

NTS NEWSLETTER

PUBLISHED BY THE NON-TRADITIONAL SPECIES CLUB AT THE UNIVERSITY OF ILLINOIS



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AN INTERVIEW WITH ILLINOIS ZOOMED TEAM DURING COVID-19

BY BROOKE DUGAN

While it seems there's less traffic in the VTH, the faculty and staff are still hard at work making sure that patients, clients, and students are taken care of. Dr. Krista Keller from the zoo med team was kind enough to give me a run down of recent life in the VTH.

When asked how the zoo med and wildlife medical clinic teams have been managing existing cases, resident animals, and clients,

Dr. Keller explained how they have been split into 3 teams to divide and conquer while also trying to comply with social distancing as much as possible.

Team A manages patients and residents at the university, providing basic and medical care and cleaning. They also still service the university's zoo contracts, Miller Park Zoo and Scoville Zoo.

Team B sees clients, making them most at risk of COVID-19 exposure.

Dr. Keller noted that even though the VTH only sees emergencies and urgent cases, Team B has been extremely busy providing care, both over the phone with clients and in person with patients.

According to Dr. Keller, Team B is "at most risk for burnout, as the days can be long." Team C is in charge of the online curriculum for the 4th year veterinary students.



When asked to detail how new cases are handled, Dr. Keller said their "approach to those urgent cases hasn't changed too much...We need to get animals out of pain, rehydrated, diagnosed, etc."

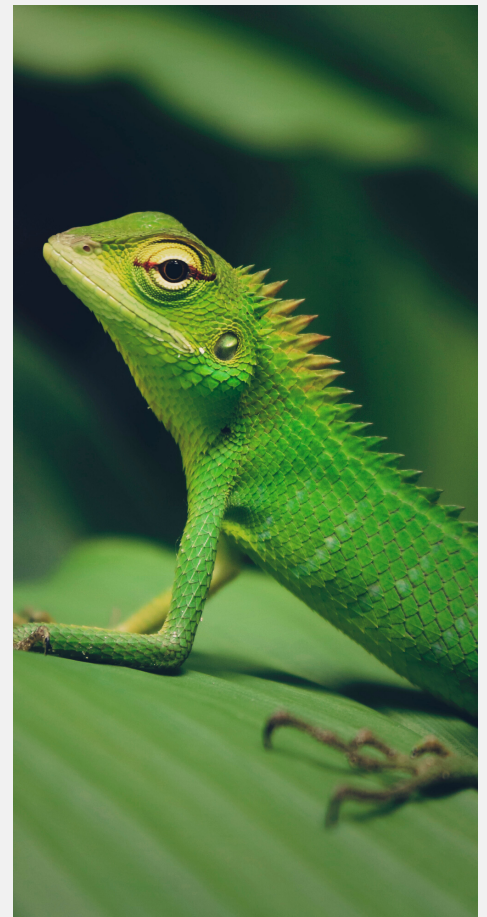
Recheck exam protocol fluctuates depending on the patient and the client. If possible, the zoo med team tries to have the client monitor from home, send pictures, and call with updates. While this protocol has come with its own particular set of consequences, such as "an inbox full of photos of feces, masses and feet," it also limits exposure for the staff and client.

The VTH is encouraging clients to reschedule non-emergency cases at this time, but what is an emergency? The first step in making that decision is knowing the species. Some situations are emergencies regardless, such as bleeding and seizures, but with species like hind gut fermenters, animals "that haven't eaten for a few hours should be evaluated." In comparison, reptiles that haven't eaten in several hours are non-emergencies.

Team B is largely responsible for gathering this information from the client and determining if and when the client should be scheduled.

Finally, and possibly most importantly, I asked the zoo med team when they last had a decent laugh. Since Zoom meetings have become a staple these days, it's inevitable to see someone's 3-year-old "crying about a Disney movie or...teens fighting over the last Hot Pocket in the background." Even when meetings are important, it's also important to remember to laugh a little and let someone know that they made your day.

So while things may be slow for some of us and consistent schedules are something of a memory, our zoo med and wildlife teams are hard at work on the hospital floor and behind the scenes. A huge thank you is due for them, and we're forever grateful for the work that they've done and continue to do, making the best of an ever changing and uncertain situation.



EIGHT FACTS YOU MIGHT NOT KNOW ABOUT THE OCTOPUS

BY COLLEEN ELZINGA



Octopuses are masters of camouflage.

They are able to match the color and texture of their surroundings, as well as release that signature black ink to obscure a predator's view and sense of smell.

They are impressive contortionists.

Octopuses have soft, flexible bodies that allow them to get through any space that their hard beak can fit through.



It is actually octopuses, not octopi.

The word "octopus" has Greek origin and it means "eight foot." Thus, according to Greek language rules there should be an "-es" tacked onto the end for the plural form.

They don't have tentacles, they actually have arms with a mind of their own.

A majority of an octopus's neurons reside in their arms, so they can solve problems independently while the rest of the body is busy with something else. Their arms can even react after they have been severed off!

Octopus arms can grow back!

It's not just frogs that can do this trick. If an octopus loses an arm, they can regrow it later.



