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[A Gentleman Frog That Takes Monogamy & Parenting Seriously](#)



 Stumble! Like? 



Monogamy isn't popular in the amphibian world. From frogs to salamanders, life in cold blood is all about meeting new ladies and hitting the road once the kids are born. So the male of a species of Peruvian poison frog (*Ranitomeya imitator*) stands out by proving that he is quite the keeper. He's not only the first monogamous frog ever found, he also stays home and makes sure the tadpoles

are fed.

Scientists studying these frogs say this unusual behavior—monogamy and co-operative parenting—could be directly attributed to the limited resources available to the frogs. They note that a broad study of 404 frog species show that species that deal with reduced food availability and greater difficulty in tadpole-rearing are more likely to have frog couples that work together to raise the young.

These findings could possibly shed some light on the way our hunter-gatherer ancestors approached monogamy. Details of the [findings](#) are to be published in the April issue of [The American Naturalist](#).

Scientists studying the mating and parenting habits of *R. imitator* frogs found that the female frog lays her eggs on leaves for the male to fertilize. When the fertilized eggs hatch into tadpoles, males of other frog species like *Ranitomeya vairabilis* normally hop away, thinking their job is done. But the *R. imitator* male sticks around to carry the tadpoles on his back to individual pools of water where they can grow in safety, under dad's watchful eye. The female frog stays behind, but is summoned to service by the male once a week for a few months; she hops to the tadpole-rearing pools to lay unfertilized eggs for the hungry tadpoles to eat.

Evolutionary ecologist [Kyle Summers](#) was studying the frogs, and wondered if the size of the pool had anything to do with the way the frogs approached joint parenting. [R. variabilis favors larger pools, whereas R. imitator frogs place their young in less than 2 tablespoons of nutrient-poor water, perhaps because R. variabilis as a species snagged the prime pools first \[ScienceNow Daily News\]](#). Using available data on 404 frog species, scientists observed that frog species that raised their tadpoles in small pools were likely to be more doting parents; the findings suggest that [if the pools were bigger, the frogs wouldn't have to remain faithful, as they wouldn't be tied by their need to work together to raise their brood \[BBC\]](#).

To make sure that the frogs were truly being faithful to their partners, the researchers took DNA from the toes of parent frogs and the tails of their tadpoles and found that 11 out of the 12 seemingly [monogamous couples they monitored over the mating season had been sexually faithful making R. variabilis the first known monogamous amphibian \[ScienceNow Daily News\]](#).

The scientists say that studying the frogs could give us insight into the role that resources play in monogamy, and suggest that when human hunter-gatherers had to scramble for food and warmth, they were less likely to stray.

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February 24th, 2010 6:13 PM Tags: [amphibians](#), [frogs](#), [monogamy](#)

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5 Responses to "A Gentleman Frog That Takes Monogamy & Parenting Seriously"

1. 1. *Christina Viering* Says:

[February 24th, 2010 at 10:24 pm](#)

What a beautiful frog!

2. 2. *CW* Says:

[February 25th, 2010 at 10:03 am](#)

Very interesting, great story!

"The female frog stays behind, but is summoned to service by the male once a week for a few months; she hops to the tadpole-rearing pools to lay unfertilized eggs for the hungry tadpoles to eat."

Is this typical? I've never heard of females feeding unfertilized eggs to their young.

3. 3. *Alex O'Neal* Says:

[February 25th, 2010 at 7:04 pm](#)

This is a little similar to the solution of the betta fish. Limited, low-oxygen water (large puddles or rice paddies) meant a fish that could breath air as well as water could succeed – but this also meant the children needed protecting. So the male betta not only builds a nest, he guards it, and replaces fry who fall out of it, until the fry can manage on their own.

He is not monogamous, however. In fact, his mate is in some danger once he's gotten the eggs into the nest, since she's viewed as a potential threat to them. Apparently monogamy works best when ~~the female can put some food on the table~~ (jk!) both sides can contribute ;-)

4. 4. *jazzori* Says:

[February 26th, 2010 at 1:25 am](#)

CW, I remember a video from BBC that showed tadpoles feeding on eggs, so if not typical, at least not uncommon..

5. 5. *Lisette Root* Says:

[March 6th, 2010 at 11:02 pm](#)

Frogs are some of my favorite people:)

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80beats is written by Andrew Moseman and Smriti Rao, and edited by Eliza Strickland. This team darts through each day's science news faster than the ruby-throated hummingbird that beats its wings 80 times per second. Send ideas, tips, suggestions, and complaints to [[estrickland at discovermagazine dot com](mailto:estrickland@discovermagazine.com)].

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