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COVER
False-colored laser confocal fluorescence photomicrograph of Microcoleus vaginatus PCC9802 (blue) and Microcoleus steenstrupii SON82 (red) (image width: 0.3 millimeters).  
These two cyanobacterial strains are representative of the most abundant microbes in soil crusts of the arid lands in the western United States.  
M. vaginatus favors cooler climates, whereas  
M. steenstrupii prefers warmer areas. See pages 1533 and 1574.

Image: Estelle Couradeau and Ferran Garcia-Pichel/W. M. Keck Bioimaging Laboratory, Arizona State University

ON THE WEB THIS WEEK
>> Science Podcast  
Listen to stories on the fate of topsoil microbes under climate change, observations from Voyager 1 at the fringes of the solar system, attacking cancer with T cells, and more.

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Research Article Summary; for full text: http://dx.doi.org/10.1126/science.1235490

Crystal Structures of EF-G–Ribosome Complexes Trapped in Intermediate States of Translocation
J. Zhou et al.
Research Article Summary; for full text: http://dx.doi.org/10.1126/science.1236084

Control of Ribosomal Subunit Rotation by Elongation Factor G
A. Pulk and J. H. D. Cate
Crystal structures reveal how messenger RNA and transfer RNAs transition through the prokaryotic ribosome during translation. Research Article Summary; for full text: http://dx.doi.org/10.1126/science.1235970

Elongation Factor G Bound to the Ribosome in an Intermediate State of Translocation
D. S. Tourniget et al.
Research Article Summary; for full text: http://dx.doi.org/10.1126/science.1235490

Dynamic Topography Change of the Eastern United States Since 3 Million Years Ago
D. B. Rowley et al.
Mantle flow has deformed the presumed passive eastern margin of North America by up to 60 meters during the past 5 million years.

Varied Response of Western Pacific Hydrology to Climate Forcing over the Last Glacial Period
S. A. Carolin et al.
Stalagmites from Borneo show how the climate of the western equatorial Pacific region changed over the past 100,000 years.

Supercomplex Assembly Determines Electron Flux in the Mitochondrial Electron Transport Chain
E. Lapuente-Brun et al.
Ordered formation of supercomplexes of respiratory enzymes influences metabolic efficiency in response to food supply.

Intrinsically Disordered Protein Threads Through the Bacterial Outer-Membrane Porin OmpF
N. G. Hausden et al.
An antibacterial peptide can tunnel through cell-surface pores to deliver an epitope signal and initiate cell death.

Temperature Drives the Continental-Scale Distribution of Key Microbes in Topsoil Communities
F. Garcia-Pichel et al.
Climate change is likely to shift the distribution of key cyanobacteria species in desert soils.

Mechanism of Eukaryotic RNA Polymerase III Transcription Termination
S. Nielsen et al.
Formation of the secondary structure of the transcribed RNA facilitates termination during transcription.

Transcription Under Torsion
J. Ma et al.
RNA polymerase is a potent DNA-based torsional motor than can restart transcription after release of DNA supercoiling stress.

Fe-S Cluster Biosynthesis Controls Uptake of Aminoglycosides in a ROS-Less Death Pathway
B. Ezraty et al.
The respiratory chain is required for antibiotic entry to the target cell rather than for its killing.

Temperature Drives the Continental-Scale Distribution of Key Microbes in Topsoil Communities
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Science 340 (6140), 1497-1595.