Their blood is blue.

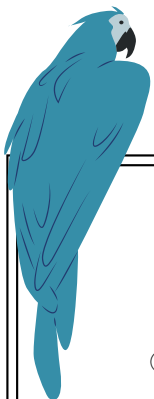
Unlike the iron-based red blood we are familiar with, octopuses have a copper-based blood that is blue in color. This difference makes their blood more efficient at transporting oxygen at low water temperatures.

They have three hearts

Two of the hearts move blood around their gills, while the third keeps blood flowing to the organs.

They are generally solitary animals

A typical octopus will live alone, tucked away in a den they built out of rocks and shells.



Conference Corner

The Phoenix Landing Wellness Retreat Conference is going virtual! May 16, 17, and 24th you can hear from ABVP Avian Practice veterinarians and other field leaders on topics such as parrot behavior, blood work, and CBD use. Many of the lectures will be recorded if you cannot attend at the scheduled time, and there is a scholarship for veterinary students!

You can find more information here:

<https://www.phoenixlanding.org/2020-wellness-retreat.html>

BIRDS IN THE WILDLIFE TRADE

BY KAYLA LADEZ

A topic featured often in COVID-19 articles is illegal wildlife trade. Do you know the most common illegally traded wildlife? **Birds!**

“Despite laws attempting to decrease poaching and the illegal trade, the US State Department in 2018 estimated that 2-5 million wild birds, from Asiatic songbirds to neotropical hummingbirds, to our beloved parrot species, to rare Fishing Eagles, are still trafficked to buyers yearly.”

In this article, Dr. Nicole Becich discusses how birds have previously been reservoirs for zoonotic disease, and how we will continue to see pandemics during our careers. She also offers hope by shedding light on some of the changes we can be apart of to lower the risk and severity of the next outbreak.

You can read Dr. Becich’s full article posted under the AAV Conservation Note blog here:
<https://www.aav.org/blogpost/1525799/344594/Emerging-Zoonotic-Disease-and-the-Wildlife-Trade>



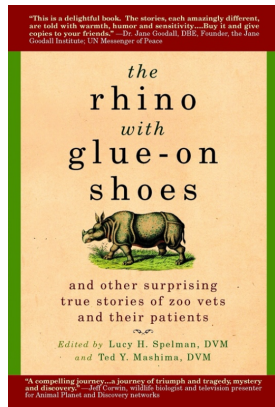
ZOO BOOKS! ... AND NO I DON'T MEAN THE 90'S MAGAZINE COMMERCIAL

ALL THE BEST ZOO MED BOOKS TO READ WHILE STUCK INSIDE

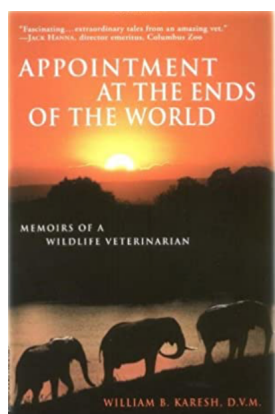
BY KENNYMAC DURANTE

The Rhino with Glue-On Shoes and other surprising True Stories of Zoo vets and Their Patients

By Lucy H. Spelman, DVM and Ted Y. Mashima, DVM.



Summary: A moray eel diagnosed with anorexia...A herd of bison whose only hope is a crusading female doctor from Paris...A vet desperately trying to save an orphaned whale by unraveling the mystery of her mother's death... This fascinating book offers a rare glimpse into the world of wild animals and the doctors who care for them. Here pioneering zoological veterinarians—men and women on the cutting edge of a new medical frontier—tell real-life tales of daring procedures for patients weighing tons or ounces, treating symptoms ranging from broken bones to a broken heart, and life-and-death dramas that will forever change the way you think about wild animals and the bonds we share with them. At once heart-quickenning and clinically fascinating, the stories in this remarkable collection represent some of the most moving and unusual cases ever taken on by zoological vets. A chronicle of discovery, compassion, and cutting-edge medicine, *The Rhino with Glue-on Shoes* is must reading for animal lovers, science buffs, and anyone who loves a well-told tale.



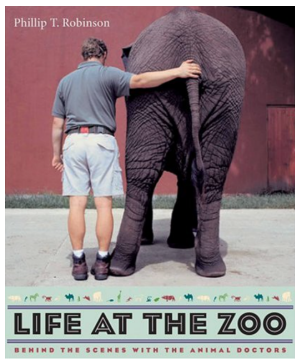
Appointment at the Ends of the World: Memoirs of a Wildlife Veterinarian

By William B. Karesh, DVM.

Summary: “It always feels good to help an animal,” says William “Billy” Karesh, a globe-trotting veterinarian who makes house calls in distant places. From saving the life of a wounded okapi in Zaire to collecting DNA samples from endangered orangutans in Borneo, Dr. Karesh, founding director of the Wildlife Conservation Society’s Field Veterinary Program, now share some of his most fascinating- and dangerous- encounters in the wild. Part travelogue, part conservation primer, and all adventure thriller, *APPOINTMENT AT THE ENDS OF THE WORLD* shows us a man committed to saving and protecting wildlife. Along the way he teaches us what it is like to live in the African bush, catch crocodiles in Bolivia, or hug an orphaned baby Asian elephant. A wondrous journey with a committed crusader, this remarkable true story captures a man’s intensity about the plight of today’s vanishing wild species and delivers a powerful message to all of us about how to preserve their world... and our own.

