

Jaali the Pregnant Rhino

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[00:00:02] welcome to the sci-files an impact 89 FM series, focusing on student research here at Michigan state university, where your cohost Chelsie Boodoo and Daniel Puentes today, Danny and I are back at Potter park zoo to talk about Jaali. Doppsee was pregnant a few months ago and we had an episode about that. And now we're here for a followup to hear, what is it like to have baby rhino here at the zoo?

[00:00:27] First we're here talking to dr. Ronan. [00:00:30] Dr. Ronan, can you please tell us about what it's like having a baby rhino and how was the birth of jolly. Well, we're very excited to have a jolly at the zoo. It's a big achievement for the zoo. This is the first black round of birth that we've had at the zoo in having rhinos for about 30 plus years.

[00:00:49]you know, black rhinos are critically endangered. There's less than probably 55 individuals in the ACA capita population. So each birth is a very critical. So the birth, [00:01:00] went pretty smoothly. This was, adoptee's first birth, stage one lasted, which is when they start having contractions. I lasted probably about who four or five hours, which is pretty normal.

[00:01:10]and then stage two was. Pretty quick. It was probably less than 30 minutes. you know, from, the coreo allantois being visible and rupturing, and then, the fetus feet coming out and the baby dropping to the floor happened pretty quickly. And then, stage three, which is the plot, passage of the placenta that happened [00:01:30] within a couple hours.

[00:01:30] So it was a very, very smooth, Birth. I can say that like, in there are just OSHA has been reported in rhino. So that's a difficult birth. the eye, exactly the amounts and frequency that occurs for the different species isn't really known, but some individual species seem to have a higher predilection things like, or species like the white rhino has a pretty high predilection.

[00:01:52]the greater one horn rhino has a higher predilections. Like we commonly will see stillbirths in those species. black rhinos. We don't know the exact number, but, [00:02:00] you know, we're always concerned about that as a possibility. And we had plans in place to deal with any dystopias had. We need to. but again, we were just very that she had a happy, healthy cath her first time and that she's such a good mother.

[00:02:12] She's, an exceptional mother and, The baby was nursing within probably less than two hours. And, we were really get good video of that. And, the baby's been growing at an inappropriate rate he's seems very healthy and he has a lot of the same personality traits as his mother. So he, he starting to [00:02:30] bond really well with his keepers.

[00:02:32]and that's, that's great from a veterinary point of view, if, the animal trusts the keepers, then we can often, Then they'll learn to trust me. And then I can, you know, be able to do medical procedures with the animals, acceptance. Thanks dr. Ronin for joining us

today, when going through the process of determining whether or not topsy was going through labor.

[00:02:54] How can you tell what stage of the labor that she's in [00:03:00] for the pregnancy? It seems like, it, it's really difficult to tell. It's not like when you're looking at a person and their water breaks. Oh, okay. They're they're about to start going into labor, but how does that work for rhino with these different phases that you spoke about besides the obvious of the rhino actually giving birth?

[00:03:18] It is challenging to know if the animal is starting. If labor is starting to initiate in writing, it was particular because they are such large animals and they don't always show really obvious external signs, but doppelgänger. what [00:03:30] we saw was that she started to, lay down more. She started to pace. She was more agitated.

[00:03:35]and her, some of our other behaviors, like usually she's very, she was a little bit more irritated probably from discomfort. so we actually, and black rhinos have a pretty, like with their gestation period, like. They can, it can range anywhere from 420 days to 480 days. And you know, that that's just one reported number there's, you know, individual variation.

[00:03:57] So this being her first pregnancy, we didn't [00:04:00] know how long it would, she would be pregnant for before she would give birth. so there were quite a few times where we were unsure if she was starting to go into labor. So. People staff would go in to check on her throughout the night. and, and with this time she, she was doing very, she had acted this way before, so we weren't really sure if she was going into labor, but at one point, her, she did have a rupture of the fetal membranes and fluid came out and we knew that she started to go into labor, but there were definite, There are definite false, [00:04:30] false alarms where we would go in and we thought she was going to be starting to have labor and go into labor, I should say.

[00:04:35]but, yeah, but then once the actual labor started, the process, like once we got into stage two, cause there's different stages with parturition. once we got to stage two where the B the fetal membranes had ruptured and there was leakage of the amniotic fluid, then the fetus came out very quickly.

[00:04:51] So. From our call from our previous episode about adopt, see that you had mentioned that there were research [00:05:00] studies that she was involved with is jaali involved in any research studies. I know it would be hard to research a baby rhino when the mother is so protective of the baby, but maybe you guys are able to do a few things on the side.

