ST. OLAF BIOLOGY

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Silent crickets and anemic bluebirds: studies of emerging host-parasite interactions

Parasites are some of the most variable and yet universal selection pressures across life. When hosts are subjected to new parasitic interactions, they may have pre-adapted defenses as well as the capacity to evolve novel strategies for dealing with infection. Such host defense strategies may involve avoidance of infection, resistance via immune attack, and/or an increased ability to tolerate infection. I will tell you about my research into 2 systems where hosts are responding to selection from evolutionarily recent relationships with novel parasites. In one system – field crickets and the parasitoid fly *Ormia ochracea* – I investigated the potential for pre-existing mating behaviors to facilitate the evolution of a novel infection avoidance phenotype, and the possibility of increased immunity and tolerance to infection. Findings from this work suggests that the best strategy for survival and reproduction is infection avoidance combined with pre-existing behavioral plasticity in mating behaviors. In the second – songbirds and the bacterium *Mycoplasma gallisepticum* – I investigated host susceptibility, competence, and disease state. My findings suggest that our understanding of the epidemiology of this pathogen in the songbird community is still extremely limited.

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