

- **Project Title:** Monitoring the amphibian pathogen Chytrid fungus

Investigator: Dittmar Hahn

Department: Biology

Project Summary:

During the last 20 years significant declines in populations of amphibians have been observed worldwide. Although many factors such as habitat loss, environmental toxins, invasive species, and UV radiation have been implicated in declines, some of the blame for recent losses is given to the emerging infectious fungus *Batrachochytrium dendrobatidis* (Chytrid fungus). Consequences of the occurrence of this pathogen in North America remain unclear, although the pathogen has been detected in many US states. However, its presence is not well documented for Texas which provides habitat for several endemic and threatened amphibians. The aim of our study was to screen individuals of four threatened amphibians in Central Texas for Chytrid fungus. Using PCR-based analyses, Chytrid fungus was detected on endangered Jollyville (*Eurycea tonkawae*), Barton Spring (*Eurycea sosorum*) and San Marcos (*Eurycea nana*) salamanders, and also on Houston toad (*Bufo houstonensis*)!

While all analyses of salamanders were based on recently obtained samples, Houston toad samples covered a time range from year 2000 to 2006 with only the most recent samples being positive for Chytrid fungus. Sequence analysis of PCR products confirmed the detection of Chytrid fungus, and thus demonstrated the presence of this pathogen in populations of endangered species in Central Texas.

Presentations:

Amphibian Declines and Chytridiomycosis: Translating Science into Urgent Action conference, poster presentation: Detection of *Batrachochytrium dendrobatidis* in Four Endemic Central Texas Amphibians, James P. Gaertner, Dittmar Hahn, Michael R.J. Forstner, and Diana McHenry (5-7 November 2007, Tempe, AZ)

External Grant Applied:

US Fish and Wildlife Service: Preventing extinction: Houston toads (\$168,146, 1 year, 09/01/07-08/31/08) (Co-PI, PI: M.J.R. Forstner)

Texas Parks and Wildlife Department/US Fish and Wildlife Service: Lost Pines private land stewardship supporting high priority species integrating both in situ and ex situ conservation projects (\$231,354, 2 years, 01/01/08-

12/31/10) (Co-PI, PI: P. Riger, other Co-PIs: M.R.J. Forstner, D. Wolfe, P. Crump, S. Mays)

External Grant Awarded:

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Student Number: 1