

Correlation of tephra in the Kazusa Group core from Setagaya and Fuchu areas, Tokyo, central Japan

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Three sediment cores were collected in Setagaya Ward and Fuchu City in Tokyo, Kanto Plain. For these core, sedimentary facies, physical properties, microfossil, chemical composition, magnetostratigraphy were studied (Funabiki et al, 2012, Ueki et al, 2012). In this study, in order to determine their stratigraphical position, we analyzed the petrographical properties of tephra included in the horizon of the Kazusa Group.

The upper part of NUCHS-1 core drilled at the college of Nihon University, Setagaya ward, is composed of terrace gravel, On-Pm1, and Musasino-Tachikawa loam Formations, from -12.7 m to the top (Kurihara et al, 2012). The lower part from -12.7 to 80.0 m, composed mainly of thick sandy deposits of the early Pleistocene Kazusa Group by magnetostratigraphy (Ueki et al.,2012). Based on the analysis in mineral composition, major element compositions and refractive index of glass, the glassy tephra in depth 59.98m is correlated with Nishikubo tephra of the Iimuro Formation in Tama Hills(Suzuki and Murata, 2011). This suggests that the sediment corresponds to the Iimuro Formation in Tama Hills, and to the Higashikurume and Kita-Tama Formations.

The TAT-1 and TAT-2 cores drilled at the college of Tokyo University of Agriculture and Technology in Fuchu City. The upper parts of those cores, from 8.9m to -11.5m, are composed of terrace deposits and Tachikawa loam Formation. The lower parts, from -11.5m to 50.0m, are composed of silt and sand with gravels of the early Pleistocene Kazusa Group. One glassy tephra, from the depth of 36.85m of the TAT-1 core, and from the depth of 41.56m of the TAT-2 core, is correlated with O21 tephra of Otadai Formation, Kazusa Group. Another tephra from the depth of 43.75m of the TAT-2 core is correlated with O22 tephra of the Otadai Formation. O21 and O22 tephra were sampled from Yoro River floor, Boso Peninsula. These results suggest that the lower part of the both cores was deposited at the same time of the Otadai Formation in Boso Peninsula and also the Toneri Formation in Tokyo.

References:

Funabiki et al(2012)Abstract for JpGU Meeting 2012 HQR23-03: Ueki et al(2012)Abstract for JpGU Meeting 2012 HQR23-02: Kurihara et al(2012)Abstract for Japan Association for Quaternary Research: Suzuki and Murata(2011)Jour. Geol. Soc. Japan, Vol. 117, p.379-397

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