

But Why: A Podcast for Curious Kids

Are Komodo dragons really dragons?

April 24, 2026

Jane

This is But Why: A Podcast for Curious Kids from Vermont Public. I'm Jane Lindholm. Today, we have a bonus episode for you all about some very special lizards. We're picking up right where we left off last week, down in the basement of the San Diego Natural History Museum. I went there to talk with Adam Clause, who manages the herpetology collection at the museum herpetology is the study of reptiles and amphibians, which is actually kind of an odd pairing, as it turns out, because reptiles and amphibians aren't actually all that closely related.

Adam

It's really just a historical thing that has been carried through to the present day. So it dates back to the founder of taxonomy, Carolus Linnaeus. I don't know if anybody's heard of him, but he's the one who sort of created the system of scientific names for animals, which can always consist of two parts, right? And so he considered anything that didn't have sort of blood that sort of control its own temperature. So the way we control our own blood temperature, reptiles and amphibians do not, and so he considered anything that sort of didn't have these characteristics as very primitive, sort of creepy, kind of disgusting organisms. And so just by virtue of that very arbitrary classification, reptiles and amphibians were lumped together, even though they're not necessarily each other's closest relatives. So birds are actually more closely related to reptiles, because they actually are a type of reptile, but we don't study birds in herpetology that sort of got pulled out, and it's the ornithologists who study that. So it's this weird mix. These are not necessarily animals that are all that similar, they're not all that closely related, but we continue to study them in this way today, and for me, it's really exciting, because I get to study a very diverse group of animals. It's hard to imagine very, a more different group of animals than frogs and snakes, right? But these are all lumped together, and so it's a very exciting group of animals to work with and to study.

Jane

We went to see Adam because you all have sent us a lot of questions about lizards, and you've sent us so many lizard questions, in fact, that we couldn't even fit them all in one episode. So we started last week, and we're back today, and in this bonus episode, we're going to narrow our focus even more from reptiles to lizards to specific types of lizards. And a lot of you have questions about one of the most famous lizards, the chameleon. And when I say a lot of you. I mean a lot of you.

Jonathan

Hi, my name is Jonathan. I'm six years old, and I'm from Australia. My question is, how do chameleons change color? Bye!

Noah

Hi. My name is Noah. I live in New Hampshire, and I'm 4 years old.

Hank

My name is Hank. I live in Lubbock, Texas. I am about to be six.

Lorelai

My name is Lorelai, and I'm five years old, and I live in New York, and I want to know what colors do chameleons change?

Joseph

My name's Jasper. I'm eight years old and I'm from Pennsylvania.

Luke

Hi, my name is Luke. I'm eight years old, and I live in Hong Kong.

Clara

My name is Clara. I'm seven years old. I live in St Paul, Minnesota.

Mikko

I'm Mikko. I am six years old. I live in Seguin, Texas.

Blair

Hi, my name is Blair, and I live in New Jersey, and I'm six years old.

Henry

My name is Henry, and I am eight years old. I live in Georgetown, Texas.

Lucy

My name is Lucy, and I live in Connecticut, and I'm six years old.

Holly

Hi, my name is Holly. I'm from Calgary, Alberta. I'm seven years old.

Abraham

My name is Abraham, and I'm from Newton, Massachusetts.

Adult

How old are you?

Abraham

And I'm six years old.

Sadie

Hi, my name is Sadie, and I'm eight years old, and I'm from Munster, Indiana.

Kevin

My name is Kevin. I am eight years old.

Otis

My name is Otis. I'm six years old. I live in Baltimore.

Caroline

My name is Caroline, and I live in Houston, Texas, and I'm six years old.

Berkeley

Hi, my name is Berkeley. I live in San Antonio, Texas. I'm eight years old, almost nine.

Harlan

Hello. My name is Harlan. I work in Aspen in Colorado. I'm five. My question is, what happens inside chameleon's body when they turn color?

Webb

My name is Webb, and I live in Abilene, Texas, and I am six years old.

Dashel

My name is Daschle, and I am from Durham, North Carolina, and I am six years old.

Atticus

I live in Rochester Hills, Michigan, and my age is three and a half. My name is Atticus.

