

The Jacksonville Herpetological Society presents

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# Cold Blooded

May 2020 Edition

by **Monica Pierson** on May 1, 2020

Dear members, as we deal with this global pandemic, all activities, meetings and field trips are canceled until further notice. We hope you all are safe and healthy during this trying time.

St. Augustine Alligator Farm reopened May 1 after 6 weeks of being closed due to quarantine. They did experience a major loss for the zoo during that 6 weeks. Tujah, the Komodo dragon, died of cardiac failure, unrelated to Covid-19, in early April. Below is the Facebook post about his death.





## St. Augustine Alligator Farm Zoological Park

April 7 at 11:55 AM ·

We want to only talk about the good things happening at our zoo, but sometimes we need to share the sad news. We are devastated at the loss of our large male Komodo Dragon, Tujah.

Our Reptile Keepers had noticed something wasn't right with Tujah's behavior, so he was taken to the University of Florida's Zoo Veterinarians, where he sadly passed away from heart failure. It is unrelated to the coronavirus.

Tujah was an amazing Komodo Dragon and he will be greatly missed.

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## Treasurer's Report

Account	Current	To Date
JHS checking	\$756.48	
JHS savings	\$283.64	
Save the Buzztails		\$615.00
S.C.U.T.E.S.		\$804.00
Ashton Biological Preserve		\$580.00

Message Concerning Conditional Species Act

By Kathy McIntire

Hope everyone is doing well during this quarantine.

FL House bill HB 777 & FL Senate SB 1414 passed both FL Houses in late March. SB 1414 has been sent to Governor DeSantis and is awaiting his signature to become law. Currently, only legislation dealing with Covid-19 and the state budget are being dealt with at this time. But Governor DeSantis has already set into motion steps for a gradual re-opening of Florida. It won't be long before he will deal with this bill. Even if you don't own, or plan to own these animals, we all know that if this passes, more bills like this will be written, eroding our ability to own "herps". Your action is urgently needed!

I have included a link to USARKFL explaining this bill.

<https://www.usarkfl.org/post/2020ban>

This link is the governor's e-mail

[gevernorrn.desantis@eog.myflorida.com](mailto:gevernorrn.desantis@eog.myflorida.com)

Governor DeSantis' office phone number

[850-717-9337](tel:850-717-9337)



Please send an e-mail and/or leave a voice message requesting that the governor veto this bill. Explain that it will make the problem worse, not better; cause major economic losses for related Florida businesses, and the amending of the FWC's current Conditional Species Act will have dire consequences for the state, both now and in the future.

Contact me if you have any questions or comments.

Thank you,

Kathy McIntire - Treasurer of Jacksonville Herpetological Society

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THIS WEEK'S  
TOP STORIES



*Three-toed skink, Saiphos equalis, Craven, New South Wales, Australia (Photo by: Auscape/Universal Images Group via Getty Images)*

# An extraordinary feat pulled off by a lizard could suggest the species is going through a rare evolutionary transition

by [Harmeet Kauer](#) April 11, 2020

**(CNN)**For most of the animal kingdom, babies are born in one of two ways: their parent either lays eggs or gives birth to live offspring.

Recently, a three-toed skink (*Saiphos equalis*) pulled off an extraordinary feat: It laid three eggs and delivered another baby through live birth in the same pregnancy. That suggests that the lizard species is in a rare transitional form between egg-laying and live-bearing animals, according to a study published in [Molecular Ecology](#) last month.

"We affectionately call the three-toed skink 'the weirdest lizard in the world' -- but it can tell us a lot about the evolution of reproductive strategies," Camilla Whittington, one of the study's lead authors and an evolutionary biologist at the University of Sydney, wrote in an email to CNN.

## **It was the first record of egg-laying and live birth in a single pregnancy**

Three-toed skinks, found in Australia, are already a fascinating species for evolutionary scientists, explains Whittington. One reason is that some populations reproduce by laying eggs, while others reproduce through live birth.

The mode skinks use to reproduce generally corresponds with their environment. Skinks around the Sydney area lay eggs, albeit ones with thin shells and embryos that are almost completely developed. In northern parts of Australia, the skinks give birth to live young.

But never before had scientists seen a species lay eggs and experience live birth in a single pregnancy until it was observed in the three-toed skink last year, Whittington wrote. It was [the first record](#) of a vertebrate doing so.

## **Why this could be happening**

There are a couple of explanations as to why the skink both laid eggs and had a live baby in the same pregnancy, Whittington said.

One is that it was a form of "bet-hedging," meaning that the ability to switch between laying eggs and live birth could provide the lizard an advantage in unpredictable environments.

