

Research Assistant wanted: Fall 2009

Deadly fungus pandemics and the evolution of sex in the world's strangest microscopic invertebrates



- ⌘ Hands-on introduction to research in a microecology lab
- ⌘ Flexible hours & academic credit via BioG299/499
- ⌘ No prior experience necessary, but steady hands definitely help!

For more information, or to apply, please email Chris Wilson:
cgw8@cornell.edu

Co-evolution and ecology of an ancient asexual invertebrate and its fungal parasites

Background: Species that abandon sex in favor of exclusively clonal reproduction usually go extinct quickly. Sex is thought to provide genetic variation that is needed to combat co-evolving parasites and diseases. We are studying a unique group of animals that have survived for millions of years without males or sex. Bdelloid rotifers are tiny freshwater invertebrates that are found practically everywhere thanks to their astonishing ability to survive desiccation, radiation and temperature extremes. If parasites are unable to withstand such harsh conditions, an extreme lifestyle may be the key to the asexual bdelloids' evolutionary success. In order to test this hypothesis, we are infecting bdelloids with lethal fungal parasites to see who is 'winning' the co-evolutionary race in this unusual system.

Responsibilities: Introductory research involves learning to culture, manipulate and observe rotifers and parasitic fungi in the laboratory, and to design and conduct micro-ecological experiments. Hours are flexible (4+ per week), and the laboratory is centrally located on campus. The group meets once per week for about 30 minutes to discuss the progress of experiments, and I am always available for guidance on techniques. No prior research experience is required, and you will learn many useful microbiological protocols and principles of experimental design.

Time frame: Starting Fall 2009, with the option to continue into 2010.

Credit: Course credit via BioG299 (or 499 for more advanced students): 2-3 credits available.

Contact: Chris Wilson (cgw8@cornell.edu), Department of Neurobiology and Behavior.