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***Leptodactylus fallax* in Montserrat as a model to investigate the possibility of *in situ* treatment for chytridiomycosis as a tool for amphibian conservation.**

Species:
Mountain chicken frog
Leptodactylus fallax

IUCN Status:
Critically Endangered



Country: Montserrat
Organisation: Institute of Zoology



Many tens, if not hundreds, of amphibian species are threatened with extinction due to the emergence of the fatal fungal disease, chytridiomycosis. At present, the only way to ensure their survival is to set up captive breeding programmes, but there are too many species under threat for this to be an effective strategy for all but a small percentage of those species at risk. One such species is the mountain chicken frog, *Leptodactylus fallax*, a charismatic frog (and the second-largest amphibian in the western hemisphere), which is only found on the Caribbean islands of Montserrat and Dominica.

In February 2009, mountain chicken mortality was reported in Montserrat and chytridiomycosis was diagnosed for the first time on the island. Chytridiomycosis has now swept throughout much of Montserrat, extirpating mountain chickens from most of their range. The last effective population now occurs only in one mountain valley.

This project will attempt to mitigate *Bd*-associated extinction of *L. fallax* on Montserrat while providing data on the feasibility and methodology of *in situ* treatment as an amphibian conservation tool in the face of chytridiomycosis for use with other susceptible species elsewhere. The mountain chicken frog is an ideal species to use as a model for *in situ* treatment in the face of epidemic chytridiomycosis. It is a large territorial animal with predictable behaviours, making it relatively easy to detect, individually identify (using subcutaneous microchip transponders) and recapture. On Montserrat, the species has been studied for over ten years, so there is a great deal of knowledge about the species on the island. The terrain is amenable to regular repeat visits and the presence of sympatric amphibian species known to be carriers of *Bd* renders an *in situ* treatment study realistic for extrapolation to other species and regions where sympatric amphibians act as *Bd* reservoirs. Even when captive breeding occurs, it is important that, wherever possible, species are not lost from the wild. In addition to the loss of ecological function, *in situ* extinction with *ex situ* survival outside the country concerned can result in a loss of public and/or political will to conserve the species and/or its habitat.

The results of the proposed study will be used to model *L. fallax* population viability with and without treatment and to inform possible *in situ* responses for amphibian conservation elsewhere in the face of chytridiomycosis emergence.

