Environmental Microbiology Environmental microbiology is the study of the composition and physiology of microbial communities in the environment.Molecular biology has revolutionized the study of microorganisms in the environment and improved our understanding of the composition, phylogeny, and physiology of microbial communities.The current molecular toolbox encompasses a range of DNA–based technologies and new methods for the study of RNA and proteins extracted from environmental samples.Environmental microbiology also includes the study of microorganisms that exist in artificial environments such as bioreactors.The environment in this case means the soil, water, air and sediments covering the planet and can also include the animals and plants that inhabit these areas.