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Articles of Significant Interest in This Issue

Plant-Emitted Volatiles Make Caterpillars More Susceptible to Entomopathogens

In response to an herbivore attack, plants release distinct blends of herbivore-induced plant volatiles (HIPVs) that act as priming signals for other plants, attract herbivores' natural enemies, and may have a direct negative impact on herbivore survival. Studies by Gasmi and colleagues (e01468-18) propose an additional role for some plant volatiles: enhancement of caterpillar susceptibility to two entomopathogens (*Bacillus thuringiensis* and baculovirus) widely used in pest control. This work points to the production of plant volatiles as novel selectable plant traits that can be relevant to improving insect pest control by using natural enemies.

Antibiotic Resistance among *Lactobacillus* spp.

Lactobacilli have a broad range of applications in the food, biotechnology, and agriculture industries. Campedelli et al. (e01738-18) measured antibiotic resistance in 182 *Lactobacillus* type strains and correlated it with the data on the annotated genomes. Antibiotic sensitivity showed variability across the genus, usually unimodal. Trimethoprim resistance was the most common phenotype. *Lactobacillus thailandensis* DSM 22698^T showed resistance to all 16 antibiotics tested; *L. sanfranciscensis* LMG 16002^T and *L. pobuzihii* NBRC 103219^T were susceptible to all 16 antibiotics. Phenotypic resistance correlated with genomic annotation for 67% of the cases examined. The overall level of resistance in lactobacilli to antibiotics widely used in human clinical medicine was low.

Pectin Degradation Pathway Employed by a Marine Bacterium

Pectin is a polysaccharide found predominantly in terrestrial plants, but it is also found in marine diatoms and seagrasses. The pectin degradation pathway employed by plant-pathogenic bacteria is well understood and forms the canonical model; however, very little is known about the depolymerization of pectin by marine bacteria. Hobbs et al. (e02114-18) have biochemically characterized the enzymatic pathway used by a marine bacterium to degrade pectin, determining that it employs a complement of enzymes distinct from those of the canonical pathway. This alternate pathway has the potential to be exploited in the growing field of biofuel production from terrestrial and marine plants.

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Transmission of Antimicrobial-Resistant *Escherichia coli* in a Wild Giraffe Population

There is mounting evidence that anthropogenic sources of antimicrobial-resistant bacteria can spill over into natural ecosystems, including wild animals. However, we lack an understanding of how resistant bacteria are maintained within wild animal populations. Using a combination of social network analysis and whole-genome sequencing, Miller et al. (e02136-18) investigated the potential drivers shaping patterns of antimicrobial-resistant *Escherichia coli* in a wild giraffe population. The authors provide evidence that resistant *E. coli* in this wild animal population may be primarily driven by repeated anthropogenic spillover events or related to within-host selection pressures for resistance genes.

Wooden Barrels Contribute to Microbial Inoculation for Lambic Beer Production

Lambic beers are traditionally produced through wort inoculation with environmental air, followed by fermentation and maturation in wooden barrels. The microbiology of the inner surfaces of these barrels, which are subjected to a variety of cleaning procedures before they are filled, was studied by De Roos et al. (e02226-18). They found that the surviving microorganisms could act as an additional inoculation source, besides brewery air and brewery equipment. This investigation helped to gain an understanding of the complex spontaneous lambic beer fermentation and maturation process and will allow further optimization of the lambic beer production process, as well as the wooden barrel cleaning procedures applied.