

KOPRI Culture Collection for Polar Microorganisms (KCCPM)

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Korea Polar Research Institute (KOPRI) Culture Collection for Polar Microorganisms (KCCPM) is the culture collection for polar algae. Since 1989, we have collected various psychrophilic polar organisms including microalgae and macroalgae near King Sejong Station, Maxwell Bay, King George Island in the Antarctic, and more recently near Dasan Station, Ny-Ålesund, Svalbard in the Arctic. We maintains about 220 strains from the Antarctic and the Arctic, the preponderance marine diatoms, and we also keep up some green algae, blue green algae, and other freshwater organisms as well. From these collections, we have cultivated in the 2°C culture room with LED lights consisting of three single wavelength red (660 nm), green (530 nm) and blue (460 nm). We have assessed the diversity of psychrophilic polar diatoms cultivated in the KCCPM and attempted to establish phylogenetic relationships among the diverse micro-algae based on light microscopic and electron microscopic observations as well as molecular investigations. An important consequence of our results is the establishment of a database for psychrophilic polar micro-algae based on morphological observations and molecular investigations in the KCCPM. The arctic cruises using the Korea Ice breaker, *ARAON* was conducted from 14th July to 13th August 2010 and from 26th July to 24th August 2011 at Canada Basin, Northwind Ridge and Chukchi Sea. During the cruises, we collected various plankton samples using plankton net (20 µm) for biodiversity and community studies. We will continuously expand our culture collections through the oncoming expeditions using *ARAON* and the collecting trips from various polar regions.