The Mystery of Frog Population Decline

Unraveling the mysterious decline in frogs has been a world-wide effort among scientists and conservationists alike. Research by a team while at the Smithsonian’s National Zoological Park (NZP) has described the fungal organism and the deadly disease that it causes in frogs and linked it to this decline.

Joyce Longcore (University of Maine, Orono), Allan Pessier (formerly Department of Pathology, NZP) and Donald Nichols (formerly Associate Pathologist, NZP) have described a newly-discovered species in the fungal class Chytridiomycetes (chytrids) that causes a fatal disease in otherwise healthy dart frogs. The team chose the name *Batrachochytrium dendrobatidis* for the fungus based on the fact that the first two isolates were from poison dart frogs in the genus *Dendrobates*, but little did the team know then that it was not just affecting captive dendrobates, but was the fungus behind many of the massive die-offs of wild frog populations worldwide. Habitat destruction and introduced predators are clearly involved in the decline of amphibian populations.

This fungus was first reported as a chytrid by Lee Berger et al. based on research begun in 1993 while a PhD student under Rick Speare of James Cook University. In 1998, she and 13 other authors reported a chytrid fungus that was in frogs associated with die-off events and population declines in Australia and Central America. While Berger was conducting her studies, Nichols found a similar disease in blue poison dart frog metamorphs that died at NZP. He had previously reported similar pathology from wild cricket frogs (*Acris crepitans*) in Illinois and captive arroyo toads (*Bufo microscaphus californicus*) from California. With Pessier, Nichols pointed his research in the direction of aquatic fungi. Electron photomicrograph examination showed the cross section of a zoospore that indicated the organism was a chytrid. They then asked Longcore for her assistance in identifying the organism. Longcore was able to isolate and grow the organism in cultures. She realized that this fungus differed distinctly from other chytridialae genera and species, and the team named it *Batrachochytrium dendrobatidis*.

New Journal

*Conservation & Society* is a peer-reviewed interdisciplinary journal that aims to promote work on the theory and practice of conservation. The journal is committed to disseminating information in the developing world. Free online access is available for all articles and subscriptions are highly subsidized for Asia, Africa and Latin America. The journal was initiated two years ago to integrate conservation research from the natural and social sciences and now covers basic and applied research in areas including political ecology, human-wildlife conflicts, conservation policy, ecosystem structure and functioning, systematics, community and species ecology, landscape ecology, restoration ecology, and conservation biology. Although the journal was originally visualized to have a focus on South Asia, its geographical scope has been expanded to include issues regarding conservation from developing countries around the world. Free online access is available at http://www.conservationandsociety.org. Further details are available by sending an e-mail to editor@conservationandsociety.org.

Information Highway Hi-Lites

The Hawaiian Ecosystems at Risk Project (<http://www.hear.org/>) works “to provide technology, methods, and information to decision-makers, resource managers, and the general public to help support effective science-based management of harmful non-native species in Hawaii and the Pacific.” The HEAR website links to a pleth-ora of online resources including: full-text articles and reports, an Alien Species in Hawaii Information Index, a Global Compendium of Weeds, literature references, species fact sheets, numerous images, and more. HEAR also hosts elec-
ttronic mailing lists, and bulletin boards for both job and general announcements including postings for professional meetings, and research grant opportunities.

- from the NSDL Scout Report for the Life Sciences
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http://scout.cs.wisc.edu/

**Current Literature**


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