

SL321

Importance of microbial diversity

Tae-Seok AHN

Dept. of Environmental Science,
Kangwon National University

Abstract

Microorganism are central core to biosphere sustainability and biogeochemical cycles on this earth. Most of food, medical and pharmaceutical new materials through biotechnology are derived from many kinds of microorganisms. Microorganisms are important resources of biotechnology. Beside these, microbial diversity is key to explore the frontiers of knowledge about the strategies and limits of life. Through the microorganisms, we can monitor the environmental changes and conditions. Moreover, the microorganisms play a role in conservation and restoration of higher plants and animals. And we can get a lot of ecological, evolutionary knowledges from microbial models. In spite of these importances, the microbial diversity is not properly evaluated because of their unculturability. Only 0.001 - 3 % of total bacteria in natural habitats are culturable and the rest are viable but unculturable. Only 3,100 species are listed up in the Bergey's Manual. Considering the symbiosis and estimated numbers of insect are more than 800,000, the symbiotic microorganisms are about 1,000,000 species. Recently, by using the genetic and molecular technics, the microbial diversity is now unveiled. In this symposium, the genetic, species and ecological diversity will be given.