

Fighting Chance

Can scientists stop a deadly disease from killing off frogs?

Scientists tested whether Cuban tree frogs can resist a deadly illness.



For several decades, frogs around the world have fallen victim to a terrible disease. Called the chytrid (KY-trid) fungus, it's driven at least 200 frog species to extinction so far. It's one reason frogs have become the most endangered group of animals on the planet.

The fungus is one of the most devastating animal diseases in the world, says Taegan McMahon. She's a biologist at the University of South Florida. McMahon and a team of other scientists may have found a way to help protect frogs from the killer illness.

Deadly Infection

The chytrid fungus passes easily from the skin of one infected frog to another. That

helps it spread quickly through a population of the animals.

Most sick frogs die from the infection. But occasionally, some survive. Some groups of frogs have even bounced back after outbreaks of the disease nearly wiped them all out.

McMahon's team wondered what had helped these groups of frogs recover. The scientists had an idea: Maybe exposure to the fungus had strengthened the disease-fighting **immune**

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A scientist uses a cotton swab to test a frog for signs of fungus.

systems of the frogs that survived. That could help those frogs fight off later infections, the same way **vaccines** protect people against disease.

Search for a Cure

The scientists tested their idea on Cuban tree frogs, which live in the Caribbean and Florida. First the scientists exposed the frogs to the

fungus. Next they placed the frogs in a heated chamber for several days to cure the infection.

The fungus can't survive such high temperatures for long.

Once the frogs were cured, the scientists exposed them to the fungus again.

The researchers found that these frogs were much more likely to survive than frogs infected for the first time.

The more times the frogs were exposed, the stronger their immune systems became. This proved that frogs really could build up resistance to the disease.

Right now, there's only one way to save frog populations threatened by the fungus. Scientists collect frogs before they get sick and raise them in zoos. In the future, says McMahon, a treatment like the one her team used could boost the immune systems of captive frogs. Then if they were returned to the wild, they'd have a fighting chance against the fungus.

"It's one of the first studies that gives us hope," she says.

—Cody Crane



Investigate It!

Think about how the scientists in the story set up their study. What steps did they follow? Use that information to answer the questions below.

- 1** Some groups of frogs that were nearly killed off by the chytrid fungus bounced back. What was scientists' hypothesis, or possible explanation, for why this happened?

- 2** How did the scientists test their hypothesis?

- 3** What was the result of their experiment?

- 4** How could this information be used to help frogs in the future?

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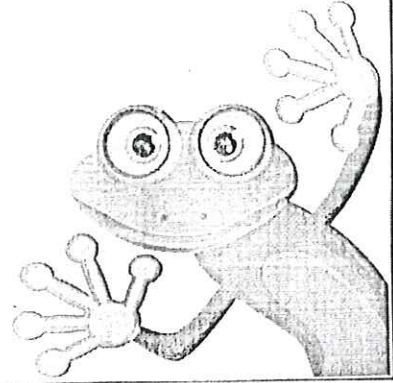
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Investigate It!

1. Make an observation and propose a question
2. Research your problem
3. Form a hypothesis
4. Design an experiment to test the hypothesis
5. Test your hypothesis
6. Organize the data you collect
7. Make a conclusion, or a summary



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