Eric Benbow

Entomologist and Osteopathic Medical Specialist at Michigan State University

East Lansing, MI, US

Expert in forensic entomologyâ€”bugs on dead bodies

Description

We are in the age of â€“omics, where there have been tremendous advances in the ability to characterize the microbial world around us. The Human Microbiome Project and the many studies that have spun off of that momentous endeavor have shown that 90% of the human body is made up of a wide diversity of prokaryotic cells and that these communities have significant importance to human health. In a related fashion within entomology, my lab asks two general questions: 1) Is insect fitness influenced by the community of microbes living in or on them? and 2) What are the ecological interactions of insects with the microbial communities associated with their food resources? My lab seeks to answer these two questions for translation into human health applications. Given the rich history of research in insect-microbe interactions that has focused on vectoring pathogens and co-evolved symbionts, coupled with the advanced ability to identify culturable and non-culturable bacteria using high throughput sequencing, a new generation of inquiry into the importance of the insect microbiome and their interactions in nature has tremendous potential for insect science. It is within this realm of inquiry where my students and I test explicit hypotheses at the individual, population and community levels to better understand the importance of insect-microbe interactions to the ecology and evolution of carrion, aquatic and disease systems. The research in my lab centers on insectâ€“microbial interactions within three systems: carrion decomposition, aquatic ecological networks and disease systems. I also have a joint appointment in the Department of Osteopathic Medical Specialties that is represented by on-going, nationally funded research on the human postmortem microbiome with applications in forensics and human health.

Industry Expertise

Education/Learning, Research, Renewables and Environmental, Biotechnology

Topics

Aquatic Entomology, Disease Ecology, Insect-Microbe Interactions, Decomposition Ecology and Forensics, Molecular Biology, Environmental Sciences

Affiliations

Education

University of Dayton

Ph.D. Aquatic Biology

University of Dayton
B.S. Biology

Accomplishments

Platinum Award
For DVD entitled "Forensic entomology: collection and preservation of entomological evidence for court."

Telly Award
For DVD entitled "Forensic entomology: collection and preservation of entomological evidence for court."
