Articles of Significant Interest in This Issue

Toxicity of Grass Species due to *Epichloë* Endophyte Infections in German Grasslands

*Epichloë* endophytes are grass species symbionts that can produce vertebrate- and/or insect-toxic alkaloids. Some of these alkaloids have caused severe intoxication events in the United States, Australia, and New Zealand, but *Epichloë* species in Europe have been studied very little. Vikuk et al. (e00465-19) used a combination of multiplex PCR and analytical methods to identify infection rates of 13 grass species in Germany and determine endophyte genetic and chemotypic diversity. Genes, pathway alkaloids, and end products revealed that grasses can be toxic for livestock, but intoxications have been rarely documented in Germany, presumably due to heterogenic grasslands.

A Recently Discovered Baculovirus Offers New Opportunities for Biological Control of the Codling Moth

Organic pome fruit production depends on the application of commercial baculovirus products to control codling moth populations. With the emergence of baculovirus-resistant codling moths, the demand for new biological control measures has become urgent. Wennmann et al. (e00795-19) tested a recently discovered baculovirus of the litchi moth from South Africa for its ability to infect susceptible and resistant codling moth caterpillars and demonstrated its high virulence. Based on these results, new options are available to fight the codling moth in pome fruit orchards.

Novel Antimicrobial Therapy with Phage-Derived Depolymerases

There has been an unprecedented rise of antibiotic-resistant bacteria, posing a serious threat to human health. *Acinetobacter baumannii* is one of the most problematic bacteria, causing severe nosocomial infections that are resistant to all antibiotics. Oliveira et al. (e00934-19) have been developing an innovative approach based on phage-derived depolymerase enzymes. These enzymes have been found to be highly specific, stable, and refractory to resistance, as they do not kill bacteria per se but instead remove bacterial surface polysaccharides, thereby converting the microbe to an avirulent form that is easily eliminated by the immune system. This innovative antimicrobial approach can be applied to other pathogenic bacteria.

Reversible Adsorption of Rare Earth Ions by Bacterial Spores

Rare earth ions are critical in some technologies, but their mining can cause environmental damage. Consequently, adsorption of these ions by growing bacteria has been investigated as an alternative isolation method. Studies by Dong et al. (e00956-19) now show that dormant spores of *Bacillus* species adsorb Tb$^{3+}$ or Dy$^{3+}$ to 2 to 3% of their dry weight in an outer spore layer. This adsorption, which was not decreased by a 10-fold excess of Mg$^{2+}$, had no deleterious effects on spores, and adsorbed ions were readily removed by chelators. Perhaps spores could be useful in the isolation of rare earth ions, thus minimizing environmental damage.
Understanding the Microbes That Clean Drinking Water

Biosand filtration systems are widely used throughout the world as a low-cost means of obtaining potable water. While the overall effectiveness of these systems has been well demonstrated, Webster and Fierer (e01142-19) investigated how the microbial community in these biosand filters develops over time and contributes to the effectiveness of these systems. They show that the dynamics of these communities are, to a large degree, predictable, and their work highlights the importance of microbial food webs, including bacteria that feed on other bacteria, in the removal of pathogens from contaminated water sources.