Radiolaria in the Arctic Ocean and their paleoceanographic implication

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Almost all area of the Arctic Ocean is covered by sea-ice during the year. Recently, however, a dramatic reduction in the ice has been reported, and has raised concerns for impact on Arctic biota and acceleration of the global warming trend. To study of oceanographic changes in the Arctic is very important for prediction of future earth environments.

Although the paleoceanographic outline of the Arctic Ocean has been gradually elucidated using planktic/benthic foraminifers, ostracoda, stable isotope analysis, sediment structure and mineral compositions of the sediments from marine cores, more details of the reconstruction should be supported with new paleoceanographic proxy.

Radiolaria, one group of marine planktonic protozoans, have been widely used in paleoceanographic study in the world oceans, and it can also contribute to reconstruct the Arctic paleoenvironment. Three species, Amplimelissa setosa, Ceratocyrtis historicosa and Cycladophora davisiana, are closely related their habitats to the summer ice-margin, Atlantic Intermediate Water and deep water, respectively. I will discuss about usefulness of these radiolarians as potential indicators for paleoceanographic study of the Arctic Ocean.