

CULTURE COLLECTION OF POLAR ORGANISMS

Yung Mi Lee, Cheng-Dae Choe, Hong Kum Lee, Soon Gyu Hong

1. Yung Mi Lee(Korea Polar Research Institute, ymlee@kopri.re.kr)
2. Cheng-Dae Choe(BRN Science, cdchoe@brnsci.com)
3. Hong Kum Lee(Korea Polar Research Institute, polypore@kopri.re.kr)
4. Soon Gyu Hong(Korea Polar Research Institute, hklee@kopri.re.kr)

Presenting Author: Yung Mi Lee

Biodiversity information and bio-materials collected from polar areas are invaluable resources that were acquired by expensive and time-consuming processes. They are important materials for the study of adaptation mechanisms and ecological roles in harsh polar environments. In addition, they are potential sources for biotechnological applications such as cold-active enzymes, and genes and metabolites against UV, drought and cold stresses. Although it is very important to share information and bio-resources in science community and in public to make them more useful, there has been no publicly accessible culture collection of polar organisms. In order to fulfill the tasks efficiently, database linked to the samples, microbial strains and other materials was constructed based on the schema of DarwinCore2 and OBIS. The database contains information for the environmental parameters, geographical origin, taxonomy, and physiological characteristics such as optimal media, growth temperature, and production of enzymes. Approximately 6000 microorganisms were isolated from various polar habitats such as soil, sea water, sediment, and lichen, etc. The database is now opened for public access. Searching for microbial strains using various keywords such as environmental parameters, geography, taxonomy, and physiology are available for about 500 strains and the number will be augmented increasingly. We expect that it will play important roles as a repository of biodiversity and supplier of polar organisms.