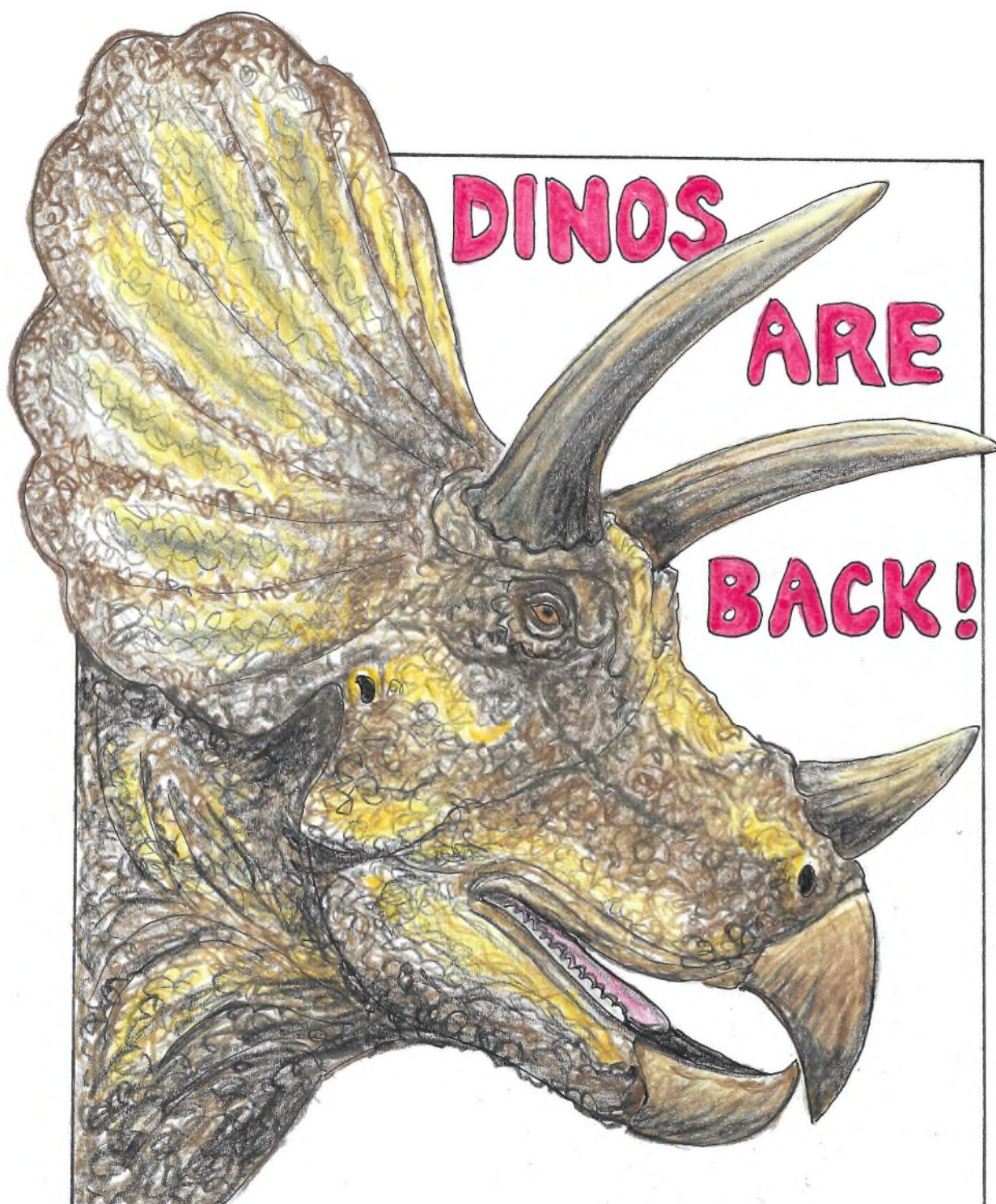


June 2022

The Columbus Zoo and
Aquarium Volunteer
Newsletter

ZooNews





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The mission of ZooNews is to promote awareness, education, preservation and conservation of our natural world.

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this issue

From the President /CEO	2
Communiqué	3
Hoo-Knew	3, 15
Coming Soon—a “New” North America	4—5
Home Sweet Home—Our Redheads Have Moved In!	6—7
Get to Know the Elephants	8—12
Book Club News	12
Our Savanna	13—15
Residents of Dinosaur Island	16—23
Median Life Expectancy	24—25
Volunteer Hours Awards	26—28



FROM THE PRESIDENT AND CEO



Greetings Volunteers,

By the time you read this column, our first big weekend of summer will be “in the can,” so to speak. We are having a great year so far. Our operating revenue, through the end of April, is favorable to budget by about 15%, and our operating expenses are running just under budget, by about 2%. While most of our operating revenue is earned during the busy

Memorial Day to Labor Day time frame, it is always advantageous to go into that period in a strong financial position.

I am pleased to share with you that we also enter the summer season in a strong position, from a public awareness and perception standpoint. We recently completed a market research study, during which we surveyed over 900 residents of the Columbus region. Our goal was to assess the overall impression of the Columbus Zoo. We felt that it was important to do this study now, in light of some of the challenges we faced last year. The good news is that our overall positivity rate stands at 95%, with 66% of respondents indicating they have a very positive impression, and 29% a somewhat positive impression. There are few folks that have no real opinion on that question, and virtually no negative impressions. Many of you already know this by the interactions you have every day with our guests, however, we felt it was important to have good data to support our assumptions. A little over 40% of the respondents had visited the zoo during the last 12 months, and a whopping 96% have visited the zoo at some point in their lives. That is a remarkable number! Importantly, 80% indicated they probably or definitely plan to visit this year, so it looks as though it's going to be a busy summer. Once we have fully analyzed the data, I'll share more with you.

One of the reasons our community has such a higher view of this institution is all of you, in every way you impact the experiences our guests have, and it is overwhelmingly positive. Thank you, for helping make the Columbus Zoo such an amazing place to be.

Tom Schmid, President/CEO

Tom Schmid photo courtesy of Graham S. Jones

Communiqué



During Volunteer Appreciation Week, we were able to celebrate our volunteers on a beautiful evening – in person! We hope you were able to attend and enjoyed the experience. We had such great feedback, we are already planning next year's celebration!

Each year our spring appreciation event will focus on hourly awards and will happen during Volunteer Appreciation Week when possible. Hours are calculated from 2012 (when we started using Volgistics). These are one-time awards; once you reach a milestone, that milestone has been completed and you will begin to accumulate hours to reach the next milestone. Here is the award structure:

- Pins for each 250 hour increment up to 1,000 hours
- 1,000 to 2,999 hours - \$25 Creature Cash
- 3,000 to 4,999 hours – Behind the Scenes Tour Option
- 5,000 to 6,999 hours – Soft-shell Jacket
- 7,000 to 8,999 hours – Enrichment Painting
- 9,000 to 10,999 hours – Twilight Tour for up to 8 people
- 11,000 to 12,999 hours – Lunch with a staff person

- 13,000 to 14,999 hours – Shadow a staff person
- 15,000 to 16,999 hours – Lunch with President/CEO
- 17,000+ hours – Lifetime membership

We appreciate every hour you share with us and we are grateful for your support!

