

## Permian radiolarians from chert distributed in the Hashidate area, Itoigawa City, Niigata Prefecture, central Japan

\*Toshiyuki Kurihara<sup>1</sup>, Urara Murakami<sup>2</sup>, Atsushi Matsuoka<sup>2</sup>

1. Graduate School of Science and Technology, Niigata University, 2. Faculty of Science, Niigata University

We report Permian radiolarians from chert distributed in Itoigawa, Niigata Prefecture, central Japan. The Permian siliceous and clastic rocks belonging to the Akiyoshi belt in Itoigawa have been recognized as the Himekawa Complex (Kawai and Takeuchi, 2001). This geologic unit distributes in the east of the Omi Complex (Nagamori et al., 2010) which is composed mainly of Carboniferous to Permian limestone with minor basalts. The chert from which we obtained Permian radiolarians is exposed in the Hashidate area, western Itoigawa City. The outcrop of this chert is located in the west of Omi Complex and is isolated from the siliceous and clastic rocks of the Himekawa Complex. The apparent total thickness of this chert 30 m, although several layer-parallel faults are observed. Red-colored bedded cherts are occupied in the outcrop, and minor pale green-colored cherts also occur.

By using standard HF etching technique, we obtained well-preserved radiolarian fossils from red cherts. The radiolarian assemblage is dominated by *Latentefistularia* and *Entactinaria*. *Albaillellarians* are minor, and the following species are identified: *Albaillella sinuata* Ishiga and Imoto, *Pseudoalbaillella scalparata* Holdsworth and Jones, and *Albaillella* sp. Based on the unitary association zone by Xiao et al. (2018), these species indicate the Kungurian age of late Early Permian. The Kungurian age of chert has been commonly reported from the Akiyoshi belt (e.g., Kanmera et al., 1990). Therefore, the chert of the Hashidate area can be considered to be belonged to the Akiyoshi belt.