



Season 4 Episode 2 I Follow the Lemurs: Ruffed Lemur Husbandry

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 at the Duke Lemur Center.

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

Matt: Hi, Megan.

Megan: Hi, Matt. Today on Aye-aye Pod, we are featuring one of our wonderful colleagues from the Duke Lemur Center who works every day with this season's species, the ruffed lemurs, also known sometimes by their genus name of *Varecia*.

Madison: My name is Madison Armond and I am a primate husbandry technician.

Megan: That means Madison takes care of the day-to-day needs of lemurs here at the Lemur Center. From cleaning and feeding to enrichment and training and everything in between. So, Madison, how did you end up in the animal care field?

Madison: I started off in athletic training, studying that at Florida Gulf Coast University. I kind of took a break because I didn't really enjoy it as much as I thought I would. And then I ended up being a veterinary assistant, which led me to going back to school to get my degree in biology, and ended up at the Naples Zoo for a carnivore internship. And then they hired me on as a carnivore keeper.

Matt: Then a family of five red ruffed lemurs moved into Madison's section.

Madison: And I ended up being their primary trainer. I immediately fell in love. I love carnivores, but I was very much a lemur person after that.

Matt: She moved to North Carolina to take care of lemurs at the fantastic facility west of us, the Greensboro Science Center. From Greensboro, she took the quick hop to join us right here in Durham, North Carolina.





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Madison: I follow the lemurs.

Megan: Okay, so what is a typical day like for you?

Madison: So, first things first, I have to check and make sure that everybody's looking good, no one is sick, no one's behaving in a different way than normal. And then I have to make sure they

all get fed. I have to make sure they have a clean enclosure by the end of the day. So, that entails a lot of different things between disinfecting and just cleaning up regular, everyday poop.

And then I'm also thinking about their enrichment for the day. That's really important. And it ranks almost as high as food to me. And so, I think about that immediately when I'm starting my day to make sure that I can get as many enrichment opportunities in as possible. Sometimes it's one per day, sometimes it's three per day. I've even gotten up to seven in a day. And so sometimes, training will be one of those opportunities. So, I try to train animals every day in short sessions using positive reinforcement training, but all of that can be interrupted by other things—veterinary procedures I have to help with, research that we have to work around, educational tours that we have to work around. There is so much that goes into my job that I want to dedicate all of my time that I can to the animal care.

Megan: Yeah. So, in addition to all those tasks needing to be done during the day, there's specific times all of them need to be done, right? Like you can't just feed them twice at the end of the day. Research has to happen at a specific time. You have to do cleaning at a certain time to make it work. So, would you say that's one of the most challenging parts of the job?

Madison: I'm very into time management. It's something I get very, reinforced by, if you will. Like, I get excited when I've managed to fit it all in (a) perfect, neat little schedule based on whatever's going on that day. Of course, that doesn't always happen. And it is challenging. I would say, like, the most challenging part of my day is not being able to clone myself to have time for going into everything deeper.

So, like, I want to know everything about anything that involves lemur care and training and health and natural history. So, I would love one person to be able to do that. And then I would love one





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person to be able to clean drains, specifically the *Varecia* drains, because they poop so much that it's hard to clean it in a timely manner.

But I do every day, and I wish I had time, to feed them four times a day, and enrich them five, and get browse for everybody every day that is luxurious and beautiful. I think that's the hardest part, is wanting to do everything. But time is very limited. Here, at least, I can focus on learning about lemurs and focusing on lemurs, and focusing on their natural history and making sure that I'm doing things that elicit behaviors for just lemurs.

And I can kind of specialize myself. And that's really nice.

Matt: Where does this specialization pay off? When do you feel especially great about the job that you do?

Madison: If, I give an enrichment item or if I modify an enclosure to elicit more natural behaviors, and then I immediately see those natural behaviors, that is the most amazing part of my day.

Matt: So, what's an example of that?

Madison: I was wondering if visual barriers would be beneficial for the animals in our colony. I work in a wing with multiple groups, and I just wondered if certain animals like certain visual barriers from the other groups. I put up some sheets to see if they would sleep in those spots, and they did. And they kind of just hung out behind those sheets, which was kind of fun. It just kind of rewarded me for making them feel safe and relaxed.

Megan: Alright. I'm popping in to give a little bit of context on how we house animals at the Lemur Center. So, we have housing both indoors and outdoors for the animals. And in some of that housing, animals can see other groups next to each other or across the hallway from each other. We never house any different family groups from the same or super similar species within eyeline of each other, so that means we're not going to have a family of black and white ruffed lemurs living close enough to stare at and harass a family of red ruffed lemurs.

But we definitely have different species that can see each other all the time. So, a crowned lemur family could see a black and white ruffed lemur family on a daily basis, and they don't particularly mind it. They aren't stressed out by it, but what Madison was looking at was a little different than stress. She was interested in preference. Maybe they're not stressed out by seeing each other, but





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maybe they have a preference for a little more privacy sometimes. So Madison, what inspired this idea for you?

Madison: I actually read a paper about the same concept being used in tamarins, so I immediately thought (along) that same line where I was like, 'oh, well, maybe the *Eulemur* don't want to see a group of seven *Varecia* all the time.'

Matt: It sounds like part of your job is to just be constantly learning.

