

## Integrated stratigraphy of the early Pleistocene Sakishima Formation in the Shima Peninsula, Mie Prefecture

\*Rei Nakashima<sup>1</sup>, Masayuki Utsunomiya<sup>1</sup>, Takeyuki Ueki<sup>2</sup>, Kiyohide Mizuno<sup>1</sup>, Hirokuni Oda<sup>1</sup>

1. Institute of Geology and Geoinformation, National Institute of Advanced Industrial Science and Technology, 2. Chiba Institute of Science

The Early Pleistocene Sakishima Formation is distributed in Isobe-cho, Shima City, Mie Prefecture. The formation is a valley-fill deposits covering the Shimanto belt rocks which forms the basement of the southern part of the Shima peninsula. And it is covered by the middle/lower terrace deposits. The Sakishima Formation intercalates the Isobe volcanic ash, and this volcanic ash was compared with Shishimuta Azuki Volcanic Ash (Ss-Az) in the Ma3 marine clay layer (MIS 21: reverse polarity in the Matuyama chron) of the Osaka Group (Machida and Arai, 2003). On the other hand, Tanioka et al. (2004) showed the paleomagnetism of the Sakishima Formation is the normal polarity. As mentioned above, the depositional age of the Sakishima Formation is not clear yet. Therefore, we reexamined the petrological features of Isobe volcanic ash and palaeomagnetism, and conducted to analyze calcareous nannofossils at the type section of the Sakishima Formation.

As a result of the analyze of the shape of the volcanic glass shards, refractive index and chemical composition of the glass shards and orthopyroxene, we could compare the Isobe volcanic ash with the Shishimuta Azuki volcanic ash. As for paleomagnetic analysis, we found that the upper and lower layers including Isobe volcanic ash are all inverse magnetized. About calcareous nannofossils, mudstone 1-2 m below the Isobe volcanic ash contains *Reticulofenestra asanoi*, *Gephyrocapsa parallela* and *Pseudoemiliana lacunosa*. Co-occurrence of these species imply the geologic age of the mudstone is MIS 30-21 in the Matuyama chron. To summarize the above results, we reconfirmed that the Sakishima Formation is included in the Matuyama chron, and the Isobe volcanic ash is compared with Shishimuta Azuki volcanic ash in the Osaka Group.

Keywords: Early Pleistocene, Volcanic ash, Paleomagnetism, Calcareous nano fossil, Sakishima Formation