa Group, tephra, Early Pleistocene, Kd31, Kd29