



Season 4 Episode 1 Beautiful Beards: Meet the Ruffed Lemurs

Megan: Hi, you're listening to Aye-aye Pod, the official podcast of the Duke Lemur Center in Durham, North Carolina.

Matt: I'm Matt Borths, curator of fossils of the Duke Lemur Center.

Megan: And I'm Megan McGrath, education programs manager at the Duke Lemur Center.

Matt: Hi Megan.

Megan: Hi Matt. So, we've talked about aye-ayes, we've talked about the ring-tailed lemurs, we've talked about sifakas - Coquerel's sifakas - and somewhat about their other sifaka relatives. What are we talking about this season?

Matt: Well, this season we are moving on to maybe one of the most beautiful groups of lemurs. Just the most striking creatures. This season of Aye-aye Pod, we're talking about the ruffed lemurs...

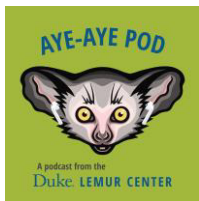
Megan: or ...

Matt: *Varecia*. In Latin, it literally means different colors (it comes from the same root word as *variety*). They are named for their beautiful beards.

Megan: We're talking about black and white ruffed lemurs, or *Varecia variegata*, or varikanda in Malagasy; and red ruffed lemurs, or *Varecia rubra*, or in Malagasy: varimena—the two currently recognized species in the *Varecia* genus. People who are in this season are going to probably lump the species together a lot. So, can we talk a little bit more about how we explore whether or not they're different species? Are these the only two species we're ever going to recognize in this genus of *Varecia*? Who else are they related to?

Matt: In the big picture, we can take genetic samples from ruffed lemurs. And these animals fit within the group of lemurs called the *Lemuridae*. That "idae" means a family, so the family of "Lemur." And the animal that gives its name to the *Lemuridae* is *Lemur catta* (that's the ring-tailed





Season 4 Episode 1

Beautiful Beards: Meet the Ruffed Lemurs

lemur). So, this animal, *Varecia*, fits within the group that includes *Lemur catta*. *Varecia* are part of a little branch of the family tree that's missing a member.

There's one extinct group that was a close relative of *Varecia*. That's an animal called *Pachylemur*. It's a recently extinct species. Its name "Pachy" means tough or, like, big. So literally, it just means "big lemur."

Because they were! They were like one and a half times the size of ruffed lemurs, which themselves are really big. They're the biggest lemurs within the family *Lemuridae*. And so *Pachylemur* was the biggest of the *lemurids*. *Pachylemur* is found in the fossil record all over Madagascar. It's clear that being built like a ruffed lemur can get you pretty far in life.

Megan: Ruffed lemurs are quadrupedal, like the other members of the *Lemuridae* family. The ruffed lemurs are moving on all fours, and they basically live in a part of Madagascar where these giant trees have huge, overlapping kind of canopies of branches. And so, it's kind of like a highway of branches. In the wild, they're spending most of their time up in that region of the trees.

And so, they don't really need to have a solid plan for where they're going. There's always going to be a branch or something to catch themselves. And they can grab with their hands or their feet as they move along. That tail can help them balance. And so here, watching them move, you'll watch a Coquerel's sifaka in the forest here, and you'll see, very subtly, but you'll see them kind of like glance at where they're going and almost map out a route and like, "okay, I'll jump to this tree, then this tree, then this tree." There's absolutely no planning with the ruffed lemurs. The ruffed lemurs are just like, "I'll figure it out," and they just go across the treetops.

I think that sums up their personalities, too. Like, they're pretty confident animals as a general rule, as a species. And they're like, I'll figure it out as I go. Things will move out of my way. But their personalities can be a little bit tricky to work with, a little bit bold and boisterous, if you will.

Matt: The other fun locomotor behavior they have is they are really good at hanging upside down. And this feeds into the, pun intended, the kind of food they eat because they need to get out to the small branches where fruits and leaves that are really young, and where flowers are. And so, those structures on plants tend to be on pretty small branches, like if you kind of look at a tree—the small little things at the end are really where the good stuff is.