Ginger, Carole, Mary, Kathy and Rachel
The Volunteer Team



Hoo-Knew is a new feature in ZooNews that provides Adult Volunteers and Docents with quick, easy animal facts that can be shared with guests. Thank you to Adult Volunteer Deb Poling for contributing the Hoo-Knew facts.



Touch Pool

Did you know that horseshoe crabs can see incredibly well with their nine eyes along with various light receptors.

Coming Soon—a “New” North America

The sight of construction fencing and orange barrels usually elicits groans except at the Zoo, where the idea of new facilities and experiences creates a palpable excitement. Throughout this year you will hear about and see drawings of a “new” North America region that’s about to take shape.

A bit of history: the region we see today is substantially different from the one that opened in May 1985 as the first immersive zoo-geographical region in the entire Zoo. Between 1997 and 2002, a new entrance, 10 new animal habitats and the Prairie Outpost were all added to the original footprint of the region. More recently the complexity of the region changed significantly when Polar Frontier and Heart of Africa opened, and the region became the main thoroughfare for guests heading to those areas.

Now it’s time for a region overhaul. The planning process has been going on for over a year and has created both a region master plan and institutional collection plan. The result isn’t merely a renovation of yards and barns but a rejuvenation of the concept of our habitat - a celebration of “America’s back yard,” with a new emphasis on the conservation work the Zoo supports here at home. Changes will be made to the animal habitats, the guest experience and programming.



The work will be done in two phases. When both are finished there will be several changes that reduce

congestion on pathways and improve animal viewing:

- Animal viewing will be located slightly off the main path.
- There will be better and more dynamic viewing opportunities for each habitat. Most new habitats will be larger than current ones.
- The main path will meander through the region rather than be the current loop style.
- The train station will be relocated off the main thoroughfare, reducing the number of railroad crossings.
- Tram boarding areas will be emphasized more at the Zoo's entrance and in North America to increase ridership for guests who want to go directly to Polar Frontier or Heart of Africa.

Work on the first phase, the entire area west of the current train station, will start early next year with completion estimated for fall 2024. Part of the current region as well as access to Polar Frontier and Heart of Africa will remain open during construction; however, there will be traffic-flow changes and exhibit closures at times, and some animals will be relocated to other areas.

A few of the specifics we will see in Phase 1:

- Beavers and otters will have habitats in an area close to where Mexican wolves live now. This makes sense as they are both aquatic animals and there can

Continued on page 5



Design Concept by PGAV Destinations

be one life-support system that supports both. Yards and water features will be bigger and there will be more viewing locations. Another reason to group these animals close to each other has to do with their sleep patterns. Otters are more active early in the day, beavers the opposite. No matter when you stop to look you will be likely to see animal activity.

- Eagles are being relocated to this general area, too. The current eagle and wetlands area will transition into a service and delivery area for the elephant and rhino building with an entrance off Jerry Borin Trace.

- The current swan area will be enlarged and will include a beach on the far side of the habitat, away from guests. Swan breeding and release might occur in the future.

- Mexican wolves and black bears will have habitats in the general area of the current bison hill. Guests will be able to see these animals from different levels, from viewing blinds, and will even have a look inside the bear den.

Programmatic changes will focus on the efforts and programs that the Columbus Zoo is involved in including:

- Species which have come to us as non-releasable or needing rehabilitation.
- Species in a managed programs we participate in with AZA.
- Reindeer, who are iconic to the Zoo as they were our first animal when the Zoo opened in 1927.

--Nancy Mulholand

Sources:

Karen Schenk, Nikki Smith, Columbus Zoo and Aquarium

Note: To view North America presentation of plans go the Portal Links and choose 2022 Volunteer Continuing Education Recordings on April 19, 2022. Contains drawings of current plans.

COLUMBUS ZOO FAMILY OF PARKS



COLUMBUSZOO.ORG





Home Sweet Home—Our Redheads Have Moved In!

During a follow-up visit with Chelsea Massaroni, Congo Expedition Keeper, we received an update as to how the **orangutans, animal care team** and **guests** are adjusting and reacting to the new Ken Cooke and Jerry Borin Orangutan Indoor Habitat.

Indications are that this habitat is being thoroughly enjoyed by all! Chelsea offered her valuable insights as she did for the *December Zoo News* article. *Some observations and discussions with guests have contributed to an assessment of the new indoor habitat's success.*



Photo courtesy of Cindy Wesney

When Chelsea shared with us in November about the upcoming opening of the building, it was anticipated that the building would open for visitors within a few weeks. This was after an initial false start because of door issues at the very large, strong hands, the strength and the intelligence of the new residents. Because no one wants to come face to face with a strong and surprised orangutan, they were moved back to their old habitat once again for further repairs to be completed on the building.

The animals helped identify things with the new building that were not quite right. Doors were tested and some pulley issues were addressed. The new touch screen, a replacement for the original one which had been shattered almost immediately, is still anticipated but has not yet arrived. Around Valentine's Day, once the appropriate fixes had occurred, the humans in charge decided the time was right for Sulango, Dumplin and Khali to go into their new digs once again. Although three of the flexible "bamboo" poles have been displaced by the new residents, all seems to be right with their world.

From the standpoint of the **orangutans** (as interpreted by their care team), the new building offers many benefits.

- They now have the opportunity to live and act like orangutans! They have places up high allowing for normal orangutan behavior, and the windows offer much desired natural light. There is ample height and space to be able to stretch their arms and legs like their relatives in their native range.
- Pillars offer opportunities for tool use, sound choices (frogs, rain, kids playing, classical music and more), and surveying their world from up high.
- Speaking of orangutan behavior, Sulango sometimes acts like a worked-up male orangutan, displaying with quick movements, shaking of bamboo poles, banging on doors and making the long calls typical of male orangutans. He is, though, an unusually sweet and gentle-natured male. We are lucky to have him here!
- The mulch floor is one of few here in the states, and Sulango loves to make large craters in it, presumably for napping or lounging. Most facilities still have concrete floors!

Continued on page 7

- The added enrichment options (pulley system, sound machine, columns that encourage tool use, etc.) are definitely beneficial for the animals, keeping them engaged physically and cognitively.
- A big plus, especially for Dumplin, is the opportunity to see and interact with guests year-round.
- More sunshine and natural light are positive additions for the orangutans' well-being.
- The animals have access to the day room overnight. It is suspected that one of them may be taking advantage of the opportunity as evidence of bed-making in there has been found in the morning.

Benefits of the new building from the standpoint of the **animal care staff** are notable.