Leo

My name is Leo, and I'm four years old, and I'm from Maine.

Brandon

Hi. My name is Brandon, and I am seven years old, and I live from Bradford, Vermont.

Vivian

Hi, my name is Vivian. I am six years old. I live in Michigan.

Asher

Hello, my name is Asher. I am five years old. I am from Millbank, California.

JD

Hello. My name is JD. I'm from Chicago. I am nine years old.

Riley

My name is Riley. I'm five years old. I live in Longmont, Colorado.

Jane

My name is Jane. My age is six. I live in Woodinville, Washington.

Miles

Hello. My name is Miles. I'm six years old, and I'm calling from South Africa and Pretoria.

Will

My name is Will, and I'm four years old, and I live in Virginia. How do chameleons change color?

Adam

I want to start by saying that it's important to remember that there's not just one type of chameleon out there. There's actually hundreds of different types of chameleons, and they can range from really big, like the size of your Bearded Dragon, to smaller than your pinky finger. So there's a lot of diversity within chameleons, but one of the things that they share is that they can all to some degree or another, they can change the patterning on the surface of their skin, and the way they do that is on their in the individual scales of their skin, there are these little packets of pigment, and these packets of pigment

can sort of be expanded or contracted through muscular action and nerve endings. And so the lizards can expand or contract all over their skin, sort of all at the same time, all these little, tiny pinpricks worth of color that are in their scales. And by changing whether they're expanded or contracted, they can show certain colors or conceal other colors. And through that mechanism, they can sort of become whatever they want to, in a way.

Jane

If you want to know more about how chameleons change their color, we have a video episode all about it, if you ask your adults to help you get to but why kids on YouTube, you can watch me change color. Coming up, Komodo dragons, green iguanas and Tuataras. Oh my!

Jane

This is But Why. And today, we're learning all about lizards with herpetologist Adam Clause, who manages a collection of 80,000 reptile and amphibian specimens at the San Diego Natural History Museum. He's helping us learn about some very specific kinds of lizards today. We've gotten a lot of questions about Komodo dragons, and I share your interest in them. Kids are curious about is a Komodo dragon?

Adam

Yeah. So Komodo dragons are the largest lizard that currently lives on planet Earth. So they can be well over 20 feet long. They're only found on a few small islands in Indonesia, which is in Southeast Asia. They're really remarkable animals in many ways, not just because of their size. They're also really interesting because they have bacteria in their mouth as well as actual venom in their salivary components.

Jane

So you don't want to get bitten by one.

Adam

For both reasons. No, they have very dirty mouths, and they have venomous mouths as well. And so they're using that combination of bacteria and venom to help subdue their prey. And so they'll often eat really large things like water buffalo. And so they will sort of bite a water buffalo, break some blood vessels and introduce both the bacteria and the venom into the animal's bloodstream. It's getting a little bit gruesome, maybe too gruesome, but...

Jane

Nothing's too gruesome for us.

Adam

And so the animal, basically, they're anticoagulant compounds, so the animal, the blood doesn't coagulate, and so the blood just continues to flow from that wound until the animal then loses consciousness. And then the Komodo dragon is using its very long forked tongue to track where that prey animal went and where it died. And then they follow it to that point, and then they finish eating it at that point.

Max

Hi, I'm Max, and I live in Utah, and I'm eight years old. And my question is, why are Komodo dragons called Komodo dragons, if they're not a dragon?

Summer

Hello. My name is Summer, and I live in Portland, Oregon, and I'm four and a half years old, and why are Komodo dragons called Komodo dragons? Are they really dragon?

Jane

The Komodo part comes from the Indonesian island of Komodo, where Europeans and Americans first saw these lizards. People who lived on the islands where these giant reptiles roam called them ora, meaning land crocodiles. The visiting scientists thought these creatures had a fearsome reputation. Nation, and they're really, really big, so they called them dragons.

Quincy

My name is Quincy. I'm eight years old, and I live in Austin, Texas. How do Komodo dragons survive when they're endangered?