"For example, if it's cold or dry, it might be risky to lay eggs in an unprotected nest, and better for the mums to carry the babies until development is complete," she wrote. "If there are a lot of predators around and pregnant mums find it harder to escape, it might be risky to carry babies to term. Mothers that are able to act flexibly could therefore have an advantage in an unpredictable environment."

Another explanation is that some feature of the environment could have caused the skink in question to lay part of her clutch abnormally early. Still, Whittington said, two of the skink's eggs hatched to healthy baby lizards, which means that if this phenomenon happened in the wild, the babies could still be viable.

## **Scientists don't yet know what course evolution is taking**

The finding could mean that the skink is transitioning to only laying eggs or only experiencing live birth. But scientists say it's too soon to tell which direction it's moving in.

In general, animals that give birth to live young have evolved from ancestors that laid eggs and it would be rare for an animal to evolve in the other direction, according to Whittington. And it's worth pointing out that when this skink does lay eggs, the embryos are almost fully developed and hatch much more quickly than other egg-laying lizards.

Still, it's "impossible" to determine what course natural selection is taking in this skink species, Whittington said. Their research shows that the uterus of the "transitional" three-toed skinks and live-bearing three-toed skinks function similarly, which could make it possible for the species to reverse from live-bearing to egg-laying, she said.

"At the moment, we can't rule out the possibility that the transitional animals could be descended from live-bearing ancestors -- which is why we are continuing to study these amazing lizards," she wrote.

"To complicate things, if the environment changes, the direction of selection could change too! In some environments, natural selection might favour laying eggs. In others, it might be more advantageous to give birth to live young."

And that, Whittington said, is what makes evolution such a fascinating process.

Original article found here:

[https://www.cnn.com/2020/04/11/us/skink-species-evolution-transition-science-trnd/index.html?fbclid=IwAR2dy-LTRDK5fA9eK3xC9yCgupWbKxLfrYmXsCN80HIPO96rICt\\_AL2NVUo](https://www.cnn.com/2020/04/11/us/skink-species-evolution-transition-science-trnd/index.html?fbclid=IwAR2dy-LTRDK5fA9eK3xC9yCgupWbKxLfrYmXsCN80HIPO96rICt_AL2NVUo)

## First tuatara hatchlings discovered at South Island sanctuary



*The hatchlings at Orokonui were found earlier this year under small strips of roofing material*  
*Photo / University of Otago*

by **RNZ** on April 8, 2020

Tuatara hatchlings have been spotted at Orokonui Ecosanctuary for the first time since adult tuatara were released in 2012.

Two hatchlings were seen by Otago University researchers and may be the first to hatch as part of a viable population in the South Island for several hundred years.

There was evidence they were not the only hatchlings to come from the nest.

Female tuatara nest every few years and average-sized females laid a clutch of about nine eggs.

The ecosanctuary, north of Dunedin, is surrounded by a fence that keeps out introduced mammals, other than perhaps mice.

The hatchlings at Orokonui were found earlier this year under small strips of roofing material by Jade Christiansen, an undergraduate student working on a Te Ngaru Paewhenua: Māori and Pacific Science Summer Studentship at the University of Otago.

"My hands were shaking," Ms Christiansen said.

"I was very nervous, yet very excited.

"The hatchlings can be surprisingly lively. One of them still had its horny 'shell-breaker' - a projection on the tip of its snout - so I knew it had hatched recently."

Professor Alison Cree, of Otago's Department of Zoology, said evidence of offspring being produced was an important stage in re-establishing a viable population.

A breeding population at Orokonui could be a valuable contribution to protecting the survival of the taonga species in the global climate emergency, she said.



"We've been excited to see tuatara surviving and growing, and we've long suspected that hatching was occurring based on indirect evidence, including split eggshells. But this is the first direct evidence for the entire cycle through to hatching, from egg-yolk production onwards in the mother's body, taking place at Orokonui."

It was likely the hatchlings were female due to their long incubation period and the cool soil temperatures.

Nest temperatures were known to determine the sex of developing tuatara embryos.

Orokonui Ecosanctuary conservation manager Elton Smith said the discovery was a significant one for the sanctuary.

"This success can be directly attributed to our fence that excludes all introduced mammals that would otherwise predate upon the tuatara," he said.

Orokonui Ecosanctuary is currently closed due to the Covid-19 outbreak, but staff are still carrying out essential tasks.

Original article found here:

[https://www.nzherald.co.nz/nz/news/article.cfm?c\\_id=1&objectid=12323579&fbclid=IwAR2OyctKSjvCTfVwz6bt2k0s7mvoKvrVoAWArrQPZCFqTHsOY1V0yM2UTWg](https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12323579&fbclid=IwAR2OyctKSjvCTfVwz6bt2k0s7mvoKvrVoAWArrQPZCFqTHsOY1V0yM2UTWg)

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