- Care team members are thrilled to see our three redheads in a habitat that allows them to move like orangutans, where they can stretch their arms and legs and use natural movements.
- Much more time on the job can now be spent on enrichment. Previously, approximately 75% of care team time was spent cleaning and 25% on enrichment. Now those numbers are reversed with about 75% of care team time is spent providing enrichment.
- Mulch maintenance is helping to make cleaning time more manageable. Feces and old food are removed each day with a rake. The area is divided into mapped quadrants on a calendar with one quadrant being turned each week so that the entire floor is turned over each month. The mulch is misted about once a week.
- The doors on the left of the viewing area can be opened for experiences such as Keeper Talks, orangutan painting demonstrations, or other ideas the care team may explore.
- The pulley system offers a way to provide enrichment where it should be ... up high!
- Ledges and keeper access doors make it possible for food, treats and enrichment to be offered in varying ways.
- The care team is anxiously awaiting two more important enrichment items ... a touch screen and a vending machine. These are both worthy of much more detail and explanation. Stay tuned!

Benefits of this new building from the standpoint of **guests** are best described through their observations of our orangutans in their awesome new digs.

- Whispered by a woman to herself upon entering, "Just beautiful!"
- A little girl about 5 years old who could hardly stand still or contain her excitement said, "We have been waiting for YEARS for this!" Her mother explained that the family had been anticipating this since they had heard it was going to happen.
- Guests love being able to see all three redheads, even if one of them (Khali) is against the far wall covered by a blanket, which brings pointing, smiling, and chuckles from sharp-eyed observers.

All in all, the Ken Cooke and Jerry Borin Orangutan Indoor Habitat is worth the wait. It is another feather in the cap of the Columbus Zoo and Aquarium and something else of which we can all be extremely proud. Come try your hand at volunteering here or bring your family and friends and share what you know about orangutans and their new home here in Australia and the Islands.

— Cathy Shade with Cindy Payne

Heartfelt thanks to Chelsea Massaroni for sharing her expertise and love for the species ... especially our Dumplin, Sulango and Khali. As of this writing, Chelsea reports, "Our favorite red heads started going to the yard yesterday. There is an A-frame sign in the walkway of the new building that will state whether they are in their yard or have access (due to weather, temps, etc). If it is not there, then they are likely inside!"

Get to Know the Elephants



As docents, we quote names, ages and weights of the elephants with ease, but how much do you actually know about the individuals in our herd? We're fortunate - it's unusual to have a mixed gender, age diverse group that includes two large males. With seven elephants, there are as many as 20 different groupings of animals one might see at any time when visiting the region. The dynamics of having both an infant and a teenage male also add other dimensions to what we see. Getting to know the personalities of each elephant will help to understand their behaviors and interactions.

Connie

The oldest of our four females, Connie has also lived at the Zoo for the longest time, moving here in 1992 from the San Diego

Zoo when she was approximately 18 years old.

Being outside is a favorite pastime; she's usually the first elephant through the door when it opens and definitely the last one to come inside when called. Playing in the mud, and occasionally snow, is a favorite activity. If you hear her making a squeaking, chirping sound when outside, she's especially happy and playful.

Connie's at the MLE for elephants, but she isn't geriatric. She exercises daily, her routine focusing on stretching and flexibility. She is sometimes on view with Hank, and has also lost weight recently. Connie has had three pregnancies, but has never raised a calf of her own. She was introduced to Bodhi and Beco when they were about one year old and functioned as an "auntie" to both calves.

Connie likes routine in her life and is strong willed, but accepts change and new animals at her own pace. She prefers the company of adult male elephants, unusual for a female, having learned many of her social skills from males and other strong personality animals. Although you frequently see her with Hank, she has recently formed a



Connie, photo courtesy of Nancy Mulholand

Continued on page 9

close relationship with Rudy. The two can often be seen together playfully pushing on the dead trees in the yard, and she frequently eats with Sunny.

Connie is often overlooked when in the yard with Hank; his presence is so huge, she fades into the background, appearing reserved and introverted. Looks can be deceiving, however - she likes entertaining behaviors such as playing the harmonica or keyboard and will chase any rabbit that makes the mistake of entering her space. Celery is her favorite food.

Phoebe

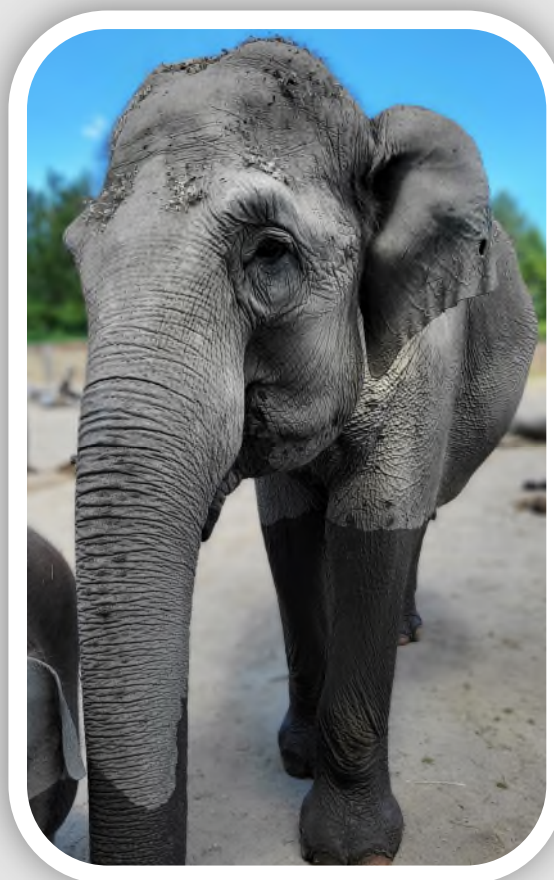
The world traveler of the group, Phoebe was born in Tel Aviv, Israel, moved to Canada when she was eight and to Columbus in 2002 when 14 1/2.

Phoebe has demonstrated excellent maternal care with her calves, to the wonderment of anyone who has been fortunate to watch. When Sunny and Rudy arrived in the fall of 2016, Phoebe stepped up to be in charge of all three younger elephants as well as Connie, reassuring the newcomers and helping in their transition to a new home. Everyone looks to her for guidance and comfort. It's unusual that the eldest female isn't the matriarch; however, Phoebe has extensive group experience, has raised several calves and understands the behaviors of all the other elephants. Her calm, reliable demeanor is obvious when she is with Sunny, Rudy and Frankie. She allows Frankie to wander away to explore or play with the others, but is very aware of what's going on and will step in if need be. Frankie is her fifth calf; she has two grandchildren.

Mud is a favorite in the warmer months; she and Connie rival each other as to who can get dirtier.