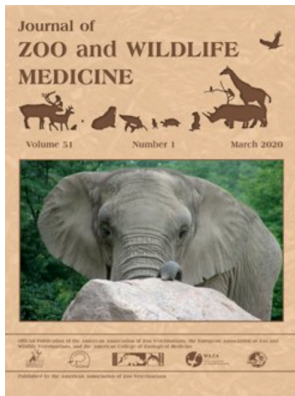
Life at the Zoo: Behind the Scenes with the Animal Doctors

By Phillip T. Robinson, DVM.



Summary: Zoos exist outside of the "natural" order in which the worlds of humans and myriad exotic animals would rarely, if ever, collide. But this unlikely encounter is precisely why today's zoos remain the sites of much humor, confusion, and, occasionally, danger. This book abounds with insights on wildlife (foulmouthed parrots, gum-chewing chimps, stinky flamingoes), human behavior (the fierce competition for zookeeper jobs, the well-worn shtick of tour guides), and the casualties—both animal and human—of ignorance and carelessness. Phillip Robinson shows how animal exhibits are developed and how illnesses are detected and describes the perils of working around dangerous creatures. From escaping the affections of a leopard that thought he was a lap cat to training a gorilla to hold her newborn baby gently (instead of scrubbing the floor with it) and from operating on an anesthetized elephant ("I had the insecure sensation of working under a large dump truck with a wobbly support jack") to figuring out why a zoo's polar bears were turning green in color, *Life at the Zoo* tells irresistible stories about zoo animals and zoo people.

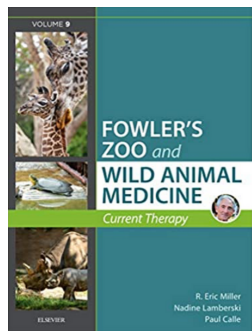
Journal of Zoo and Wildlife Medicine



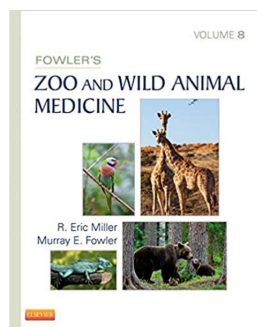
Summary: The Journal of Zoo and Wildlife Medicine (JZWM) is the official publication of the American Association of Zoo Veterinarians (AAZV) and the European Association of Zoo and Wildlife Veterinarians (EAZWV), and it is supported by the American College of Zoological Medicine (ACZM), World Association of Zoos and Aquariums (WAZA), and the European Association of Zoos and Aquariums (EAZA). The Journal of Zoo and Wildlife Medicine (JZWM) is considered one of the major sources of information on the biology and veterinary aspects in the field. It stems from the founding premise of AAZV to share zoo animal medicine experiences. The Journal evolved from the long history of members producing case reports and the increased publication of free-ranging wildlife papers..

Fowler's Zoo and Wildlife Medicine Textbook (Vol. 8 and 9)

(AKA, the Bible of Zoo Medicine) Accessible full text through the U of I VetMed Library!!!



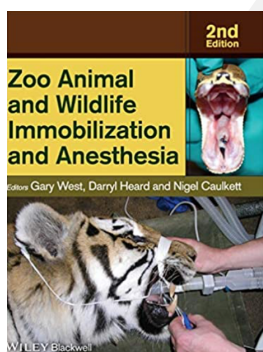
Vol. 8: Logically organized by taxonomic groups, this up-to-date text covers the diagnosis and treatment of all zoo animal species and free-ranging wildlife, including amphibians, reptiles, birds, mammals, and fish, unlikely to be seen by private practice veterinarians. Featuring full-color images, the consistent, user-friendly format supplies information on each animal's biology, unique anatomy, special physiology, reproduction, restraint and handling, housing requirements, nutrition and feeding, surgery and anesthesia, diagnostics, therapeutics, and diseases. Global authorship includes multinational contributors who offer expert information on different species from around the world.



Vol. 9: Bringing together a globally diverse range of timely topics related to zoo and wild animals, *Fowler's Zoo and Wild Animal Medicine, Volume 9* is an invaluable tool for any professional working directly with wildlife and zoo animals. The text's user-friendly format guides readers through biology, anatomy, and special physiology; reproduction; restraint and handling; housing requirements; nutrition and feeding; surgery and anesthesia; diagnostics, and therapeutics for each animal. Two new co-editors and a globally diverse group of expert contributors each lend their expertise on a wide range of new topics — including a new section on emerging wildlife diseases covering topics like MERS, Equine Herpesvirus, and Ebola in great apes. Other new topics integrated into this ninth volume include: stem cell therapy in zoo medicine, cardiac disease in great apes, disease risk assessment in field studies, Tasmanian devil tumors, and the latest information on the elephant herpes virus. With all its synthesized coverage of emerging trends, treatment protocols, and diagnostic updates new to the field, *Fowler's* is a reference you don't want to be without.

