

Nzuri Grows Up

A Preemie Giraffe's Story



By Jennifer Keats Curtis and Susan Kleven

When baby giraffe Nzuri (pronounced Na-zuri) arrived early—and unexpectedly—at the Frank Buck Zoo, he was underweight, underdeveloped, and unable to nurse. His “code pink” arrival didn’t deter the Animal Care Team, or the local firefighters, veterinarian staff, and members of a local dairy. All hands jumped in to help this preemie giraffe. This is the story of Nzuri’s first few months of life and all who helped him survive and thrive. Next time you’re in Gainesville, stop by “the best little zoo in Texas” to see Nzuri, who is now a healthy, happy almost-adult giraffe!

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- Giraffe Body Parts and Adaptations
- A Comparison: Nzuri and Nakuru
- Giraffe Conservation
- Ask the Scientist!
- A Day in the Life of an Animal Care Specialist

Jennifer Keats Curtis is an award-winning author that regularly, and delightedly, works with biologists, environmental specialists, and science experts to research and write her books. Some of her books include Children’s Choice Book Award Winner *Kali’s Story: An Orphaned Polar Bear Rescue*; NSTA Outstanding Science Trade Books for Children: *Pooper Snooper* (also 2023 Children’s Book Council’s Favorites), *After A While Crocodile: Alexa’s Diary*, *Moonlight Crab Count*, and *Maggie: Alaska’s Last Elephant*. The realistic fiction, *Creek Critters*, co-authored with scientists at Stroud Water Research Center, was a finalist for the AAAS/Subaru SB&F Prize for Excellence in Hands-on Science Books. Follow her on Twitter and Facebook.

Susan Kleven is the Director of the Frank Buck Zoo in Texas. In addition to leading the expansion that doubled the size of the zoo, number of habitats, animal collection and staff, she has hosted many symposia and workshops on small mammals, training, hoofstock, and disaster response aid. She also serves as expert advisor for an animal care software company. In 2024, Susan traveled to South Africa to observe and photograph giraffes in the wild. She enjoys hiking, nature photography, and traveling anywhere wild animals can be found. She and her husband Dave live in Gainesville, Texas, where they enjoy the diversity of bird and pollinator species that migrate through the area. This is her debut picture book.



Jennifer Keats Curtis



Susan Kleven

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**By Jennifer Keats
Curtis and
Susan Kleven**

6:30 a.m., July 14, 2019, Frank Buck Zoo

Code Pink!

Ginger the giraffe had shown no signs that she was ready to give birth.

Surprise! She was not alone in her stall. There, in the pine bedding, lay a tiny (by giraffe standards) calf.

The Animal Care Team named the little one Nzuri. That means handsome in Swahili.



At only 5 feet tall (1.5 m) and 75 pounds (34 kg), the calf was born early or prematurely. Most newborn giraffes are a foot taller and weigh twice as much.

Nzuri tried to nurse but Ginger didn't have any milk. She backed away, accidentally knocking down her gawky calf.



The calf's hooves looked more like fingers than feet. All newborn giraffes wobble, but this calf was really unsteady. He walked like he was wearing high heels.

In the wild, newborns are up and walking within an hour. By day two, the smooth "slippers" that cover their hooves wear off so that they can keep up with the herd.

Since Nzuri was born at least a month early and his mom didn't have milk, he needed human help.



The Zoo's Animal Care Team raced to a local dairy for a special milk.

Because of Nzuri's small size, a veterinarian fed him through a tube.



Volunteers stepped up to lend a hand. Some people even came from other zoos to help.

The local fire department set up a pulley system to lift Nzuri if required. Luckily, it wasn't needed.



Nzuri's team had to figure out how he liked to drink. Some bottle-fed human babies are fussy about bottles and nipples. So was Nzuri.

The team had to find the right bottle and the right size nipple. First, they tried the bottle that cow calves might use, but Nzuri was smaller than a baby cow. After a few tries, Nzuri accepted a goat nipple on a plastic water bottle. The plastic bottles collapsed too easily. Next, the team tried glass soda bottles. These didn't collapse but they weren't big enough.





Finally, they found just the right one—a glass white vinegar bottle. Nzuri then refused to drink his bottle with any other nipple. His care team had to change out that goat nipple for every bottle they fed him. That wasn't easy when there were six bottles at each feeding!



With two problems solved, the team turned to the milk. Nzuri didn't like his milk too hot. Or too cold. He needed that temperature just right. In the beginning, it took at least 30 minutes to feed him all those bottles. The team tried to feed him every two hours.



Although mom Ginger didn't have milk, she needed to bond with Nzuri. The team moved Ginger to the next stall at bottle time. She watched the feedings, sometimes blowing on the staff as they fed him.

For Creative Minds

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Giraffe Body Parts and Adaptations

Ossicones are the bumps on a giraffe's head. These bony protrusions are made of hardened cartilage and covered in skin. They are like the cartilage in our ears.