Hank

Easily the most recognizable elephant at the Zoo, Hank is laid back and food motivated. His relaxed attitude is one of the reasons we can have many different groups of elephants on view at any one time. He might appear aloof or disengaged from the others, focusing only on food, but it's this easy-going attitude that is an integral part of making the herd work. He dominates the group activity simply by his extremely large presence, adding an air of calmness, not aggression. His relationship with Beco is unique, educational and, at times, playful. Beco has learned to respect Hank and not push him too far, and also how to behave around the females.



Phoebe, photo courtesy of Mindi Scott

Continued on page 10



Hank, photo courtesy of Mindi Scott

Hank has made great strides firming up in his exercise program, and has lost a considerable amount of weight. This awe-inspiring routine fascinates Zoo guests and is a great teaching moment for docents - there's nothing like watching a 15,000-pound animal do leg-lifts to start a conversation!

During the warmer months, he can be quite playful in the swimming pool and has been known to sleep in the sand after a swim. Brussels sprouts are a favorite food.



Rudy, photo courtesy of Mindi Scott

Rudy

Rudy has excellent herd dynamics, socializes with all the elephants and has made close friendships with both Beco and Connie.

Her big sister attention to Sunny is hard to miss, nurturing and protective if need be. Rudy's tolerant of Frankie, she knows that Phoebe and Sunny are always watching him, but she changes into full protective mode to guard Frankie if need be and often stands beside Phoebe, guarding both her and Frankie when he's nursing.

Rudy and Sunny are the most vocal of the elephants. If you hear chirps, roars or rumbles, they are usually from these two. The trunk tapping behavior and the noise that follows is unique to these girls. Their frequent touching, tactile communication, is hard to miss.

Rudy loosens up considerably when placed with Sunny and Beco. Away from the older elephants, these three can become quite playful.

Continued on page 11

Sunny

"Sweet" is the adjective used most often to describe Sunny. Only four- and one-half months older than Beco, she is also still very playful. Fresh - cut logs and water are favorites.

Barely eight years old when she arrived here, Sunny has become more independent and self-confident as she matures, especially in regard to interactions with the older females, learning how and when to approach them. She now occasionally spends time without Rudy, either alone with Beco or with Phoebe and Frankie. She has also physically grown since arriving, and it is harder and harder to distinguish her from Rudy. Her attention to and apparent love for Frankie is amazing, both playful and protective.

Full sisters, Sunny and Rudy have 14 half siblings



Sunny, photo courtesy of Nancy Mulholand

Beco

All of central Ohio has seen Beco grow from a tiny calf into an adolescent male elephant, rambunctious and full of energy. He loves to play, especially in water or with Hank. Inquisitive, he is the first to explore or challenge anything new in his habitat such as the elevated feeding devices, or to stick his head through the fence to reach fresh leaves or grass. Close together in age, he is good buddies with the younger girls, especially Sunny. You can frequently witness gentle tactile interactions between the two of them.

Beco frequently chases geese that land in the yard, much to the amusement of guests. He doesn't really have a favorite food, but hates carrots and will go to any length to avoid eating them.

—Nancy Mulholand



Beco, photo courtesy of Nancy Mulholand

Sources:

Laura Garcia, Mindi Scott, Columbus Zoo and Aquarium

Continued on page 12

HAPPY BIRTHDAY

FRANKIE

Born: 6/16/2021

Parents: Phoebe & Hank

Birth weight: 250 pounds

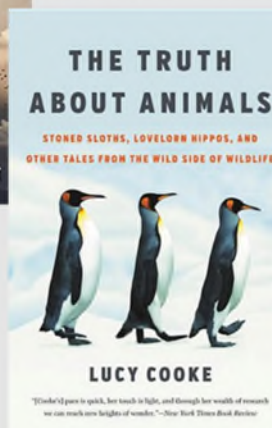


Frankie, photo courtesy of Cindy Wesney

Book Club News



On April 30th members of the Zoo Book Club enjoyed a timely—and enlightening— discussion about Kenn Kaufman’s *A Season on the Wind: Inside the World of Spring Migration*. Many of us were surprised to learn that bird conservation owes a debt of gratitude to duck hunters who helped preserve natural areas such as Magee Marsh in northwestern Ohio. Our next meeting will be August 8th at 5:30 pm in the Suzy Edwards Education Building. We have selected a perfect summer read: Lucy Cooke’s *The Truth About Animals: Stoned Sloths, Lovelorn Hippos, and Other Tales from the Wild Side of Wildlife*.



—Bev Larson

OUR SAVANNA



The Making of Our Savanna

A savanna is a tropical rolling grassland scattered with shrubs and trees which doesn't get enough rain to support a forest. It is warm throughout the year, with seasonal rainy and dry times. Plants and animals living there adjust to those seasons through migration or needing little water except perhaps dew on or water in the plants they eat. Here at the Columbus Zoo, we undertook the task of turning a soybean field into an African savanna that gives the guests the WOW!! feeling that they are there in Africa.

The region is angled to the northeast. Utilities are buried, neighboring region areas and maintenance facilities are screened off, and fences, gates and neighboring housing are hidden by mounds or tree lines to give the eyes a view of a vast open space. When Riverside Drive and Powell Road were widened in 2012, truckloads of soil were brought in to create the mounds and grassland. In fact, a little more than 90,000 cubic yards, or about 32 million pounds of earth were used. More soil went into the watering hole area and other yards. A little story I heard is that when Jack Hanna came to view the savanna under construction, he looked at the northeast edge of the grassland and said, "We're going to need more dirt! I can still see houses on each end of the mound."

Quick-growing annual grasses were planted as a cover crop to control the weeds and to give the perennial grasses time to grow. An irrigation system is in place to help keep the grass green. That first year the hoofstock came in at night and did not roam the savanna during the off season. Now Dama, Thomson's, and slender-horned gazelles as well as cranes, storks, ostriches and wildebeest stay out all night, and often when the region is closed wildebeest, zebra, and select Dama gazelles are allowed access to the yard. The hoofstock were trained to come to the barn for grain using percussion items such as triangles, bells and tambourines. When animals are given access in the spring, the yard is cordoned off in $\frac{1}{4}$ and then $\frac{1}{2}$ yard sections to gradually introduce and recall them until they all are trained or reminded of what to do.

Big trees were planted to provide shade and mimic the small groups of trees that grow on a real savanna. The tree trunks were enclosed in wire mesh to protect them; however, the mesh did not go as high up the trunks as it should to keep the giraffes from peeling and eating the cambium layer of the tree bark, so we lost and replanted quite a number of trees. Honey locust, serviceberry, crabapple and hackberry trees were used. Deadfall and rocks were added to make bomas - small, safe areas that smaller animals could use if feeling threatened. The bomas also provide places for water for all residents, especially our storks, and food bowls for the birds.

