

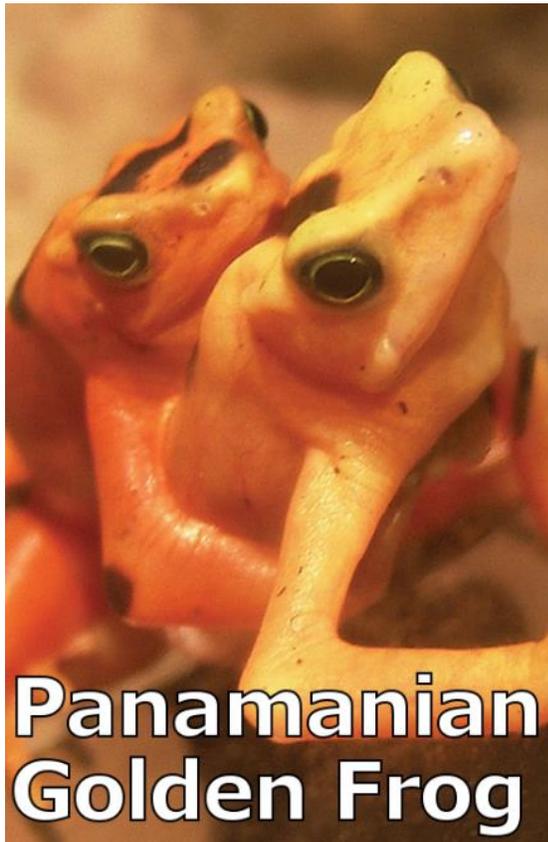
# PHILADELPHIA ZOO

3400 West Girard Avenue ■ Philadelphia, PA 19104-1196 ■ [philadelphiazoo.org](http://philadelphiazoo.org)



## Panamanian Golden Frogs

### *Toad-ally At Risk*



The Panamanian Golden Frog, Panama's national symbol, is critically endangered. They have not been seen in the wild since 2007. The frog is highly poisonous and its bright colors warn predators to stay away, yet they are very vulnerable in their natural habitat. Their decline has been attributed to the Chytrid fungus, which thrives in the streams they call home, and is lethal to many amphibian species.

Climate change has a significant impact on any animal that lives in the water, and especially on those they are also threatened by disease. Changing temperatures, pollution, and the spread of Chytrid are making life difficult for many amphibians around the world.

### Quick facts:

- The Panamanian golden frog is actually a toad.
- While most frogs and toads use sounds to communicate, the Panamanian golden frog also waves its hands.
- The more varied a Panamanian golden frog's diet is, the more toxic it becomes.
- The scientific name for this frog means "Zetek's stub-footed toad". The name honors James Zetek, who was a pioneer scientist working for the Panama Canal Zone in 1911.
- These frogs are considered signs of good luck and prosperity, much like a four-leaf clover.
- Male Panamanian golden frogs make a whistling sound and are known to make at least two different kinds of calls that are loud enough to carry into the forest from their home near the water's edge.

## At the Zoo:

Reptile and Amphibian House

The colony of Panamanian golden frogs on exhibit arrived on March 24, 2012 from the Maryland Zoo in Baltimore. They hatched at the Buffalo Zoo in New York in October of 2010.



## Natural History:

Panamanian golden frogs are part of a group of strikingly-marked amphibians known as Harlequin toads or stub-footed toads, and belong to the true toad family Bufonidae. They are referred to as frogs because the dorsum is smooth and the head is longer than it is wide, a characteristic that is more typical to frogs than toads. Panamanian golden frogs are slender, terrestrial frogs with long limbs. These frogs can't jump too far; instead, they hop or walk about in a clumsy manner.

## Longevity

Nobody is certain how long a Panamanian golden frog lives in the wild; in captivity, they can live up to 5 years or more.

## Behavior

These frogs are diurnal, and active during mostly during the morning and early evening, hopping about the forest floor in search of food and mates.

Harlequin toads generally live near streams, where the voice calls used by males to attract females and settle territories are often muffled by the sound of fast-flowing water. Male Panamanian golden frogs can be seen waving their hands to each other, literally saying “stop, don't get any closer, this is my place”. This behavior, known as semaphoring, is believed to have evolved in order to communicate in noisy environments, like streams, and takes advantage of their keen sense of sight.



## Reproduction

These frogs can be very prolific in the lab, but fewer and fewer tadpoles are being found in the wild. Males are known to be very persistent, clinging to a female for days, just “waiting” on her back until the moment she is finally fertile. Eggs are laid during periods of reduced stream flow, usually at the onset of the dry season, in wide shallow areas of the stream where the canopy is more open.



### Size

Dry forest males = 35-40 mm; Dry forest females = 45-55 mm. Wet forest males = 39-48 mm; Wet forest females = 55-63 mm. Newly metamorphosed froglets = 6 mm.

### Weight

Dry forest males = 3-5 g; Dry forest females = 4-7 g. Wet forest males = 8-12 g; Wet forest females = 10-15 g. Newly metamorphosed froglets = less than 0.5 g.

### Diet

The Panamanian golden frog is a visual predator meaning it locates prey by sight. In the wild these frogs prey on a variety of small invertebrates. At the Zoo, the frogs are offered a variety of invertebrates including fruit flies, crickets and small worms.

### Geographic Range

It inhabits fast flowing streams in dry forests and wet forests. It is endemic to Panama, meaning that it is found only in that country.



### Conservation Status

On the 2007 IUCN Red List of Threatened Species, the Panamanian golden frog is listed as Critically Endangered. However, it has not been seen in the wild since 2007 and its status will likely soon be downgraded to Extinct in the Wild.



### Conservation at a Glance

Amphibian populations worldwide are dwindling.

Many are affected by deforestation, habitat degradation, predation by introduced species and the deadly fungal pathogen known as amphibian chytrid or Bd.

Unfortunately, some species have already disappeared, even from well-preserved forests in remote and protected areas. This includes the Panamanian golden frog, which has not been seen in the wild since 2007.

Zoos in the US and all over the world are joining efforts to help rescue amphibians from extinction by breeding endangered species in captivity for reintroduction programs, studying the causes of extinction, and developing education programs to alert people about the problem.

The Philadelphia Zoo provides financial support and helps manage the Amphibian Conservation Center - Mazán Forest in Ecuador together with the local Zoo Amaru to help save critically endangered frogs from the Andes Mountains of South America. The Amphibian Conservation Center - Mazán Forest is home to four critically endangered amphibians that will one day repopulate the now quiet forests of the Cajas National Park in Ecuador. Two of these amphibian residents are the green Cajas harlequin toad and the black Cajas harlequin toad that were thought to be extinct by now. In addition, we have developed research and education programs in Ecuador to teach locals about the importance of amphibians.

The Philadelphia Zoo has a full-time staff conservation biologist, Dr. Carlos Martinez-Rivera, who spends most of his time in the field supporting the studies taking place on these at-risk amphibians.