Male giraffes have large ossicones that can grow larger over time. Female giraffes have thinner, tufted ossicones.

Giraffes are known for their long necks so they can reach high into trees for food. Like us, giraffes only have seven bones (vertebrae) in their neck. Each vertebrae can be up to ten inches (25 cm) long. To drink, giraffes spread their legs wide to lower their neck and head.

Giraffes are the tallest mammals on land. Males can reach 18 feet (5.5 m) and weigh up to 4,200 pounds (1900 kg) while females are a bit smaller and lighter.

Most calves are approximately 6 feet (1.8 m) tall when born.

Giraffe calves are born without teeth. The baby teeth come in when the calves are a few months old. Their adult teeth come in when they are a few years old.

Giraffes are faster than they look. When necessary, an adult can run almost 35 mph (56 km).

Giraffes have long (18 inches or 45 to 50 cm) tongues that are black, blue, or purple.

They use their tongues to grab and hold onto leaves, much like we use our fingers (prehensile).

Giraffes may be identified by their spots. Each giraffe has unique spots just as humans have unique fingerprints.



A Comparison: Nzuri and Nakuru

Height and weight: Typically, newborn giraffes stand six feet (1.8 m) tall and weigh 150 pounds (69 kg). At birth, Nzuri weighed 75 pounds (34 kg) and was about five feet (1.5 m) tall. Since Nakuru was healthy, he didn't need help from the staff. The staff did not want to disrupt Nakuru's bond with mom Ginger, so his birth weight is unknown. As adults, males stand 16 to 18 feet (4.9 to 5.5 m). Females are 14 to 16 feet (4.27 to 4.9 m) tall. At age 5, Nzuri is nearly 16 feet (4.9 m) tall while Nakuru has reached 13 feet (3.96 m) at age 3.

Relationship with staff: Nzuri needed immediate handling since he was unable to nurse. With Nakuru, staff wanted to get their hands on him when he was a few days old, for three days in a row, much like what happens with horses. That way, he would learn from a young age not to be afraid of them. At 5, Nzuri remains very aware of the staff. If Brianna walks by the savanna or barn and does not acknowledge him, he makes a sound like throat clearing and will stare at her until she acknowledges him. During the giraffe encounters (public feeding), Brianna can encourage Nzuri to participate by calling his name. He definitely recognizes Brianna and Sarah, even if they come in on their days off, and are not wearing the tan staff shirts.

Hooves: Nzuri's "slippers" stayed on for weeks and made his walking extra wobbly. Nakuru's slippers came off quickly. He would have been able to keep up with his herd in the wild.

Milk/food: Since Nakuru didn't need bottles, he started sampling whatever his mom ate, especially browse, when he was still very young. Nzuri took longer because he drank raw cow milk from bottles.

These photos show the brothers when they were each three days old. *Which do you think is which; why?*

Giraffe Conservation

In the last 30 years, Africa's giraffe population has dropped from 155,000 to fewer than 100,000, according to the IUCN Red List. Save Giraffes Now says: In the wild, African elephants outnumber giraffes 4 to 1. As this endangered species continues to decline, zoos will likely continue to be called upon to help with conservation efforts, as well as breeding programs and education.



Ask the Scientist! Brianna, Lead Animal Care Specialist

Brianna Carter Wilkerson is one of the Lead Animal Care Specialists at the Frank Buck Zoo. Brianna was one of the many people involved in caring for Nzuri during his early days (and still does). As mentioned in this book, Nzuri preferred to play with her and did not want to take a bottle from her.

When or how did you figure out that you wanted to work with animals in a zoo?

I fed my first giraffe when I was in the fourth grade. As that giraffe grabbed the lettuce with his long, dark tongue, I knew I wanted to work with animals. My title is Animal Care Specialist, and I am living my dream job—I take care of animals that live in the zoo.

What did you do or study to help you become an Animal Care Specialist in a zoo?

When I was 17 and a senior in high school, I volunteered at the zoo. I helped with the zoo camps and learned some simple animal handling. I talked to kids about the animals that lived at the zoo, and I cleaned the animals' night areas (barn stalls) while they were out on habitat.

In college, I majored in wildlife sustainability and ecosystem sciences with a minor in biology. Working in zoos is very competitive and I wanted options to work in parks, with wildlife, and in conservation. I learned about conservation, counting birds, soil studies and how cattle are cared for on ranches. One of my favorite classes was entomology (bugs)!

As part of my college degree, I was required to have an internship so I interned at the Frank Buck Zoo. While there, I learned even more about caring for the animals, organizing camps, and cleaning animals' night areas. I also shadowed two staff members on two different days, an experience that sealed my desire for my dream job.

Did you always want to work with giraffes?

When I was in college, I thought I wanted to work with large carnivores like lions, tigers, and bears. But then I fell in love with “hoofstock” during cross training in the Africa section at the zoo. Growing up with horses made it easy to switch. Besides the giraffes, the section is home to lemurs, tortoises, ibex, gibbons (even thought they are from Asia), ostrich, zebras, and a camel. I know I shouldn't have favorites but I love Cletis the camel as well as the giraffes Nzuri and Nakuru.

