

# Diatom and Chrysophyceae Assemblages from the Holocene Alluvial Core Sediments at Southern and Western Coasts of Korea Peninsula

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The Holocene alluvial sediments kept traces of the abrupt Holocene climatic events in coastal area. Park et al (2019) presumed at 8.2 ka, 4.2ka and 2.8 ka BP events using drilling cores at south and west coast of Korea Peninsula by Pollen analysis, C14 dating and chemical analyses.

We selected the three cores along the western and southern coasts of Korea Peninsula for the analysis of diatom and Chrysophyceae assemblages. All cores presumed to insert marine clay within the core by their lithological observation. The diatom assemblages showed the marine transgressive process at the lowland according to the Holocene marine transgression, the closing bay and lagoon forming processes, marine regressions and land forming processes clearly. Diatoms also showed the erosional stages by the sudden changes of their assemblage compositions when we could not find the erosional structures in the deltaic sediment. For discussing of the ancient sailing rout, to detect the erosional surface by tidal currents was necessary to presume the ancient water depth.

Chrysophyceae is one of the single cell algae, generally called as Golden Algae. It forms hard silicate cyst (Statospore) at the resting period of its life cycle. Although soft bodies of Chrysophyceae were not able to be kept in the sediments, their statospores were well kept in the sediments. They were reported not only from freshwater lake and pond sediments, but also from oceanic drilling cores. The Statospores taken from the cores of this paper might be freshwater alkaline favorite ones by their shapes and size. The possibility for the tools of paleo-environmental reconstructions has been under discussing.

In this presentation, we will discuss the Diatom and Chrysophyceae Assemblages from STP17-13 core, southern coast of Korea Peninsula, STP16-01 core, south-western coast of Korea Peninsula and DSE18-06 core at western coast of Korea Peninsula. All of them were taken undisturbed core samples until the base of the Holocene, and lithological and microfossil assemblages (Pollen) presumed the Holocene climatic events at 8.2 ka, 4.2ka and 2.8ka in the cores. Diatom and Chrysophyceae Assemblages shifted to be corresponded to those climatic events.

Keywords: Chrysophyceae, Diatom, Holocene, Korea, Sea level change, Climatic change