Zoo Animal and Wildlife Immobilization and Anesthesia

Accessible full text through the U of I VetMed Library!!!

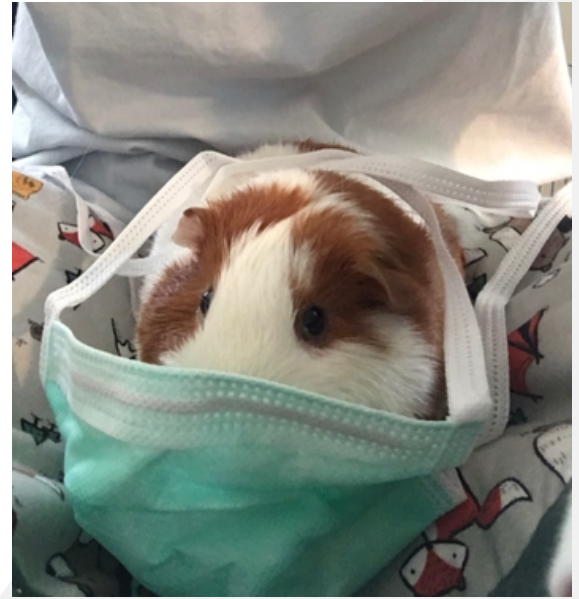


Zoo Animal and Wildlife Immobilization and Anesthesia, Second Edition is a fully updated and revised version of the first comprehensive reference on anesthetic techniques in captive and free-ranging wildlife. Now including expanded coverage of avian and aquatic species, this exhaustive resource presents information on the full range of zoo and wildlife species. Covering topics ranging from monitoring and field anesthesia to CPR and euthanasia, the heart of the book is devoted to 53 species-specific chapters providing a wealth of information on little-known and common zoo and wildlife animals alike. In addition to new species chapters, the new edition brings a new focus on pain management, including chronic pain, and more information on species-specific physiology. Chapters on airway management, monitoring, emergency therapeutics, and field procedures are all significantly expanded as well. This update to *Zoo Animal and Wildlife Immobilization and Anesthesia* is an invaluable addition your library



It's Kylie, your friendly neighborhood Lafeber Rep! Since we can't have any lunch lectures, I wanted to show NTS just how cool the educational resources on lafeber.com/vet are. It's full of informational and instructional articles, videos, webinars, info sheets, and more! It's also conveniently split up by taxonomy (avian, exotic mammals, reptile and amphibians), presenting problem, and clinical topic.

Just a few of my (many) favorite resources are: Monitoring Vital Signs in Exotic Animal Species, Emergency and Critical Care Teaching Module, and this webinar on Minimizing Stress to Avian Patients During the Veterinary Visit. Learning more about your favorite non-traditional species is a great way to make the most of self quarantining! As always, you can order complete bird diets and foraging treats for your birds and small mammals for up to **65% off** retail at lafeber.com/vet/shop with the discount code **cvm/apr**.



Stay healthy!



Live Streams of Adorable Animals to Brighten Up Your Day!

BY: SHEVON MEADOWS

Are you missing your exotic friends? Maybe you had a trip to the zoo in the works, or an escape to an aquarium? Or maybe you just want to see an animal other than your own! Sad as it may be to not be able to smell the.....*lovely* scents that accompany our wild friends, there is still a way to get your dose of animal adventure. Now even daily! We've all seen the heartwarming zoo and aquarium videos on Facebook featuring resident animals taking their own tours while we can't. Well here we are to feed your needs and make sure you never have to go another socially-distanced day without! Here are some tours and fun interactions to add some adventure to your day:

Brookfield Zoo is bringing the zoo to you through facebook live videos. You can watch all the past videos as well! (https://www.facebook.com/BrookfieldZoo/live_videos/)

Shedd Aquarium has some amazing 360 videos of Coral Reef sharks in the Bahamas for you to dive into. (<https://www.sheddaquarium.org/care-and-conservation/keep-sharks-swimming>)

The National Aquarium is offering a full virtual tour! (<https://aqua.org/media/virtualtours/baltimore/index.html>)

Chester Zoo lets you jump across the pond to Cheshire, England and watch live animal interactions. You can watch virtual zoo days on their Facebook and YouTube. (<https://www.chesterzoo.org/virtual-zoo/>)

The Cincinnati Zoo is featuring live interactions of their Facebook page every day at 3 pm. You can watch all the previous live videos as well! (https://www.facebook.com/cincinnati-zoo/live_videos/)

Georgia Aquarium has multiple live streams from enclosures for you to while away the day in. (<https://www.georgiaaquarium.org/webcam/ocean-voyager/>)

The San Diego Zoo offers many options for exhibits that are on live stream. (<https://zoo.sandiegozoo.org/live-cams>)

Monterey Bay Aquarium has 10 different live streams to choose from! (<https://www.montereybayaquarium.org/animals/live-cams>)

In Other News, What's Up with Zoos?