Jane

There are a lot of factors why Komodo dragon populations are declining, including things like habitat loss and poaching and natural factors like earthquakes, volcanoes and fire. Climate change is another big factor that threatens their survival. A lot of people are working to protect Komodo dragons, and the largest population of these lizards are in the Komodo National Park where they have protected status.

Ashley

My name is Ashley, and I live from Rockville, Maryland, and I'm four years old. How do Komodo dragons fight on two legs without falling off their two hind legs?

Adam

They just have really good balance, so it gets back to that tail, so they'll use their tail as a counter balance, and so they'll have by having their tail out extended, extended really well, that helps keep them from from flopping over.

Silas

My name is Silas, and I'm from Louisville, Kentucky. I'm seven years old, and my question is, how do Komodo Dragons get bacteria in their mouth?

Adam

It's just part of the bacteria that's just sort of around in their environment. And so similar to the way all of us have bacteria in our guts, right? They pick that up from the environment, part of it maybe comes from their moms. We're not quite sure.

Alexandra

Hi, my name is Alexandra. I live in Fort Collins, Colorado. My question is, how many babies do monitor lizards have at a time?

Jane

Alexandra is wondering, how many babies do monitor lizards have at a time?

Adam

Totally depends. Again, similar to chameleons, there's no one type of monitor lizard. There's dozens of different monitor species that range from the largest lizard on the planet, the Komodo dragon, to dwarf monitors, which are smaller than your bearded dragon. And so it depends on the species, anywhere from probably a couple eggs to maybe a dozen, something like that.

Jane

Alright. And one more related question.

Will

My name is Will, and I live in Atlanta, Georgia, my question is, if the Komodo Dragon is the biggest lizard, what is the smallest lizard?

Adam

There's a number of different competitors for the title of smallest lizard in the world. So we talked a little bit earlier about these little, dwarf, mini chameleons that are, like, smaller than your pinky finger. So some of those are a good candidate. And then there's also these really tiny geckos called dwarf geckos, that many of which occur only on islands in the Caribbean. And those are also extremely tiny, where you could have a full size adult coil up comfortably on a dime, a US dime.

Jane

So they're like, maybe your biggest fingernail size.

Adam

Yeah, they're really, really tiny. And what's interesting is that most of these really tiny lizards, they live in leaf litter. That's their habitat. So the same for these tiny chameleons, they're in the leaf litter, as well as these little, tiny geckos on Caribbean islands, they're they're hanging around in the leaves, fallen leaves on the ground.

Jane

That would be so cute to see. How about iguanas?

Hudson

I'm Hudson, and I am five years old, and I live in Arvada, Colorado, and what my question is is, why are iguanas or lizards green most of their time?

Adam

Mostly it's a camouflage thing. So iguanas, green iguanas, specifically, they're arboreal, which means they spend most of their lives up in trees, and so their green color helps them to camouflage among the leafy branches where they live.

Jane

Interestingly, Hudson green iguanas aren't always green. When I was in Florida doing some But Why reporting about invasive species a few years ago, I saw a lot of big green iguanas that were actually orange. Mature males often turn orange during the breeding season from about December through April.

Roshan

Hi, my name is Roshan and I'm five years old, and I want to know, why do iguana have spiky things on their back?

Adam

That's a great question. So male green iguanas, in particular, they're using those spikes as a way to show off to females how healthy and vigorous they are. And then it's a little bit of a defensive thing, where those those scales can sort of protect against predators, but it's mostly for sort of showing off to the females.

Wyatt

My name is Wyatt, and I am five years old. I live in Los Angeles, California. My question is, why do male iguanas have dewlaps?

Jane

Wyatt has obviously learned a little bit about iguanas for people who don't. Know what a dewlap is. Can you tell us that too?

Adam

Yeah. So a dewlap is this sort of thin, flexible flap of skin that hangs down from the throat of iguanas. They can't really control it. It just sort of lays there. There are other lizards called anoles, which some of you may have heard of, and they can actually push their dewlap out or retract it flat against their throat. In the case of the anoles, the dewlap is often very brightly colored, and so it's mostly male anoles that have these colored dewlaps, or flaps of skin under their throat, and they're using them to signal to other males for territorial interactions and also to signal to females, hey, I'm over here. I'm very vigorous. I might be a good mate. For iguanas, they're more it's just a thing that males have again, to sort of signal their vigor. So bigger adult male iguanas have bigger dewlaps, and they might make better mates in minds of the female iguanas.