Madison: So at Duke, we have this amazing program that allows us to keep learning different ideas, different things that are coming about in research. And those are our continuing education units. And we just get together as a group, and we can either do some reading of new papers that have come out or even old papers that have been kind of lost. And we talk about it, we learn about it. We, you know, propose ideas, how to apply things that we learned into our care. And this is something that has been really important in pretty much maintaining the idea that we are still current and still doing really good things, and still making sure that we're up-to-date on certain welfare and well-being ideas. There's so much to learn and everything comes back and is applied to our care. And that, I think, is really beneficial. And it causes us to really rack our brains on how we can apply everything back to what we do.

Matt: The Lemur Center is an extraordinary place for lemurs, and we have pretty extraordinary keepers here. So, what do you think makes for a really great keeper?

Madison: Something that I have had since I was a kid is observational skills and behavior reading. I was really good at sports because I was always good at guessing what the next step would be, because I was really good at reading behavior. And that, I think, is a very, very strong indicator that you will be good at this job. Another is flexibility and being able to adapt to whatever happens in your day, and just being good at being able to stay calm when things get hard. (And) have an attitude that no matter what happens, we can always try and problem solve to make it less of a problem, or not a problem at all.

Megan: And you mentioned that one of the things that you're prioritizing with your busy, busy days is enrichment. We've talked about enrichment many times before on Aye-aye Pod, but as a





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refresher for folks, enrichment is a giant bucket for all of the things we can do to encourage natural behavior from the lemurs and keep them physically and mentally engaged.

Madison: I've always known, since entering the zoo field, how important enrichment is for mental stimulation. But I am currently getting my master's (degree) in animal welfare and behavior, and my knowledge and gaining of education, and all that I've been able to do in the last few months, I've really understood the value of it, and it is extremely important to me to make those opportunities frequent, rewarding and valuable—in the sense that it's valuable to the animal and not to me.

Everything that we talk about with welfare is always going to be in the animal's perspective. And I want to make sure at the end of the day that I can say if Halley, a black and white ruffed lemur in my section, said 'I had a good day' in her brain, then that translates to a good day for me. But knowing their behavior, knowing their natural history is very important for all of that because I can't just assume that what I've done is good or what I've done is bad or anything like that. I just have to go based on her behaviors, her natural history, and make sure that I'm eliciting those natural behaviors and providing as much mental stimulation as possible, and also making the animals feel safe. which is a huge thing for me as well.

Megan: In your section, you have a fantastic and boisterous group of seven black and white ruffed lemurs. It's actually the largest troop we have at the Lemur Center right now. Two adults and five offspring, including a set of twins born in 2023. So, in the spirit of female dominance, let's call them Halley's family.

Madison: I adore Halley's family. They have presented their own, you know, challenges, maintaining a group of seven and watching each and every one of their behaviors every single day is a challenge on its own. I feel like I could just have them in my section and I'd be busy all day.

Megan: All right, let's introduce them, starting, of course, with Halley herself.

Madison: I really love our matriarch, Halley. Everybody kind of thinks that she is a laidback mom, and she doesn't really chaperone as much as you would think, but she actually is a very attentive mom. So, if the twins were to go off on their own, and something were to be different, like me entering into the enclosure, she would immediately, like, perk her head up and just watch me for a





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minute and just make sure I'm not doing anything to threaten them or anything like that. Usually I was just, you know, scattering food or checking on something, fixing something in the enclosure. But she made sure to let me know that she was watching. But she ultimately trusted that I was not in there to hurt anybody, so she would just put her head back down. But she was very much more attentive than she let on, which I respected.

Megan: So, let's talk about Halley's current breeding partner, who came to the Lemur Center from Albuquerque Bio Park on a recommendation from the Species Survival Plan, since he was an excellent genetic match for Halley. We actually have a great discussion about how those species survival plans work in season three, episode five of Aye-aye Pod. But for now, let's talk about Bruno.

Madison: I really love Bruno. He just kind of watches everybody else and allows them to do all the crazy playing and chasing them around and stuff like that. And he just kind of watches. He alarm calls, like most males do when necessary. And he's very loud. He's very good at it. But other than that, he's just mostly very chill.

Matt: Also in the troop are triplets, born in 2020.

Madison: Sputnik, Sunshine, and Orbit.

Matt: From Halley and her previous companion, Ravo. And in 2023,

Madison: Halley and Bruno had Spitzer and Kepler.

Matt: You also care for some of the red ruffed lemurs, right?

Madison: Yes, so we have our beloved Hunter, who is 27 years old. I am very fond of him because of his spunkiness despite his old age. You would never know that he was 27, if I'm being perfectly honest, because he gets the zoomies just like the others do. He interacts with enrichment very well, and he trains like a very food-motivated juvenile. So, it's very... he's lovely. I enjoy him a lot.

Megan: And Hunter lives with...





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Madison: Pandora. Pandora is just as wonderful, honestly. She has a spunk about her that a lot of people tend to remember her for. She is a no-nonsense lady. She puts Hunter in his place when need be, but she is ultimately very fun and just also very enjoyable to train.

Megan: We like to end each of our episodes by asking our guests about their favorite lemur. So, Madison?

Madison: My experience with lemurs has been mostly *Varecia*, ruffed lemurs. I've had experience with ring-tailed lemurs and *Eulemur*. But I thought coming here, I was going to be introduced to all these different lemur species, and that I might not think that they're my favorite anymore, but it's actually just really reinforced that.

Megan: Why am I not surprised? Thank you so much, Madison, for sharing your expertise and experiences with us here at Aye-aye Pod.

Matt: Thank you very much, Madison.

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

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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.