BY: DREW CADWELL

As we find ourselves enjoying the comforts of home, changing out of one pair of pajamas into another, and showering our pets with affection we might be wondering about how life is continuing outside our homes. For example, how has this pandemic affected the routines and well-being of zoo and aquarium animals, that are so dependent on humans for their care? Although zoos and aquariums across the country have closed in response to the viral outbreak, their residents have fortunately been able to continue about their lives as normal, albeit sans fanny-pack-wearing spectators ogling them. Meanwhile, zoos and aquariums are trying to keep us connected to and educated about these animals.

Especially for some species such as primates, dolphins, and even penguins, providing enrichment is an important part of maintaining normalcy throughout this crisis. Not far away at Chicago's Shedd Aquarium, penguins were afforded a unique opportunity to explore the visitor-free aquarium and become more acquainted with their neighbors.

At the Toronto Zoo, Andrew Lentini who is the senior director of wildlife and science feels that it is important the animals are still able to have free reign of their exhibits as part of their training and care. He agrees that many of them seem to miss the excitement of zoo visitors and the variety that these curious guests add to their lives. "One of our oldest residents here is an orangutan named Puppe who just loves to watch people and particularly loves children," Lentini said. "She'll often go right up to a mom and a young child. She just loves to watch them, and not having guests here, she misses that a little bit." Lentini says the biggest change in day-to-day operations has been keeping the staff safe and applying precautionary measures such as social distancing for some of their animals, including the great apes, who may also be susceptible to COVID-19.

Brian Davis, the president and CEO of the Georgia Aquarium commented on the role he sees aquariums and zoos playing at a time when many students are at home, away from their traditional educational environments. "We want to be here to fill that gap," he assured. With nine webcams featuring many of the aquarium's most beloved animals, he is trying to do that. He is focused on ensuring a continued connection to the public and sustained quality of life for the animals. Davis also assured the public in a recent video that the animals "were doing great" and that they had "about a hundred-plus people on staff" making sure that the animals were remaining healthy and staying engaged.

Many zoos have tried to stay connected to the public through increased live streaming and digital content. For example, the Cincinnati Zoo started streaming "Home Safari Facebook Lives" every day. Many facilities such as the Monterrey Bay Aquarium have also begun welcoming the public to their facilities virtually. The famous and highly visited San Diego Zoo also has a collection of live camera feeds for many of its exhibits. Brookfield Zoo has ensured that animal care specialists and veterinary staff will continue providing the animals with high-level of care while other non-essential employees are working remotely at this time in supportive capacities. At the same time, they have launched a series of educational programming on their Facebook page called, "Bringing the Zoo to You" which is live every weekday at 11 a.m. CDT. The Shedd Aquarium has ensured the public that dedicated caretakers and veterinarians will continue to provide the highest standards of professional care and welfare for their animals on site. Meanwhile, they encourage supporters to keep up to date on the daily lives of the aquarium's animals through their social media channels. They are also encouraging fans to check out live views from their Underwater Beauty special exhibit among other activities highlighted on their website.

Finally, there are ways we can support our accredited zoos and aquariums during these difficult times. By donating to our local zoos, we can continue to support the missions of zoos and aquariums. This is especially important now with these facilities seeing a reduction in revenue due to a lack of ticket sales. By donating, not only can we help ensure that the animals continue receiving the high-quality care they deserve, but that expert zoo staff will be retained, and educational content will be more readily available. Many zoos and aquariums are also a part of the AmazonSmile program so even if you are unable to donate, you can still show your support by selecting one as your charity while you do some online shopping. By coming together in this time of being alone, we can continue making a difference for animals around the world.



“She'll often go right up to a mom and a young child. She just loves to watch them, and not having guests here, she misses that a little bit”

”

Coronavirus Infects Tiger: Should I Be Concerned?

BY: EMILY GREZDA

A 4-year-old Malayan tiger, Nadia, at the Bronx Zoo tested positive for coronavirus on Sunday. This is the first known infection in an animal in the US, and Nadia isn't the only one; she is one of seven lions and tigers that have fallen ill. The first animal to fall ill started showing symptoms on March 27th, but all are expected to recover. They are believed to have contracted the virus from an asymptomatic zookeeper.

The question now: can Covid-19 affect our pets? Should we be worried? Prior to now, all animals were considered to just be like any other "surface" – if someone infected coughed on your dog, bird, or guinea pig, and then you pet them and rubbed your eyes, you could catch it, but the animal would be totally asymptomatic. Some people who tested their dogs by swabbing mouths were shocked when they got positive results, but the explanation was the same; the dogs did not fall ill, they simply put something in their mouth that did carry the pathogen.

The USDA is still not recommending routine coronavirus testing for animals. Some other suspect animals have been tested, but the only ones to come up as a true positive was Nadia's. The other big cats at the Bronx Zoo that exhibited the same symptoms were not tested; testing requires full anesthesia and huge expense, so all were treated according to Nadia's diagnosis. There are still no other confirmed cases in pets or livestock. In Hong Kong, a few pets tested positive for a very low level of the pathogen, but did not seem to transmit the virus to anyone else – they were simply exposed by their owners.