Season 4 Episode 1

Beautiful Beards: Meet the Ruffed Lemurs

And so, getting out to the good stuff, you can't like, walk on top of a branch and expect to make it all the way to the end to the fruit. And so, they have this behavior where they can flip upside down and walk underneath the branch as it gets thinner and thinner, which basically makes them look like really fluffy, long-tailed sloths at a certain point. And sometimes it just looks like they're showing off. They're just kind of like, "I'm upside down now and there's no reason. Like I'm just like happier looking at you upside down than I am right side up. So just deal with it and I'll flip over eventually." I hadn't appreciated how much time they spend upside down before I came to the Lemur Center. And just like, look in the forest, it's like "I'm comfy. I'm just hanging, literally hanging out."

Megan: That's actually something they share in common, oddly enough, with the sifaka, because we think of sifakas as these upright animals who move through the forest—and when they're moving from tree to tree, that's true. But one similarity they share is, just like the ruffed lemurs, the sifakas are adapted to get out to these ends of branches and get the newest growth of leaves or flowers, or possibly even early wild fruiting buds. And so, it is interesting to think about that one overlap they share where this animal will suddenly just flip upside down and hang from one foot precariously while reaching for the tiniest little bit of a branch.

Let's talk about what ruffed lemurs eat. What's their primary diet?

Matt: The kind of short answer is frugivore. "Frug" means fruit in Latin. We could just say like fruit-eater, and it'd mean the same thing. The ruffed lemurs are the fruit lovers of lemurs. Like, every primate loves fruit, I love fruit, my toddler loves fruit. The berry budget we have in our grocery bill is wild.

And so all of the animals at the Lemur Center love, kind of, fruit salad, but especially in the wild, *Varecia* are very committed to eating fruit where they can find it. The great thing about fruit is it is a lot of nutrition packed into a small space. The problem with fruit is it only shows up at certain times of the year in certain places, and certain trees that are ready for it. It's really patchy in the way that it spreads itself through the forest. And so, the fact that they are fruit-eaters and love going after fruit means that they also have a very special way of needing to navigate the forest that's different than some other types of lemurs that like leaves. There's a pickiness that sifakas have, like they don't eat every leaf that they encounter. They are more abundant.





Season 4 Episode 1

Beautiful Beards: Meet the Ruffed Lemurs

If you find a tree that is leafing, there's a lot more leaves than there are fruit. And so, that specialization is really interesting. And some ruffed lemurs 70-80% of their diet will just be fruit for certain parts of the year, but they also are capable of eating other kinds of food, especially females that are either pregnant or producing milk for their young will seek out more protein rich sources of food, and so they'll go after young leaves. They'll go after flowers, they'll go after nectar if that's available in the flowering plants that are nearby. And so, they do have this slightly omnivorous way of going about food. But it's like, given a choice, like fruit is a way you go if you are ruffed lemur.

Megan: Yeah, absolutely. And I think it's always important, we've, I think we've talked about this on previous seasons to discuss fruit, and how we define fruit in the wild versus here, is a little different, right? Like the berries, and to some extent I think as like Americans, we have a bit of a skewed perception of this, right? Because, blueberries taste like blueberries. We find them in the wild. And blackberries taste like blackberries. But let's take the example of a banana. What we know as a banana is not what bananas originally looked like. You can look it up, folks. It's mostly like seed and fiber and a tiny bit of sugar. And so, think more on the realm of that for wild fruits. Right?

So, when we say that ruffed lemurs love fruit, given the choice, I think they would put themselves into a sugar coma and eat all of the raisins and bananas they could. But here, we do have to be cognizant of the fact that wild fruit is more like, say, a cucumber, which is a fruiting body, but we consider it a vegetable in our diet, or say, a tomato. And so, when we look at feeding them here, we do have to cut back on some of those favorites. Although I will say that they go for grapes, bananas first in their diet. And if we know we need to ask them to do something hard or scary for training or something we need them to do really reliably, the highest value reward you can offer is going to be like a dried fruit, a fig, a raisin, something like that. So, it's good to know how to bribe the animals that we're caring for here best.