Joseph

Hi. My name is Joseph. I'm six years old. I live in Maryland. I'm wondering how some gliding reptiles like the Draco lizard, glide halfway through the air and catch themselves on trees.

Adam

This is one of my favorite groups of lizards. So if you're listening right now, what you can do is you can if you hug yourself, not sort of on your shoulders, but sort of around your stomach, where your hands are positioned, they're positioned over your rib cage. You can sort of feel your ribs if you press into your body. So the Draco lizards, the wings that they have are basically their modified ribs. Their modified rib cage. So now, if you take your arms and you keep your elbows pressed tightly against your sides and you flare your arms out, you can imagine that your arms are sort of your ribs, and that's what Draco lizards do. They can take their ribs from being sort of flat against their bodies, and they can flare them out to create these wings, effectively wings, and they use those wings to then glide from tree to tree in the forest where they live.

Jane

How do they catch themselves on the tree without smashing into it?

Adam

So they'll sort of break, they'll sort of flare their wings up and catch the air and slow down right before impact. But because they're so light, these are not large lizards. You know, they're about the size of Fence lizards. For those of you who might grow up, might have grown up with those, they're much smaller than a bearded dragon. They're sort of like half the size of a leopard gecko, typically, and they're very, sort of slender, so they're not super heavy, so they don't have a big impact when they hit a tree after flying from another tree, and so they're not creating a lot of force. And so they can just sort of plop onto the side of the tree and grab on with their claws, and they're good to go.

Jane

All right, one other type of lizard that we have a question or type of animal that we have a question about:

Nikki

Hi, my name is Nikki, and I'm nine years old. I'm from Israel. Why is tuatara not a lizard?

Adam

This is another really good question. And so without getting too much into the details, it's because they have a bunch of different structures in their skeleton that no lizards have. And so tuataras branched off on the tree of life before, earlier than any other lizard. And so they're what we call sister to all other lizards. So a good way to think about is that all true lizards are more closely related to each other than any of them is to the tuatara. The tuatara is sort of this weird offshoot in the tree of life, the reptile tree of life. And even though they look externally a lot like a lizard, there's a number of different features of their ribs, of their skull, of their teeth that no lizards have. And so they're very special in that way.

Jane

What do they look like?

Adam

They look kind of like iguana, like a brown iguana. They don't grow quite as big as green iguanas, and their tail isn't as long, but they're sort of spiky. They have a crest along their back. To all intents and purposes, they sort of just look like a big lizard, but they are not lizards.

Jane

Is there anything else that you think kids should know about lizards? A lot of us are very interested in them. But you know what's something that you could send us off with as something else to think about or investigate on our own about lizards?

Adam

Yeah, so one of the things that I'm really interested in, and is really important to me, is making sure that we're trying to do our best to keep lizards around. A lot of lizards are in trouble all across the world, and Southern California is no different, and one of the biggest things that anybody can do to help protect lizards is to not use pesticides in your gardens. So pesticides typically kill insects, and most lizards feed on insects, and so if you're killing off all the insects, the lizards have nothing to eat and they disappear. So by not using pesticides, you will help out your local lizards, and I think we all stand to benefit from that.

Jane

That's a great place to end it. Thanks so much to Adam Clause, collections manager of herpetology at the San Diego Natural History Museum. We loved going to see the reptile and amphibian specimens in the museum's collection. As you know, you can ask us a question on just about anything. Have your adult help you, record you asking the question. They can use a free voice app that comes on a smartphone, then send it to questions@butwhykids.org but why is made at Vermont public and distributed by PRX. Our producers are Sarah Baik, Melody Bodette and me, Jane Lindholm, Joey Palumbo is our video producer, and Luke Reynolds wrote and performed our theme music. If you like our show, please give us a review or a like on whatever platform you use to listen to us, we'll be back in one week with an all new episode. Until then, stay curious!