

## OF FROGS, FUNGUS AND WHY WE SHOULD CARE.....

### Dr. Susan Koenig – Wildlife Ecologist

Parents sometimes tell us that if we kiss a frog, it will turn into a handsome prince and we'll live happily ever after. After a few months of kissing the prince, we'd probably be wanting a pregnancy test . . . which for frogs results in a grim story.

Since the 1930s, pregnancy tests used a species called the African clawed frog (*Xenopus laevis*): when the urine of a pregnant woman is injected into a female frog, it will lay eggs within 8-12 hours. Consequently, African clawed frogs were distributed to laboratories and hospitals around the world.



When the “frog test” became obsolete in the early 1970s, some hospitals, for example in the US, released the frogs into the wild. Unfortunately, the African clawed frog can carry a fungus on its skin to which it is resistant, but which is now devastating many populations of immunologically-naïve frogs in the New World and Australia. The fungus *Batrachochytrium dendrobatidis* causes the disease chytridiomycosis, which is often shortened to “chytrid” (pronounced kit-rid).

### EFFECTS OF CHYTRID



Jamaican Laughing Frog ((*Osteopilus ocellatus*))

Since the 1980s, at least 9 frog species have gone extinct, 120 are believed “possibly extinct” and approximately 200 have experienced severe declines leading towards extinction. At least one of Jamaica’s 21 endemic frogs, a species which was restricted to streams in the Blue Mountains, is already thought extinct and a second species, the Jamaican Bromeliad Frog, may also be near extinction.

Chytrid was first reported in Jamaica in 2012. It could possibly have arrived as early as 1967, when the North American bullfrog (*Lithobates catesbeianus*) was introduced to the Black River in an abortive attempt at commercial food production: this frog can host chytrid without it being fatal to the frog.



Jamaican Snoring Frog ((*Osteopilus crucialis*))

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## WHO CARES IF FROGS GO EXTINCT?

Species extinctions affect humankind beyond an “emotional response”. For example, the antimicrobial skin peptides which protect some frogs from chytrid seem effective at fighting antibiotic-resistant strains of bacteria. One peptide, called pexiganan and derived from frog skin, is now in phase III clinical trials to treat diabetic foot ulcers.

Nature has many values, so let’s not kiss it good-bye to extinction.

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To learn more about Jamaican frogs, visit  
<<http://www.cockpitcountry.com/AmphibianChecklist.html>>



Jamaican Orange Treefrog (*Osteopilus marianae*)