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The 17th century tsunami age in Hokkaido estimated from the core bored at Lake Harutori-ko, eastern Hokkaido

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Eastern Hokkaido is a severe Earthquakes and Tsunamis district occurred at Kuril trench in Pacific Ocean. The intervals of the huge earthquakes are estimated about 300˜500 years and the last event occurred in 17th century. But there is no precise tsunami age because the documents of them are only after 19th centuries. At the same time, Tohoku area had hit the huge earthquake named *Keicho Sanriku* Earthquake (1611). Some hypothesis says the 17th century tsunami in Hokkaido corresponds to *Keicho Sanriku* Earthquake. So it is important to estimate the tsunami age.

We analyzed the core sample and thin section from Lake Harutori-ko located in southeast of Kushiro city, eastern Hokkaido. There are 17th century tsunami deposits, lamina and tephra (Ta-b: 1667) in order into 16.5 cm long thin section. We observed thin section in microscope of 1000 magnifications to identify diatoms, which is important component of limnological lamina.

On the microscopic observation of the sedimentary and microfossil assemblages, about 30 laminae with light and dark layers were observed. 75 species belonging to 40 genera are identified in this sediment. In addition to them, plant opal, silicoflagellate and chrysophycean cysts are observed. Diatom assemblages are cyclically changed in related to the laminated structures. Those changes presumed that laminated structures might be formed by seasonal lake environmental changes. Therefore we could decide the detail dating of the 17th century tsunami by counting of the laminae.

Keywords: Tsunami deposit, Diatom, Lamina, Eastern Hokkaido