



Articles of Significant Interest in This Issue

A Fungal Predator Becomes a Prey

Fungi are sessile organisms unable to escape attacks by predators, and they represent important nutrient sources for fungivorous organisms. Thus, they require mechanisms to detect and respond to injury. The fungus *Trichoderma atroviride*, a predator of phytopathogenic fungi, responds to mycelial injury by rapidly regenerating its hyphae and reproducing asexually. Atriztán-Hernández et al. (e01825-18) showed that attack by *Drosophila* larvae triggers a specific chemical response in the fungus and that activation of secondary metabolite production depends on a mitogen-activated protein kinase. Their findings provide insights into the specificity of the response and the importance of establishing a chemical defense to predation.

Microbiota in Different *Hermetia illucens* Midgut Regions

Traditional protein sources for feed production are unable to satisfy the increasing demand for food of animal origin by a growing human population. The larvae of *Hermetia illucens* represent a sustainable alternative because of their ability to bioconvert low-quality biomass into nutritionally valuable proteins for feed production. Although intestinal microbiota characterization is fundamental for the optimization of bioconversion processes and safety aspects, this topic is largely overlooked. Bruno and colleagues (e01864-18) provided an in-depth study of the midgut microbiota of *H. illucens* larvae, analyzing the impact of feeding substrate and regional organization of the midgut.

Metabolic Cooperation Boosts the Gut Microbiota of *Drosophila*

Interactions among species influence the composition and function of microbial communities. The gut microbiota of *Drosophila* flies has proven to be a useful system for studying such interactions and revealing their impact on the host. According to a study from Sommer and Newell (e01882-18), two prevalent genera in this community, *Acetobacter* and *Lactobacillus*, can engage in mutualism. *Acetobacter* bacteria utilize metabolites produced by lactobacilli, and both grow to higher densities as a result. Metabolic cross-feeding between the bacteria reduces nutrient storage by the host, indicating that cooperation between microbiota members is consequential for *Drosophila*.

Bacteria from Contaminated Sink Traps Are Spread Mainly by Droplets

There is an increasing awareness that hospital sinks are a major reservoir of antibiotic-resistant pathogens, but a better understanding of how such pathogens disseminate from sink drains is urgently needed. Kotay et al. (e01997-18) used replicate hand-washing sinks inoculated with green fluorescent protein-expressing *Escherichia coli* to further characterize the dispersal of microorganisms from contaminated sinks. They demonstrated that bacteria from sink drain biofilms were mainly dispersed by droplets, not aerosolized from the P-trap, and only during water use events. Based on these findings, interventions can be engineered to decrease or eliminate transmission from hospital sink drains to patients.

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<https://doi.org/10.1128/AEM.02760-18>

Published 9 January 2019

Novel Associations among Virulence Themes from *Pectobacterium* and *Dickeya* Phytopathogens

Members of the *Pectobacterium* and *Dickeya* genera are phytopathogenic bacteria that cause soft-rot diseases in a range of crops worldwide. Through large-scale gene expression obtained from an aggressive *Pectobacterium* species and comparative genomics using 100 *Pectobacterium* and *Dickeya* strains, Bellieny-Rabelo et al. (e02050-18) uncovered novel associations among key pathogenicity themes in the main soft-rot-causative bacterial taxa. This approach enabled identification of striking transcriptional and contextual genomic association between (i) the WHH/SMI1_KNR4 toxin/immunity pair with type VI secretion system, (ii) the carotovoricin bacteriophage with type I secretion system, and (iii) serotype-specific blocks ranging between 13 and 27 genes with characteristic group 4 capsule regions.