What SHOULD we do? The CDC recommends washing hands after handling animals. Avoiding dog parks or "doggy playdates" could decrease our risk of one dog rubbing off a pathogen to our own pet who we snuggle (constantly, given that we're all homebound). Keeping outdoor cats inside is also a good idea – not only for their safety and that of the wildlife, but to decrease chances of them spreading pathogens among each other or us when they do come home. Cats are already known to be susceptible to feline coronavirus, but it was previously unknown if they could contract COVID-19.

Basically; be cautious and stay safe. No need to panic, but exercise safe, clean practices when caring for your pets. We will get through this!



Test Your Trivia Knowledge!

BY: RYAN PATTERSON

1. What is a group of parrots called?

- a. Herd
- b. Colony
- c. Pandemonium
- d. Mob

2. How is the sex of a sea turtle determined?

- a. Nest temperature
- b. Sand pH
- c. Genetics
- d. Time in nesting season they are laid

3. Elephants have the longest gestation period of any mammal. How long is it?

- a. 24 months
- b. 22 months
- c. 28 months
- d. 18 months

4. Which species cannot produce their own vitamin C?

- a. Rats
- b. Hamsters
- c. Sugar Gliders
- d. Guinea Pigs

5. Which is not a type of honeybee found in a typical colony?

- a. Queen bee
- b. Bumble bee
- c. Drone
- d. Worker bee

Answers on last page!!!!

Interviewing The Miami Seaquarium

BY: ALEC COLOSI

We are all living in the very strange time of COVID-19, when facilities of all kinds have been closing and changing their protocols to deal with the ongoing situation. Aquariums are among these affected facilities, and at a time like this many of us wonder how care for the animals in these collections has been affected by the situation. I reached out to Dr. Magdalena Rodriguez, the senior veterinarian at the Miami Seaquarium, to gain some insight as to how things have changed day-to-day with animal care and medicine.

Q: Is the Miami Seaquarium closed to the general public, and if so, for how long?

A: Hi! We have been closed for four weeks now to the public. Our Parent company in Spain closed all the facilities throughout the world early on for people safety reasons.

Q: If the answer to the previous question was yes, have you noticed any change in animal behavior in response to a lack of having people around?

A: Since the trainers do not do shows they spend a little more one on one time with the animals. However we are now getting closer to our peak in Miami so beginning this week our teams are split into two separate teams so there are two teams that do not interact to keep at least one team free in case positive cases show up.

Q: Without guests coming into the facility, do animals that usually participate in live shows still perform as part of their scheduled enrichment, or is there an alternative that the Seaquarium has chosen?

A: Initially the trainers and keepers were cross training to cover each other (redundancy) in case some staff showed up positive, thus the animals were getting extra training session instead of shows.

Q: It was recently reported that a tiger housed in the Bronx Zoo has tested positive for COVID-19, showed clinical respiratory signs, and is recovering. Are there any special measures you are taking with regard to possible zoonosis/are you concerned for possible zoonosis in the animals under your care?

A: The staff does not do kisses or hands on rubs and such however our concern for zoonosis with our species is less than other zoos.

Q: Has the outbreak affected any aspects of the Seaquarium's rescue and rehabilitation programs?