[00:05:13] Yeah, we're doing a couple research studies that jolly is participating in. so one we're looking at, Indirectly, we're looking at the changes in milk composition throughout, throughout lactation. So he's letting us, get milk from his mom, which is nice. Cause, so, and then we're submitting that to Smithsonian.

[00:05:29] They have a milk club [00:05:30] and we're looking at it, seeing how protein and fat and carbohydrates, change throughout, lactation. So that's important because say, we say you're having to hand rear. A black rhino calf. it's important to make sure that the milk

that you're giving the, the supplemental milk matches the mother's milk to minimize the chances that you're going to cause disease or, growth abnormalities in those rhinos.

[00:05:51] Also I'm jolly as well as dogs and, fin are also partaking in, My a fecal microbiome study. So we're [00:06:00] collecting feces and we're looking at how, what is the normal microbiome of a black rhino? And then also, what is the, how does the black, black rhino microbiome, intestinal microbiome, I should say change throughout, lactation and pregnancy.

[00:06:12] also we were able to, Send the video of the birth birthing process to another zoo that is collating all that information to sort of, be able to say, how long does stage one or stage two or stage three last in a typical black rhino pregnancy. And that's very useful information to have. [00:06:30] So you're collecting all of these samples to study how the rhino captivity yeah.

[00:06:36] Is different from something like out in the wild. What are some goals that you hope to accomplish with these research studies on a more specific scale? Yeah. I mean, in the ideal world, the data that we get in captivity, if it can, be utilized in the wild and help preserve these species and improve the likelihood that they'll persist, that that's our goal.

[00:07:00] [00:06:59] And we can collect a lot of data, with captive rhinos that we wouldn't be able to collect feasibly in wild rhinos. So that's exciting for us as a, as a zoo and, as a whole zoo community when we can, You know, collect data on, on these individual captive animals. And then that information can help improve the success and the survivability of the wild populations.

[00:07:21] That's, that's really exciting. So, you know, then those rhinos in the zoo, aren't just functioning as a captive assurance population, but they're also helping their [00:07:30] wild, wild rhino relatives. So. Well, I hope that these studies that you perform with Zalia as well as Topsy are able to help you promote these conservation efforts, that Potter park zoo is trying to perform here for the rest of the world as well.

[00:07:46] And good luck with any other future research projects with jolly dr. Ronan, you okay. Thanks very much. I appreciate you guys coming out and doing these podcasts. you know, I'm a, I like listening to them and they're very interesting and you know, it's great to [00:08:00] make this science, more, Accessible by the general public.

[00:08:02] And I think it's, you guys are doing a really great job. You know, we're also joined by Pat fountain. He's the animal care supervisor here at Potter park. Pat was here for one doxy was giving birth. And I would love to hear about that experience. Like what was it like when she was giving birth, Pat very early in the morning of Christmas Eve of this past year, I received a phone call.

[00:08:23] It was probably about two or two 30 in the morning. when I received a call from our [00:08:30] overnight security who regularly checked the cameras and would give us updates if they were worried, if they thought they saw anything different. And this call was a little different than the others, because the first thing he said is I think her water broke.

[00:08:43] So I jumped out of bed and I ran into the zoo. As fast as I could. and got here in about 10 minutes or so, and after reviewing the tapes and sending some text messages and pictures to dr. Ronin, we had concluded that her water had indeed broke at this [00:09:00] point in the husbandry manual. It suggests that we have between 10 to 12 hours before she actually gives birth.

[00:09:05] So I did end up going back home and I told the security again. You know, if she is pacing, if she looks restless, give me a call. she had charged me at the bars at two 30 in the morning, which she hadn't done probably in six or seven years. So we knew that something was up and most likely she was going to be giving birth.

[00:09:25] I sent an email at about three in the morning to all the keepers staff to let them know of the [00:09:30] changes. And to let them know that they need to be a little more careful and cautious around her because she was feeling a little off, at five o'clock just about right. I fell asleep on my couches to not wake my whole family up.

[00:09:41] The next time I got a call, I got a call from overnight security again, who informed me that something was coming out. He said, I don't know what's going on, but something's coming out. And I said, well, that's, that's a baby. I'm on my way. So as I drove into the zoo and I called. Multiple people, to let them know that it was time to come in and it was [00:10:00] happening.

[00:10:00] I got to the barn right after jaali had hit the ground and I watched him blink for the first time and take his first few breaths and pick us up and look around. so it was a very special moment. and mom really did great from what I can tell. The birthing process supposed to take about 10 to 12 hours after water breaks.