Continued on page 14

Our Savanna Residents

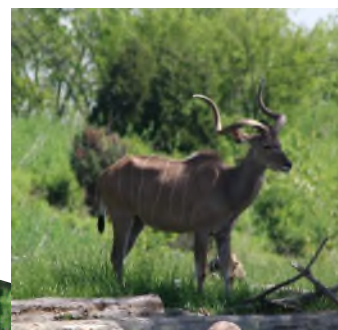
When choosing animals for our savanna, the staff wanted them to be young, and they looked at temperament, size and abilities - do they jump, fly, dig, climb? The ways animals foraged was also considered so there would be little competition. For example, wildebeest prefer short grass, Thomson's gazelles and ostrich will eat longer grass, kudu and Dama gazelles are browsers and can reach taller shrubs and grasses and, of course, giraffe browse at much higher levels, so hanging feeders were added for them.

Our savanna provides a real and perceived mixed species habitat. It looks as though the lions could actually hunt the hoofstock, but they are contained thanks to hot wire, a deep trench called a "ha-ha" moat and tall fence at its bottom. The rip-rap rockwork cordons off the feeding yard by the Shamba. The whole area provides a more natural and enriching environment which increases natural behaviors and the well-being of the residents.

The first year when the lions were first put out with the hoofstock I observed our large male and two adult female lions, each weighing 350-425 pounds, lying with their noses almost touching the hot wire watching "dinner" out on the savanna. The young wildebeest, each weighing maybe 75 pounds, did their instinctual thing. They stood across from the lions and lined up in their "battle line" facing the lions and snorting as if saying "see how tough we are!" A few years later George, our gorgeous male kudu, brought his two young calves over near the lions and stood with them as if telling his young not to fear the lions.

Right now, we have the following roaming our grassland:

Animal	Recall
Kudu—1.3	clicker
Grant's zebra—0.4	whistle
Wildebeest—1.6	tambourine
Slender-horned gazelle—3.2	clicker
Dama gazelle—6.4	clicker
Thomson's gazelle—5.3	clicker
Ostrich—0.6	keys
Giraffe in feeding yard	bell
East African crowned cranes—3.3	
Helmeted guineafowl—0.5	
Saddle-billed stork—0.2	
Reticulated giraffe—9.0	
Masai giraffe—1.5	
Hybrid Masai/Rothschild giraffe—1.0	



A Bit About Our Savanna Friends

Some notes from docent Nancy Mulholand about our giraffe personalities:

Kipawa is an artist - he paints. He likes to follow Shaggy. Other giraffes paint also.

Shaggy has discriminating taste in lettuce and can be set in his ways. (I think this means stubborn.)

JP is the only giraffe with an official middle name.

Nitro is a hair dresser, licking and chewing the others' manes and tails.

Jana is our oldest.

Logan will eat anything.

Connor's favorite food is green peppers

Nitro and Sam are best friends.

Utu has a "sweet" personality.

Schaefer is her own lady and does what she wants.

Sammie cares for little Ralph.

Ralph was the first of the giraffe babies to feed from the Shamba.

I remember right before HOA opened when we were working with the 11 original giraffes. Shaggy was the oldest and the tallest. He had guest-relations experience in that he had done public feedings and was kind of the leader, boss you might say. Not overly bold but sure of himself. Now he's more of an elder statesman.

—Juliann Breeding

Sources:

African Savanna Biome (2003) Maya S. Retrieved April 14, 2022 from http://blueplanetbiomes.org/african_savanna.php
Columbus Zoo and Aquarium Volunteer Newsletter Zoo News August 2013, August 2015, April 2016.

Huge thanks to Shannon Moriarty, Assistant Curator, Heart of Africa.



HOO-KNEW?

Orangutans

Did you know orangutans are the largest tree-dwelling mammals?



An Aid to Utilizing the Residents of Dinosaur Island to Enhance Interpretation of Modern Concepts and Animals, 2022 Update

They're back..... But why should we care? After all, we're here to educate people about "real" animals and related concepts such as habitat destruction. To begin with, because they're so popular they're a fun way to bring kids and families into the Zoo (often multiple times) which contributes to meeting our financial needs while also exposing them to our more traditional residents. Beyond that, interest in dinosaurs can be used to leverage our interpretation of modern animals and related concepts, a further opportunity to meet our mission to "Lead and inspire by connecting people and wildlife." Let your own imagination run free (but accurately) making Dinosaur Island work for You and YOUR MESSAGE.



Some Leading Questions to Engage Young Visitors

- Have you been to Dinosaur Island yet? (Caution: Some families may not be planning to go to Dinosaur Island as their children may be afraid of the dinosaurs.)
 - ⇒ (If yes) Did you see a dinosaur that lived in this Region?
 - ⇒ (If no) Did you know that they have a (name of dinosaur) that lived in this Region?
- Do you know what characteristics or traits (name of dinosaur) shares with (name of animal being observed)?
- Which dinosaurs do you think shared characteristics or traits with (name of animal being observed)?
- Do you think (name of animal being observed) could go extinct like the dinosaurs? Why? (Good for kids 10 and older.)
- What can studying dinosaurs tell us about modern animals or concepts like climate change? (Good for older kids.)
- What do modern animals like (name of animal being observed) have in common with dinosaurs? What's different?

Helpful Fun Facts

- Dinosaurs are not extinct. Evidence indicates that birds are Saurischian dinosaurs. (Think about that as you walk through our aviaries!)
 - Some theropod dinosaurs (the upright meat-eaters) had leg scaling similar to that of a chicken.
 - Theropod dinosaurs had wishbones just like your Thanksgiving turkey and other birds.
 - Some had feet and claws similar to talons such as eagles and other birds have.
 - Theropods, including T rex, *had hollow bones, just as birds do.*