Matt: I hadn't actually seen ruffed lemurs in person before I saw them here at the Lemur Center. And back to what I was saying at the top, these are really just beautiful animals. They're also really unusual for primates, because they have a lot going on below their chins and not a whole lot going on up top. Like, this ruff, or really it's a beard, is why I mentally nickname them the Darwin lemurs. Darwin had a really impressive beard and not a whole lot on top of his head. But this beard or





Season 4 Episode 1

Beautiful Beards: Meet the Ruffed Lemurs

ruff, for ruffed lemurs, isn't just for show. It's been co-opted by plants to help ruffed lemurs play a really unusual role for a primate in the rainforest.

Megan: It is pretty funny to hear accounts of black and white ruffed lemurs shoving their face in a giant traveler's palm flower and coming up with a beard full of yellow pollen and moving on to the next. So, they're definitely very prone to sugary snacks and drinks.

How much of primate evolution in general is possibly driven by fruiting/flowering trees, by angiosperms? And there's whole hypotheses around this, right, about different traits being really necessary because the best bit of fruit is at the very end of that branch, and your body might be too big to get to it. So how do we figure out how to get that tasty fruit at the end of that thin branch?

Matt: Yeah, it's basically the question of like, why aren't squirrels primates? Primates and squirrels have a lot of overlap and they spend a lot of time in trees, but there's all these traits that squirrels are missing and the most important one is thumbs. Squirrels actually can't, like, hold on to something with their thumb in quite the same way that we can. And it's like, well, why did that happen in primates?

And so one hypothesis, and it's actually partially developed by a Duke researcher named Doug Boyer, who is here in the evolutionary biology department—a really important part of early primate evolution was specializing on getting to the very tips of branches where having claws is kind of useless, like you can't grappling hook onto like a tiny new slippery branch that has the nice little bud at the very end of it, or a nice little piece of fruit, instead, being able to wrap your hand around it and kind of clamber out there becomes possibly a way that early, early primates were able to get these really nutritious little packages of calories from the very ends of trees in a way that a squirrel—you can watch a squirrel, and they they're pretty good at figuring out how to get there—but they still get a little clumsy up there in a way that primates can very expertly grab and then get back to the safety of a thicker branch.

And another important part about ruffed lemurs being fruit eaters in the wild is that there's the important relationship with pollinators for getting fruit started in the first place. But, the other important role that fruit-eaters have in forests all over the world is that fruit tends to put a lot of its nutrition right around seeds, and so the seeds get eaten by animals along with the fruit. That





Season 4 Episode 1

Beautiful Beards: Meet the Ruffed Lemurs

seed often gets passed through the gut practically intact, like, a seed is built to resist being broken down quickly. And then, if that seed is lucky enough to make its way through the gut of a lemur and come out the other side, it's deposited with a whole bunch of nutrition surrounding it in whatever fecal deposit is going on.

And that actually becomes a really important way that ruffed lemurs help build the forests around them, and they're kind of known as being one of the many kind of seed dispersal agents. They help build, basically, their own buffet as they go through the forest. They eat the food they like, and then they poop it out and make more forest as they go.

And that has really important implications for the conservation of these animals, because as they become restricted, they're not moving through the forest, they're not propagating the forest around them. There's ongoing research about the impact of things like the giant extinct lemurs like *Pachylemur*, which was this giant *Varecia* that was probably eating bigger seeds of bigger fruits and depositing those around.

The forest itself has been changed by the absence of animals that are able to move these seeds around the landscape. And so that's also an important role that ruffed lemurs have in their forest is as fruit-eaters, they're also fruit-poopers. And that is an important part for all the other animals in the forest that use those trees as well.

