Title:	Assessing the impact of oral infection on Drosophila melanogaster populations adapted to Systemic Infection
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Abstract:	Drosophila melanogaster, commonly known as the fruit fly, serves as a pivotal model organism for studying immunity and host-pathogen interactions. This study investigates the immune responses of Drosophila to oral infection, focusing on two critical factors: bacterial burden and survivability. Survival reflects resistance, indicating the host's ability to control pathogen spread, while bacterial load signifies tolerance, reflecting the host's ability to withstand infection-induced stressors. The research aims to elucidate the interplay between resistance and tolerance mechanisms in combating oral infections. Additionally, the study seeks to understand how prior exposure to systemic infection influences the immune response to oral infection. Using Enterococcus faecalis and Pseudomonas entomophila as model pathogens, the experiment exposes Drosophila populations to oral infections after previous systemic exposure. E. faecalis, an opportunistic pathogen with relevance to both invertebrates and vertebrates, offers insights into multi-route pathogen encounters. P. entomophila, known for its natural infection of fruit flies, provides a robust model for investigating host-pathogen interactions and immune responses in Drosophila. Overall, this research enhances our understanding of Drosophila immune responses to oral infections and sheds light on the role of prior exposure in shaping host-pathogen interactions. Insights gained may inform strategies for combating infectious diseases across various organisms, including humans.
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