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Autore	Kelly John J
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Sommario/riassunto	Understanding the link between microbial diversity and ecosystem processes is a fundamental goal of microbial ecologists, yet we still have a rudimentary knowledge of how changes in diversity affect nutrient cycling and energy transfer in ecosystems. Due to the complexity of the problem, many published studies on this topic have been conducted in artificial or manipulated systems. Although researchers have begun to expose some possible mechanisms using

these approaches, most have not yet been able to produce conclusive results that relate directly to natural systems. The few studies that have explored the link between diversity and activity in natural systems have typically focused on specific nutrient cycles or processes, such as nitrification, denitrification, and organic carbon degradation pathways, and the microbes that mediate them. What we have learned from these studies is that there are often strong associations between the physical and chemical features of the environment, the composition of the microbial communities, and their activities, but the rules that govern these associations have not been fully elucidated. These earlier studies of microbial diversity and processes in natural systems provide a framework for additional studies to broaden our understanding of the role of microbial diversity in ecosystem function. The problem is complex, but with recent advances in sequencing technology, -omics, and in-situ measurements of ecosystem processes and their applications to microbial communities, making direct connections between ecosystem function and microbial diversity seems more tractable than ever.