What do you recommend to kids who want to work at a zoo?

My best advice is to attend zoo camps. Observing the animals and talking to staff helps understand what happens at the zoos and which animals they may most enjoy. Volunteering and internships are crucial. Bear in mind that because it's so competitive, people may have to move to other cities or states to pursue their passion.



Ten-year old Brianna feeding her first giraffe!

A Day in the Life of an Animal Care Specialist

As it turns out, there is no such thing as a “typical” workday at the zoo. Since Brianna is cross-trained in many sections, she may get called to help in different areas throughout the day.

Every morning starts out with a meeting of the whole animal care staff, although it may change quickly because that is what happens when working with animals.

A day working with the giraffe brothers, Nzuri and Nakuru, might look like this:

- Dishing out grains for breakfast. The giraffe feeder is attached to the outside of the fence and has mesh over top of it. That way, the giraffes must use their tongues to grab the food, a normal feeding behavior for them. Giraffes have a four-chambered stomach, so they constantly need to be actively eating or chewing their cud, like cows.
- “Putting eyes” on all the animals in her section within that first hour to make sure they are all okay.
- Shifting the giraffes onto their habitat (the five-acre savanna) before the zoo opens.
- Cleaning the night stalls once the animals are on habitat. This includes hosing down the stalls and laying down new bedding of pine shavings.
- Cleaning other animal habitats (such as the lemurs, gibbons, ibex, and ostrich).
- Helping with giraffe encounters (although sometimes Brianna also helps with the flamingo and capybara encounters). All animals can choose to come to the encounters. It's voluntary. Nakuru loves his snacks and comes every time. Sometimes seeing and hearing Brianna encourages Nzuri to join the small groups who want to feed the giraffes romaine lettuce.
- Impromptu keeper chats with visitors to explain things or answer questions.
- Training animals for new behaviors or reinforcing behaviors already learned (such as target training).
- Prepare afternoon diets to feed the animals in the evenings.
- Collect browse by the river or bamboo, depending on the season.
- Shift animals off habitat and back into their stalls for the night.



With special thanks to members of Nzuri's Care Team Sarah Seabaugh and Brianna Wilkerson, and their children Riley, Keaton, and Haisley. And thanks to Crystal Salisbury for the use of her photographs.—SK

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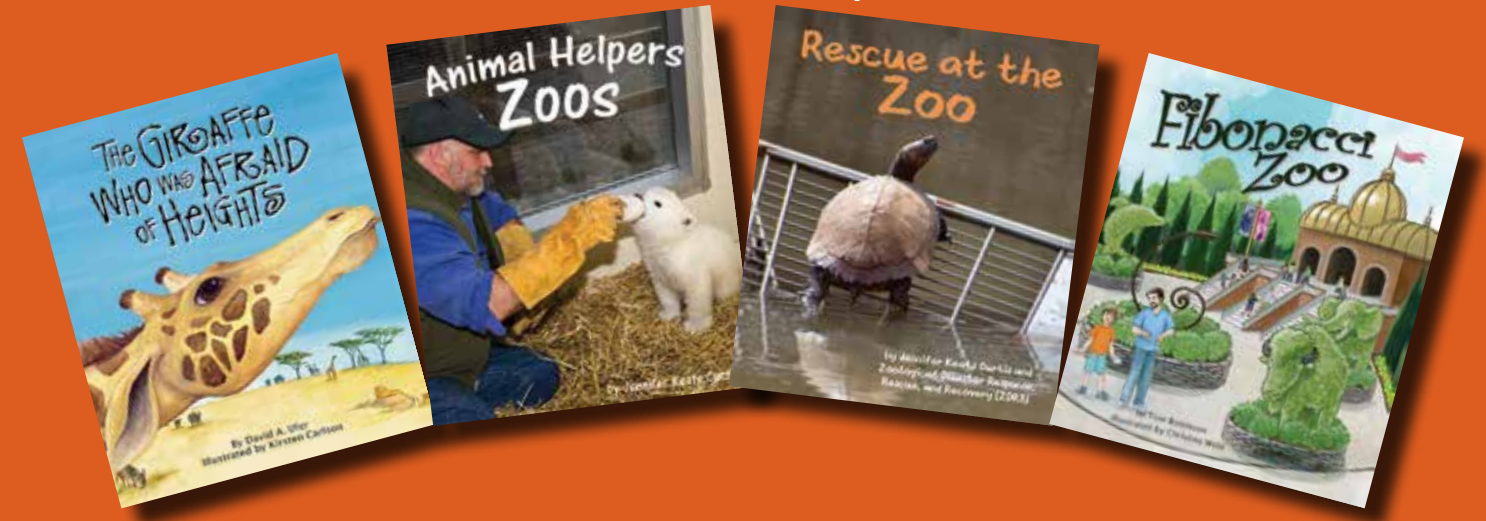
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