Megan: Love that we have terms like seed dispersal for these really important ecological roles and niches, and it's just a fancy way of saying they eat and poop, and it's good. Yeah. Like, that's basically their whole job is eating, and in my opinion—eating fruit, digesting it kind of badly so the seeds are fully intact when it comes through a few hours later, and then poop(ing) the seeds out in a pile of fertilizer. And it's a pretty easy job, but an important job. So, I'm glad they're out there doing it.

Matt: So, they help to pollinate the forest, and they have these beautiful coats.

Megan: So, those coats are really kind of plush and lush, which is not something you'd necessarily expect from an animal that's living in rainforest habitat. But what I always tell people is we don't just wear coats when it's cold outside, we also wear coats when it's wet outside. And so, if you think of that adaptation as a built-in coat, it's not a fur coat for the snow, it's a fur coat for the rain.





Season 4 Episode 1

Beautiful Beards: Meet the Ruffed Lemurs

Because rain forests can be pretty warm and humid. But as temperatures drop, when the sun goes down, if you're sopping wet and you're going to sleep in the dark, you might get kind of chilly. And so, kind of like a built-in raincoat or, like, the fur equivalent of water rolling off a duck's back.

Interestingly, when we're caring for the lemurs here at the Lemur Center, even though we're very careful with their temperature requirements during the winter, the ruffed lemurs tend to be a little more boisterous and active a little earlier when the temperature changes. They love fall. They get pretty droopy when it gets really hot outside, you'll see them melt over the surfaces of things to nap if it's too hot out. So, you can see that their coat definitely does affect their perception of how warm it is, or what they think about the cold weather as well.

I also think that amongst all the lemurs, ruffed lemurs have one of the most prominent “snoots”—to use the technical term. That strepsirrhine rhinarium (long nose), I think is particularly prominent on these guys. Their nose is really, really dog-like—the narrow, long snout that really shows off the fact that this is not the primate you think of when you think of a primate, right?

Matt: And on the end of that snout, having this little fang hanging out is kind of a distinctive little part of being a ruffed lemur. When I have shown students or visitors to the museum like the skull of a ruffed lemur, they think it's a dog or a carnivore of some kind. And it's interesting that even in the living animals, you can see that little fang sticking out. And fangs do not, in fact, correlate very much with being a meat-eater. Fangs have more to do with social communication, like kind of being able to show off your teeth is something that when you can't be very articulate, showing your teeth communicates a lot very quickly. And that fang kind of speaks more to their complicated social lives.

Megan: Whenever you have larger family groups, let's say mom has two generations of kids living with her and dad, that means you could have eight ruffed lemurs in the same troop if you have triplets each year, and they're all doing well and thriving. And so, the larger the group gets and the older everyone gets, the more you're going to see this fission-fusion kind of social structure. And this is something you'll see a lot in social animal structure. The bigger the group gets, the easier it is for things to break apart. I think this is a really relatable thing too, like think back to times in your life where the bigger the group you've been in has gotten, the more the structure has broken down.





Season 4 Episode 1

Beautiful Beards: Meet the Ruffed Lemurs

Think of, like, when multiple classes got combined for an assembly at school, and it was really hard to keep everyone in line versus breaking out into smaller groups and everyone's really focused and doing well. And in ruffed lemurs, it's not even a case of like, oh, we have a fission, everyone split up. It might be, oh, for a little while during this season, we kind of break apart or even during this part of the day. And then during another part of the day, we might come together. And that can also depend on other factors, too.

Matt: When there are a lot of resources around, like a bunch of ruffed lemurs can gather in the same tree, all eating the same food. Or if there's a sense of threat or risk, if we need more eyes on the trees, we need more eyes on the ground, there might be a sense of kind of coming together. Like that, that there is this flexibility in the way that they can relate to each other. They're not so strictly territorial that we can only have five of us together, and everyone else is the enemy, like we, you know, that's our cousin, that's our neighbor, that's our friend.