- Many predator/prey behaviors then are similar to those now.
 - Many prey dinosaurs lived in herds just as modern prey animals do.
 - Many modern predators are solitary or hunt in small packs, as did some predator dinosaurs.
 - Prey animals vastly outnumbered predators then as now.
 - Just as we are learning that many modern predators are opportunists who will dine on carrion as well as hunt, so too were some dinosaur predators including T rex. *(A major paleontological debate was over whether T rex was a hunter or a scavenger. The latest evidence indicates that it was both.)*
- While hard to prove since neither noise nor smells fossilize, some paleontologists speculate that the Mesozoic was likely to have been a loud and smelly place.
 - Smell might be inferred from dinosaur diets as well as with comparison to modern animals.
 - Loudness may also be inferred by comparison with modern animals.
 - While not scientifically a given, one can speculate on noise by upscaling loud modern animals such as modern songbirds or Siamangs. Could you imagine if T rex or Brachiosaurus had a “great call” upscaled from that of a Siamang! *(Caution though. Size isn’t a guarantee as comparing a Siamang’s and a Rhino’s call will show.)*
- There have been multiple mass extinctions over the ages, but the most well-known is the K/P (formerly known as K/T) Extinction 66 million years ago when the dinosaurs (except birds) went extinct. The most widely accepted theory is that it was caused by a giant meteor hitting earth. However, most animals were probably not killed by the direct action of the strike but by the climate change it caused.
- Most guests exiting Dinosaur Island will pass by our Komodo Dragons. While Komodos are the largest living lizards today and look a bit like miniature dinosaurs, they are not closely related at all. They are however fairly closely related to other critters who lived during the Mesozoic Era when the dinosaurs did, marine reptiles called Mosasaurs, one species of which grew to nearly 60 feet long.
 - Fun Fact: Note that like other lizards, the Komodo’s legs come out and then down while a dinosaur’s legs come straight down from the body which tends to make dinosaurs faster and more agile than many reptiles and was one of the factors helping them to dominate the Mesozoic.
 - Do be sensitive around our Komodos. Once the dinosaurs arrive, they go from being our top lizard to merely a light snack!
- Some Ohio connections
 - We can only assume (ignoring birds) that dinosaurs once roamed what is now Ohio as no dinosaur fossils have ever been found in our state as the Mesozoic Era rock which would have contained such fossils has been eroded away over time or may not even have been deposited in the first place (known as The Lost Interval).
 - Many other fossils from both before and after the Mesozoic have been found here.
 - ◆ Ordovician fossils dating back around 450 million years are found in southwest Ohio.
 - ◆ The fossilized jawbone of Dinichthys (not on display), a predatory fish (placoderm) from the Devonian Period (about 380 million years ago) was found at Highbanks MetroPark in 1987 so he likely swam where the Zoo is now located.
 - ◆ Our State Fossil is Isotelus, a type of Trilobite that could grow up to nearly 2 ½ feet long.

- Cryolophosaurus (not on display), a 1500-pound theropod was found in Antarctica by David Elliot, a geologist and Professor Emeritus at Ohio State University.
- OSU's Orton Geological Museum has a replica of Cryolophosaurus on display.
- Pterosaurs were flying reptiles, not dinosaurs, who lived during the Mesozoic Era along with them.
 - They had hollow bones as do modern birds but superficially looked like bats (no relation).
 - Similar to bats, their wings were membranes composed of muscle, skin, blood vessels and stiffening.
 - Their wings were mostly suspended from a greatly expanded fourth finger and the forelimb.
 - In some, the wings ran to the body alone while in others it also went to the legs.
- China (Asia Quest) has been a major source of dinosaur fossil finds in recent decades, the prevalence of which may well explain the origins of dragons in Chinese culture.
- Dinosaurs lived during the Mesozoic Era, although some non-dinosaur residents of the Island lived prior to that.
 - Permian Period 299 – 252 MYA (prior to the Mesozoic)
 - Triassic Period 252 – 201 MYA
 - Jurassic Period 201 – 145 MYA
 - Cretaceous Period 145 – 66 MYA

THE DINOSAUR ISLAND CLASS OF 2022

Beelzebufo

When: Cretaceous Period

Where: Madagascar

What:

- The largest from ever found weighing in at up to 10 pounds, an amphibian not a dinosaur.

Fun Facts:

- Sometimes called the Devil Frog or the Frog from Hell and nicknamed the Pac Man frog due to its appearance.
- May have eaten small dinosaurs as well as anything else it could fit into its large mouth.
- Modern relatives found in South America suggest that Madagascar and South America were connected back in the Mesozoic.
- This might encourage guests to think about geologic change and what it means for animals.
- A 10-pound dinosaur-eating frog could be a cool way to introduce young guests to our own amphibian collection.



Brachiosaurus

When: Jurassic Period

Where: North America

What:

- A large herbivore and sauropod 23 feet tall at the hips and 50 feet tall in total weighing between 33 and 88 tons. (Exact weight is still debated.)



Fun Facts:

- The name translates as Arm Lizard because its front legs are longer than its rear legs.
- While Brachiosaurus with its long neck had dozens of vertebrae, giraffes only have 7.
- The most common ancestor for Brachiosaurus and giraffes was an amniote vertebrate that lived 340 million years ago.
- In the movie JURASSIC PARK, it sneezes on the little girl. In reality, dinosaurs didn't sneeze and it was shown sneezing from the wrong place on its skull. Also, despite being shown as chewing like a cow, Sauropods didn't chew.

Carnotaurus

When: Late Cretaceous

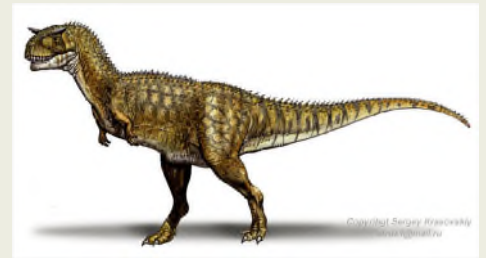
Where: South America

What:

- A theropod about 25 feet long, 6.5 feet tall at the hips and weighing about 1 ton.

Fun Facts:

- Only one Carnotaurus skeleton has ever been found and that had no feet
- Had tiny arms smaller than those of a T rex.



Chanaresuchus

When: Middle Triassic

Where: South America

What:

- A 3-foot-long carnivorous reptile.
- Although it was similar to modern crocodilians it was neither a crocodilian nor a dinosaur.

Fun Facts:

- There's some debate over whether or not it had a semi aquatic lifestyle similar to crocodilians.
- Its nostrils are at the top of its snout allowing it to breathe while submerged.



Coelophysis

When: Triassic

Where: North America

What:

- An early theropod about 9 feet long, 3 feet tall and weighing 50 pounds.
- Had a very birdlike appearance with large well-developed eyes giving it vision comparable to modern birds of prey such as owls and perhaps allowing it to hunt at night. It may even have had feathers.
- Likely a pack animal which may have hunted much like modern wolves.



Fun Facts:

- Thousands of fossils found at Ghost Ranch in New Mexico.
- New Mexico's State Fossil.

Deinonychus

When: Cretaceous

Where: North America

What:

- A very deadly Theropod Dromeosaur. Known for the killing claw on its feet.

Fun Facts:

- Made famous in the Jurassic Park movie series, but they got it wrong by calling it a Velociraptor. (The real Velociraptor was a smaller Dromeosaur at about 3 feet tall and 33 pounds.)
- It was not as smart as portrayed and could have been outwitted by a 6 year-old child.
- It would have been incapable of working a doorknob.
- Since Jurassic Park was made, most paleontologists have come to believe that Dromeosaurs like Deinonychus had feathers.
- Their claws were covered in keratin, the substance forming our own fingernails and covering the horns of many modern animals.
- You might ask a young visitor what a wildebeest or kudu has in common with this fierce raptor, or what that lorikeet has in common with it.



Diictodon

When: Permian Period

Where: Africa & Asia

What:

- A mammal-like Synapsid about 18 inches long with a keen sense of smell and sight.
- Likely gregarious.
- Dug burrows up to five feet deep.

Fun Facts:

- You might ask young guests what cute little burrowing animals we have in North America.



