
MAPPING THE NICHE SPACE OF SOIL MICROORGANISMS

Photo by J.T. Lennon

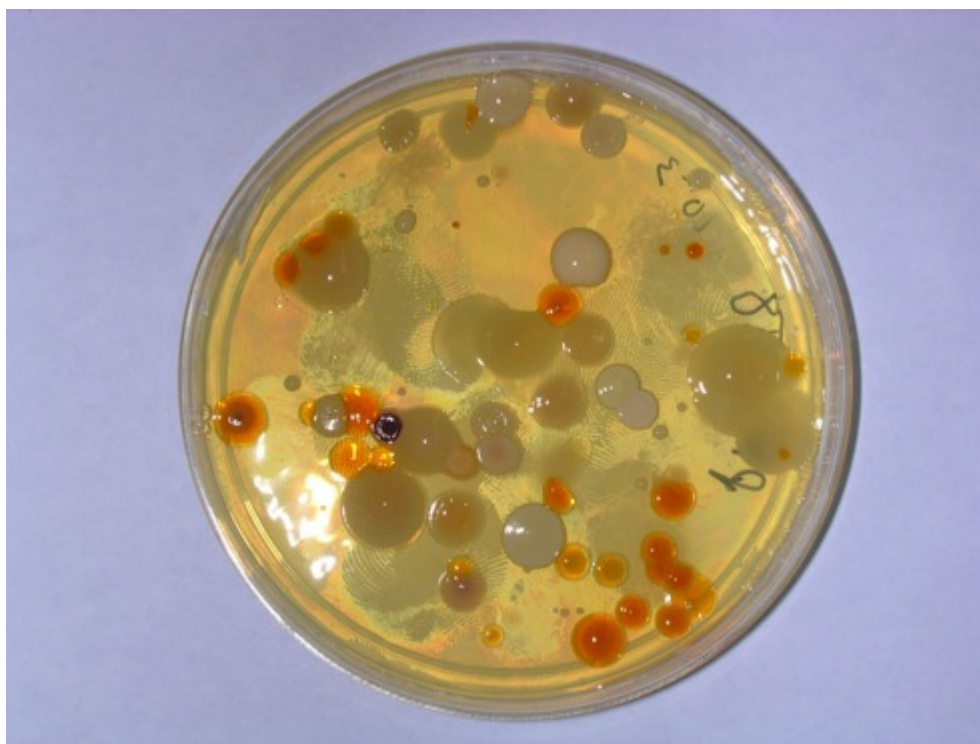


Photo 1. A bacterial culture growing in the laboratory; each bacterial strain was identified by direct sequencing of its DNA.

The biodiversity of microbial communities has important implications for the stability and functioning of ecosystem processes. Yet very little is known about the environmental factors that define the microbial niche and how this influences the composition and activity of microbial communities. Using isolates of bacteria (Photo 1) and fungi from soils, the authors constructed physiological response curves that described the metabolism of microorganisms along a moisture gradient. By linking these responses to functional traits and phylogenetic information, the study sheds light on specialist vs. generalist strategies while generating predictions for the biogeography of soil microorganisms.

The photograph illustrates the article “Mapping the niche space of soil microorganisms using taxonomy and traits,” by Jay T. Lennon, Zachary A. Aanderud, B. K. Lehmkuhl, and Donald R. Schoolmaster, Jr., published in *Ecology* 93:1867–1879, August 2012. <http://dx.doi.org/10.1890/11-1745.1>