

Silicoflagellates assemblages on the Danjo Basin in the East China Sea since the last glacial maximum

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The East China Sea (ECS) is a marginal sea of the western North Pacific. ECS is divided into two areas of different water depth character: continental shelves shallower than 200 m in the northeast, which occupies greater than 70% of ECS and deep basin down to >2000 m in the south east (Okinawa Trough). Warmer and more saline Kuroshio Water and cooler and less saline Chinese Coastal Water influence on surface conditions of the ECS. Silicoflagellates are unicellular marine plankton and they have simple geometric siliceous skeletons which are constructed of hollow, tubular rods. There are two major silicoflagellate genera *Dictyocha* and *Stephanocha* dwell mainly tropical to subtropical region and polar to subpolar region, respectively. Hence, ratio of two genera in sediment is a qualitative proxy of sea-surface temperature. Here we present a silicoflagellate assemblage in sediment core sample on the Danjo Basin of ECS sediment to reconstruct sea-surface temperature change since the last glacial maximum. Piston core KY07-04-01 (31°38.35' N, 128°56.64' E, 758 m) was recovered from the northern edge of Okinawa Trough. Age model of KY07-04-01 was established based on thirteen ¹⁴C ages and one tephra layer, K-Ah tephra (Kubota et al., 2010). In this study, silicoflagellate assemblages of KY07-04-01 were investigated by using light microscope (LM). A total of 11 silicoflagellate species were encountered during the microscopic observation. Change in the ratio of the *Dictyocha/Stephanocha* genus of this region showed a tendency to increase for the past 18 kyrs, suggesting intensified Kuroshio Water inflow. The supporting evidence is came from *Dictyocha epiodon*, currently abundant in the Kuroshio Extension and the Gulf of Alaska, showed gradual increase from the last glacial maximum (LGM) to the late Holocene. *Stephanocha speculum* is the representative species in subarctic and polar region. Relative abundances of *S. speculum* were high during LGM. This indicates colder and less saline surface water was covered on the Danjo Basin. However, constant occurrence of *Dictyocha messanensis*, which widely distributes from tropical to temperate region, shows that Kuroshio Water has been flowed into the ECS even during LGM.

Keywords: silicofagellate, East China Sea, Danjyo Basin, sea-surface temperature