Megan: And one of the ways ruffed lemurs keep that fairly large group together is through their vocalizations. Everyone knows ruffed lemurs as the noisy ones, the loud ones are. The neighbors of the Duke Lemur Center know the ruffed lemurs, within, like about a half mile of the Lemur Center. Here we see them do what are called alarm calls, which is their loudest vocalization, all the time.

Matt: It's crazy how loud that is. It's not even close to how much that call can resonate when you're actually in the forest. To look at a ruffed lemur and like to watch it make the noises doesn't make a lot of sense. Like- they look like little cat dog monkeys. A howler monkey is the loudest primate. A howler monkey has this posture, and this like giant-like face and throat and, like it makes sense that that animal's, like, be able to blast with that huge head that they're able to use. But I don't know, ruffed lemurs don't look all that different from like, a ring-tailed lemur.

Megan: And I feel like ruffed lemurs may not be as well-known as the ring-tailed lemurs, but they're still really easily recognizable as lemurs. But their social structure is—it's a bit weird. The “it takes a village” kind of communal strategy is very much present in ruffed lemurs and works for them. Ruffed lemurs tend to have slightly larger troops than your average diurnal lemur, or lemur who's active during the day. They are polygamous for the most part, you're not going to see, like, a strict monogamous pair that stays together year after year.





Season 4 Episode 1

Beautiful Beards: Meet the Ruffed Lemurs

Ruffed lemurs are physiologically different than their diurnal relatives to the point that the females have different numbers of mammary glands available. So, we've got, a lemur that's evolved in a very un-primate-like way to have a litter of infants at a time. They can technically have up to six infants. The mom has six mammary glands available for the infants.

But mammals follow the rule of half, so she typically has two or three infants at a time. Because she's having two or three, she can't possibly carry three infants around with her while she's walking around and leaping around the canopy layer—she's going to build nests. Actually, the only species in the strepsirrhine group, so that's in the lemur/loris/potto family, that actually builds nests exclusively for child-rearing. And she's going to probably build multiple nests, and she's going to kind of move them between the nests, more like what you would imagine a cat doing—kind of picking them up gently with her mouth and moving them around. And, so, what's fascinating about ruffed lemurs is they're kind of like the opposites of the sifakas that we talked about in the last season, when it comes to everything about their child rearing.

So, ruffed lemurs have, actually, a really short gestation period. Their gestational period is just over 100 days, which is wild for developing multiple fetuses into, like, a baby. And you'd think the babies would be more independent if they're being left in nests, but no, they have such a short gestation time that they're pretty wobbly for the first couple of weeks, and not very stable, and not able to do much on their own. But they are pretty feisty. And unlike an aye-aye who, say, leaves their baby in a nest, but it's at night when the baby is hidden in the nest, ruffed lemurs are leaving babies in the nest during the day, when it's broad daylight. Something could find that baby.

Matt: Now it's like this new problem of like, okay, they're so undeveloped, so to speak. Like, their hands aren't built for grabbing fur yet. They have fingers and toes and everything, but one of the things that's amazing about a lot of primates is grip happens super early. Ruffed lemurs have given up on that because there is this additional strategy that they use where it's like, okay, I can't carry these around, but I can build a nest. These animals can stay there, and basically, they're like lemur birds for a second there where they're up in a tree. And birds when they're born are also pretty useless. And so, mom has to provision them. So, it kind of becomes this very similar strategy that ruffed lemurs are using. And so, that leads to sociality. Like, if you're going to park your underdeveloped infant, and you need to feed it because it can't quite run around with you yet, and also just can't grab onto you yet, it means that teaming up with other moms that are dealing with a similar situation, or other members in your troop who might know how to deal with





Season 4 Episode 1

Beautiful Beards: Meet the Ruffed Lemurs

the infants, becomes really important. They end up having, kind of, multiple parents that are helping to raise them.

Megan: Alloparenting. Allo is basically the scientific term for, kind of, communal or family activity. So, allogrooming is grooming each other in the troop, or alloparenting is other family members, older siblings, aunts, even potentially uncles, babysitting or watching the nest.