[00:10:23] And then the actual active labor, the manual says takes one to three hours. It only took her [00:10:30] about a half hour of active labor. So she had a very quick birth. The baby also came out backwards, which was a bit of a concern. Going into this with the vet staff and dr. Ronan, but it didn't seem to cause her any trouble at all.

[00:10:43] So he came out leg first instead of head first, which we didn't want to see, but it was a little easier to see upon reviewing then in the moment. So it was nice to not have to stress about that in the exact moment. But mom and baby worked great from that moment on, it sounds like it was a [00:11:00] pretty exhilarating experience to be able to witness this once in a lifetime experience, to see a black rhino give birth to a nice little calf.

[00:11:12] But as I would imagine, the mother is probably extremely protective, just like Chelsie had mentioned earlier in the episode, how long did it take for Doppsee to feel comfortable enough with you all to interact with jolly in the first place? So that's the gave birth at about five 40 or so in the morning, at [00:11:30] this point we had a tent set up outside the barn with a heater in it.

[00:11:34] Cause it was Christmas Eve. It was a little cold out and we had a TV moved out there so we could monitor her progression and how baby was doing while still giving her her space and making her comfortable. So we had about a dozen or so zoo members sitting out. Very excitedly watching what was going on.

[00:11:52] And at about eight o'clock when the keeper staff would normally go in the barn and things would get going. I went into the barn and turned the [00:12:00] lights on just like a normal day, so she could get kind of into a routine of what was going on. And she was very, very calm. She, she allowed us to, to watch her to, To observe the baby at that moment.

[00:12:13] And then I was able to start feeding her treats. And once I started feeding her treats, I decided that that was a good time to have other people come in the barn and to observe the baby. And so from about eight o'clock in the morning on she let us interact with her, feeding her and [00:12:30] be near the baby.

[00:12:32] This was a huge moment for everyone involved, obviously getting your, eyes on, on the baby. not just on the TV. But it was a completely different experience, seeing them in person and seeing how he's interacting with mom. Thanks a lot for sharing that story, Pat. It, must've been really amazing to be there that day and to see jolly, be born and to blink for the first time and everything.

[00:12:55] And I know that you have such a close connection to adopts the, it's really nice that she was [00:13:00] able to share her space with you and welcome you. We're also joined by the keepers of the rhino. Well, Kim Hernandez, Adriana Davidson, and Murphy Schwartz. Can you all tell us about what it's like now to be around a baby rhino?

[00:13:14] What is it like having a baby rhino at the zoo? Hi, my name's Kim. I have been working with the rhinos for quite some time now. And this is the first time I've ever been able to work with a baby rhino. It's been definitely quite the [00:13:30] experience watching him grow and build a relationship with us. Watching him through each of his milestones has been something very unique and different, and you see shows where you're growing up baby.

[00:13:45] And to be able to be a part of this and watch it in person and happen before you, and to be able to actually touch this living animal, and to see him respond to you and recognize you and come up to you has been [00:14:00] definitely a quite rewarding experience. Hi, I'm Adriana. one of my favorite things about working with jaali, maybe isn't so favorite, but being able to work with the rhinos, cleaning the barn, basically, you're not able to get anything done because you're so distracted by this adorable little rhino who just wants attention from you.

[00:14:21]and then it's okay. And then mom comes and walks up and she's fighting for attention too. so that's probably one of my favorite things right now, is [00:14:30] just being able to work with both Doppsee and jaali at the same time. and just seeing how jaali is just, basically everything from mom, mom trusts us keepers a lot, and you can see that, through jaali as well.

[00:14:44] So, Hi, I'm Murphy. I'm a new host doc keeper here at Potter park. I've only been here for about six months and I knew doppsee before coming in and started working here and she was pregnant, which was amazing. And being part of the team that takes care of the baby rhino has [00:15:00] been great. And I think my favorite part of the whole thing is.

[00:15:04] That from day one, you see him start to grow a personality until now. the first few weeks he really didn't want to come and interact with anybody. And we're to the point now where he comes to the bars, just like his mom and begs for attention. It's great to hear how each of you play an integral part in the development of jaali as well as taking care of

[00:15:27] But that makes me think [00:15:30] between the keepers and Doppsee herself, who is the one that's actually taking care of jolly the most between anyone. And this question is open to anybody here. This is Kim. Doppsee is the one doing most of the care for her baby. We come in and we monitor, we have a computer set up, we have cameras set in the stall so we can make sure that the baby is nursing and how frequent and he's nursing.