Dilophosaurus

When: Jurassic

Where: North America & possibly Asia

What:

- A 20- foot-long, 5 feet tall (at hips), 1000-pound theropod.
- A top predator whose loosely attached jaws suggest it killed with its claws rather than teeth and/or may have been a scavenger.



Fun Facts:

- Featured in JURASSIC PARK but with a few booboos.
- Shown way too small unless those were juveniles.
- It had no frill.
- The skull was wrong.
- There is no evidence that any dinosaur spit poison.

Megalosaurus

When: Middle Jurassic

Where: Europe

What:

- A carnivore about 30 feet long, 10 feet tall and 1-2 tons.
- Likely an ambush predator .

Fun Facts:

- The first dinosaur to be scientifically named (by William Buckland, 1824).
- The first dinosaur to appear in a work of fiction, Charles Dickens' novel, BLEAK HOUSE.



Pachyrhinosaurus

When: Late Cretaceous

Where: North America

What:

- An herbivore that somewhat resembled a rhinoceros with a funky head.
- Over 20 feet long, about 6 feet high and weighed about 7500 pounds.

Fun Facts:

- May have used the thick bony plate on its head as a ram against rivals and enemies.
- Some paleontologists believe it would have butted against an opponent's side rather than its head to avoid damage to itself.



Parasaurolophus

When: Cretaceous

Where: North America

What:

- An herbivorous Ornithomimid dinosaur.
- 40-feet- long, 9 feet tall at the hips, 2 tons, bipedal.

Fun Facts:

- Best known for its unique crest which was hollow and probably emitted low-frequency fog horn-like sounds which were likely used for communication (here I am, danger coming, hey – be my girlfriend).
- What animals do we have at the Zoo who are recognized for the sounds they make and what are the purposes of those sounds?



Plateosaurus

When: Late Triassic

Where: Europe

What:

- An herbivore about 25 feet long weighing 1500 pounds.
- Could rear up to reach higher vegetation.

Fun Facts:

- May have been the first large dinosaur and the first to grasp food in its hands.
- Although an herbivore it had formidable looking claws.



Stegosaurus

When: Jurassic

Where: North America

What:

- An herbivore.
- Up to 30-feet-long, 9 feet tall at the hips and 6800 pounds.
- 17 alternating plates (scutes) on its back.
 - Possibly for temperature control, intimidation or to impress females.

Fun Facts:

- The defensive spikes on the end of its tail are known as thagomizers from a cartoon enjoyed by paleontologists.



Suchomimus

When: Cretaceous

Where: Africa

What:

- A type of Spinosaur theropod up to 40 feet long, 12 feet tall at the hips and 6 tons.
- Teeth well adapted to grasping prey such as fish.
- Spines along its back may have supported a hump or skin sail possibly for thermoregulation, display or food storage.

Fun Facts:

- Name translates to Crocodile Mimic.



Tawa Hallae

When: Late Triassic

Where: North America

What:

- A small theropod about 8 feet long, 2 ½ feet tall at hips and 33 pounds.
- Thanks to finding multiple entire, well-preserved fossils it is one of the most completely known Triassic dinosaurs.

Fun Facts:

- It may support a hypothesis about where the earliest dinosaurs came from and how they spread around the world.
- Its cervical air sacs help link dinosaurs with birds.
- Specimens were actually collected during the filming of the NSF sponsored IMAX 3D film, DINOSAURS ALIVE.



Triceratops

When: Cretaceous Period

Where: North America

What:

- An herbivore about 30 feet long and weighed up to 12 tons

Fun Facts:

- Often compared to a rhinoceros, because of its three horns and general build, but the resemblance is superficial.
- It was much, much bigger
- Their skeletal structure differs.
- Its horn was composed of bone while the rhino's is made of keratin.
- An experiment in England determined that it would not have charged full tilt at an adversary like today's rhinoceros. Instead, it would likely have stood its ground and allowed a predator (probably T rex) to approach it and its deadly horns. (In the test the replica skull collapsed on impact, and thus an unfortunate defensive technique.)



Tyrannosaurus rex

When: Cretaceous Period

Where: North America

What:

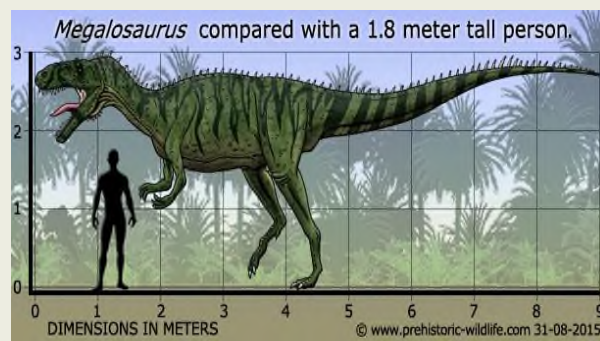
- A theropod up to 40 feet long, 20 feet tall and 7 tons.
- Hollow bones kept its weight down and enabled it to run more quickly.
- An olfactory nerve, similar to a vulture's, probably gave it a great sense of smell suggesting it may have dined on carrion. A healed T rex bite on a fossilized Hadrosaur bone indicated that it also hunted.
- Although originally thought to have been solitary, recent finds suggest it may have lived/hunted in small family groups.
- Had teeth the size of bananas, which combined with a tremendous bite force, enabled it to crush bone.
- Body shape likely changed significantly as it grew older.

Fun Facts:

- It had a wishbone (furcula) just like our Thanksgiving turkey and may also have had some feathers.



—Wayne Fowler



Many thanks to Paleontologist Dale Gnidovic, Curator & Collections Manager, School of Earth Sciences, Orton Geological Museum, Ohio State University for reviewing the paleontological content of this Aid.

Median Life Expectancy

There are three ways to talk about how long an animal lives.

1. Maximum Longevity – This is the oldest age that an animal can live. For example, in humans the maximum longevity is currently 122 years. This could change if someone lives longer.
2. Life Span – This is how old an individual lives. That number is determined when the individual dies. For example, my grandfather's life span was 77 years. NEVER use life span when talking about how long a species can live. Unless talking about a specific individual, do not use this term.
3. Median Life Expectancy – This can be thought of as the "typical" life expectancy for a population, or how long the "typical" individual in a population can be expected to live. Half of all individuals can be expected to die before the median and half can be expected to live longer than the median. In humans in the U.S., the median life expectancy from age one is 77 years.



So, what do I say to guests when asked about how long an animal can live?

- When people ask us how long an animal lives, we should use median life expectancy to give the most correct answer. You can say something like "North American river otters are expected to live 11.7 years" if you don't want to say "the median life expectancy for a river otter is 11.7 years."
- Sometimes we don't have enough data and we don't know what the MLE is for a particular species. In that case, you can say something like "we don't know how long they are expected to live. However, currently at our Zoo the Asian Elephants range in age from Connie (born 1974) to Beco (born 2009).
- So, if an animal is not listed on the MLE table, then we don't know what the MLE is for that species and we should not guess. Just say "we don't know." Also, we do not have any information on MLE in wild populations, only in U.S. zoos.