Matt: Ruffed lemurs are born little, puny creatures that need to grow up really quick. The way that ruffed lemurs are able to pull that off, is their milk is crazy nutritious and dense with calories. It takes a lot of effort for mom to get enough calories herself to then make that super nutritious milk. And so, if there are multiple females that are able to produce milk that are in the community, they'll actually nurse other infants that need it, in a way that is really fascinating and relatively rare among primates. And I think it's especially interesting as humans looking at this, because that strategy is what we do. Like, it actually doesn't seem that weird.

We have infants that are really useless when they're born, like, they can't even hold their heads (up). And then, we park them, and we use our friends and relatives to help raise them, because it takes a lot of work to kind of get a human independent enough to go and collect their own food.

Madagascar is this long, skinny island that is really kind of the shape of California, for American listeners that might be able to picture that. And so, along this long East coast is where the rainforests of Madagascar are, and those rainforests are created by these mountains that have built up along the east coast. Weather coming off the Indian Ocean slams into those mountains, and basically drops all of this water on the east side of Madagascar. And it creates these rainforests because there's a lot of rain coming off of the Indian Ocean. And one of the things that's interesting about the eastern rainforest of Madagascar is it has been relatively resilient to extinction so far.

When we go into the fossil record of Madagascar, like, the recent extinctions, you look in caves in the West, and there are tons of species that are not found in that area anymore. You look in the east, and the east has this really high biodiversity, so it really feels like the eastern rainforest has survived a lot of the impacts that have affected the rest of the island up to this point. And then now, it is really degrading quickly. And so, it's also not an ecosystem that has needed to be





Season 4 Episode 1

Beautiful Beards: Meet the Ruffed Lemurs

resilient. It doesn't have as many failsafes built into it—in a way that is really distressing for people that study these ecosystems. Like, there's not a lot of backups, so to speak.

Megan: So, (I) definitely want to come back to the fragility of this habitat. But first, let's talk more about why the ruffed lemurs call the rainforest on the east coast of Madagascar home.

Matt: The red ruffed lemurs are found on the Masoala peninsula, which is like the northeastern part of this rainforest. And then the black and white ruffed lemurs are found all along the rest of the eastern rainforest. And that rainforest is not a continuous rainforest—it's being broken up. There (are) rivers that are crossing through it. There (are) human impacts that are affecting it.

One of the things that's kind of interesting about these rainforests is they're called the evergreen forests. They're evergreen because you're getting so much warm weather coming off of the Indian Ocean. The leaves are on the trees all the time, (so) rainforests are evergreen forests, and that is beautiful habitat for animals that want to eat a lot of fruit, which is exactly what a ruffed lemur is.

If you live in the tropical rainforest, plants are constantly producing fruit throughout the year, just different plants are in different cycles. And so, the animals kind of map their ranging patterns on, "okay, like this tree is producing fruit now. It's not producing anymore. This other species of plant is starting to produce fruit over here." And so, they're moving from different kinds of fruit trees to fruit trees. And so that leads to this ranging pattern ruffed lemurs have. They kind of roam their landscape looking for like, "what's on the menu this week?"

Megan: Ruffed lemurs are susceptible to any changes with the trees. Let's say you have a specific blight, or something, that comes through. If it wipes out a certain tree species, or other options, or changes the fruiting patterns of those trees, like climate change is doing for everything everywhere, ruffed lemurs are really sensitive to those kinds of changes.

Matt: So, this habitat, which does not have backups, is in trouble. But, let's talk a little bit now about what that means for ruffed lemurs.

Megan: These guys are critically endangered, not just in the general sense, but in a defined sense by the International Union for the Conservation of Nature, or the IUCN, Red List. Both ruffed lemur species that are recognized are critically endangered. And a big part of this is that kind of specific





Season 4 Episode 1

Beautiful Beards: Meet the Ruffed Lemurs

evolution, right? The specificity of being frugivorous, of needing these really humid rainforest habitats to survive and thrive.