[00:15:54] And if he's okay, urinating and defecating, and we can watch all this, even though we're not there [00:16:00] at night, we can watch everything that happened overnight in the morning. We still, we care for Doppsee and he's learning from mom. So mom eats hay. So he's learning to eat. Hay. We offer mom treats. So he comes up to us.

[00:16:13] And even though he's not necessarily, you know, taking treats from us, but worse, he's still coming up to us and we're giving mom attention. We're giving baby attention, but in the end, mom's take, mom's doing the primary, like feeding for him, although he's learning and he's learning through mom [00:16:30] and then.

[00:16:30] Learning how mom has a relationship with us and how we care for her. We're then indirectly caring for him as well. And right now we're in the process of one, we've been able to get a weight on him. So we, now we know exactly how much he weighs and then too, you know, We have to work for, medical procedures like vaccines, to make sure then he's getting the proper, proper care and medical immunizations that he needs.

[00:16:57] But overall, mom's the primary caretaker. [00:17:00] And then we're just making sure mom's doing her job and what she's doing. A great job taking care of baby. So, I don't really know much about raising a baby rhino. I could only really think about humans really about like how a human would be nursing from the mother for much longer than basically two months.

[00:17:17] And he's basically like almost two months old right now. And I'm surprised that he's eating solid food. Does he have teeth or like, was he born with teeth? Is he [00:17:30] teething and. Is it okay. That he's eating solid food so early. Hey, this is Adriana. so rhino calves, our bar born without teeth, just like humans.

[00:17:43] But as I grow, their teeth will come in. so he did go through a teething process and he probably still is teasing. he will be nursing from mom for, could be anywhere between two to three years. It's basically just depending on mom and when mom was just like, Hey, [00:18:00] you're done. So, but it's perfectly normal for him to.

[00:18:04] Be eating solid foods. He's learning everything from mom. so some of those behaviors such as using his prehensile lip, to grab onto those, treats as we were calling it either that's produce hay or the grain that we feed. so, he's moving at a steady growing pace right now. So Jaali was born on December 24th, back in 2019, and has been [00:18:30] growing up with everyone here in the Potter park zoo.

[00:18:33] And Kim had mentioned about these milestones, that jolly was going through and accomplishing as he's grown up. But what are these milestones? Why are they in place? Why are they actually important for monitoring? How well jaali is developing? Hey, it's Murphy. So the reason that the milestones are so important are.

[00:18:54] The things that jaali, it needs to do in a day or [00:19:00] over the course of time with us or for bodily functions. So some of his big milestones, like the first one of course is nursing because he needs that to survive. And then the next milestones are bodily functions to make sure he's defecating or urinating.

[00:19:15] these are just things so that the animal care stuff. Knows that we don't have to step in at any point, to take over care. If Doppsee wasn't being a good mom, these were the milestones we were looking for to make sure that there was no need for us to step in. there's also other [00:19:30] milestones that jollies accomplished and they're more fun ones or more, or they're for medical reasons for the vet staff.

[00:19:39] One of the stones that we've accomplished with him is different enrichment items. We've done more soft enrichment items or things on the ground. So jaali balls, boomer balls, ah, cubes. So a boomer baller, jolly ball for people who don't know what it is, is a round ball it's made of hard [00:20:00] plastic.

[00:20:00] Sometimes they'll have holes in the sides so you can stick food into. So one of the ones we give topsy and jolly has holes in it and we'll stick food items into it. And. This is put into place to show if mom's teaching him how to do these things, or if he's going to learn them on his own. it's a new item for him when he first saw it.

[00:20:20] So food going into it, mom knows what to do. So she was moving it around with her prehensile lip and jaali soon followed after she finished eating all the food to [00:20:30] push it around with his face as well. A couple other big milestones was. Jolly coming up to the keeper staff like topsy does. I mentioned before that he really didn't do it before the last couple of weeks.

[00:20:41] And now he comes up readily looking for treats or pets. He also eats some solid foods, not a lot. He'll eat and mouth on mom's food, produce or Hey, and then the last big milestone we just accomplished this week was getting a weight [00:21:00] on him, which took three keepers and a lot of time and patience to get him and mom comfortable with the scale, and also be able to put the scale in with them and.

[00:21:12] Hopefully, luckily he did get onto the scale so we could successfully get away. One of the biggest and most important things that we have to remember as a staff is anytime jaali approaches us, we base everything we do on positive. A reinforcement. So [00:21:30] when he does approach us that we want to continue this behavior, we make sure we take the time to give them scratches.

