

Investigation on the internal texture of demospongiae fossil in meta-tuff from the Cambrian Akazawa Formation, Hitachi district

*Michio Tagiri¹, Katsutoshi Hanawa², Akira Oikawa², Noriaki Watanabe³

1. Hitachi City Museum, 2. Geonet Hitachi, 3. Graduate School of Environmental Studies, Tohoku Univ.

We already reported the occurrence of demospongiae fossil from Cambrian meta-tuffs in the Hitachi Paleozoic formation, the southmost Abukuma Mountains. We investigate the internal texture of these sponges by means of stereoscopic microscope, polarized microscope and X-ray CT scan instrument. Deformed bubble-shaped globe of 1mm diameter are packed in the fossil, and those link with each other by fine tube. These globes consist of internal and external walls with reticulation. The globe with these walls may be a choanocyte of sponge. In the poster presentation, we will show this internal texture of sponge fossil by means of the animation of CT scan photographs and of the 3D shaping,

The stromal tissue of sponge fossil is occupied by very fine-grained silicate material, in which the sponge spicule-like texture develops, but this texture is completely replaced by fine acicular amphiboles. The sponge spicule did not remain in these fossils. However, whitish siliceous and micro-bubble bearing sponge texture still remains. Demospongiae fossil was formed by silicification in tuff.

Keywords: Cambrian formation, meta-tuff, demospongiae fossil, X-ray CT scan, cell form, recrystallized spicule