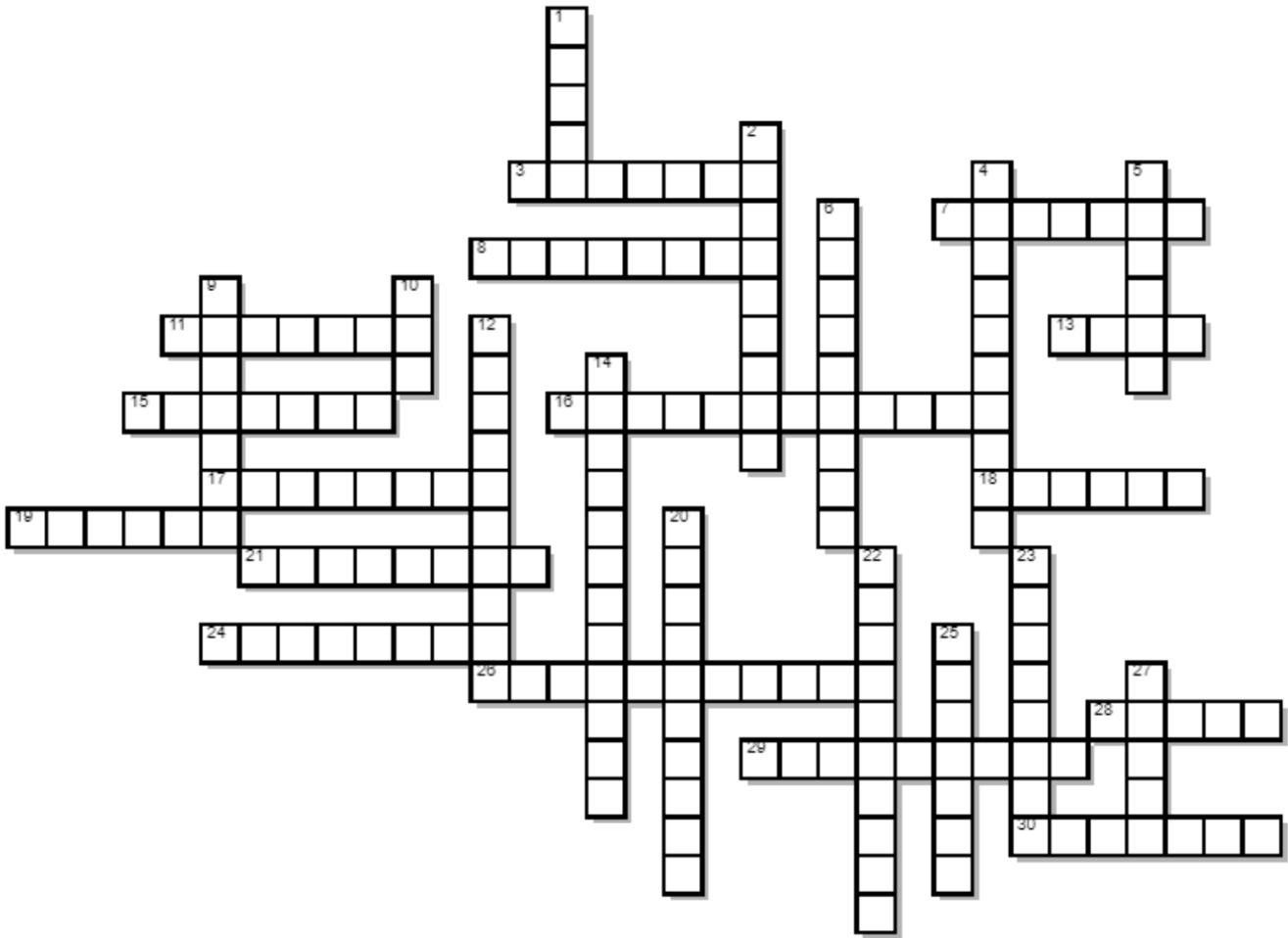
A: Our rescue rehab program has actually been busier. We entered the pandemic at the end of a very busy winter so we had many manatees and very difficult procedures. We did many several hour procedures and involving many staff initially but with the goal to complete everything by the time our peak for COVID cases got closer. Now all our rehab animals, both manatees and sea turtles, are just healing and gaining weight, all the difficult procedures have been done.

Q: Finally, are there any differences in your daily activities at the Miami Seaquarium concerning animal health and welfare, other than those stated in previous answers?

A: To us it has been like a very slow hurricane coming and now that we are getting close to our high case curve for Miami we will be more like a skeleton crew the week our top case curve hits. However we are here if anything medical comes up and still respond for diagnostics and therapeutics as always. Our labs are even open to give us results.

So there you have it! It appears the animal care team at the Miami Seaquarium is doing everything they can to ensure proper enrichment, rehabilitation, and general medical care for their animals while taking necessary precautions to reduce the spread of the coronavirus. As time goes on and we continue to monitor the spread of the disease and care for those affected, it is a comforting thought that the animals we are so passionate about are still receiving a high standard of care. Thank you to all the essential workers out there taking care of both human and animal well-being! We will get through this thanks to you.

Guess the Animal?



ACROSS

- 3 This species of fish has 3x as many taste buds as humans (27,000 vs. 9000)
- 7 This species of aquatic mammal has its nipples located behind its flippers, resulting in the young nursing from its armpit
- 8 This species of mammal does not have nipples, but rather sweats milk for the baby to lick off her skin
- 11 This reptilian species has a metabolism so slow that they only need to breathe once per hour
- 13 This bird species has the largest cerebral hemisphere relative to body size of any avian species
- 15 Males of this bird species are capable of a roaring noise similar to the sound a lion makes
- 16 This species is believed to be the longest-lived mammal on earth, with a lifespan of over 200 years
- 17 This mammal species changes eye color from gold to blue during the winter to vary the amount of light reflected
- 18 This species of amphibian is the only known vertebrate that can regenerate parts at any age
- 19 The German name for this reptile species literally translates to "shield-toad"
- 21 This species has the longest tongue of any mammal relative to body size, at approximately 2 feet
- 24 This bird species can only eat when its head is upside down
- 26 In Yellowstone park, this species of animal can eat up to 20,000 calories worth of moths per day
- 28 Scientists developed a way of identifying individuals of