[00:21:35] The rounds tend to be very, tactile, reinforced, where they seem to really enjoy the touching and the petting and the scratching. So we make sure we give him things that he wants. So he'll come back again. And this is all very important for when we do things like get await. part of the process of getting await is teaching.

[00:21:52] Baby and mom that it's okay to be separated for a minute. So one of the keepers will walk topsy to a different stall and the other keeper will sit [00:22:00] and scratch jaali and make sure he's comfortable. And as happy as we can help him be with mom not being right by his side. This allows us to introduce a scale to mom and to jaali first, by putting it in the hallway where mom could look at it, but not touch it.

[00:22:14] Cause she does get a little nervous about new things and then eventually holding it up to her so she could investigate it further. To the point where mom walks to a different stall, they keep her set the scale into the stall with jaali, and he actually climbed up on it. pretty much the first try. [00:22:30] and that was a very exciting moment for all of us.

[00:22:32]and it's pretty humorous moment when he, wasn't sure how to get down from about a one inch scale. but it turns out that jelly now weighs 84.5 kilograms, which is he's a pretty big boy, outweighs most of us here and, He is becoming a little tank, a little tank of a rhino, and he's just growing at a, at a incredibly quick rate and learning things very quickly.

[00:22:53] So it's very important that the keepers are consistent. They're because they're constantly reinforcing him and we [00:23:00] are encouraging the good behaviors that we want to see from him so that we can do things like train him, hopefully to the extent that we train his mom in the future. That's pretty large.

[00:23:12] That's over 180 pounds. Wow. So I know that Phineas who's Jolley's father is over here as well. How did he react when jolly was born? Like did he get to see him afterwards? Hi, this is Adriana. So Phineas [00:23:30] wasn't actually in a separate stall when jolly was born. he can't actually see, jaali, but he can smell and hear him all the time.

[00:23:39]Black rhinos are solitary animals mean that they live by themselves in the wild. So it's either going to be dad on his own or mom and calf. And they only come together for breeding Phineas, sometimes reacts to Doppsee's hormones. now that she is not pregnant anymore, she is cycling again. so we [00:24:00] can definitely tell a reaction from him when she cycling.

[00:24:03]he gets a little bit worked up. He's only got one thing on his mind, which is topsy. sometimes you can see that dropsy kind of buys into it. there's a small window between the two stalls. Sometimes she likes to put her button the window and he's kind of on the other side. So

[00:24:20] that's cool that Phineas is able to pick up on cycle and her son to know everything. What is the future for these rhinos now that Jaali's been [00:24:30] born? The futures for the rhinos here at Potter park zoo depends largely on the breeding recommendations coming from the SSP or the species survival plan jaali will stay here for anywhere between two to four years.

[00:24:45]mom can breed with dad again. and you can get a recommendation as early as two years. So at that point, the baby would have to be weaned. probably find a new home while mom and dad breed. part of it is based requirements here at the zoo too. So we have room for [00:25:00] two adult, right? Don't send a baby, but once baby grows up.

[00:25:03] he takes up a lot of space too. That's going to be another 3000 pound animal here at the zoo. So he will need to have a new home to potentially breed on his own, or we will need to send out either mom or dad. So a lot of it depends on what we hear back from the rhino SSP, but there is a potential for topsy and Phineas to breed again.

[00:25:22] And we do hope to be able to do it again. Well, Chelsea, I don't know about you, but I think this is a fitting way to [00:25:30] conclude after talking about what the future of these rhinos will be not only for part of park zoo, but also for the rest of the world. Thank you to all of you for joining us today for talking to us about what it's like been to worked with jaalias well as Doppsee and Phineas and how it's going to have major impacts on the zoo community as well as conservation efforts in the near future.

[00:25:59] Do you want [00:26:00] to drink some beer brewed by scientists while playing arcade games? Then join us at the first anniversary of the Scifiles at the grid on PI day 6:00 PM. We will be releasing a beer brewed at saugatuck brewery called the proceeds go to the black rhino mother dropsy and her calf jaali from Potter park zoo at the animal health program.

[00:26:18] It's going to be Epic. You're going to get to hear interviews from the Sci-files, give updates on their episodes, such as the doctors and zookeepers of the black rhinos. It must have been a year or the Sci-files to celebrate the anniversary. We will be [00:26:30] giving out prizes to see you at the grid on March 14th.

[00:26:32] Also known as PI day.