So, why do we need standardized statistics on survival?

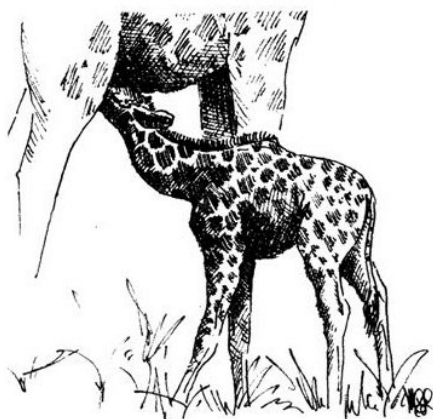
The Study

The Columbus Zoo along with the Association of Zoos & Aquariums (AZA) and its member institutions wanted to develop a clearer way to answer the question "How long does this species live?" It was found that there were many inaccurate and contradictory answers being given to this question. To eliminate inaccurate and inconsistent use of common terminology they began this study to be able to give accurate and consistent information to the public. The statistics in this study are specific to animals in zoo and aquarium populations and are based on a species studbook. This is only the beginning of the study and so far over 200 species have been studied and listed. The study will be ongoing and the information will be updated as information is gathered.

Sometimes on the study it is indicated that the data "cannot be calculated" for a particular species. How should I address that to the public?

"Because this species' population size in zoos and aquariums is small and they have not been in zoos long enough, there is not enough information right now to give an accurate statement about how long this species typically lives in

AZA-accredited zoos and aquariums. As we continue to gather data on this species, we will likely be able to determine this for this species in the future.”



A good thing to remember is that we have the best datasets on North American zoo and Aquarium populations, so if we can't give this answer yet, nobody else can give an accurate answer either. The expert response is truly “nobody has enough information to provide a fact-based answer yet.”

Estimates that are given on websites, even other potentially credible sources, are often based on maximum longevities or more general estimates, rather than on statistical analysis of datasets that follow animals from birth to death.

- Updated from AZA December, 2021

Examples of animals in the MLE Table

Common Name	Scientific Name	MLE Males & Females Combined	MLE Males (Years)	MLE Females (Years)
Crane, Grey-crowned	<i>Balearica regulorum</i>	12.2	-	-
Giraffe	<i>Giraffa camelopardalis</i>	-	14.7	20.2
Otter, North American River	<i>Lontra canadensis</i>	12.3	-	-
Elephant, Asian	<i>Elephas maximus</i>	-	See Full Report	47.5

Work continues on the study with support from the Columbus and Lincoln Park Zoos and there are now hundreds of species listed in the table. Note that the tables are updated quarterly so each quarter there will likely be more species on the table and some of the data may have been rerun and the numbers for a species could have changed. The numbers on a report are just a snapshot in time since more animals are born, animals grow older, maximum longevity may have changed, etc.

—Patty Peters/Jen Fields

Note: The most current Median Life Expectancy Table can be found on the Volunteer Portal. Go to Links—Median Life Expectancy Survival Statistics Summary—click on web address—go to Download the Survival Statistics Table.

Sources:

Species Survival Statistics, AZA, Retrieved 5/11/2022 from <https://www.aza.org/species-survival-statistics>

Center for Disease Control and Prevention. Fast Stats: Life Expectancy. Retrieved 5/11/2022 from <https://www.cdc.gov/nchs/fastats/life-expectancy.htm>

VOLUNTEER HOURS AWARDS

Total hours volunteered from January 2012 through December 2021 (length of Volgistics tracking)

5000+ HOURS

Jon Briney Jennifer Davis
Barb Emmets Peggy Heffelmire
Ann Karrick



3000+ HOURS

Carole Barkley Nona Hunt
Nancy Lafyatis Chris Lutmerding
Barbara Seeberger Terri Siebert
Phyllis Turner

2000+ HOURS

Brenda Baldinger

1000+ HOURS

Richard Adams	Jill Baltes	Linda Barleycorn
Lucie Blumenthal	Terri Bruckner	Vickie Cohen
Sandy Crabtree	Lindsay DeMuth	Roxanna Giambri
Debbie Giddings	Barbara Hermann	Elizabeth Horner
Claire Kitchen	Diane Krakoff	Karen Linn
Pamela Markley	Ellen Miller	Roni Moore
Patty Owens	Patrica Ruhl	Jennifer Schick
Randolph Sherrard II	Shelley Snyder	Monica (Dorman) Tuttle
Dawn Wendorff	Cindy Wesney	Margo Woelfel
Barney Wolf		Linda Zelms

Lead and inspire by connecting people and wildlife

750 to 1000 HOURS

Pat Adams

Arnold Berger

Pat Conrad

Drina Gentry

Carol Hadley

Don Hamilton

Barbi Kealy

Shawn Kovacic

Dennis McNulty

Susan Messina

Karen Moldenhauer

Leann Poindexter

Nora Potter

Tammy Presutti

Kevin Skehan

Trina Vannicelli



500 to 749 HOURS

Michael Archer

Jessica Armstrong

Bruce Bergmann

Judy Brandt

Rebecca Cripe

Jeffrey DeShon

Sherry Hay

Mary Ann Hudyk

Elizabeth (Beth) King

Michael Kronander

Bruce Leider

Clarice Lewis

Mark Lowe

Amy Manbeck

Linda Meuser

Robin Murphy

Caryn Neumann

Deborah Poling

Jeana Price

Phil Ross

Sara Stahler

Michael StClair

Kelline Stevens

Deborah Stokes-Wayne

Susan Tabacca

Jane Taylor

Tina Toth

Mary Wagner

Mila Wheeler-Hall

Lead and inspire by connecting people and wildlife



250 to 499 HOURS

Darlene Archer	Leigh Atkinson	John Barry
Laura Barry	Pamela Beier	Scott Birrer
Don Cagle	Eva Cagle	Jane Cirigliano
Jim Clarke	Fred Colby	Mary Coridan
Susan Cross	Ann Dulin	Leslie Ferry
Lindsey Gallagher	Tamela Gentzel	Teresa George
Matthew Gerardi	Andrew Gill	Rick Gleim
Janice Hall	Kathleen Hartley	Sarah Hoffman
Judy Hoover	Janelle Janowiecki	Amy Jimison
Jane Johnson	Mark Johnson	Oliver Leinbach
Erica Loney	Laura Meers	Tom Murphy
Jean Norden	Candace Patterson	Catherine Peterfish
Kip Price	Ann Remely	Steven Rice
Carol Roy	Chad Spring	Sally Stein
Wilson Stein	Carol Stroemer	Tara Trigg
Janet Van Gorden	John Wagner	Janet Wartman
Nancy Welch	Todd Wheeler	Sandra Wilson
	Avah Wirz	