

CHYTRID FUNGUS

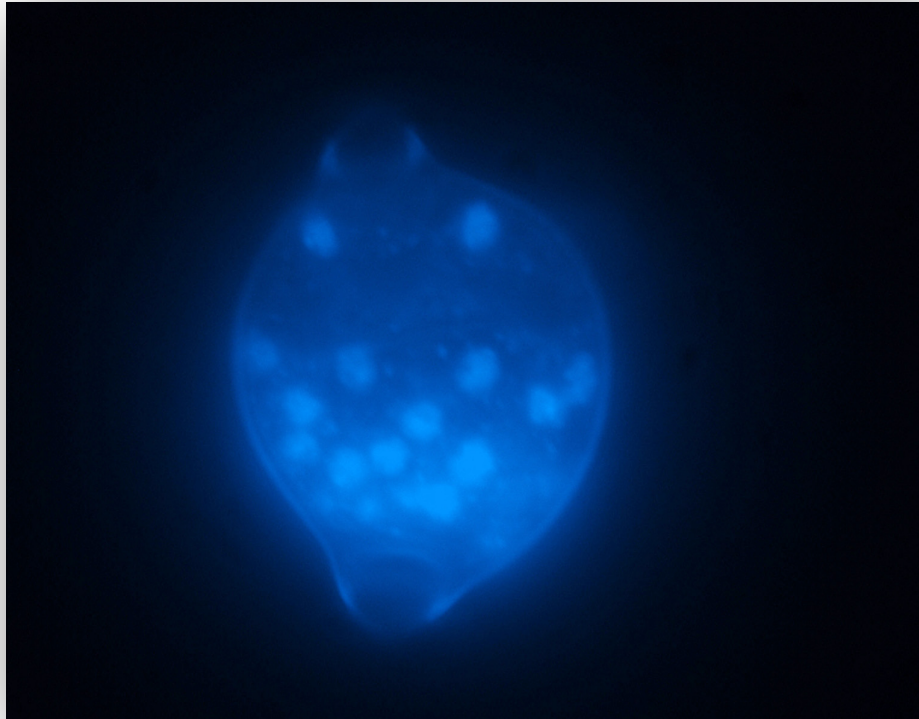


Photo 1. A single zoosporangium of the amphibian pathogen *Batrachochytrium dendrobatidis* can discharge hundreds of infectious zoospores from discharge tubes. Size at maturity and fecundity of the fungus may be influenced by climate and affect disease emergence. Mature zoospores, stained here with 4'-6-Diamidino-2-phenylindole (DAPI), are discharged from a zoosporangium ~20 μm in diameter.

Life history trade-offs allow many animals to maintain reproductive fitness across a range of climatic conditions. When used by parasites and pathogens, these strategies may influence patterns of disease in changing climates. The chytrid fungus *Batrachochytrium dendrobatidis* shown in the photograph is linked to global declines of amphibian populations. Short-term growth in culture is maximal at 17°–25°C. This has been used in an argument that global warming, which increases the time that amphibians spend at these temperatures in cloud-covered montane environments, has led to extinctions.

Results of the experiments in this article demonstrate that *B. dendrobatidis* populations can grow at high rates across a broad range of environmental temperatures and help to explain why it is so successful in cold, montane environments.

Photographed by Douglas C. Woodhams and Alex Bannigan on a Nikon TE 2000 widefield fluorescence microscope with UV filter at James Madison University, Harrisonburg, Virginia.

This photograph illustrates the article, "Life history trade-offs influence disease in changing climates: strategies of an amphibian pathogen," by Douglas C. Woodhams, Ross A. Alford, Cheryl J. Briggs, Megan Johnson, and Louise A. Rollins-Smith, tentatively scheduled to appear in *Ecology* 89(6), June 2008.