And, also, ruffed lemurs are not the only animals that recognize how great a rainforest is for habitat and for resources. So, that comes to invasive species. They're going to thrive really well in rainforest areas, and that also comes to human activity on the island. I didn't appreciate until I got into the conservation field, and got a little more educated and read some more, just how damaging fragmentation can be to habitat.

And so, you know, we've talked about the obvious of, like, you put a highway through the middle (of a forest), a ruffed lemur can't safely get across to the other side to mix their genetics. But, we also have to talk about the fact that, (for) those fruit trees, that we need high species richness, lots of different varieties of fruit trees. Well, some of those fruit trees might not like edge habitat, where you have the edge of the forest right against the highway. They might need a certain amount of space within that habitat to spread out from each other. So, if you fragment a habitat into a smaller section, you might lose an entire species of fruiting tree.

Those kinds of domino effects are not as visible and obvious. And then, okay, there's one less species of fruiting tree there. Well, that fruiting tree happened to fruit at a critical time of year for the ruffed lemur when other things weren't available. And then, we see the domino. The moms aren't able to get the right nutrients to either gestate the babies or create the nutrient-dense milk. And so, it's not always obvious just how many little factors are going into things like forest fragmentation and how much effect it has on the forest.

Matt: The more that we learn about the impact of fragmentation, the more that we're starting to recognize that it's probably been a big driver of extinctions in the geological past. That as you change climates dramatically, as mountains rise and change where rain is falling, that species that might have once been able to thrive in a forest, if like one species (of tree) is lost, it creates natural fragmentation. And so, that can create this natural domino effect. So even without humans, the process of restructuring a forest can have this crazy effect on other species reliant on how the forest changes in these micro ways. And humans basically have just hit the gas on how these processes can happen. And that, combined with the larger human effects on the climate, is really, really messing with these habitats quickly.





Season 4 Episode 1

Beautiful Beards: Meet the Ruffed Lemurs

Megan: And we'll definitely have conversations this season about more of what drives those conservation issues and the fact that it's not a very simple answer. Rainforest is a really valuable resource for any living life form, including humans. And so, finding a balance really requires focusing on community and community-based conservation so that those resources can last for everyone.

Matt: Because ruffed lemurs are from the rainforests of Madagascar, and most of the species that we focus on at the Lemur Center are from other parts of the island, we wanted to give them some special attention, which means this is our longest season yet of Aye-aye Pod. So, in this season we talked to a lot of folks, including Madison Armand, a primate technician here at the Lemur Center...

Megan: Andrea Baden, a professor at Hunter College in New York City who studies wild ruffed lemurs...

Matt: Raymond Vagell, a graduate student at Texas State University who studies lemur cognition, enrichment, and welfare...

Megan: Camille Desisto, a graduate student here at Duke University who studies how lemurs interact with the plants in their environment...

Matt: Noromamy Rahantaharivao, a professor at the University of Antananarivo who studies the giant, extinct relatives of ruffed lemurs...

Megan: Charlie Welch, conservation coordinator at the Lemur Center, who will discuss the historic reintroduction of some ruffed lemurs to the wild...

Matt: And Grayson Pellerito, a primary technician who splits her time between the Lemur Center and a partner zoo in Madagascar.

Megan: Thank you for tuning in for this episode of Aye-aye Pod.

Matt: This podcast is brought to you, ad-free, by the Duke Lemur Center.





Season 4 Episode 1

Beautiful Beards: Meet the Ruffed Lemurs

Megan: If you'd like to learn more about the Duke Lemur Center's work in research, education, and conservation, or even schedule a visit to see the lemurs—

Matt: Or the fossils!

Megan: ... or the fossils, in Durham, North Carolina, go to lemur.duke.edu.

Matt: All that we do here at the Lemur Center is only possible with donor support. If you'd like to support us, you can visit lemur.duke.edu/donate. And with that, thanks from Matt...

Megan: And Megan...

Matt: And all the primates at the Duke Lemur Center.