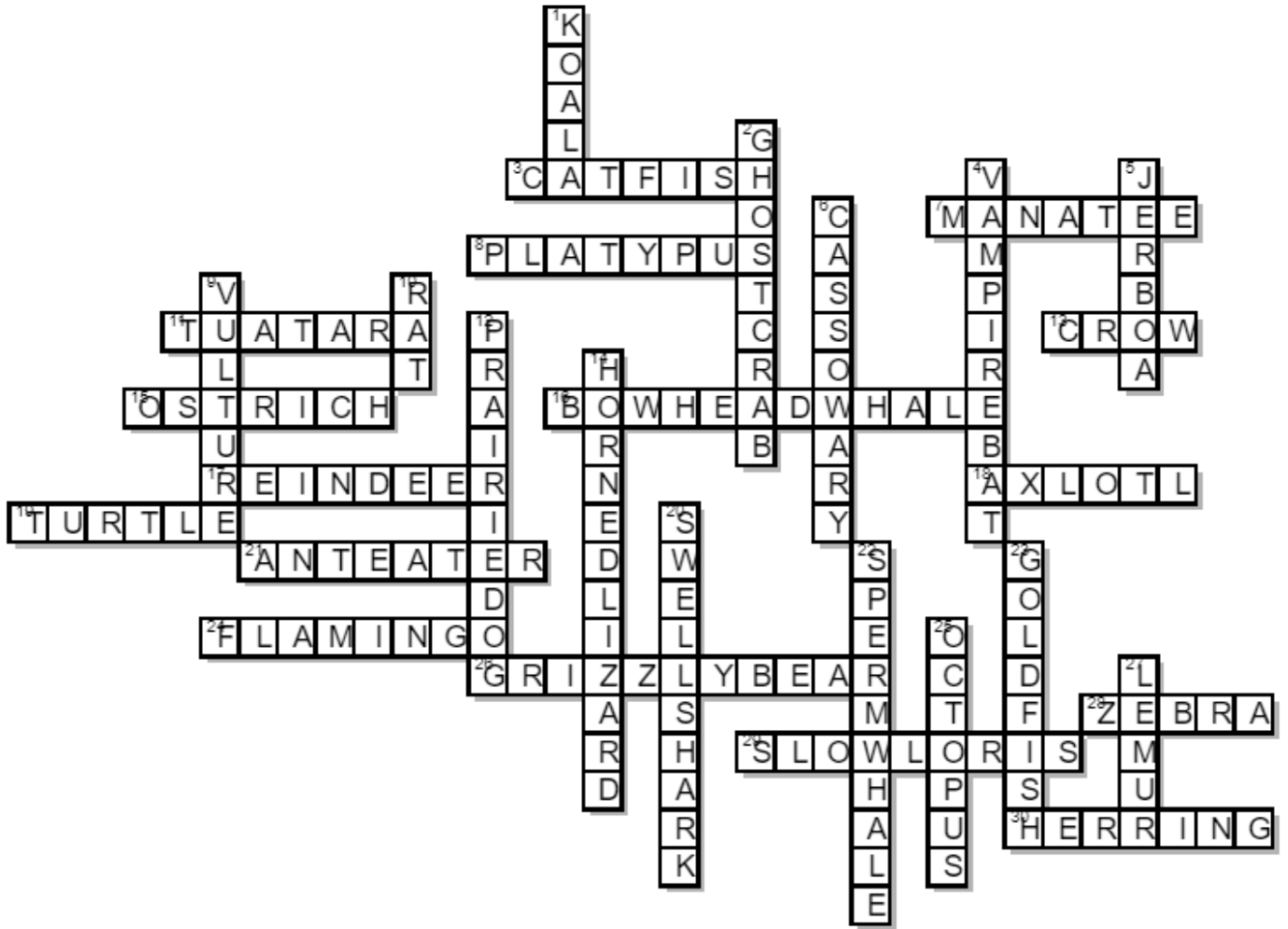
- this species by scanning their stripes like a bar code
- 29 This animal is the only venomous primate species
- 30 This species of fish communicates by farting, forming protective shoals when flatulence of others is heard nearby

DOWN

- 1 This species of mammal has fingerprints almost indistinguishable from humans
- 2 This marine species "growls" using teeth located in their stomach
- 4 The saliva of this mammal can act as an anti-coagulant due to the presence of a protein called "draculin"
- 5 This species has the highest ear-to-body ratio among mammals
- 6 This is the most dangerous bird species, with the ability to kill enemies with just one kick
- 9 This species of bird has a stomach environment so acidic it can digest meat infected with anthrax
- 10 This species of mammal "laughs" when tickled
- 12 This species of mammal touches their front teeth together to identify each other, resulting in what looks like a kiss
- 14 This reptilian species can squirt blood from its eye
- 20 This aquatic species can communicate with others of the same species using a blue-light glow from their skin
- 22 Studies have shown that animals of this marine species from differing regions have "accents"
- 23 If this aquatic species is kept in a dark room, it will become pale
- 25 This aquatic species can taste with its arms
- 27 A grouping of this mammal species is called a "conspiracy"

Answers on the last page!

Crossword Answers



Trivia Answers

1. What is a group of parrots called?

- a. Herd
- b. Colony
- c. Pandemonium**
- d. Mob

2. How is the sex of a sea turtle determined?

- a. Nest temperature**
- b. Sand pH
- c. Genetics
- d. Time in nesting season they are laid

3. Elephants have the longest gestation period of any mammal. How long is it?

- a. 24 months
- b. 22 months**
- c. 28 months
- d. 18 months

4. Which species cannot produce their own vitamin C?

- a. Rats
- b. Hamsters
- c. Sugar Gliders
- d. Guinea Pigs**

5. Which is not a type of honeybee found in a typical colony?

- a. Queen bee
- b. Bumble bee**
- c. Drone
- d. Worker bee

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